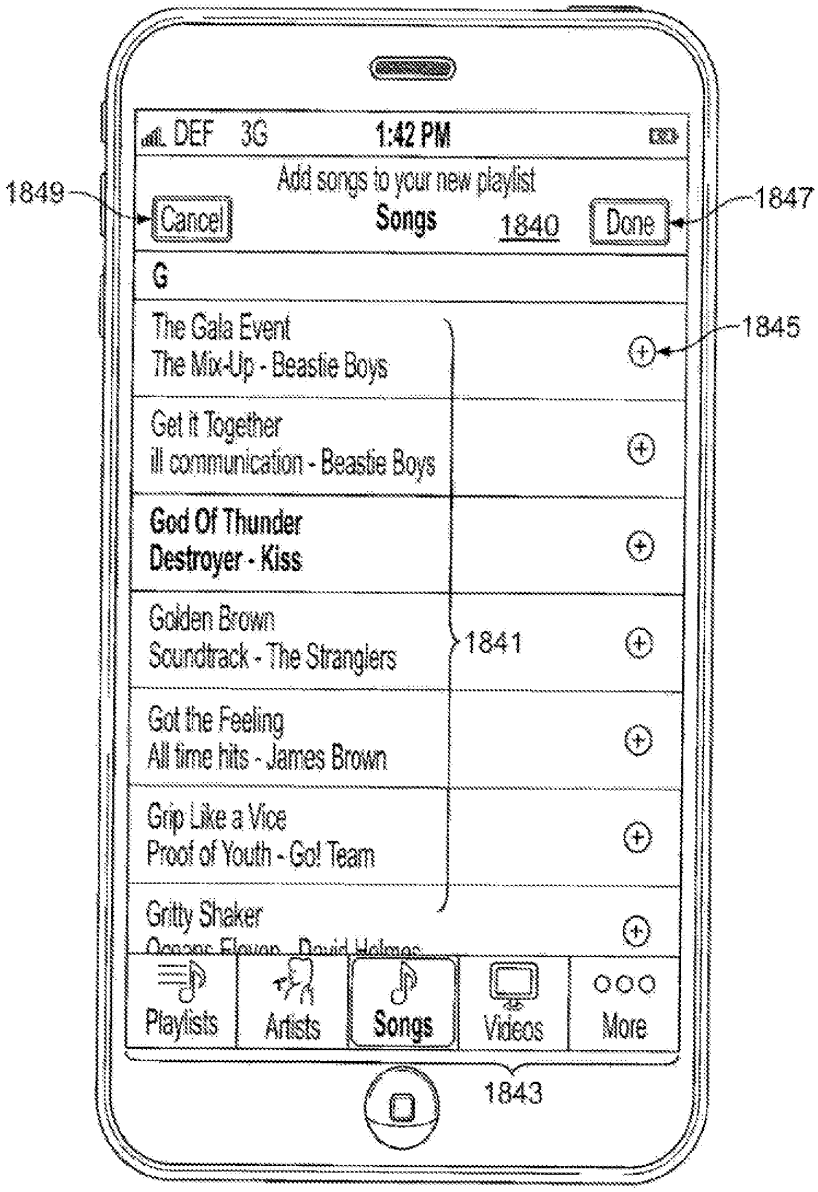


图 18E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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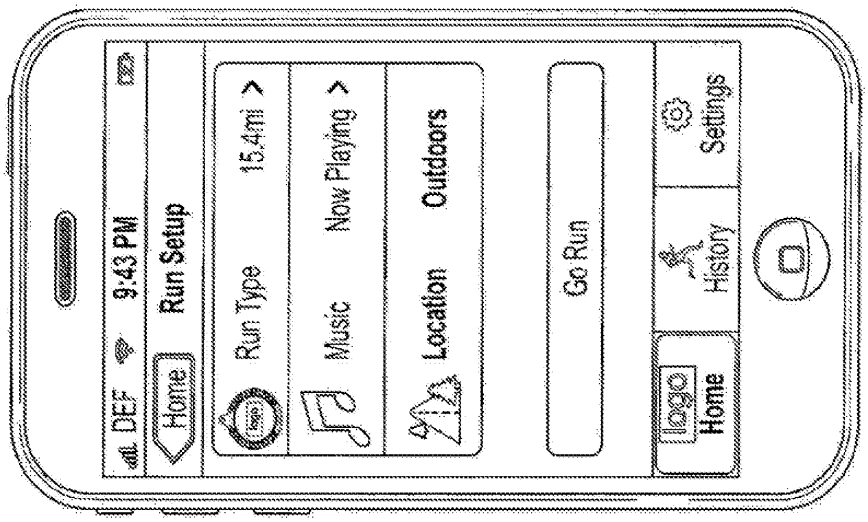


图 19A

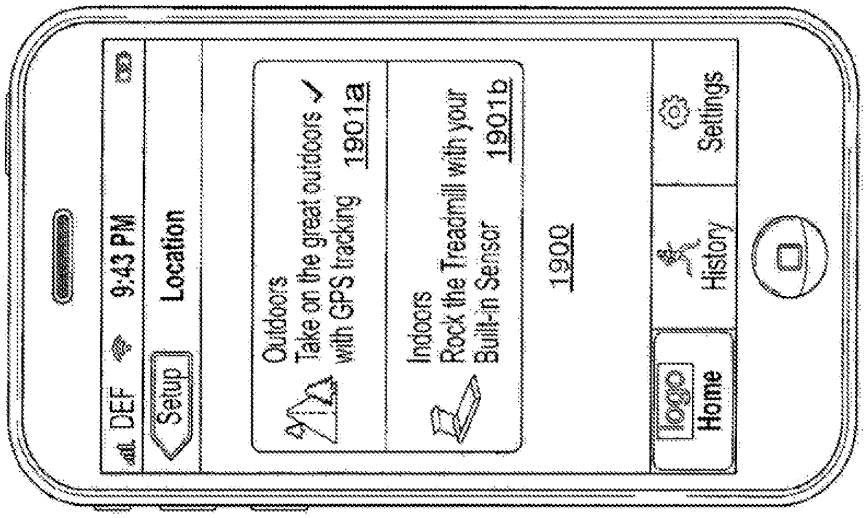


图 19B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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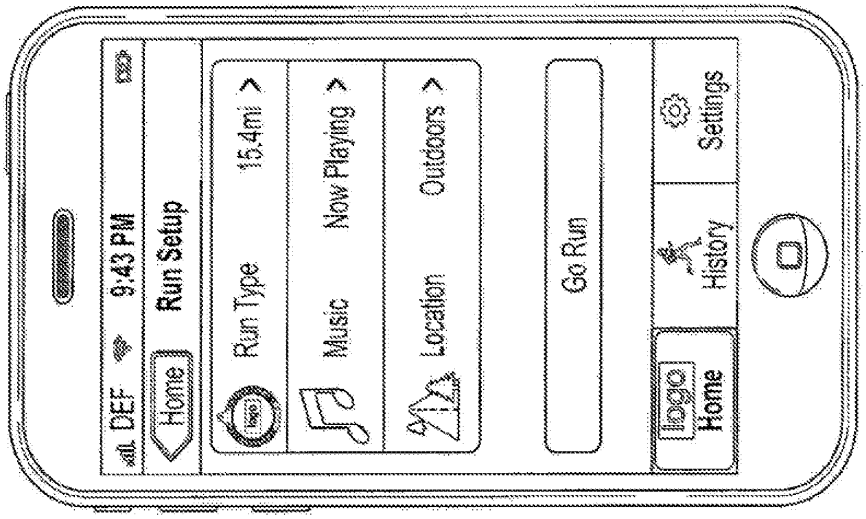


图 19C

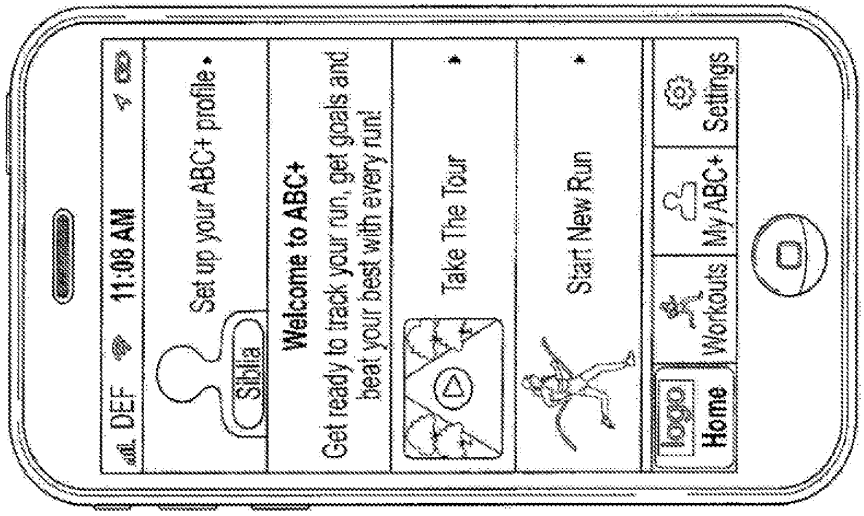


图 20A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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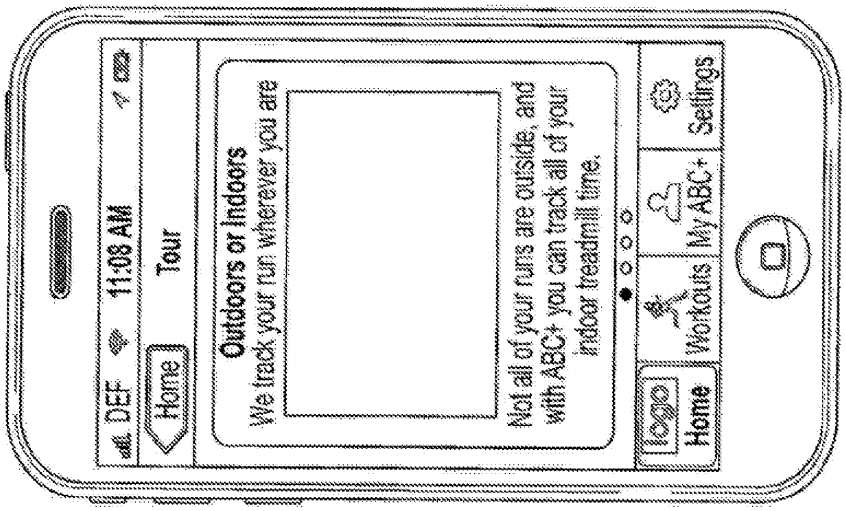


图 20B

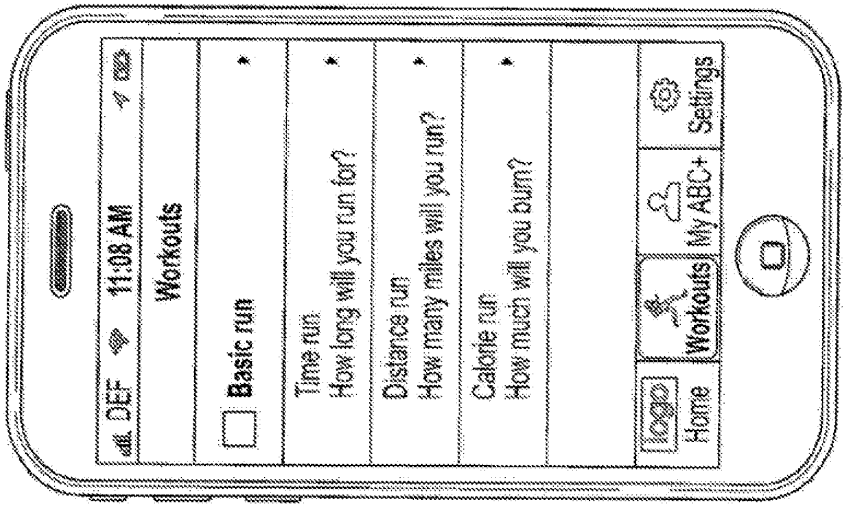


图 20C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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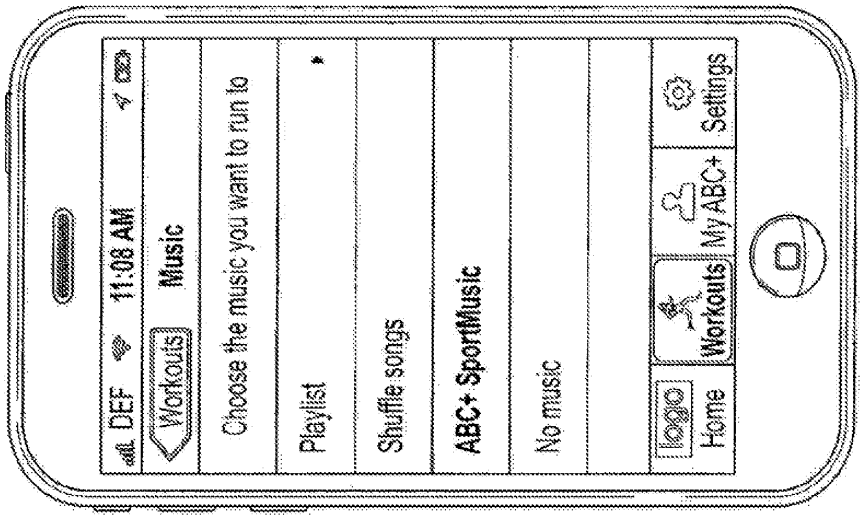


图 20D

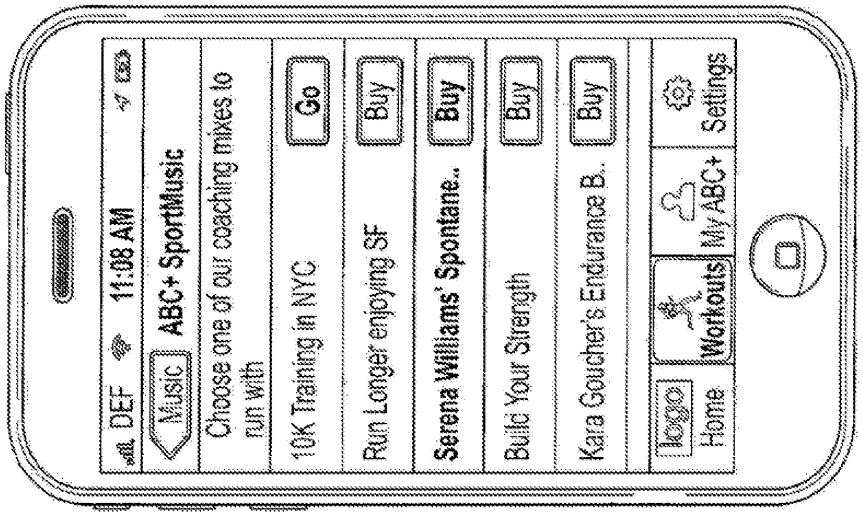


图 20E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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图 20F

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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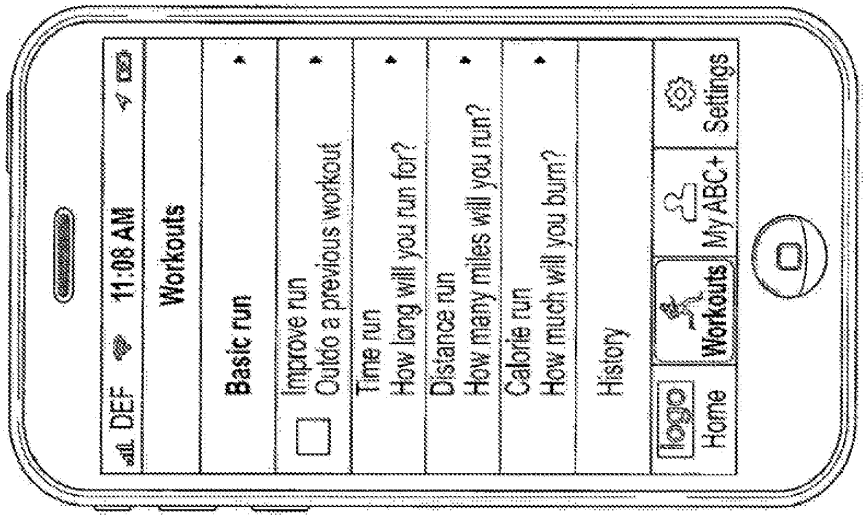


图 20G

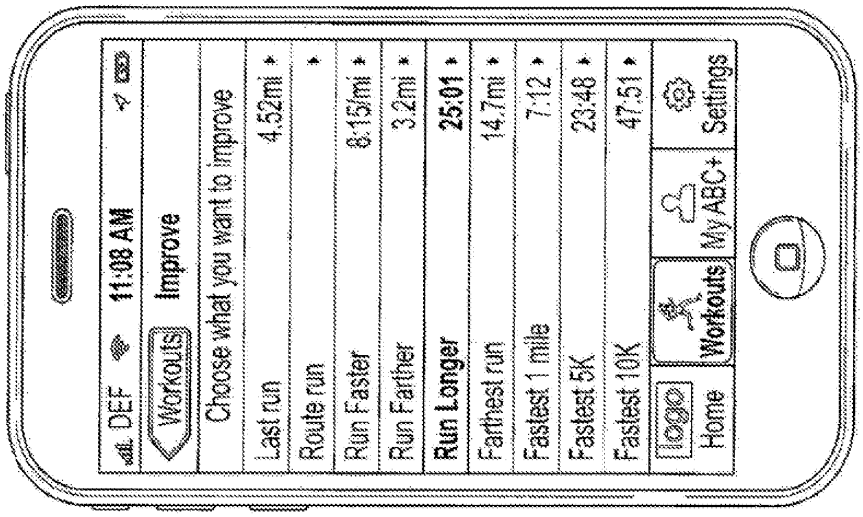


图 20H

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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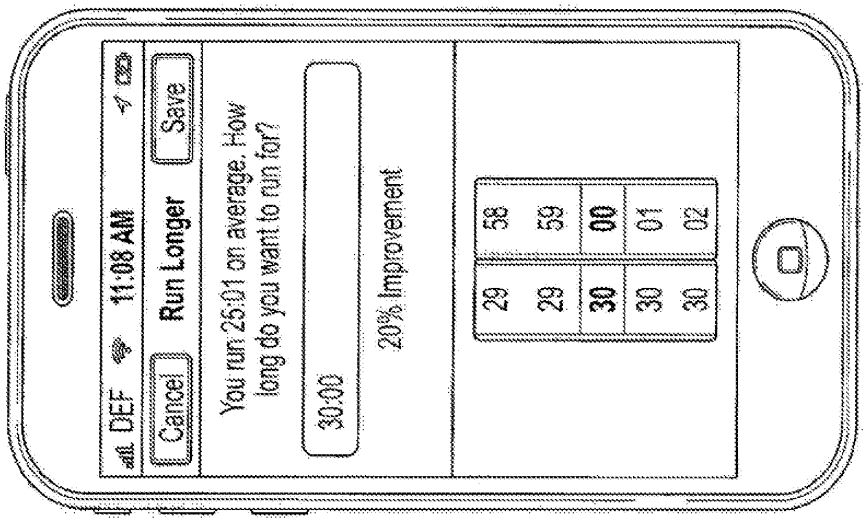


图 20I

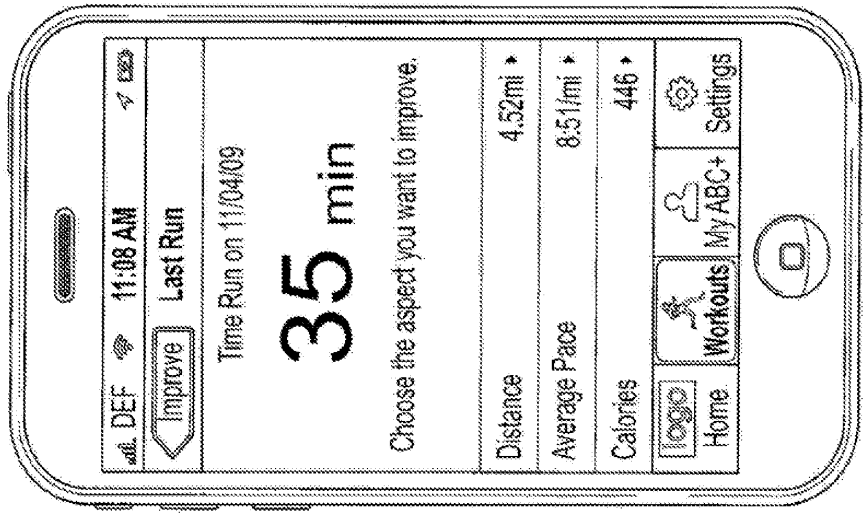


图 20J

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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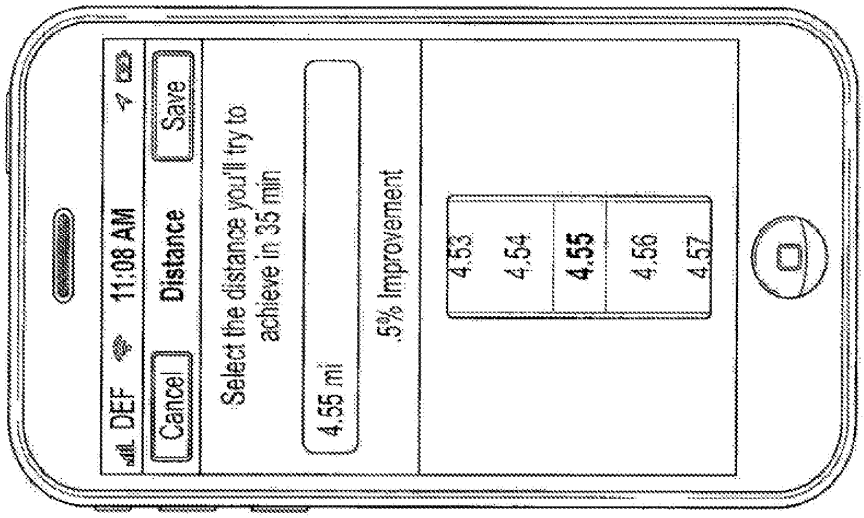


图 20K

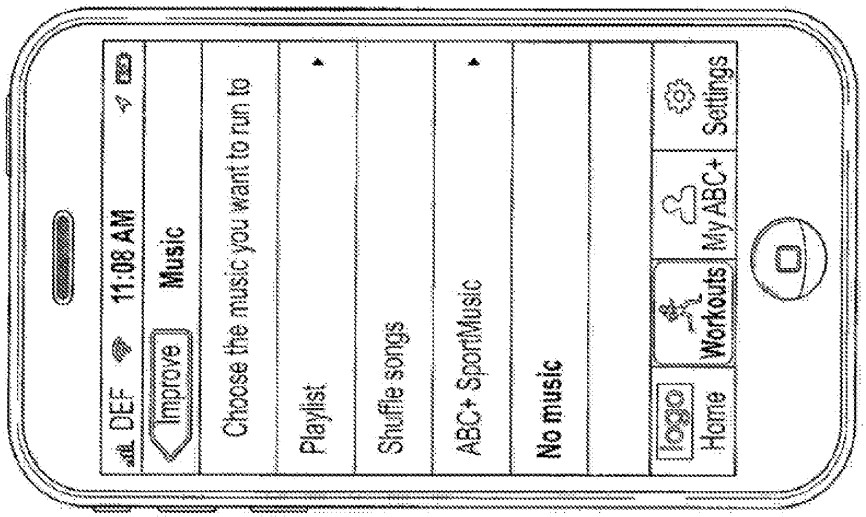


图 20L

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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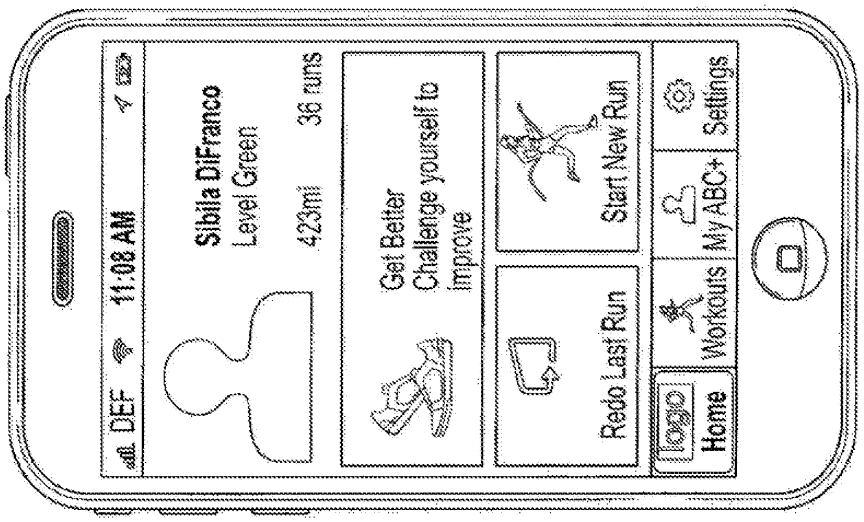


图 20M

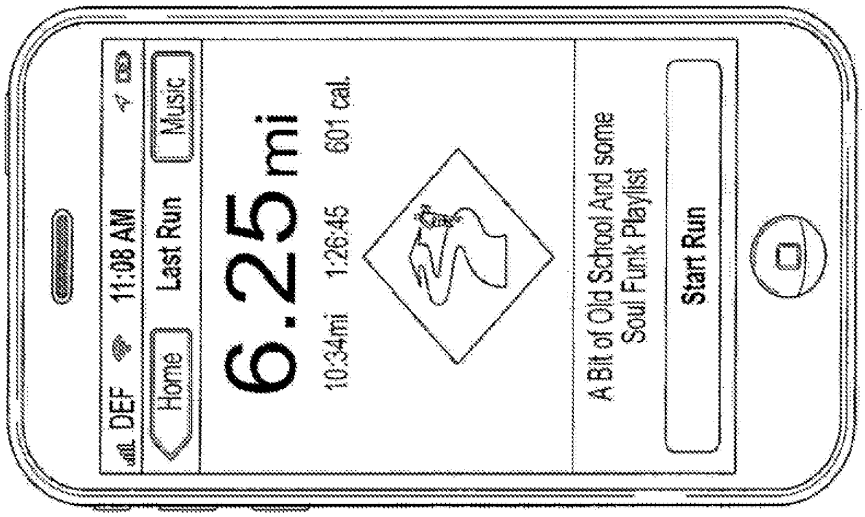


图 20N

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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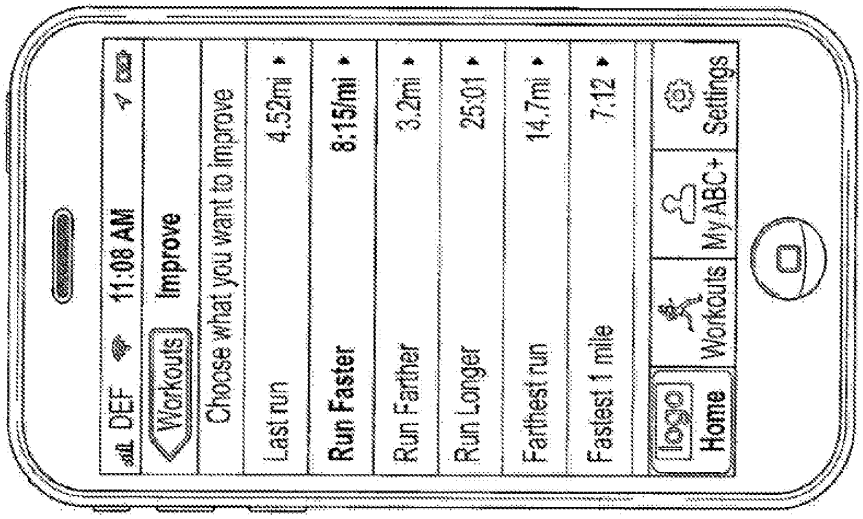


图 20O

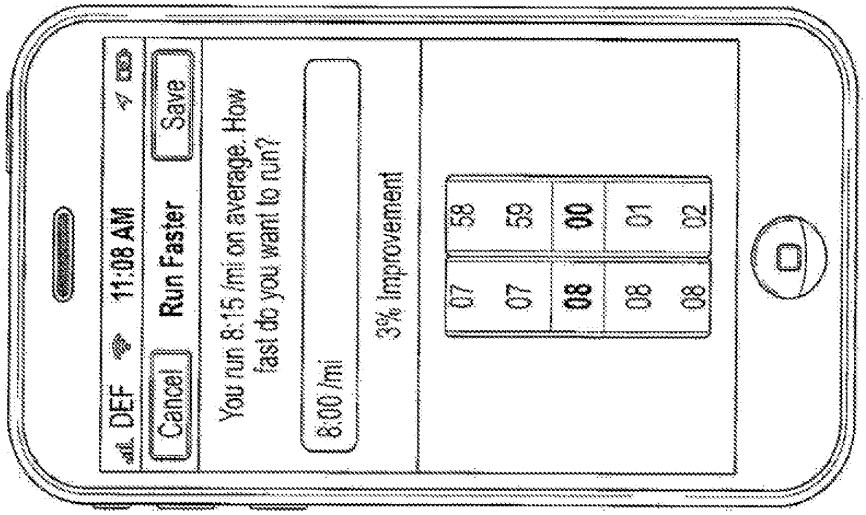


图 20P

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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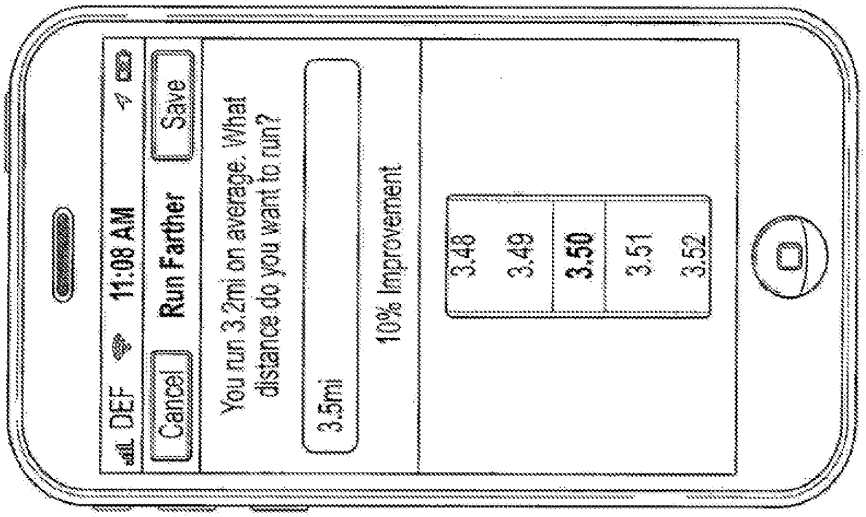


图 20Q

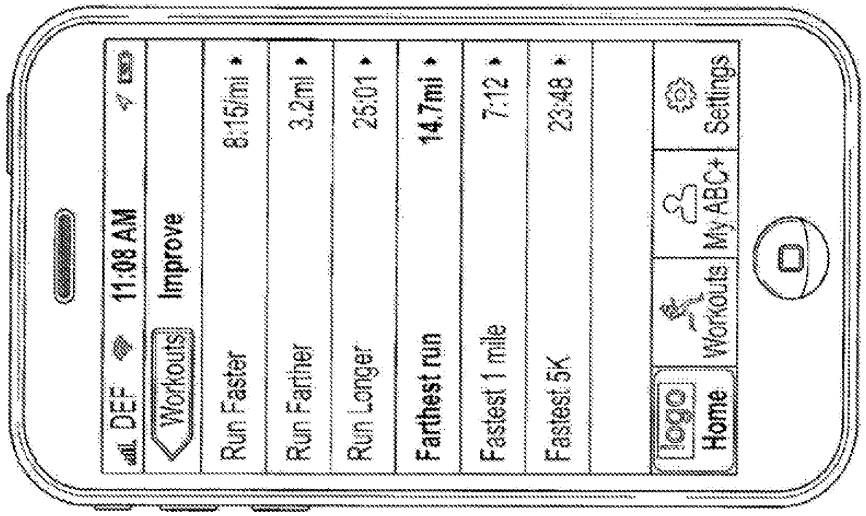


图 20R

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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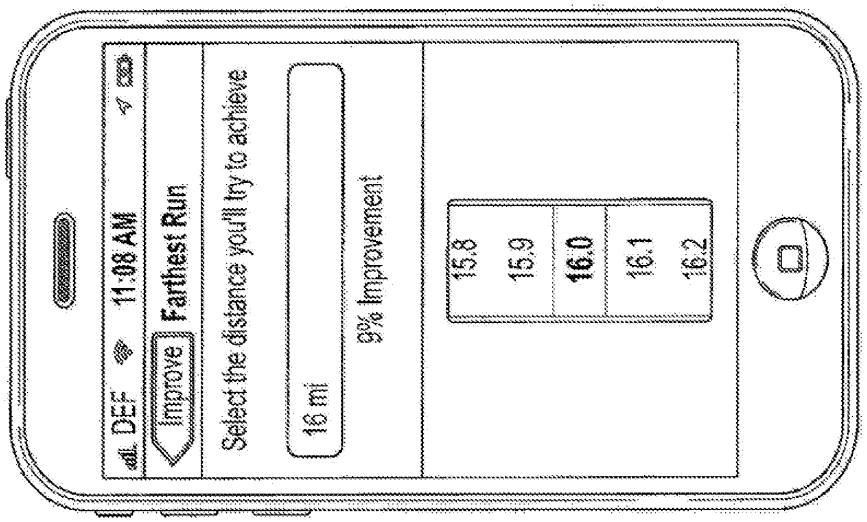


图 20S

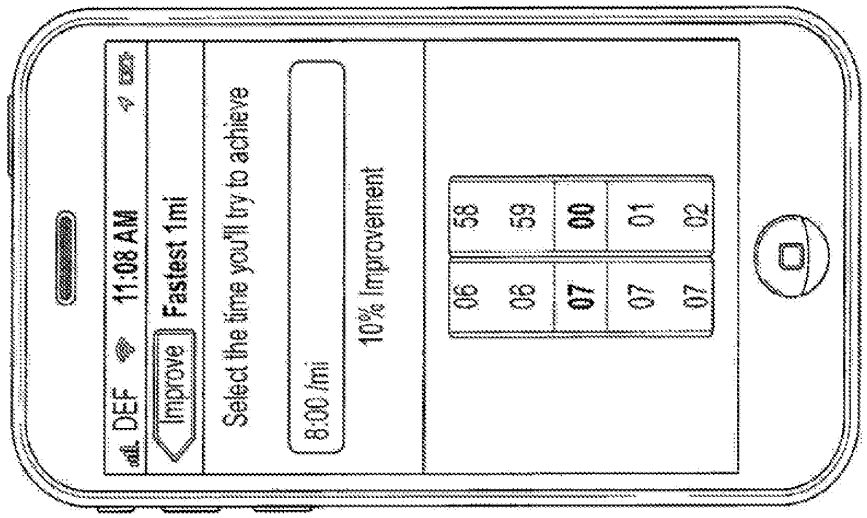


图 20T

AliveCor Exhibit 1002
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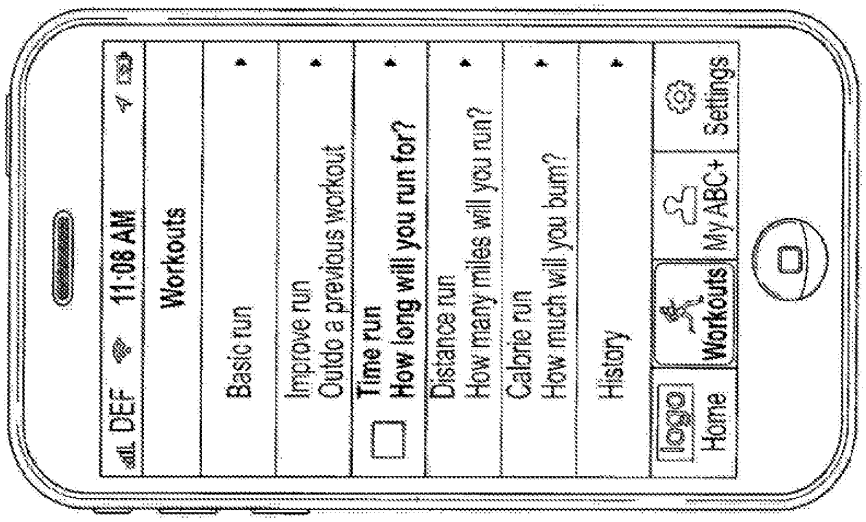


图 20U

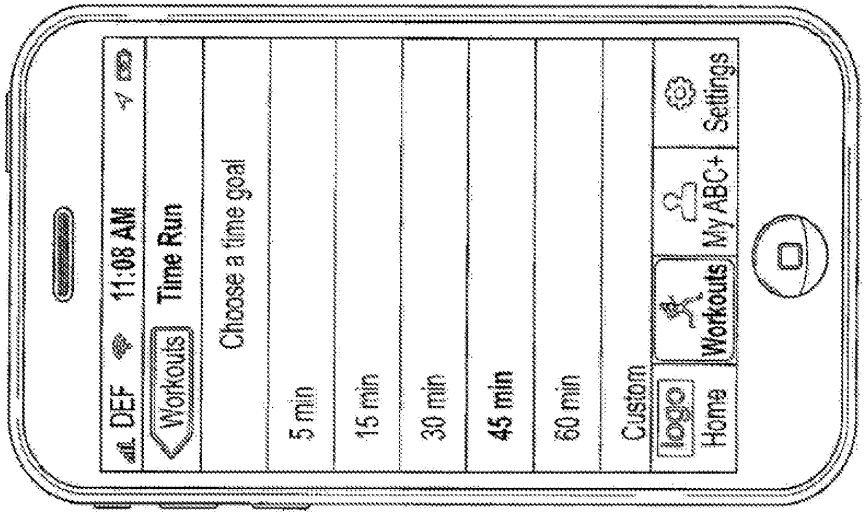


图 20V

AliveCor Exhibit 1002
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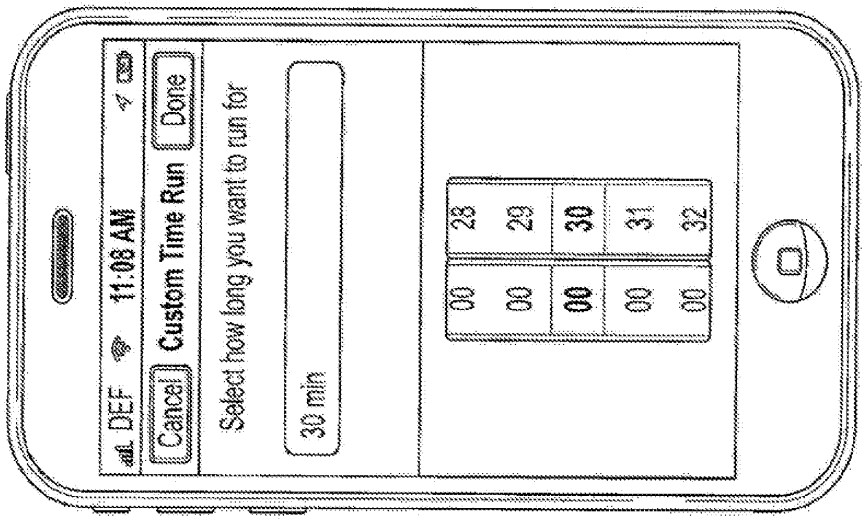


图 20W

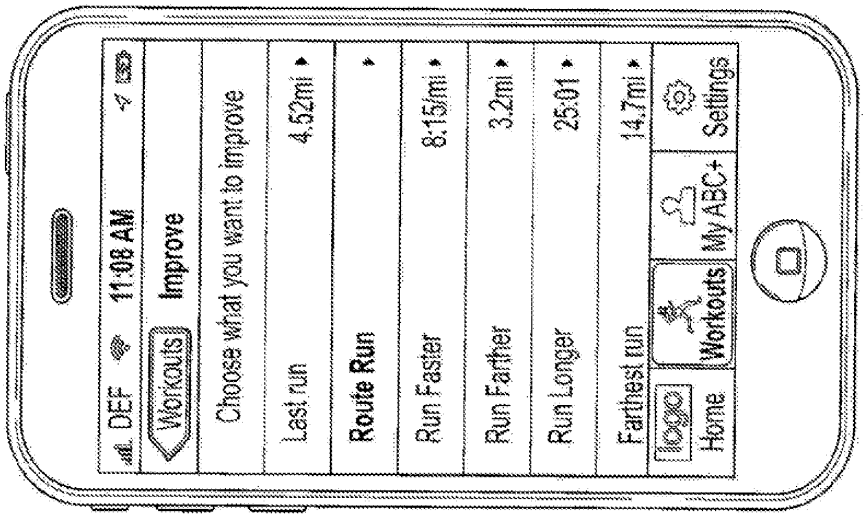


图 20X

AliveCor Exhibit 1002
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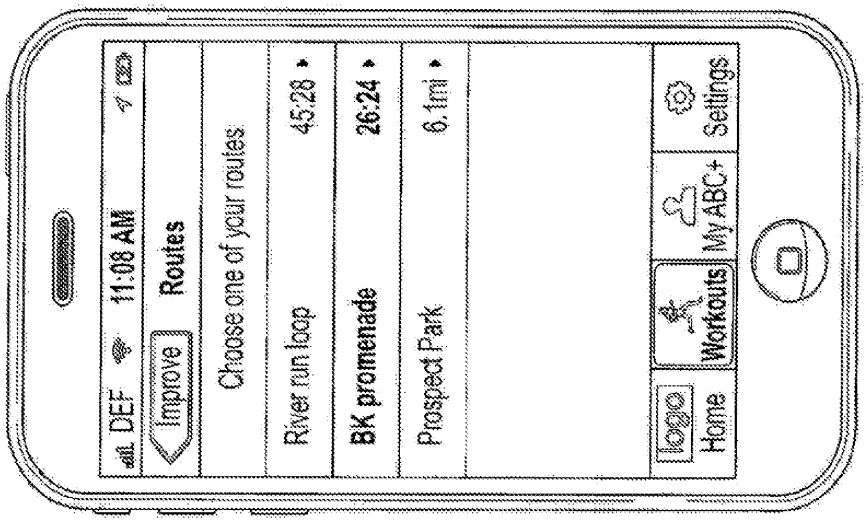


图 20Y

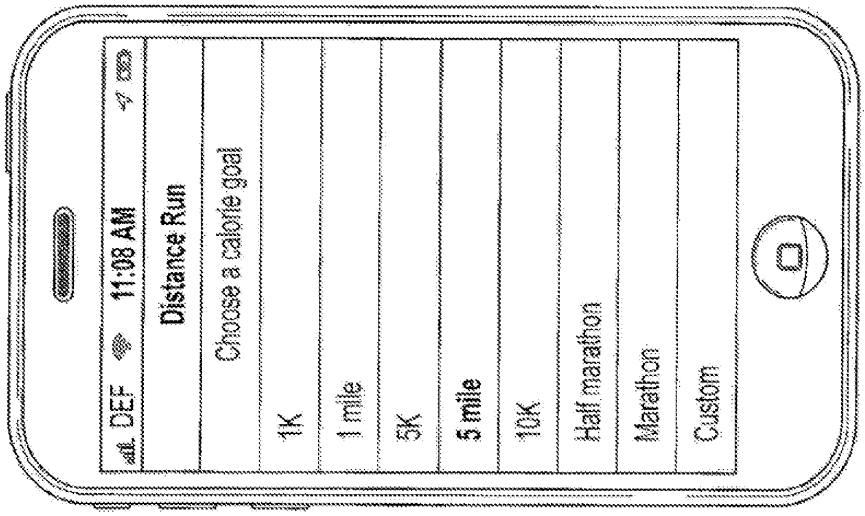


图 20Z

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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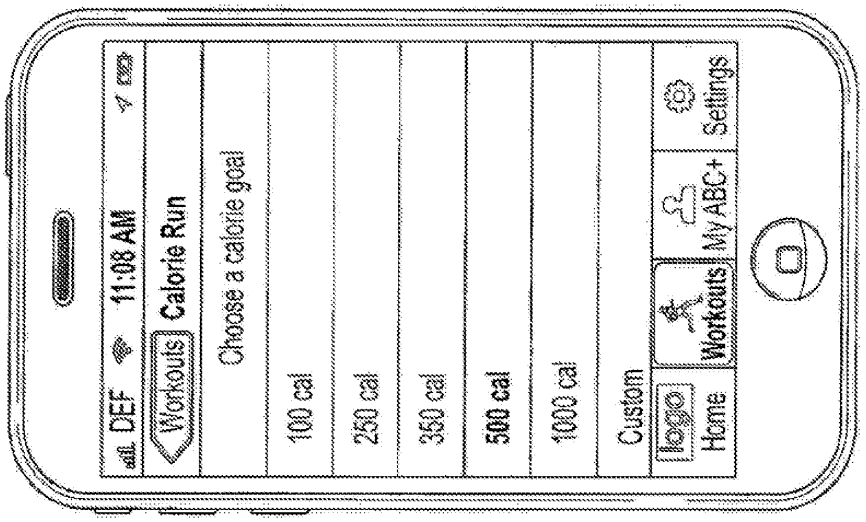


图 21A

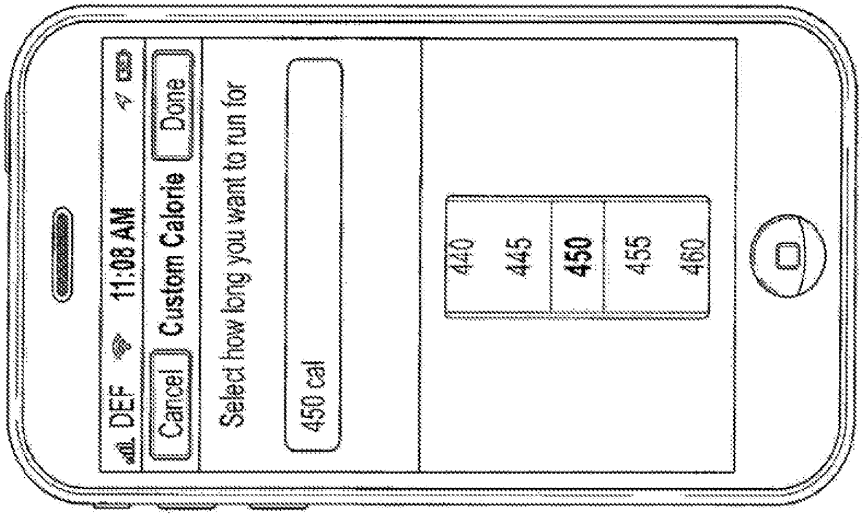


图 21B

AliveCor Exhibit 1002
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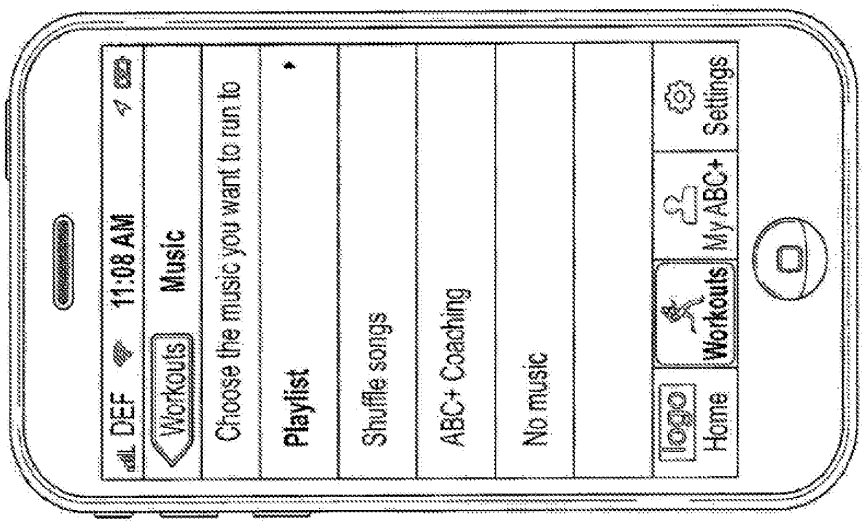


图 21C

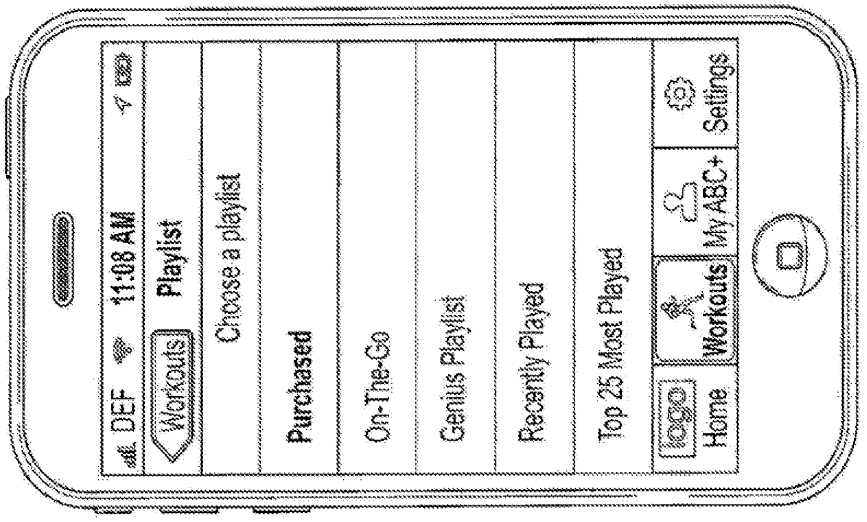


图 21D

100

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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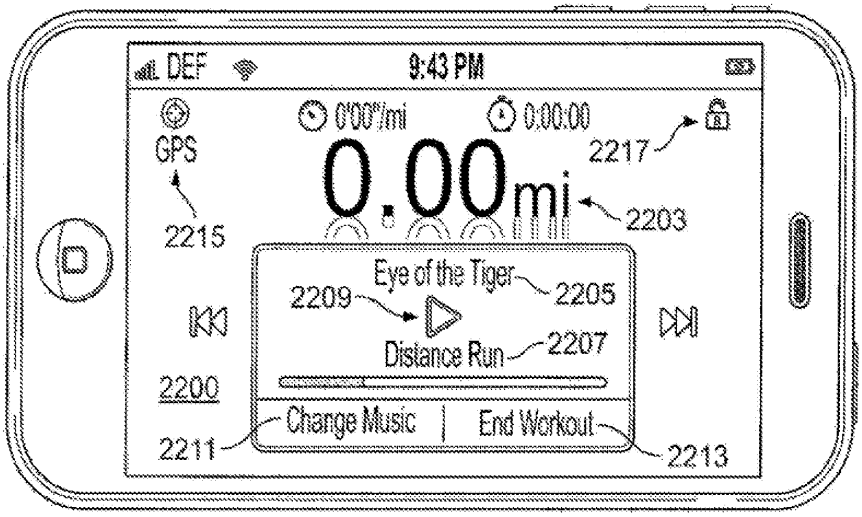


图 22A

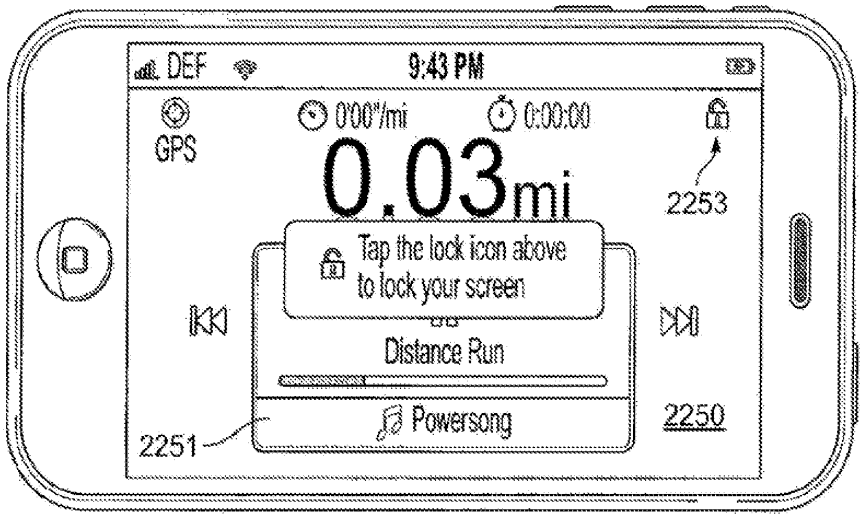


图 22B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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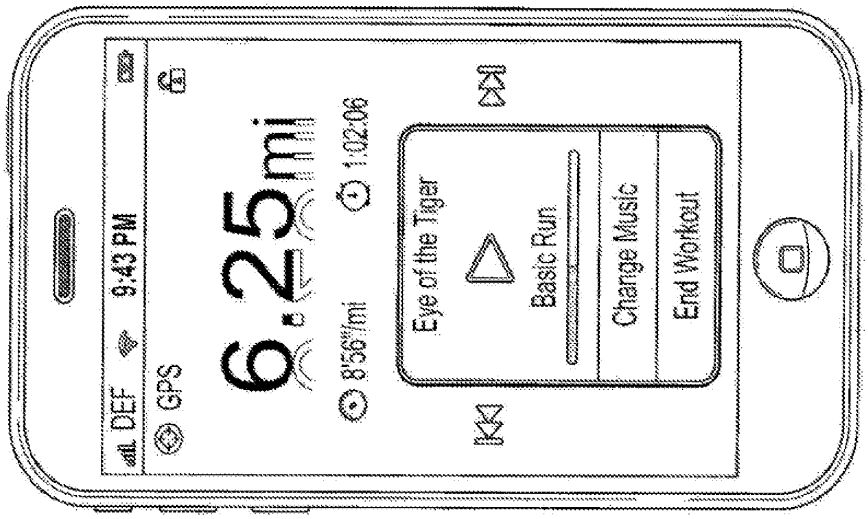


图 22C

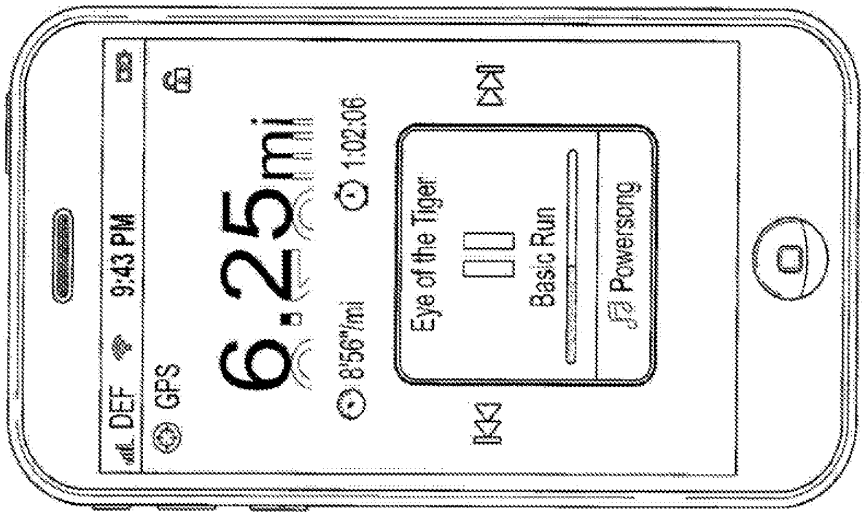


图 22D

102

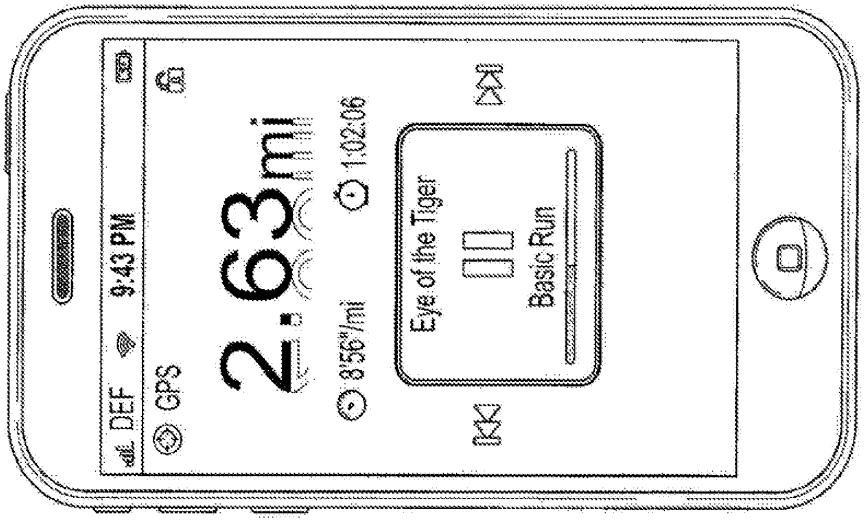


图 23A

AliveCor Exhibit 1002
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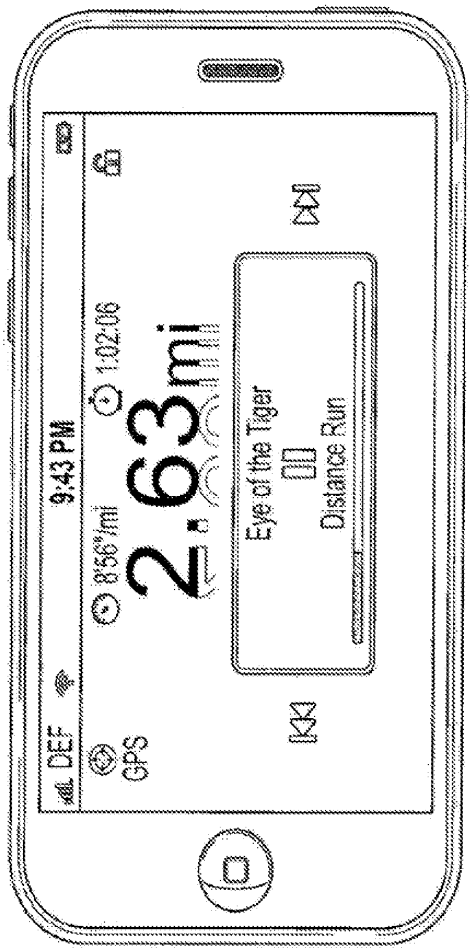


图 23B

AliveCor Exhibit 1002
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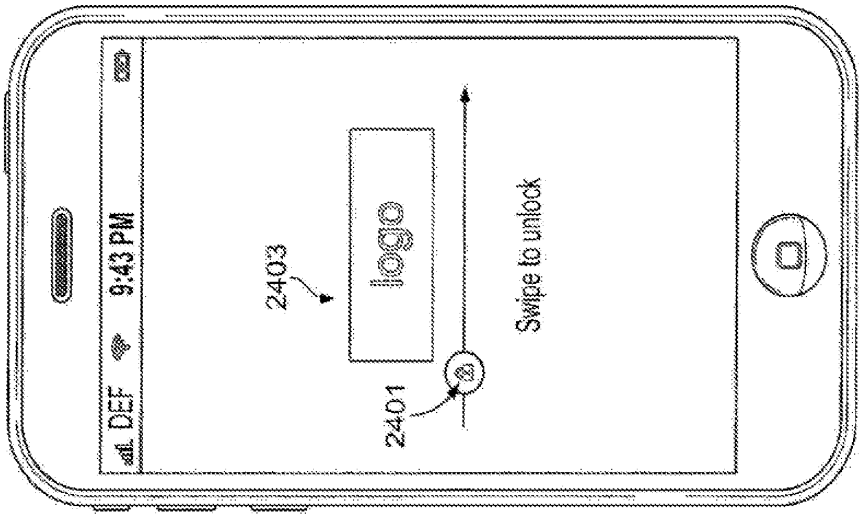


图 24A

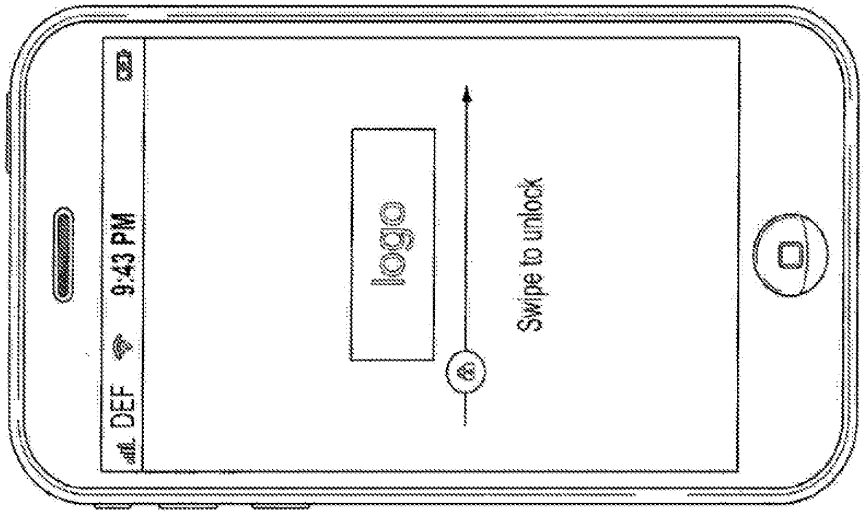


图 24B

AliveCor Exhibit 1002
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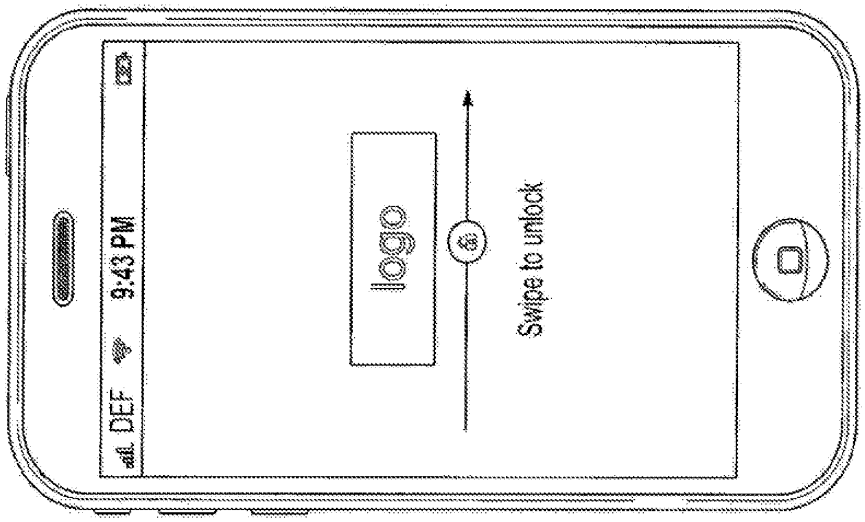


图 24C

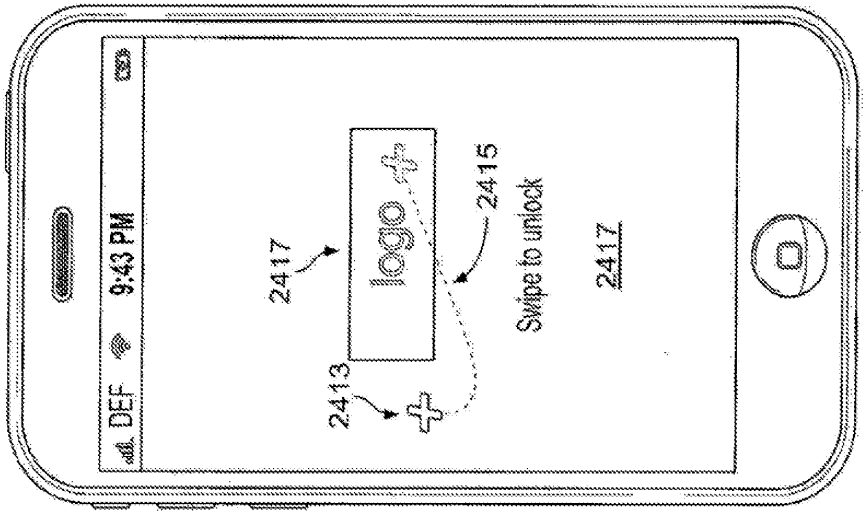


图 24D

AliveCor Exhibit 1002
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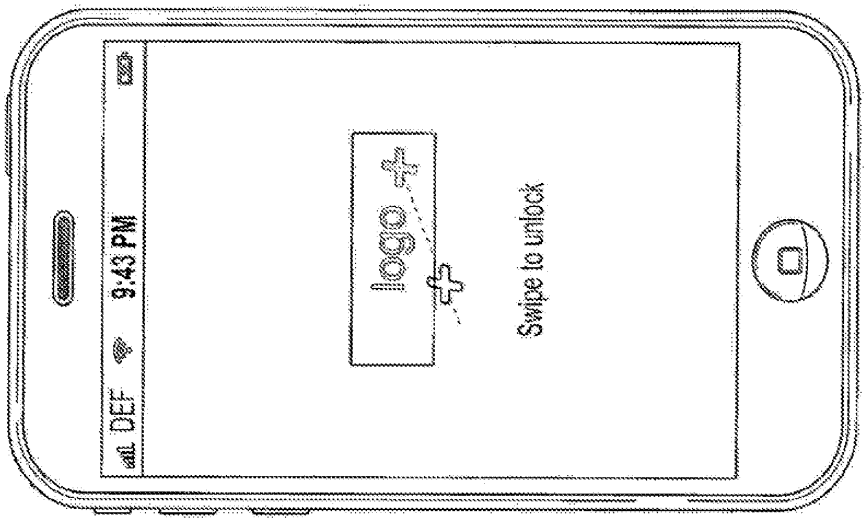


图 24E

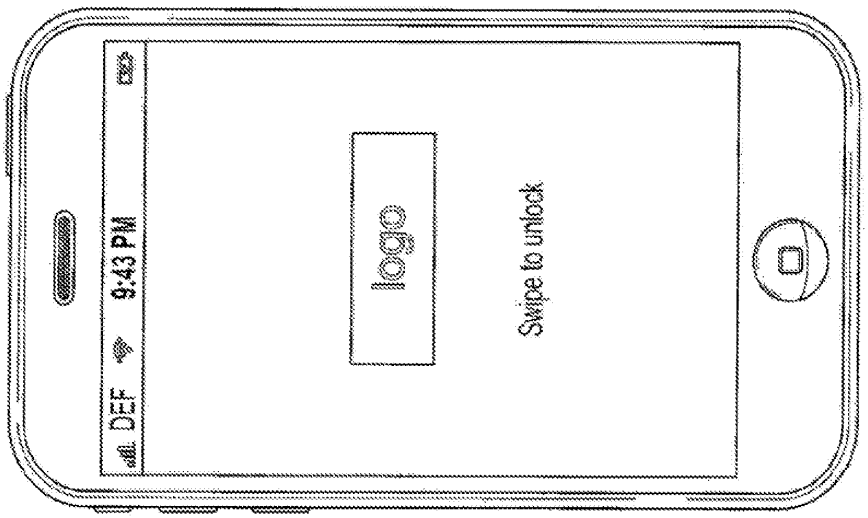


图 24F

AliveCor Exhibit 1002
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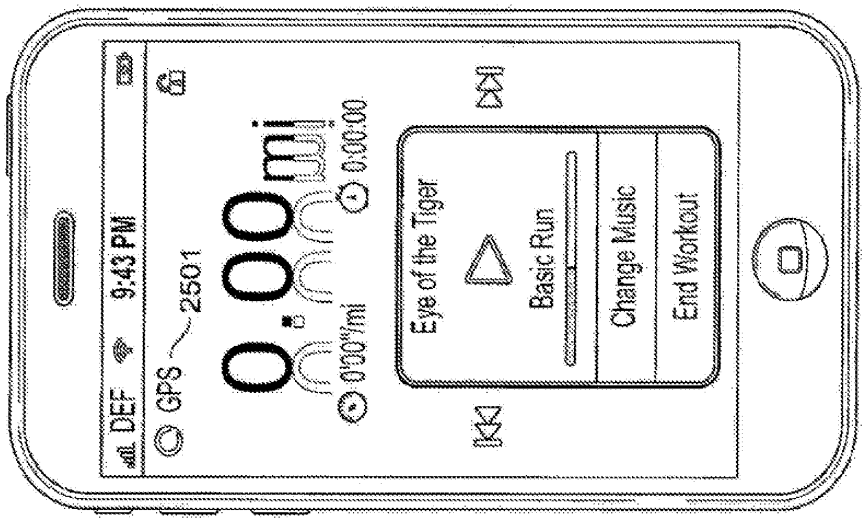


图 25A

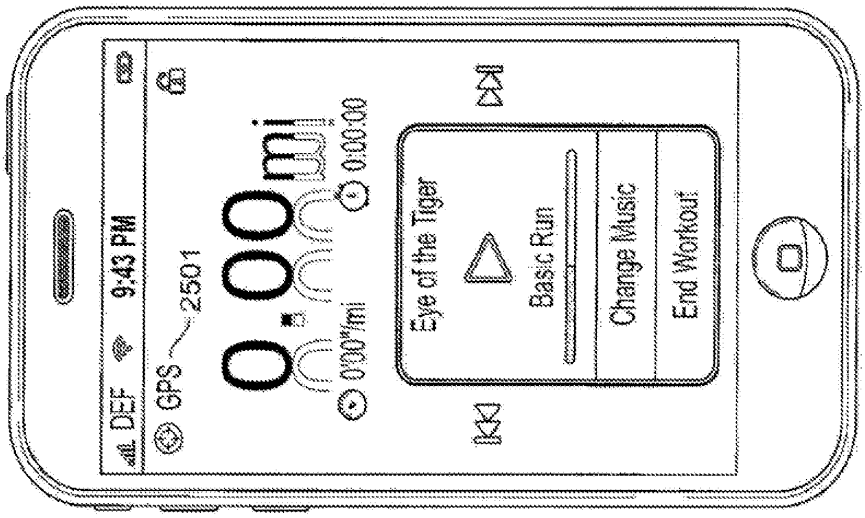


图 25B

AliveCor Exhibit 1002
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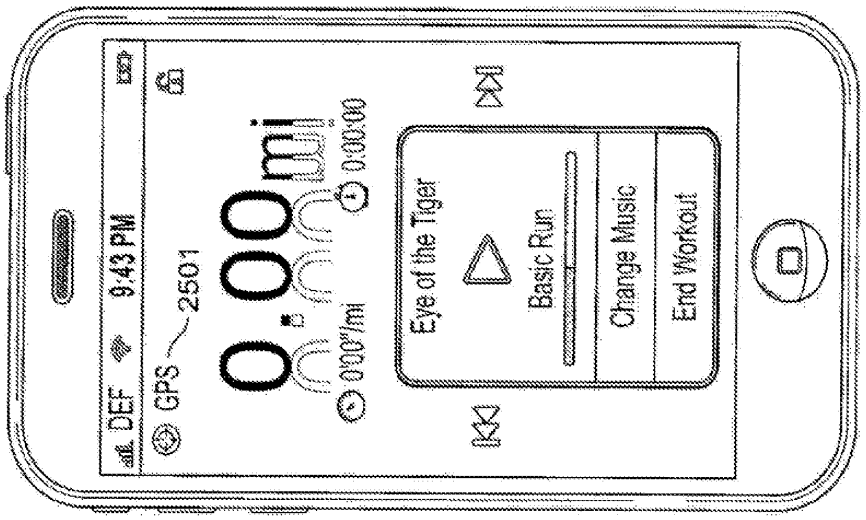


图 25C

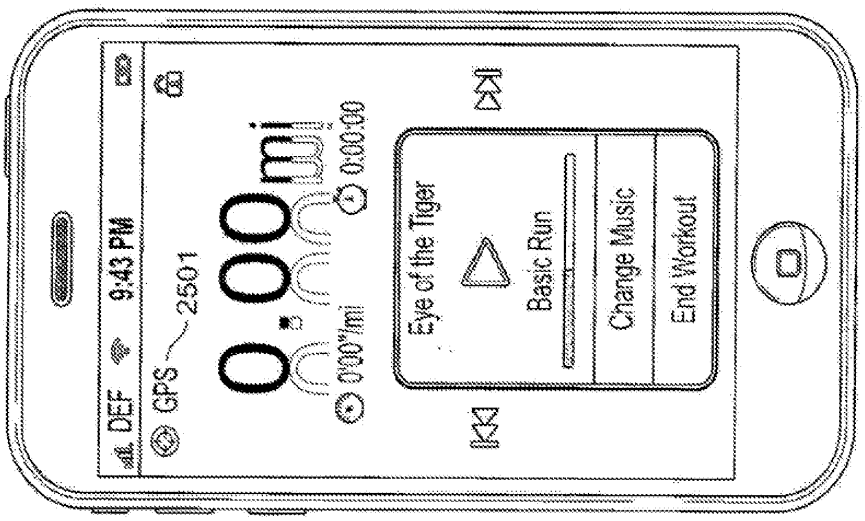


图 25D

AliveCor Exhibit 1002
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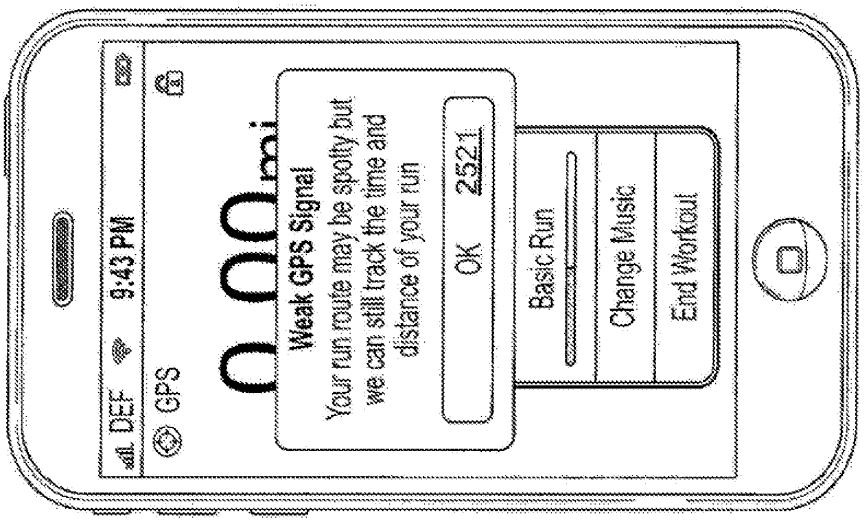


图 25E

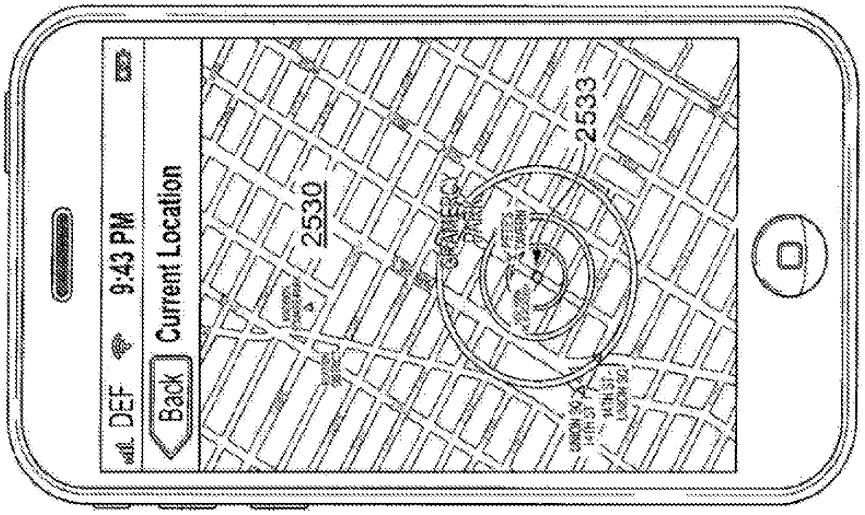


图 25F

110

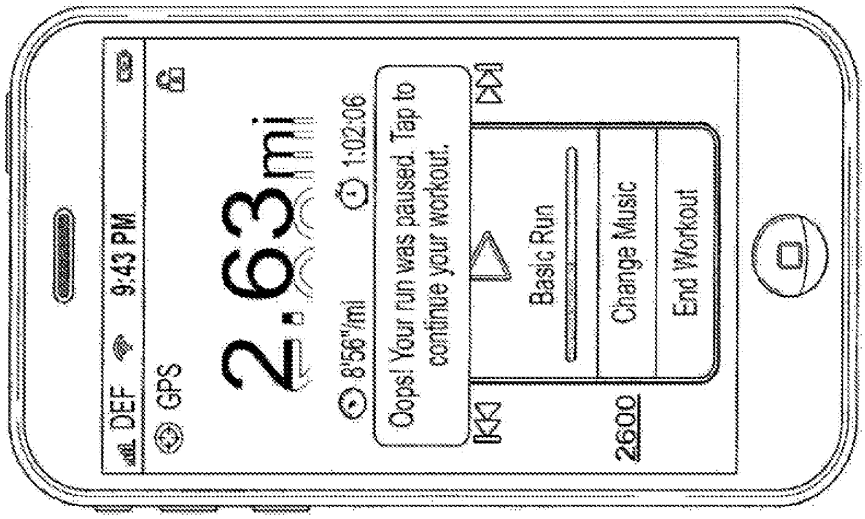


图 26A

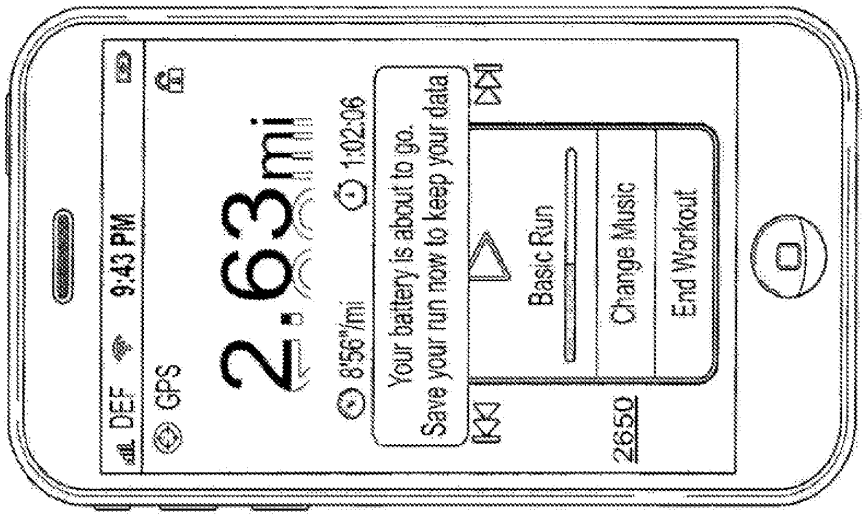


图 26B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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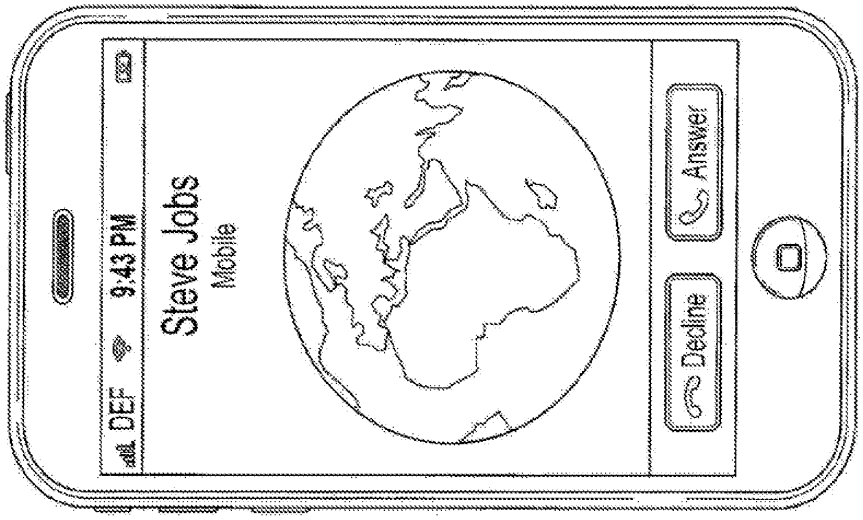


图 27A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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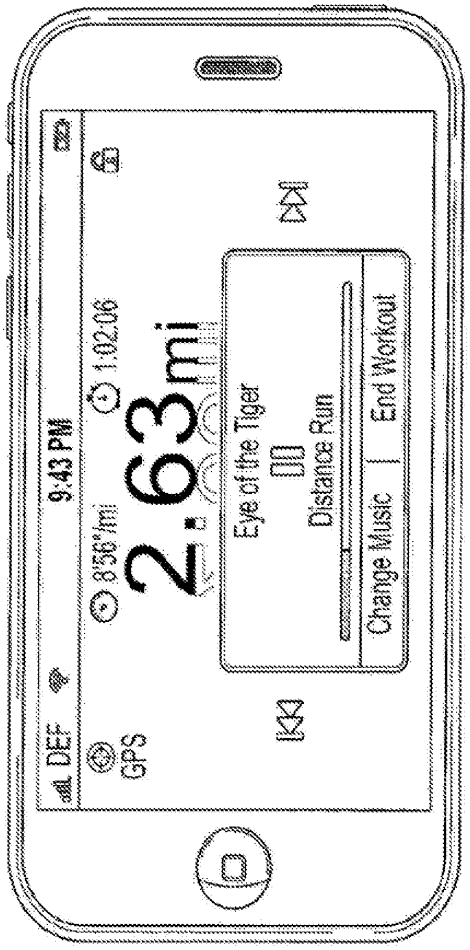

9:43 PM
1:02:06
8'56"/mi
2.63mi
Eye of the Tiger
Distance Run
Change Music
End Workout
DEF
GPS

图 27B

113



图 27C

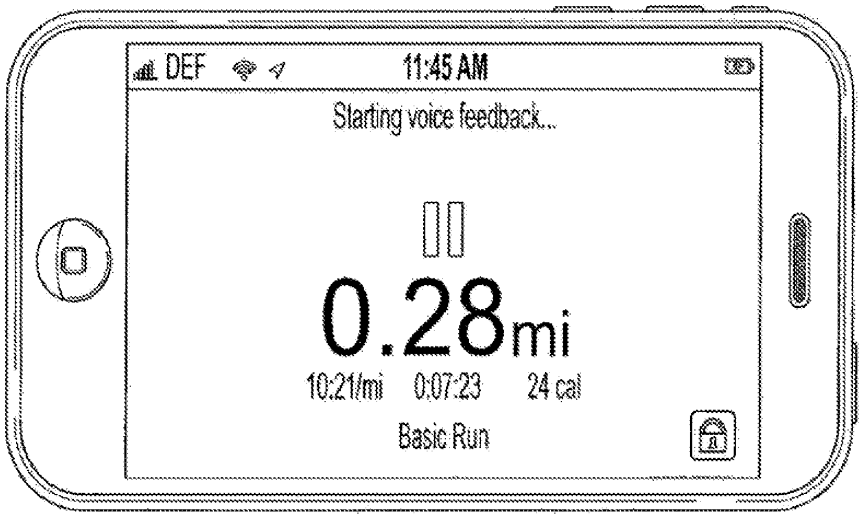


图 27D

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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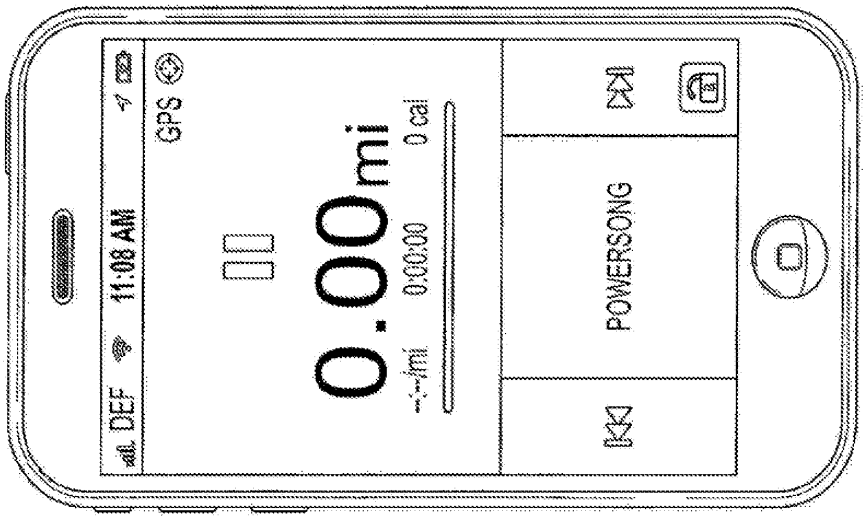


图 27E

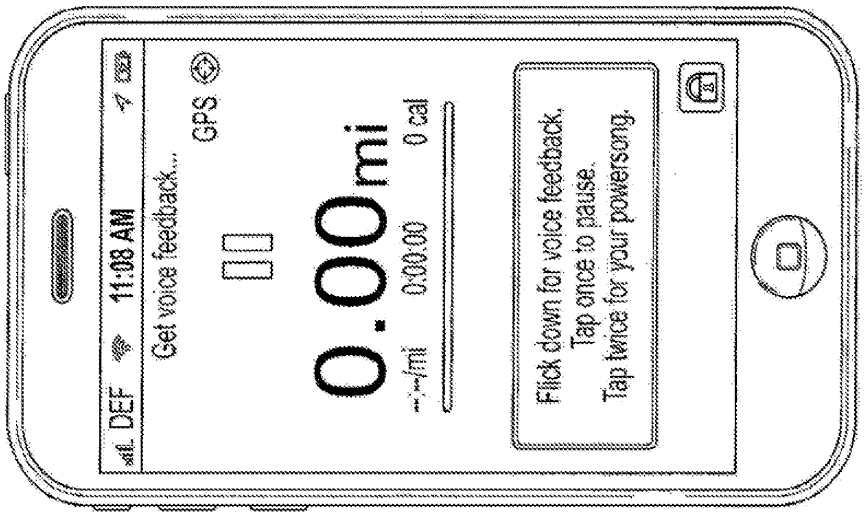


图 27F

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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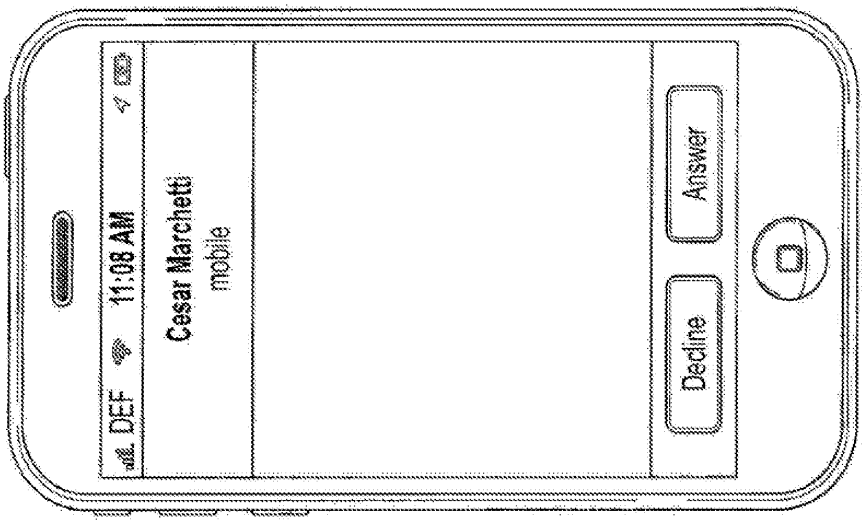


图 27G

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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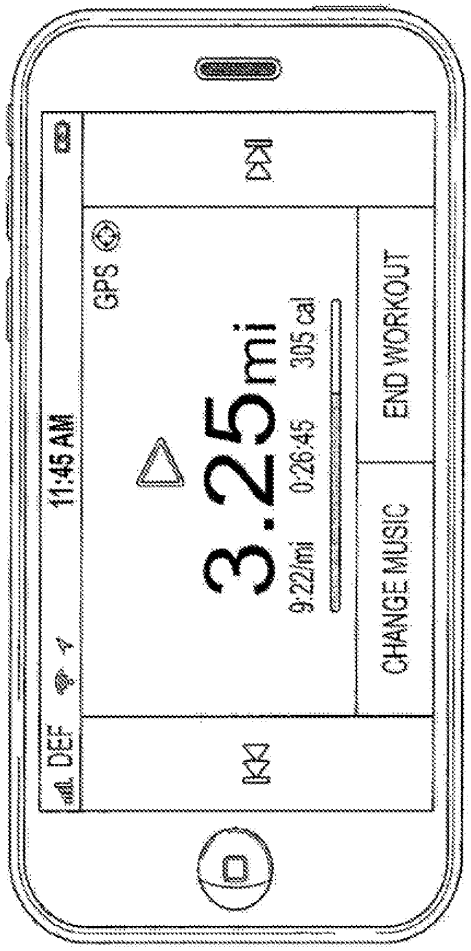


图 27H

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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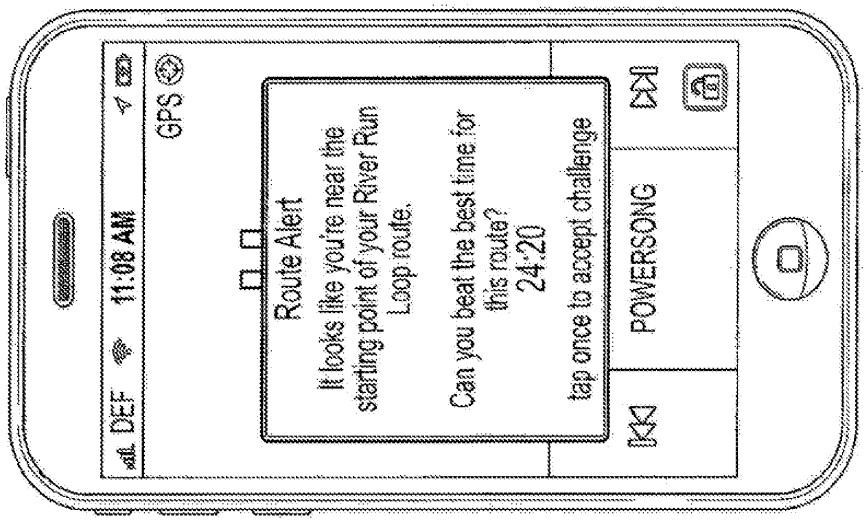


图 28A

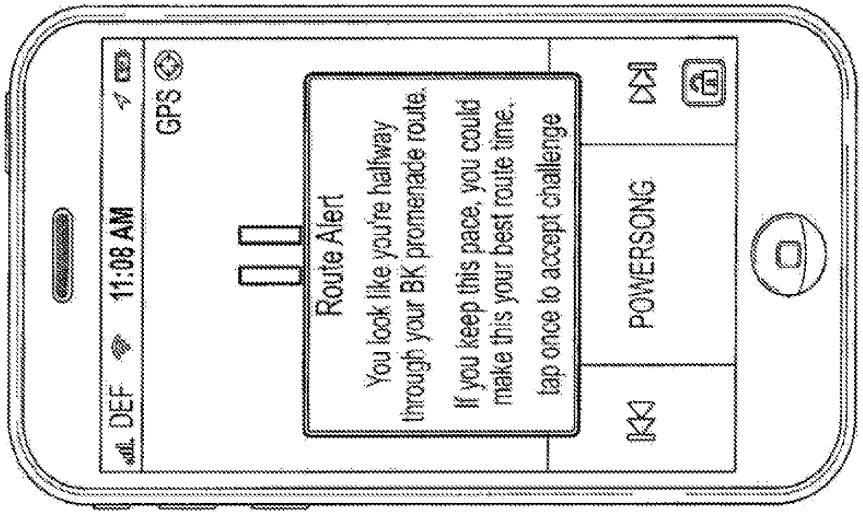


图 28B

118

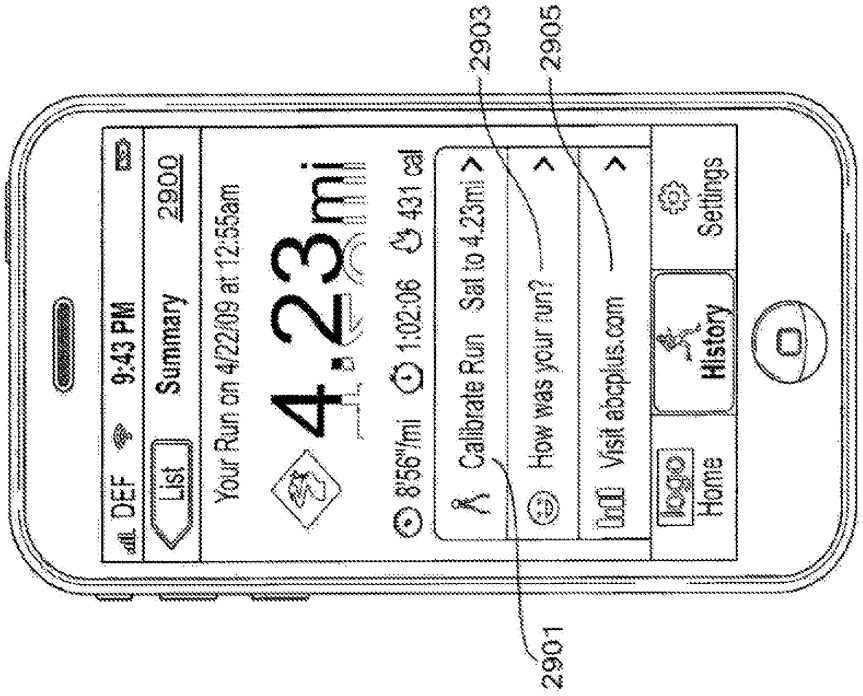

DEF
9:43 PM
List
Summary
2900
Your Run on 4/22/09 at 12:55am
4.23mi
8'56"/mi
1:02:06
431 cal
Calibrate Run
Sat to 4.23mi
How was your run?
Visit abcplus.com
Home
History
Settings
2901
2903
2905

图 29

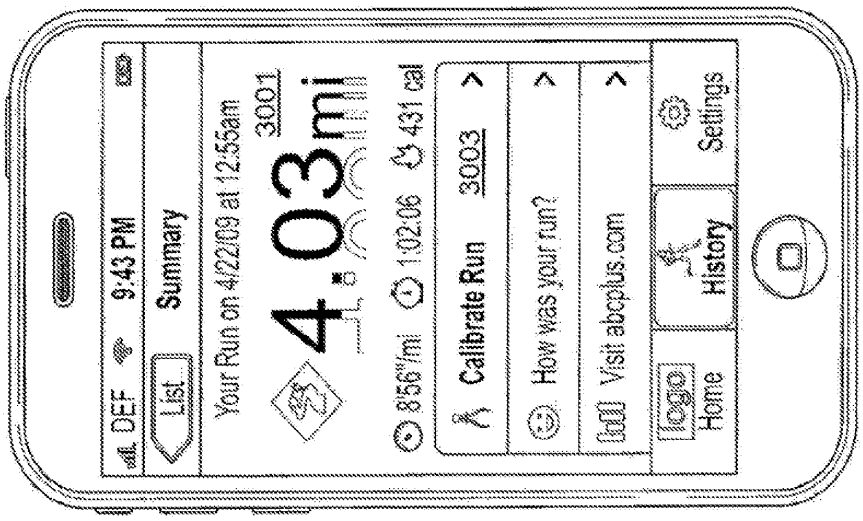

DEF
9:43 PM
List
Summary
Your Run on 4/22/09 at 12:55am
3001
4.03mi
8'56"/mi
1:02:06
431 cal
Calibrate Run
3003
How was your run?
Visit abcplus.com
Home
History
Settings

图 30A

119

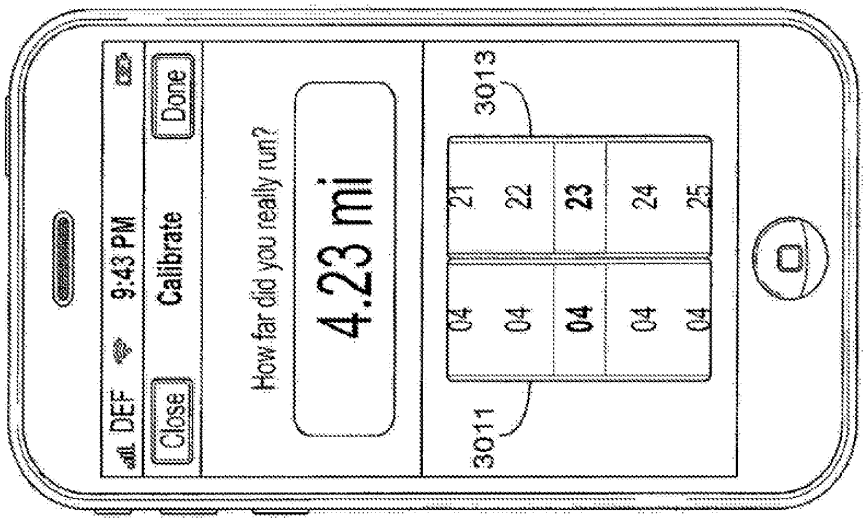


图 30B

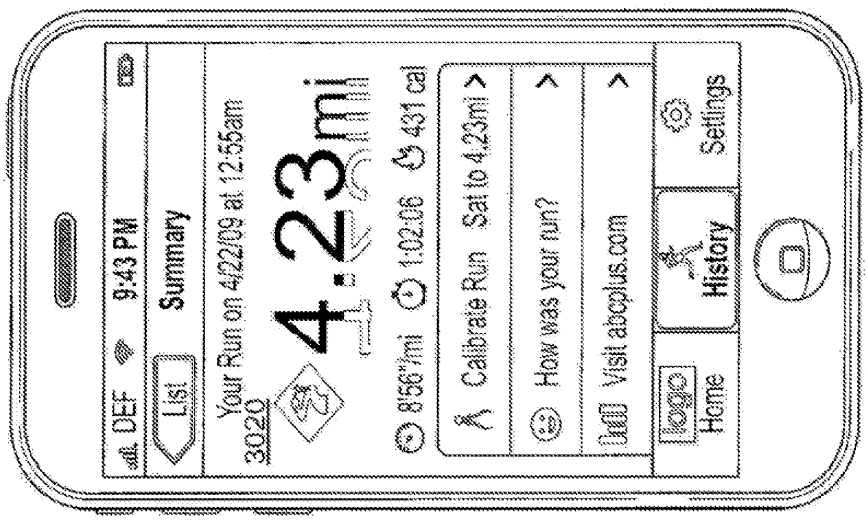


图 30C

120

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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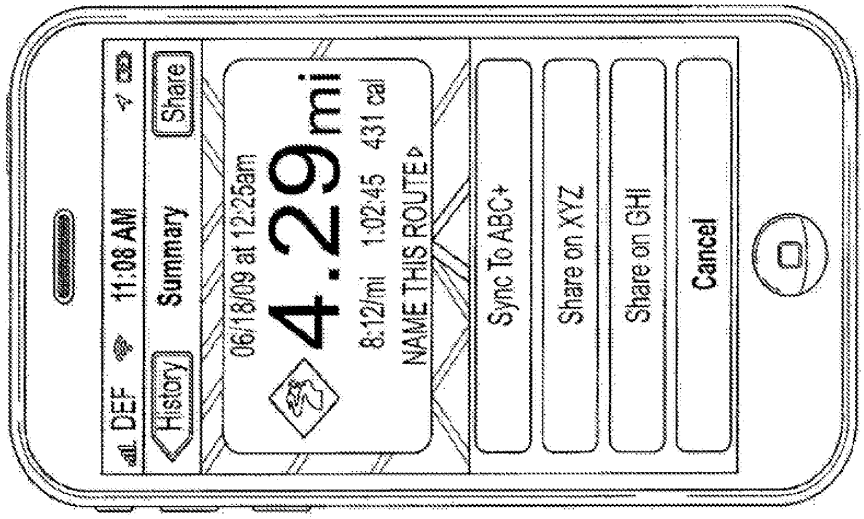


图 31A

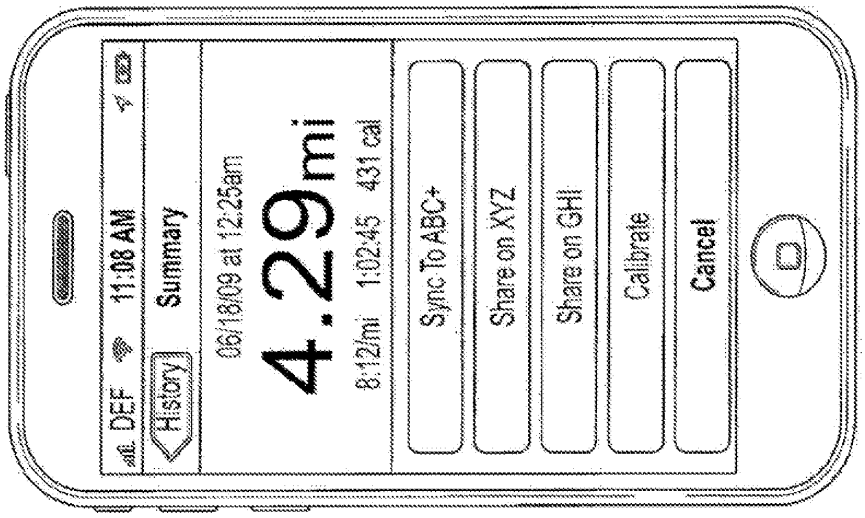


图 31B

121

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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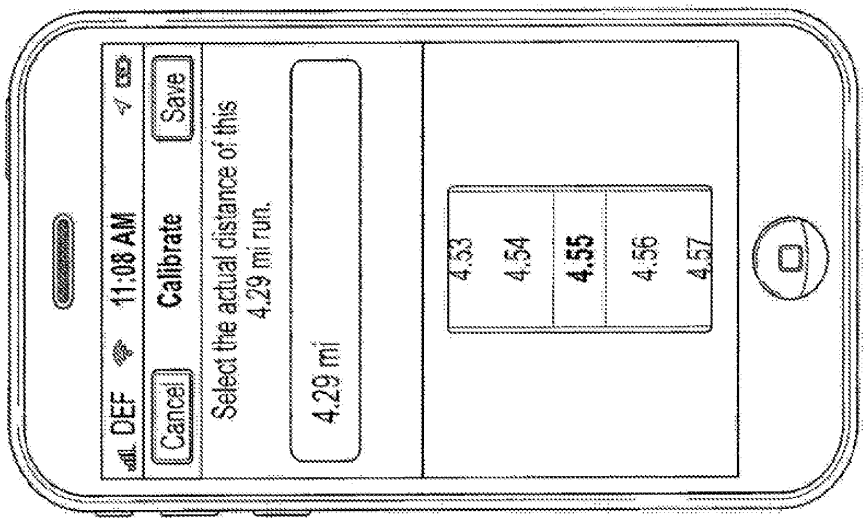


图 31C

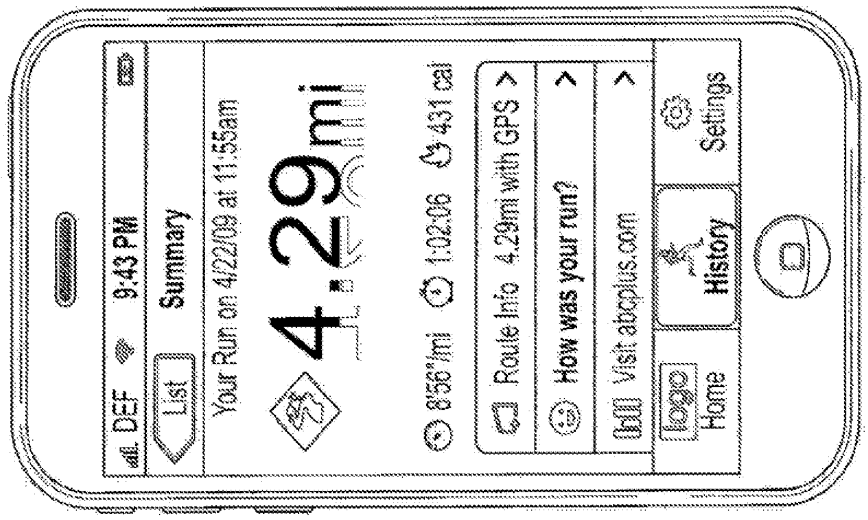


图 32A

122

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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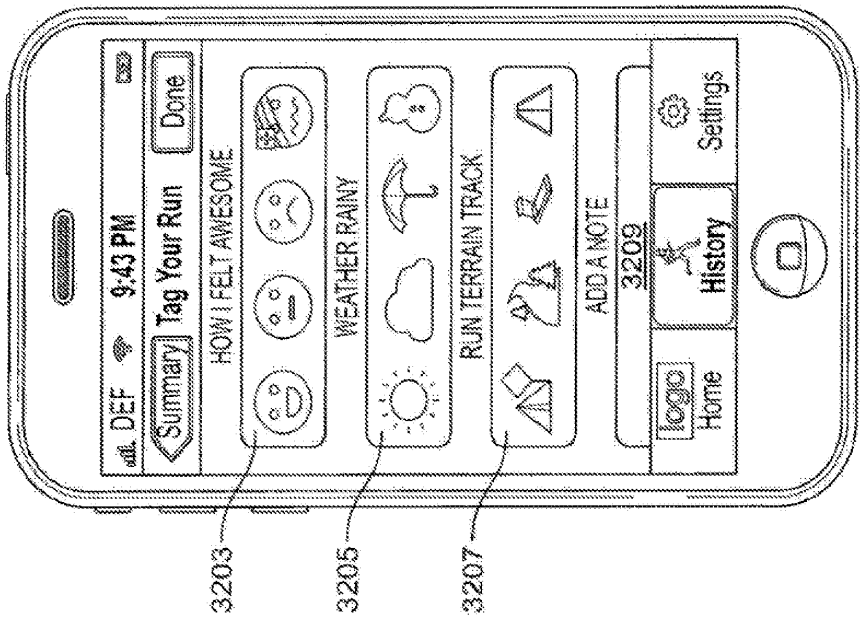


图 32B

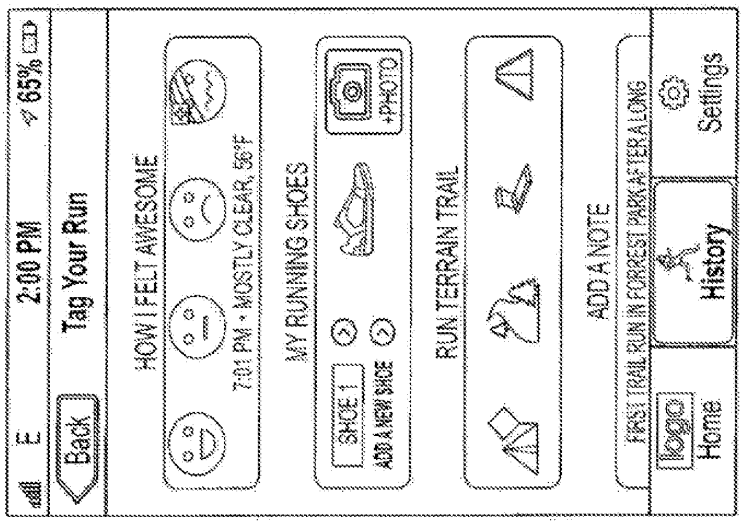


图 32C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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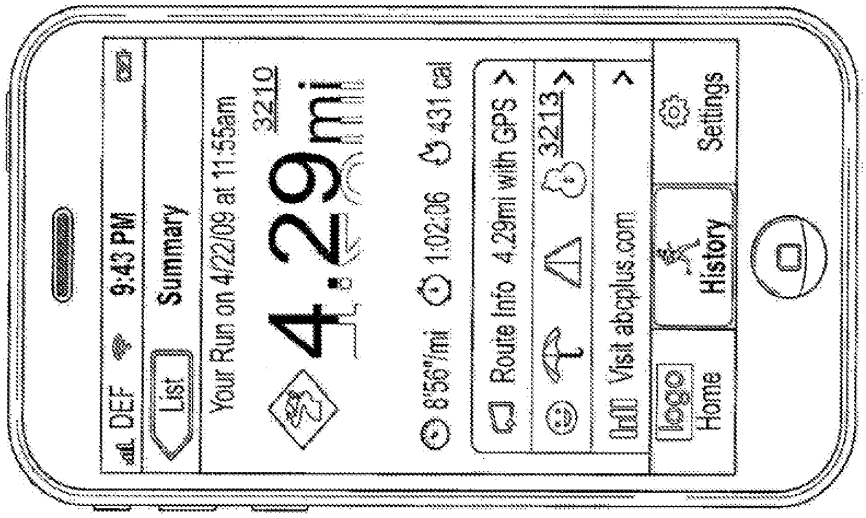


图 32D

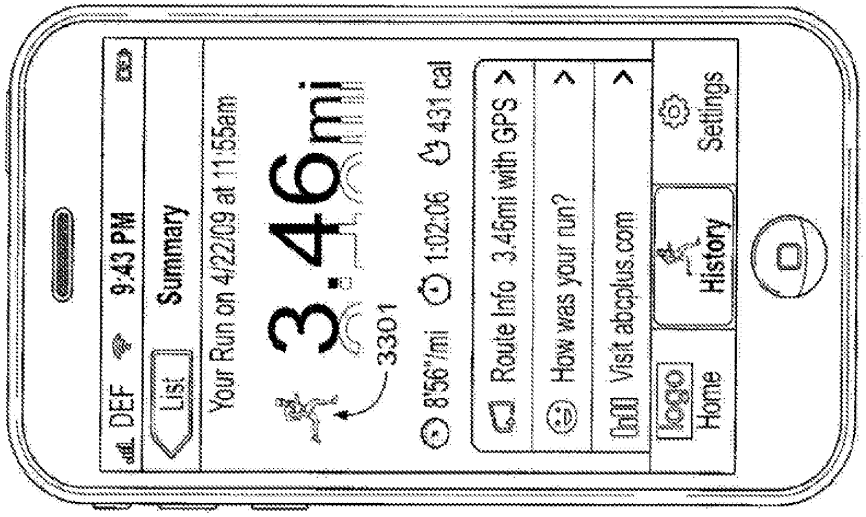


图 33A

124

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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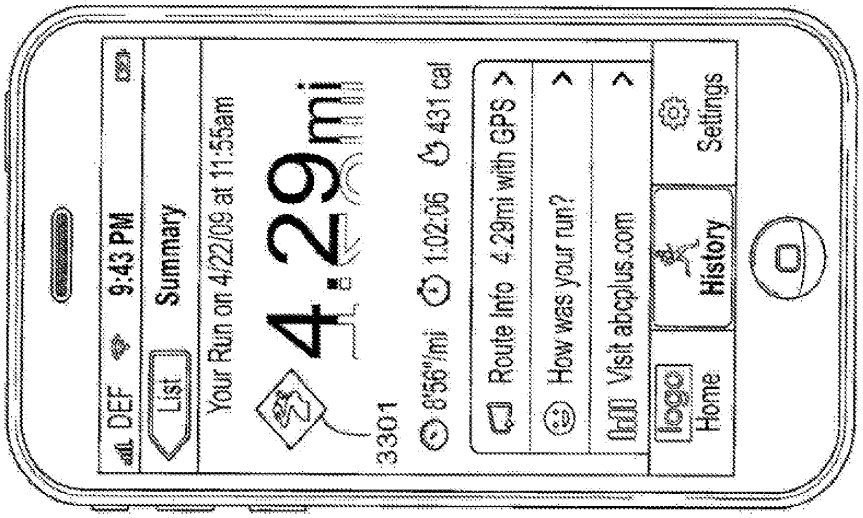


图 33B

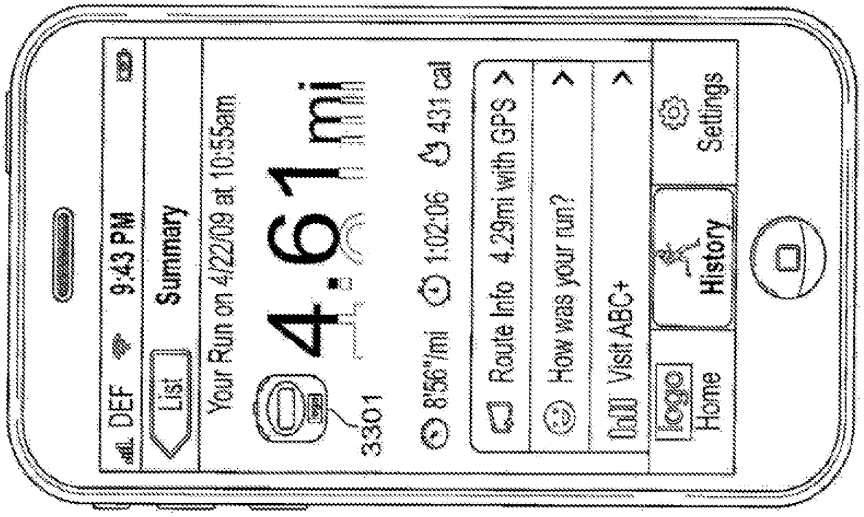


图 33C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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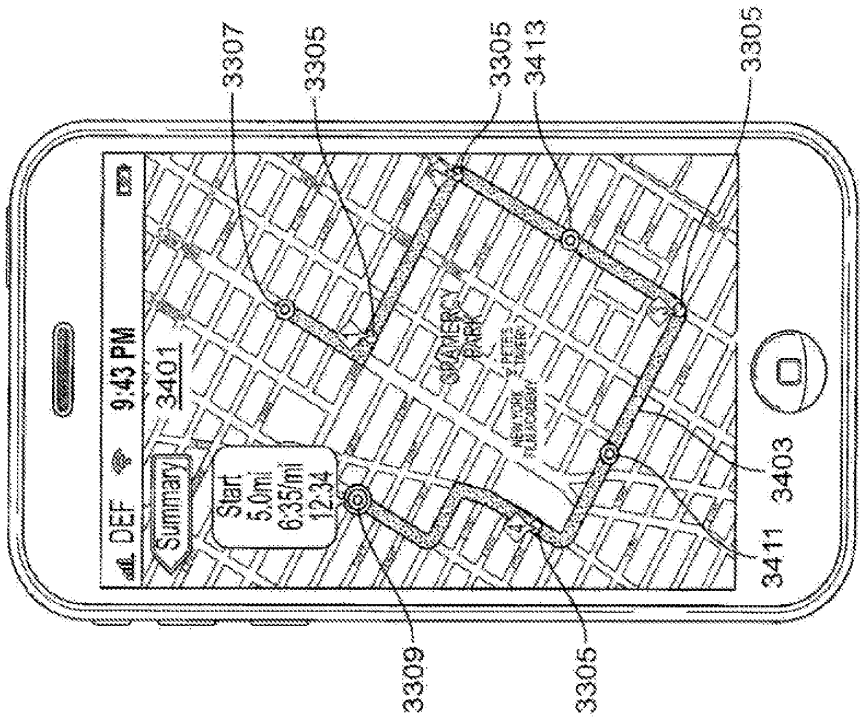


图 34

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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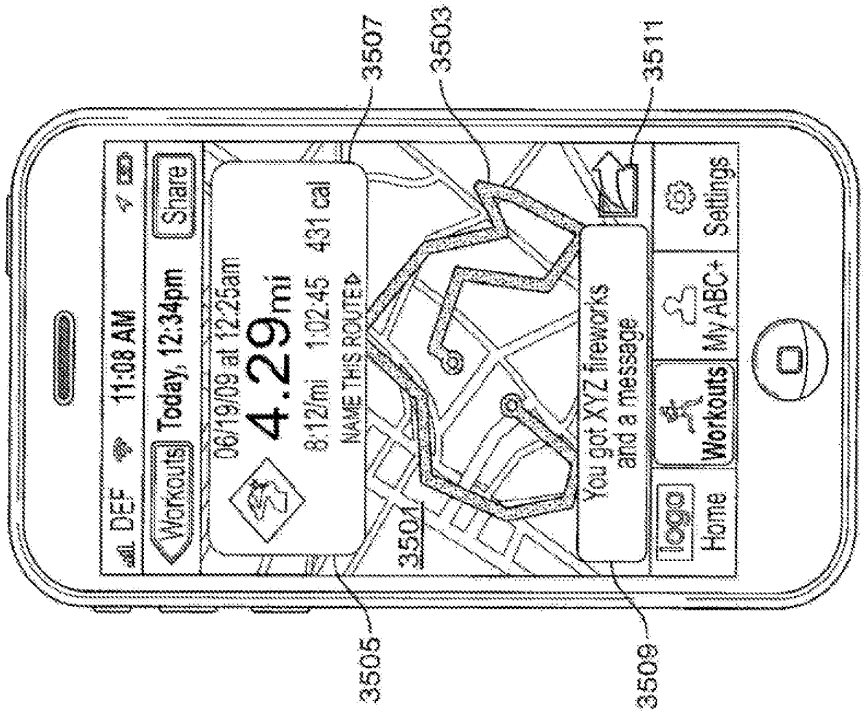


图 35A

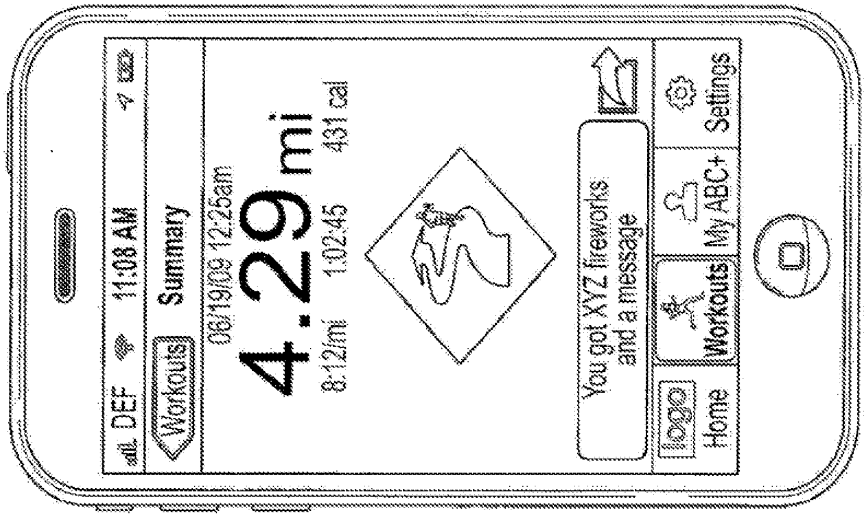


图 35B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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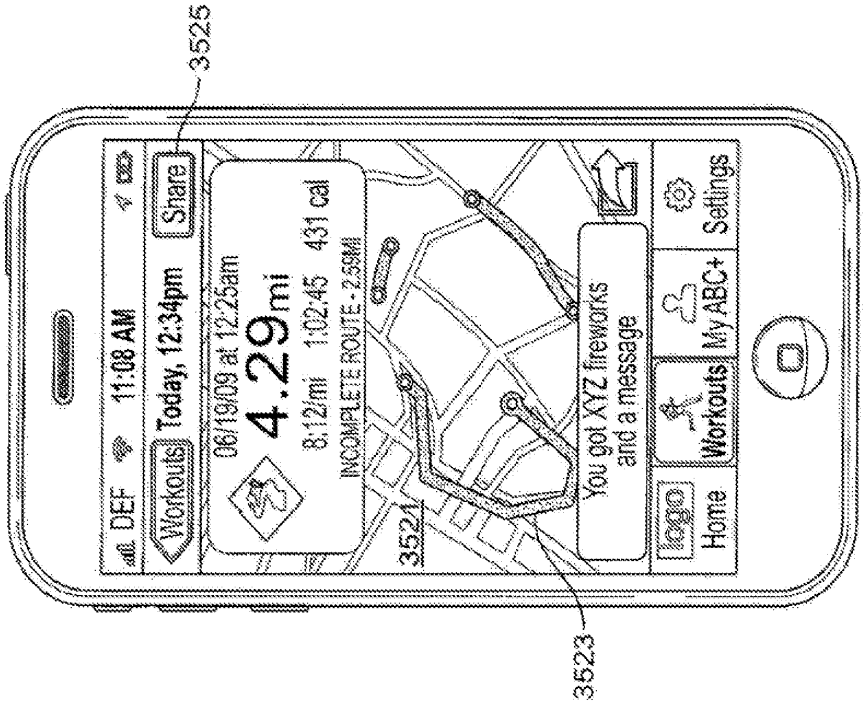


图 35C

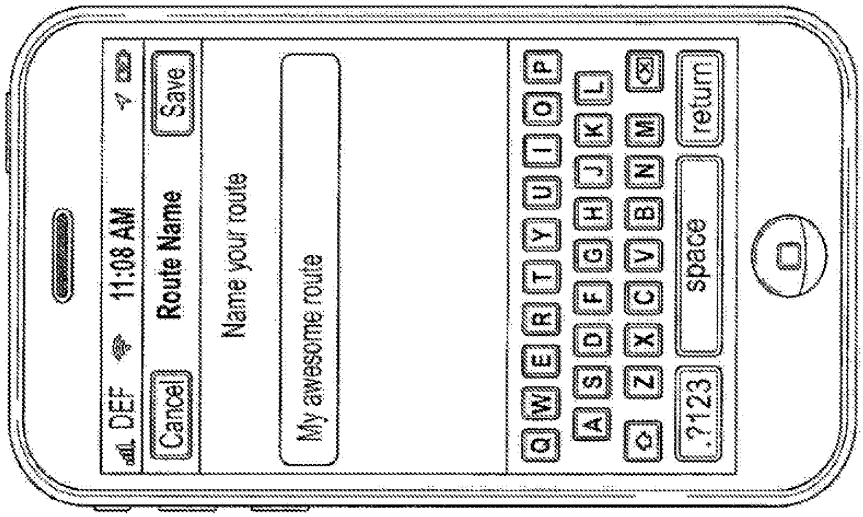


图 36

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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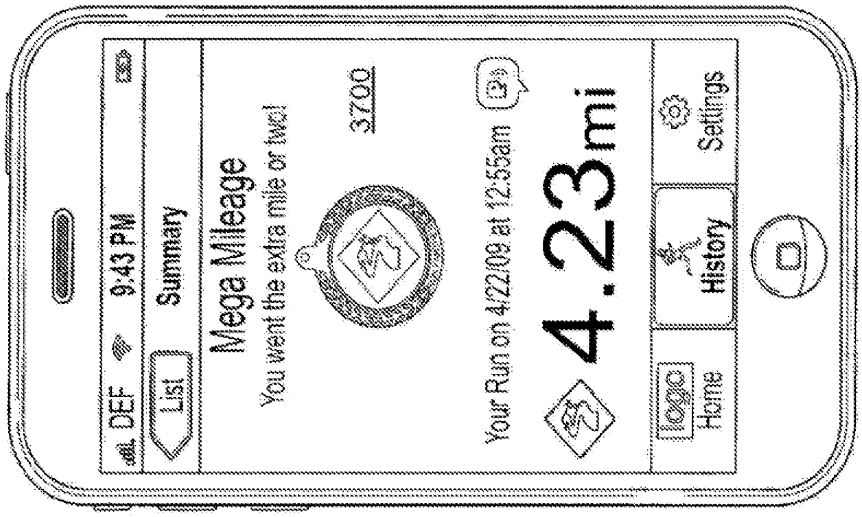


图 37A

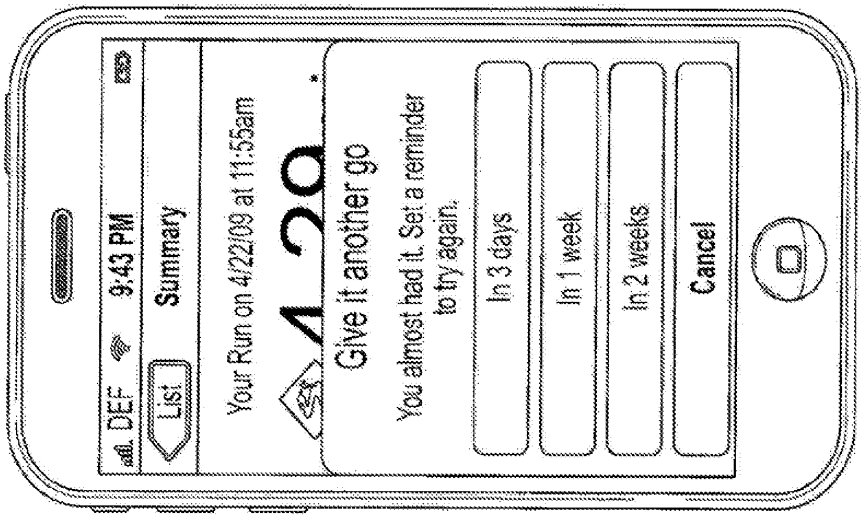


图 37B

AliveCor Exhibit 1002
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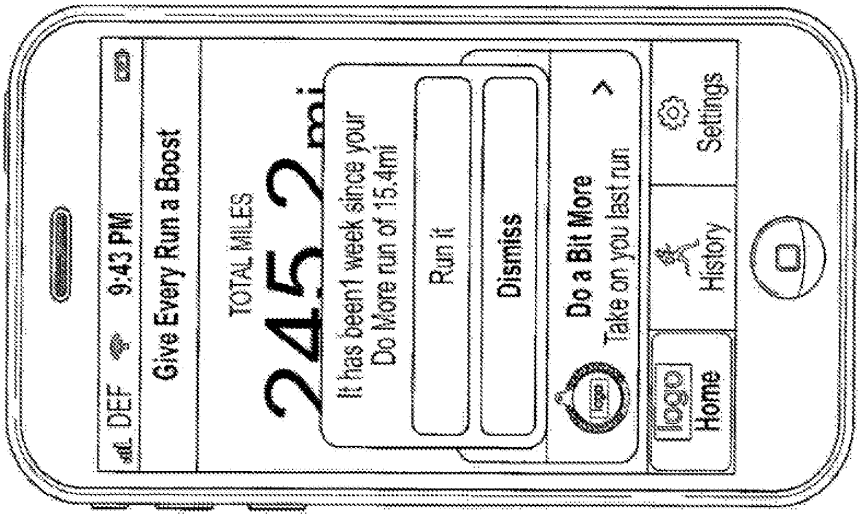


图 37C

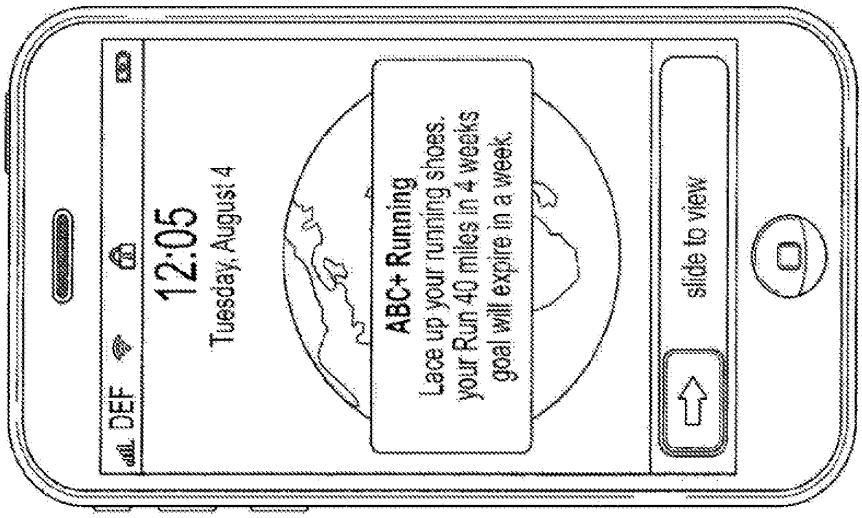


图 38A

130

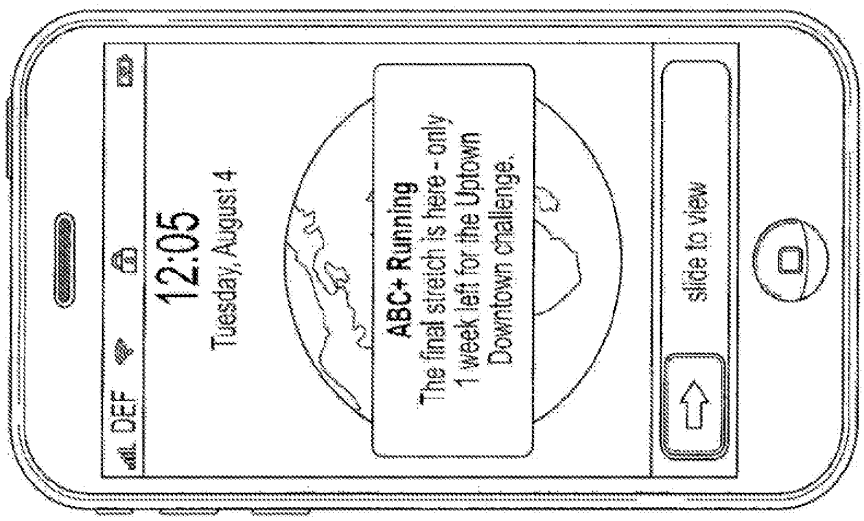


图 38B

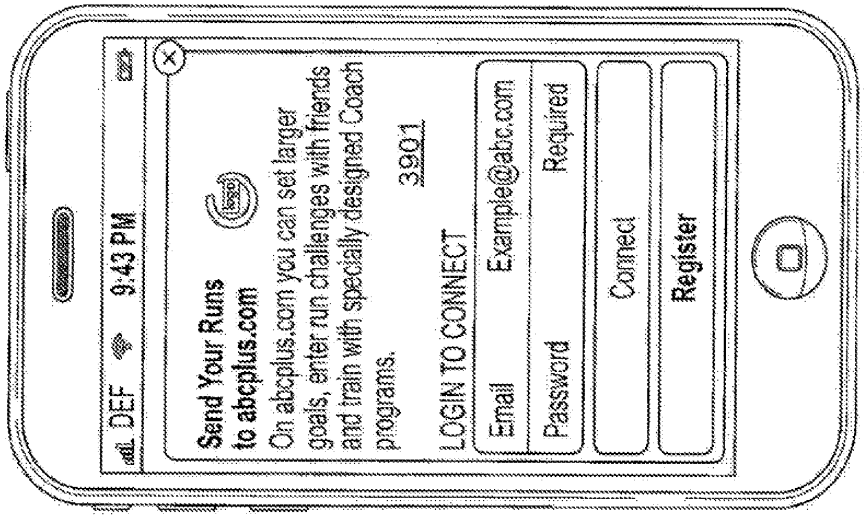


图 39A

131

AliveCor Exhibit 1002
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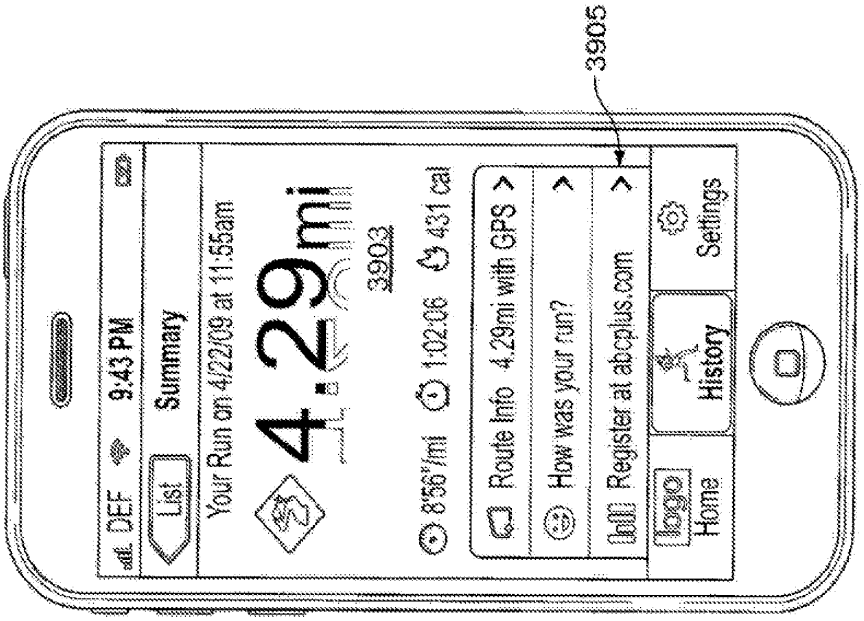


图 39B

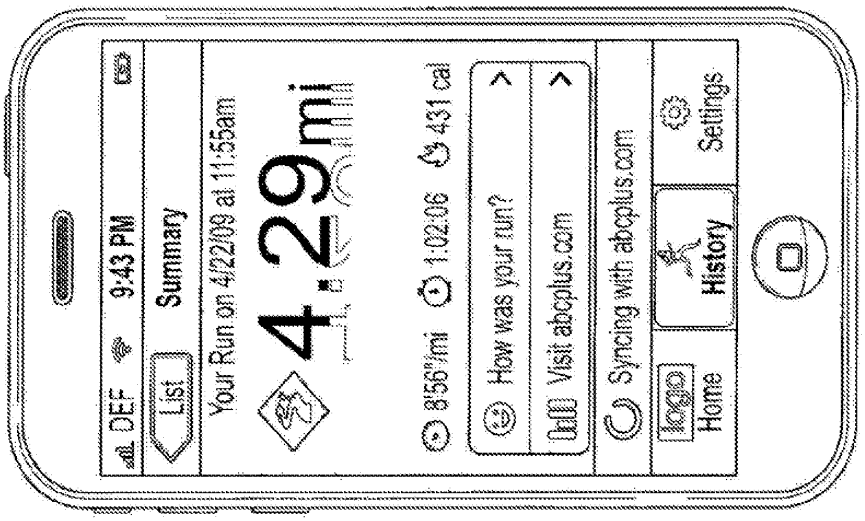


图 40A

132

AliveCor Exhibit 1002
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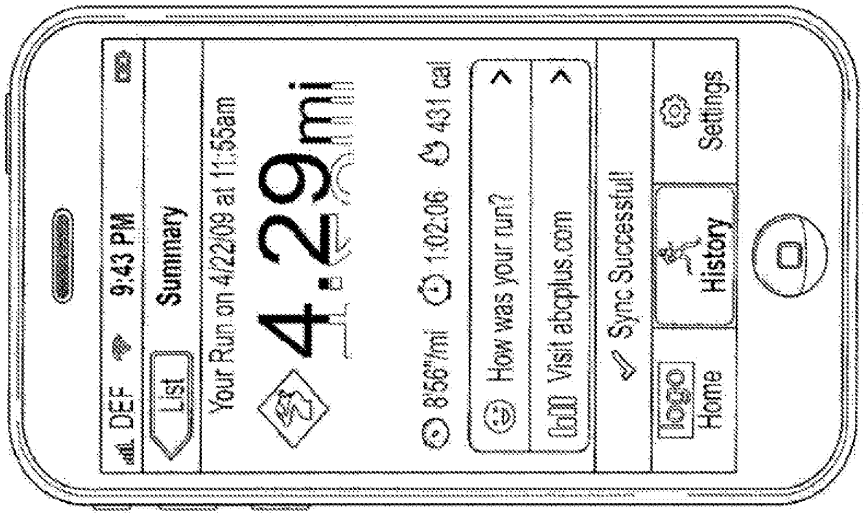


图 40B

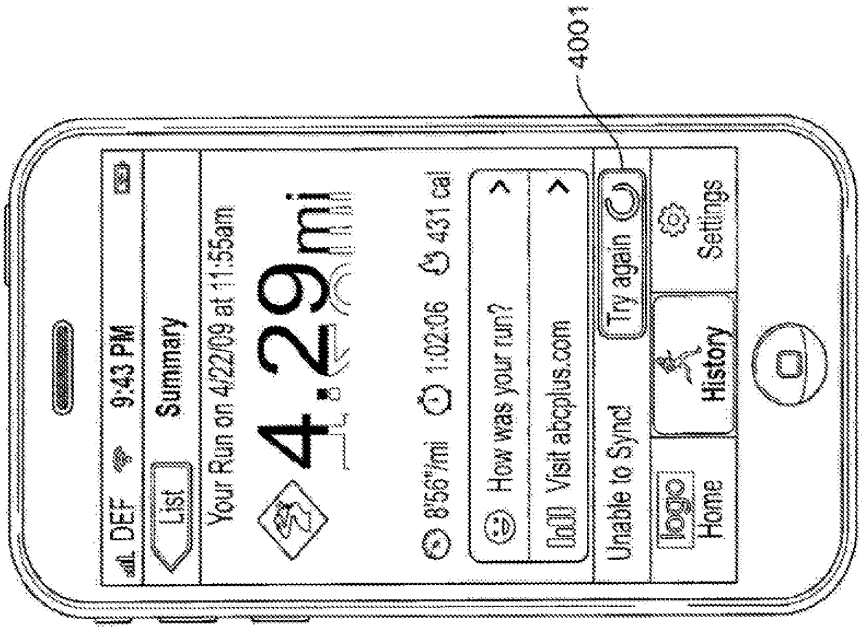


图 40C

133

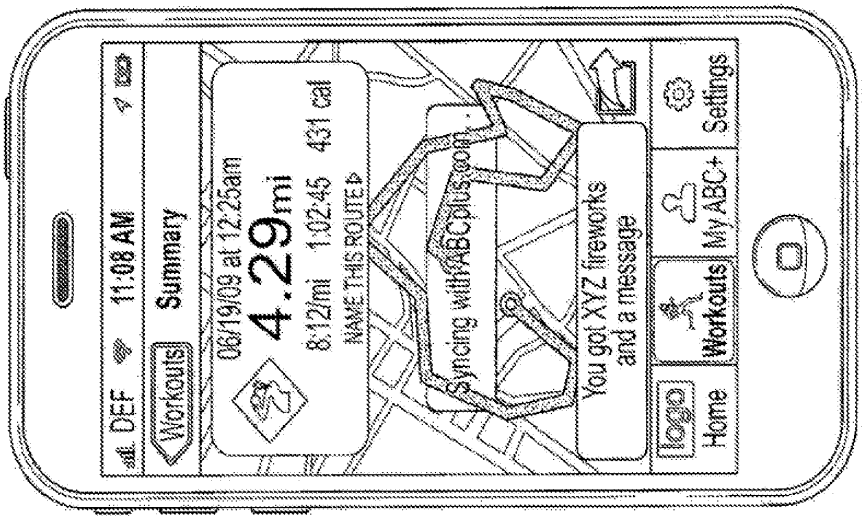


图 41A

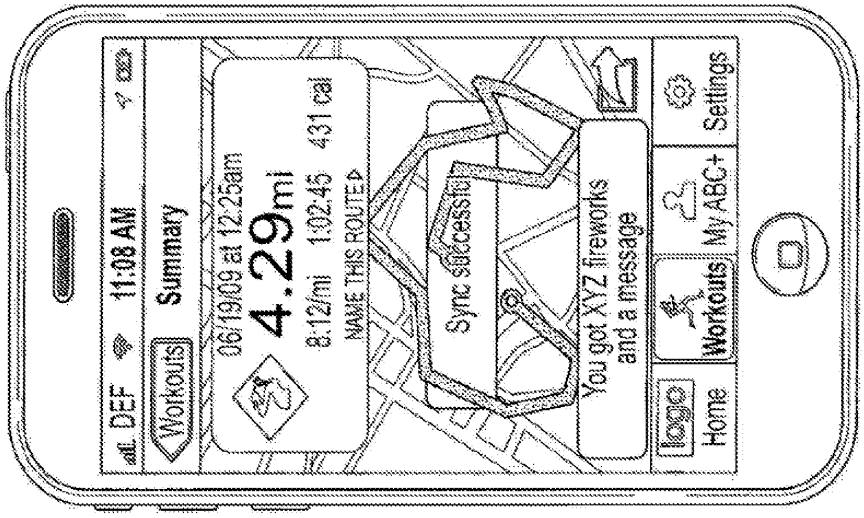


图 41B

134

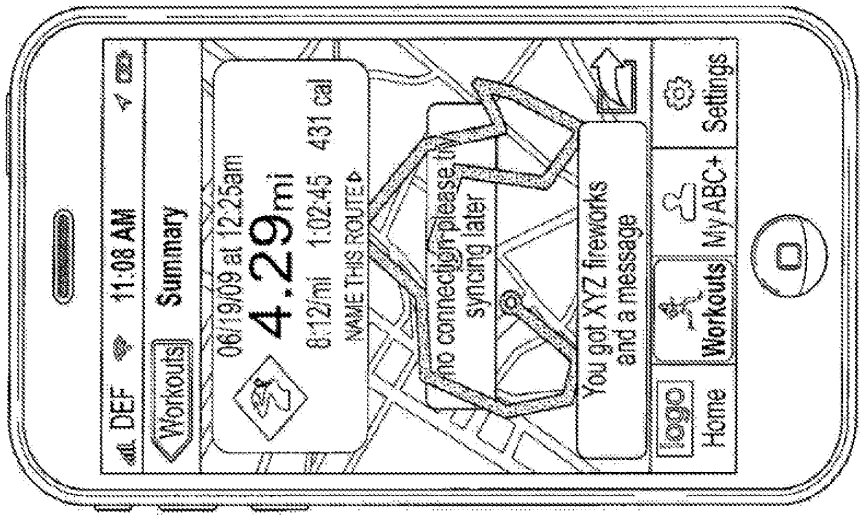


图 41C

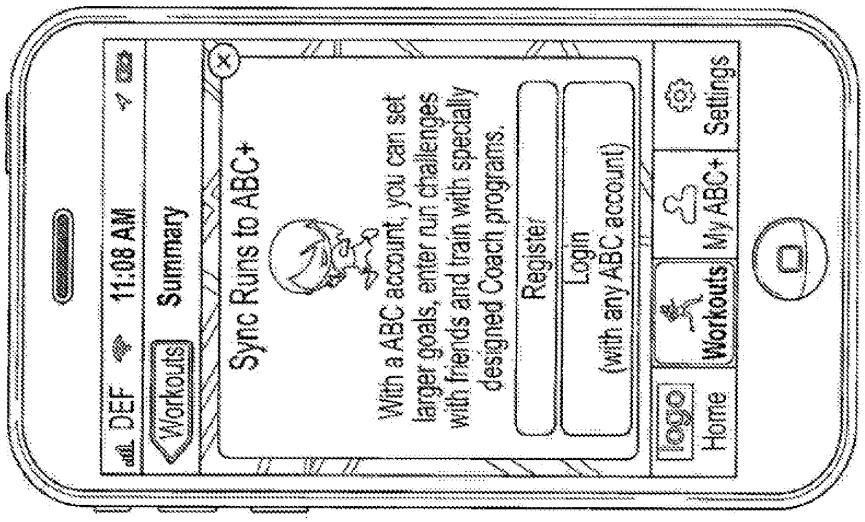


图 42A

135

AliveCor Exhibit 1002
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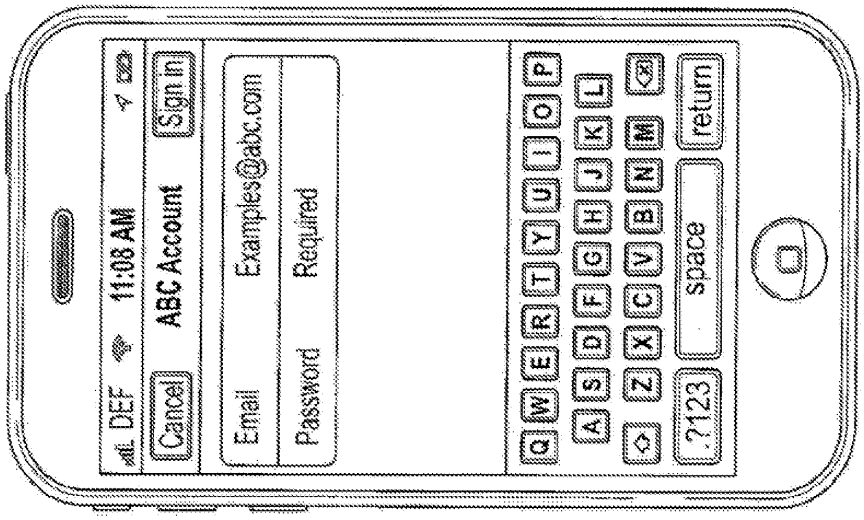


图 42B

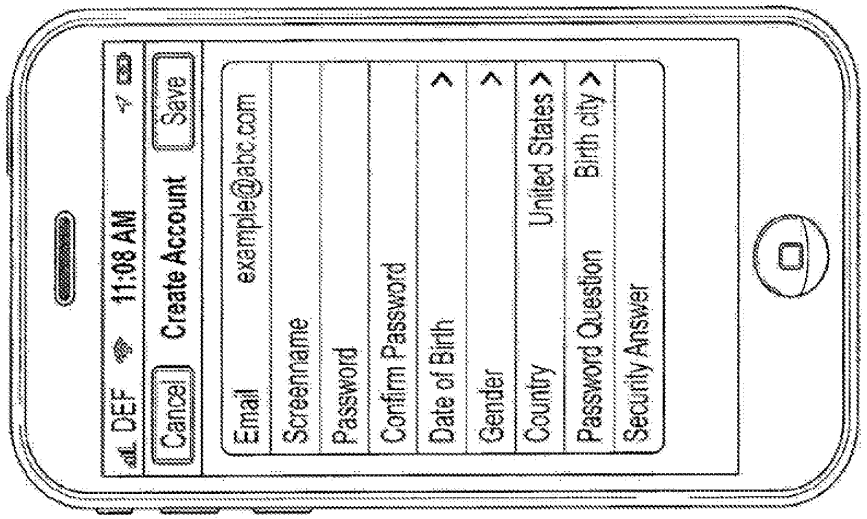


图 42C

AliveCor Exhibit 1002
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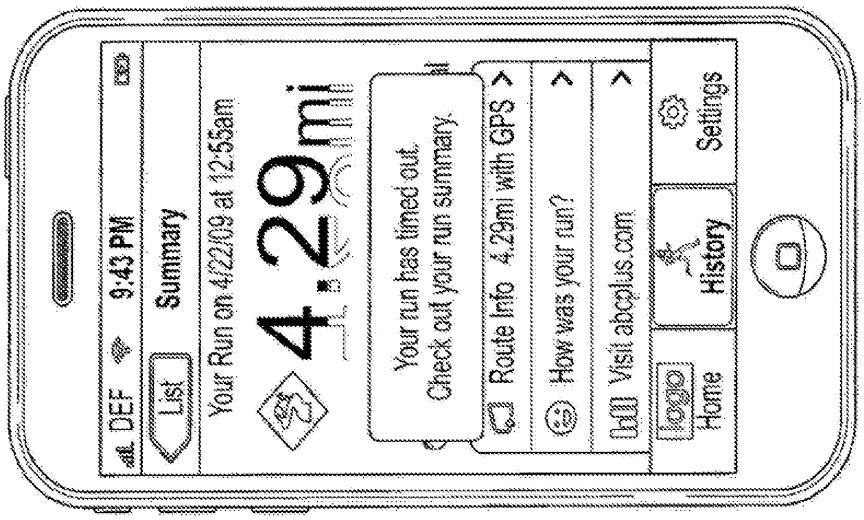


图 43

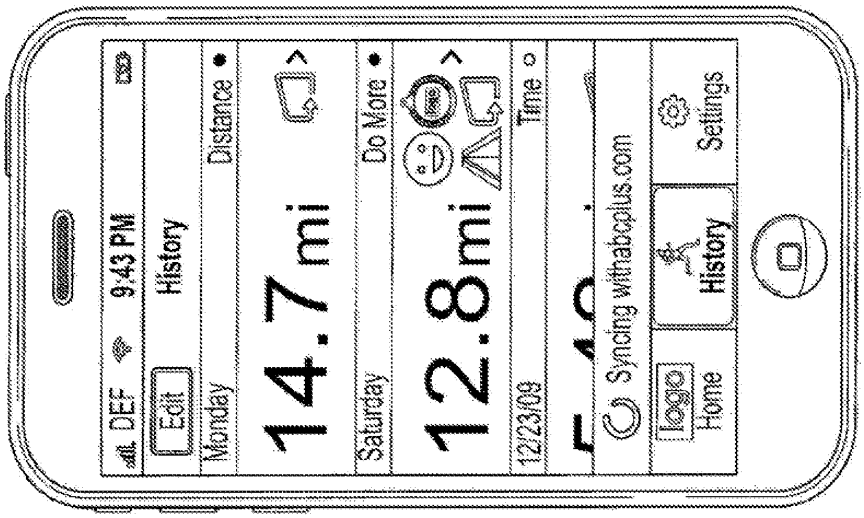


图 44A

137

AliveCor Exhibit 1002
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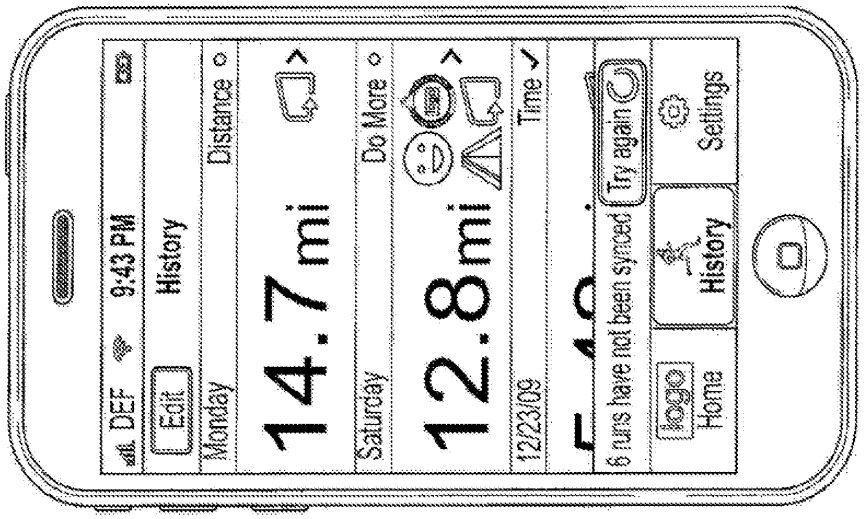


图 44B

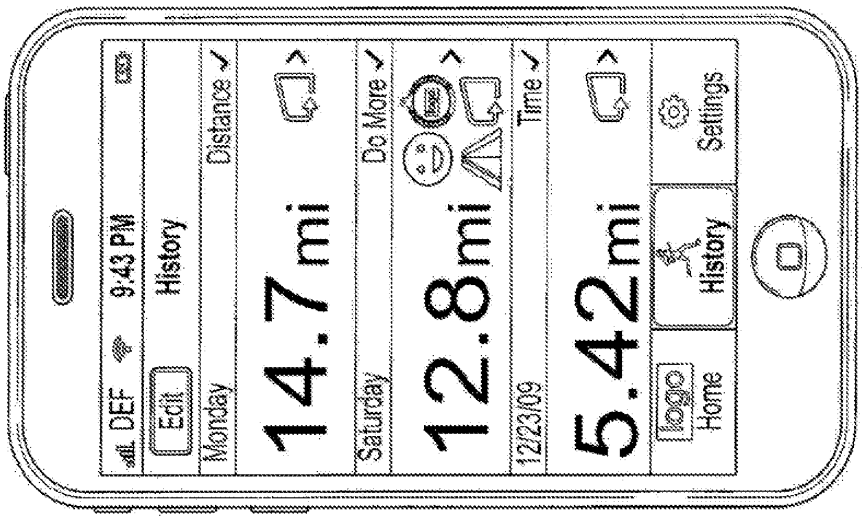


图 44C

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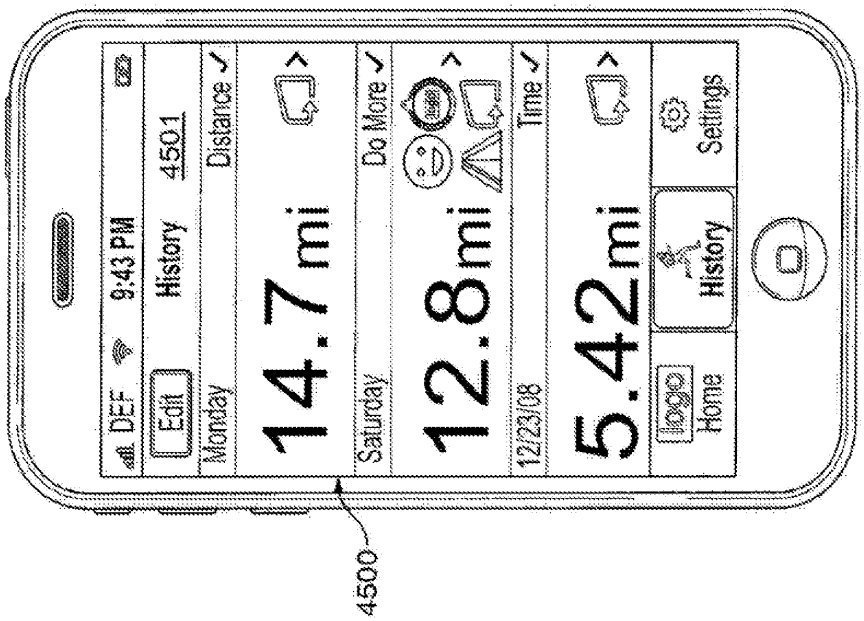


图 45A

AliveCor Exhibit 1002
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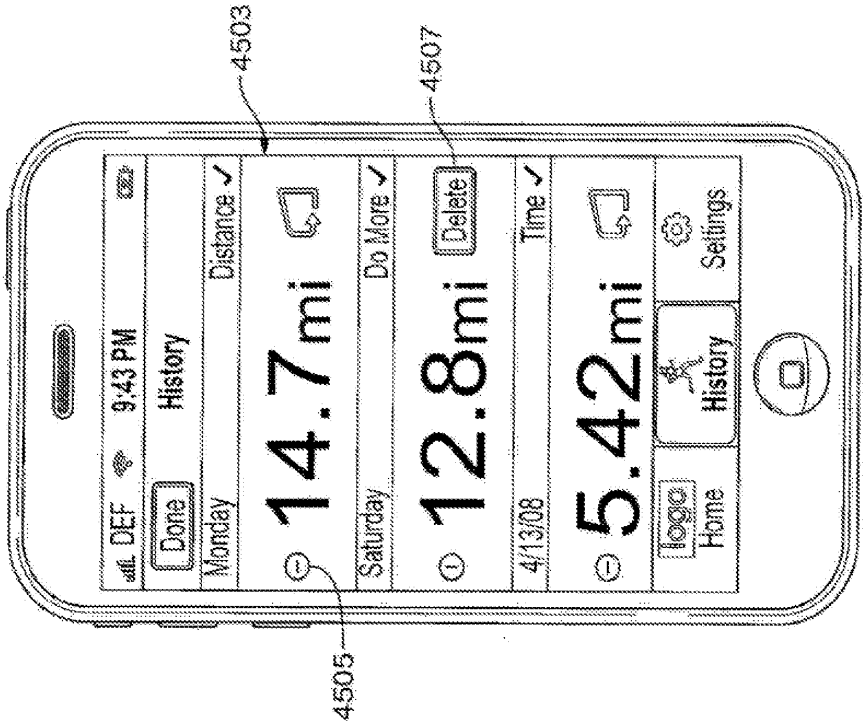


图 45B

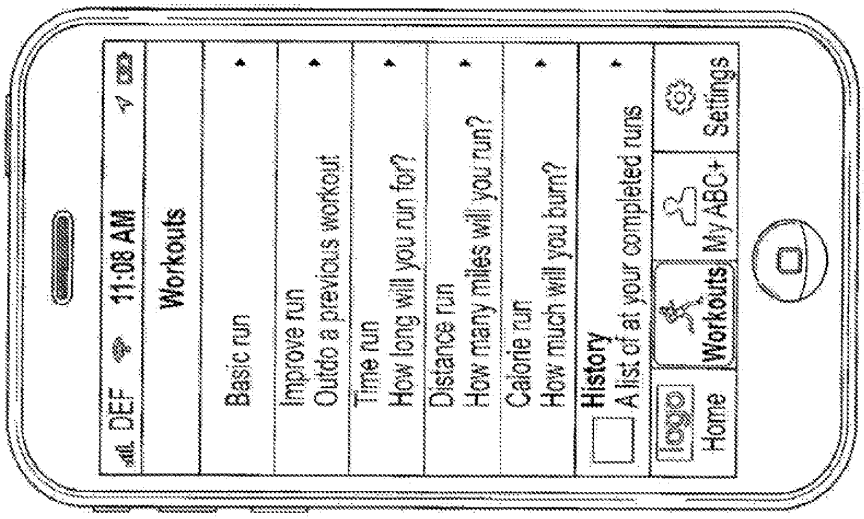


图 46A

140

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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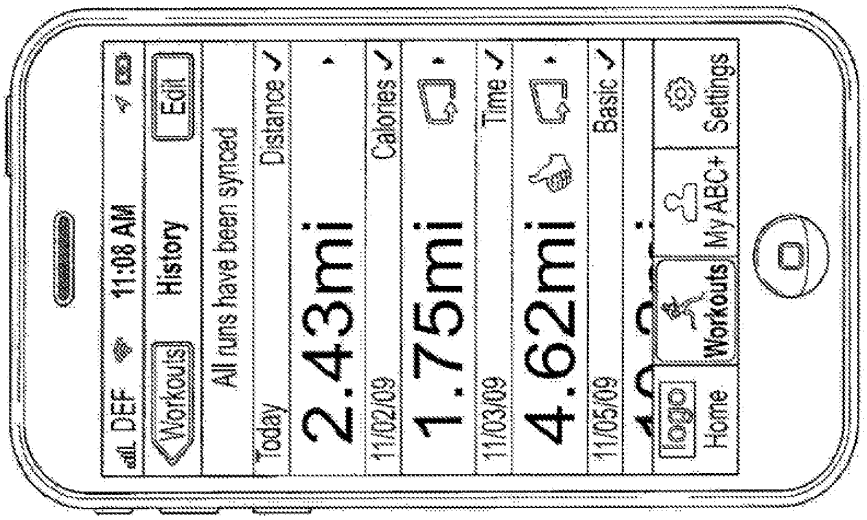


图 46B

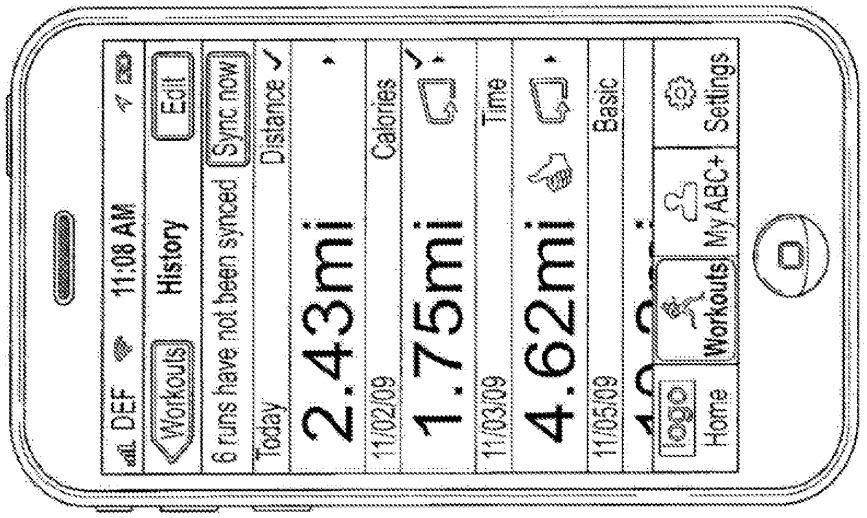


图 46C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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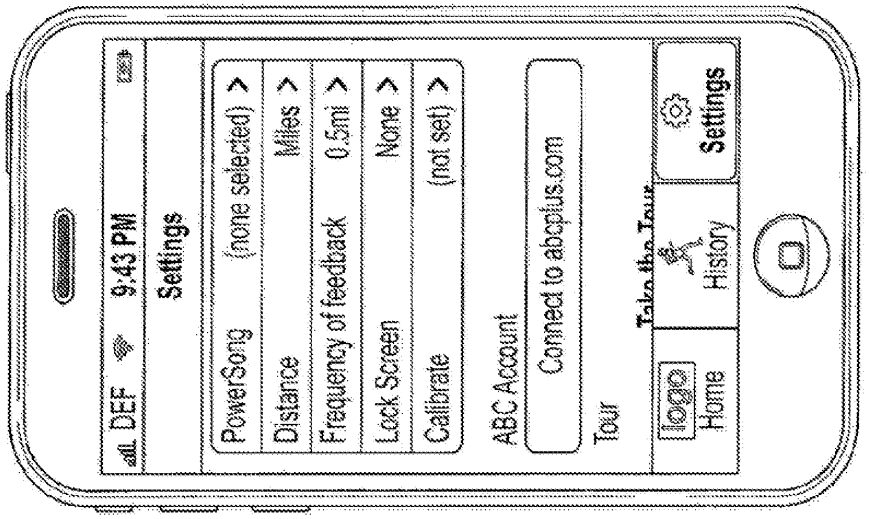


图 47A

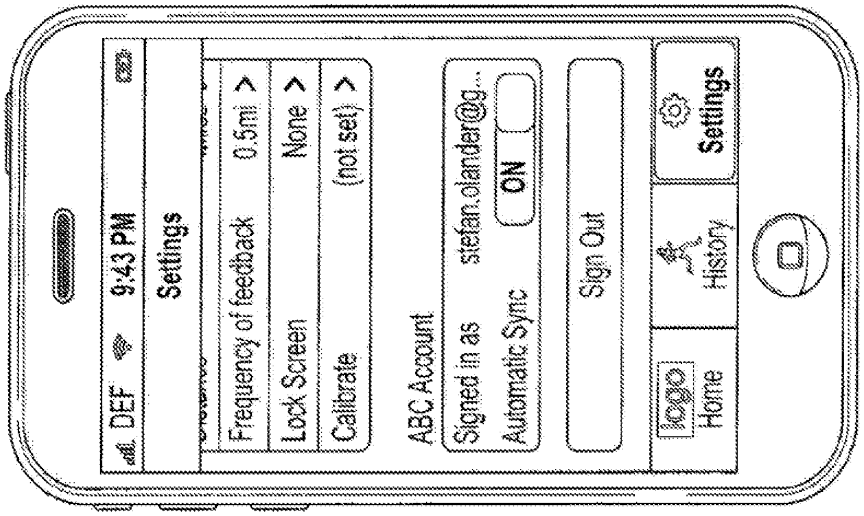


图 47B

142

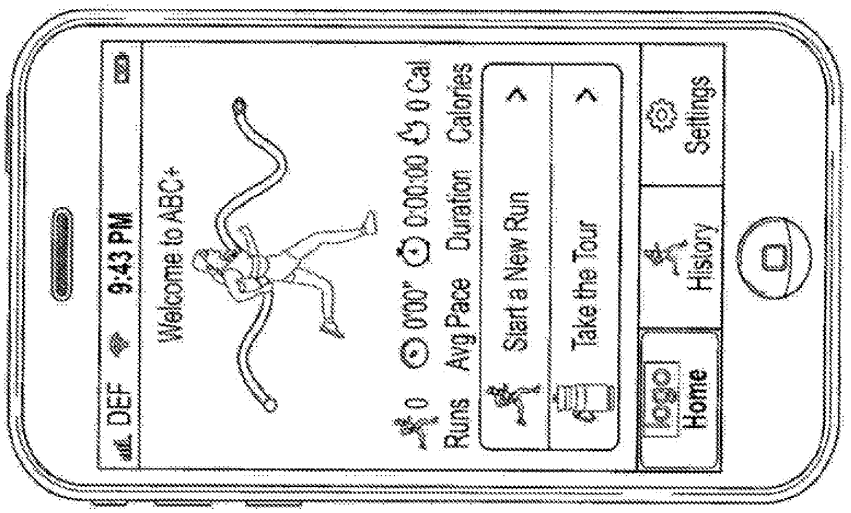


图 48A

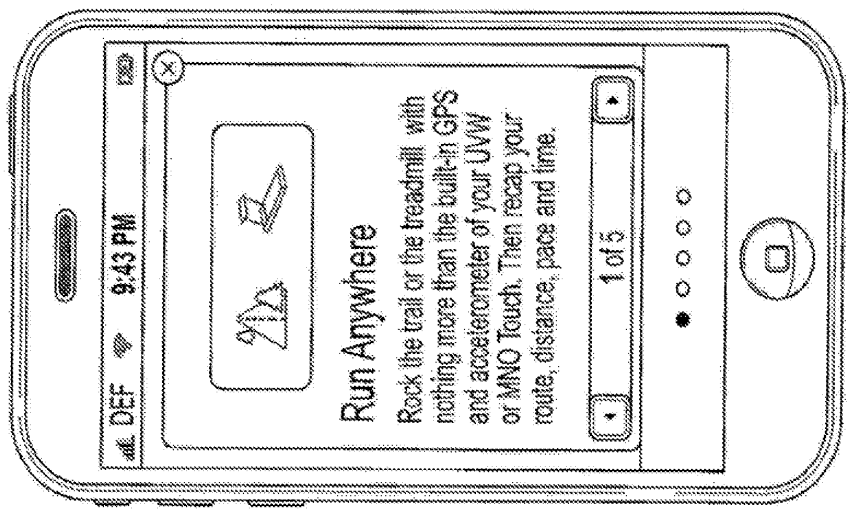


图 48B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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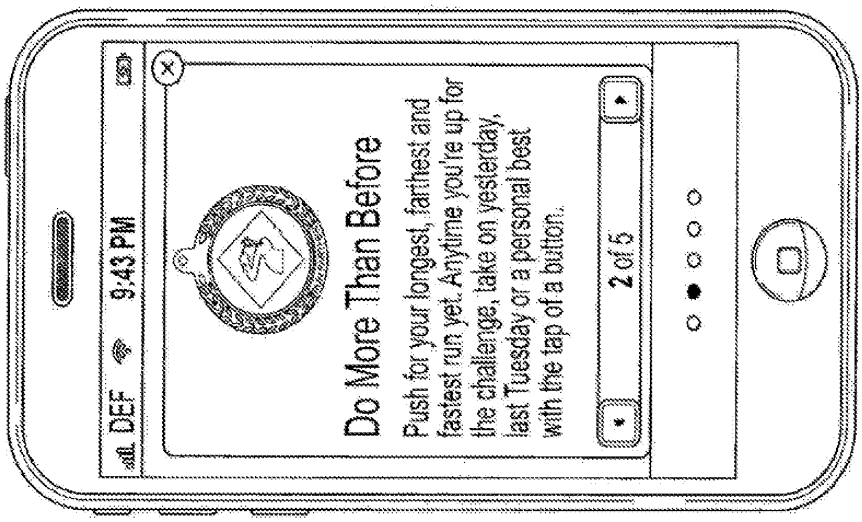


图 48C

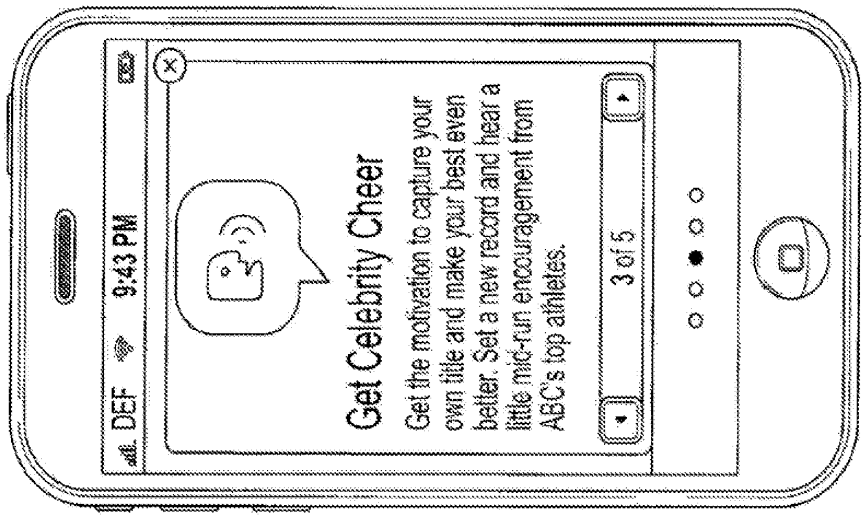


图 48D

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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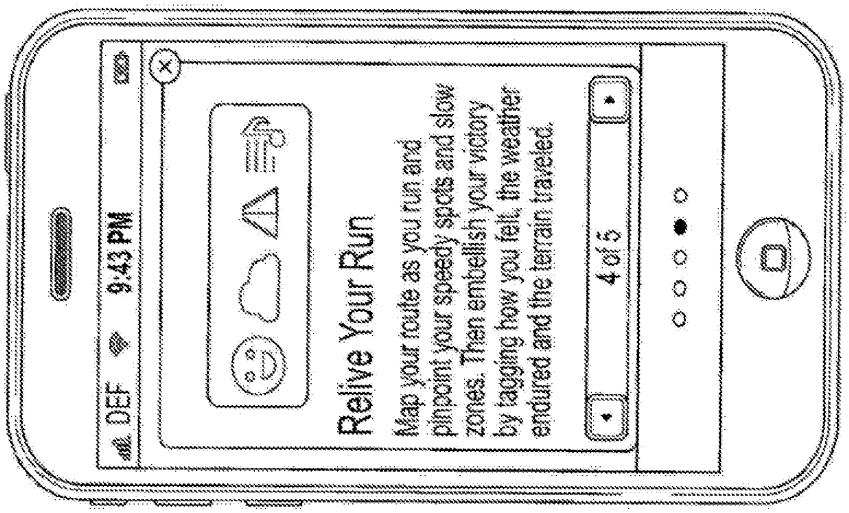


图 48E

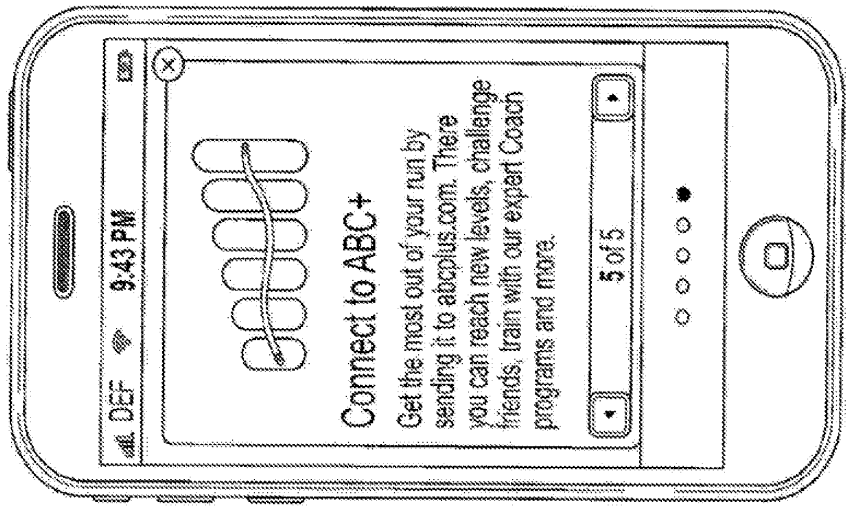


图 48F

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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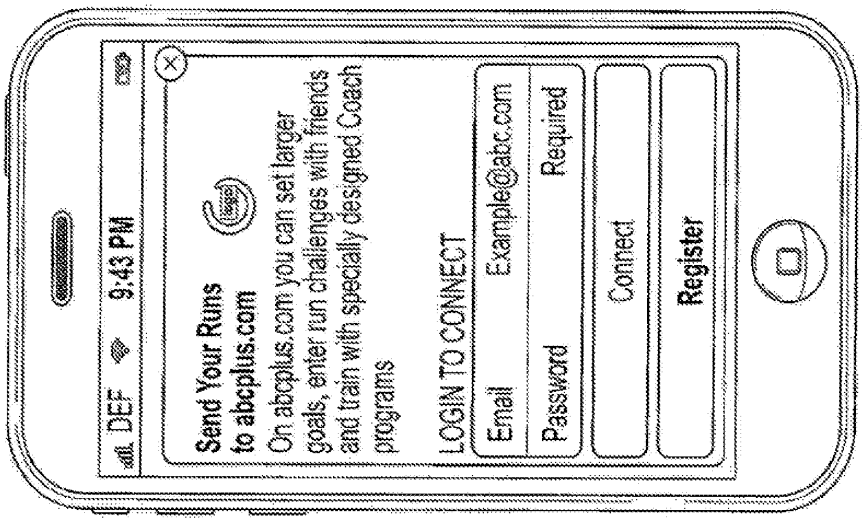


图 49A

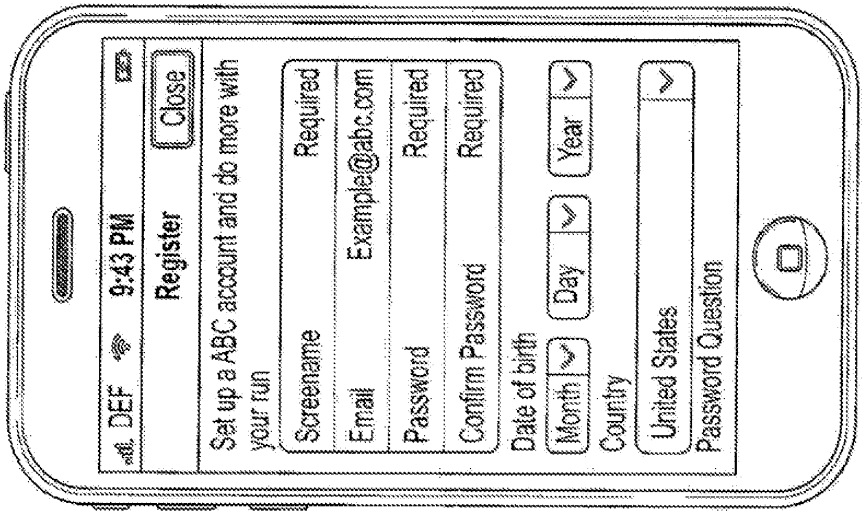


图 49B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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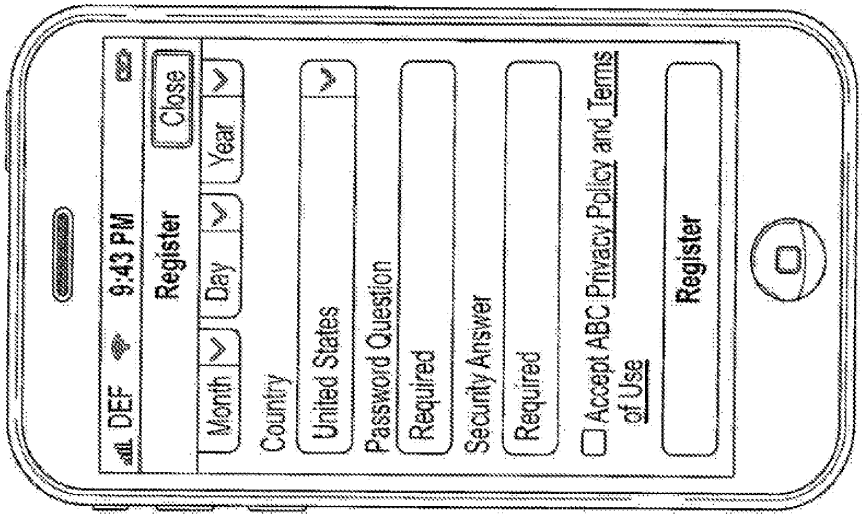


图 49C

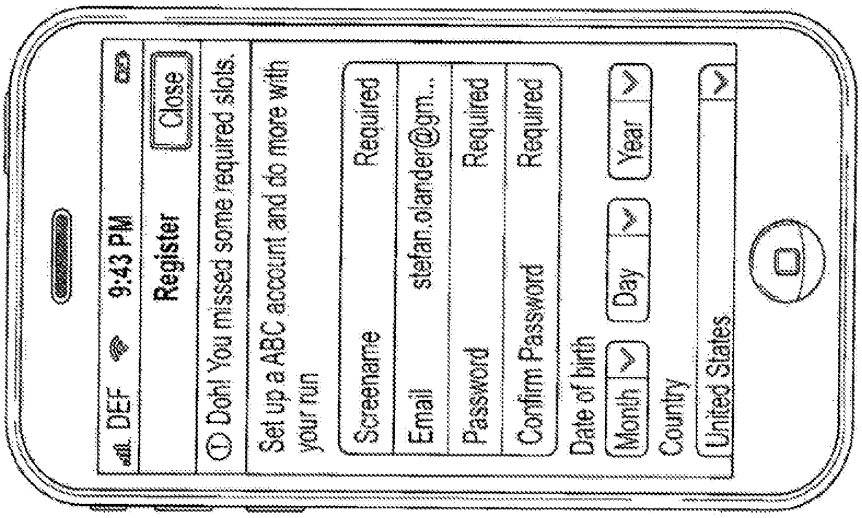


图 49D

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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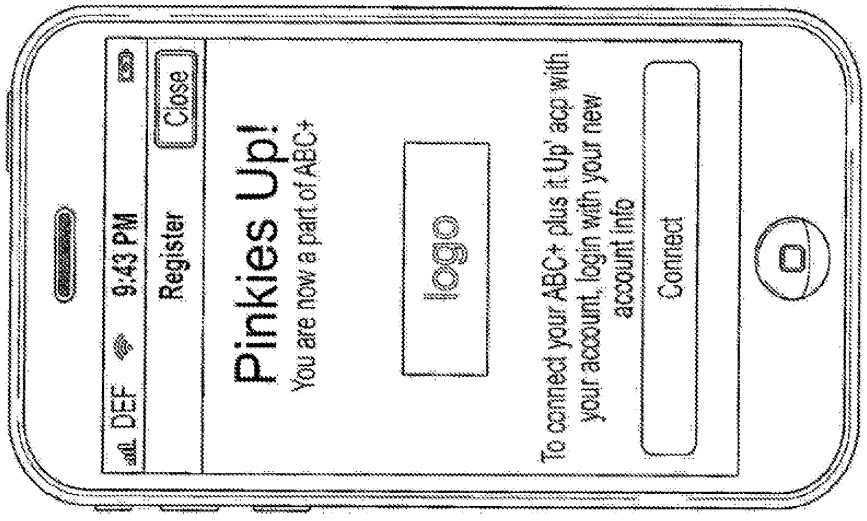


图 49E

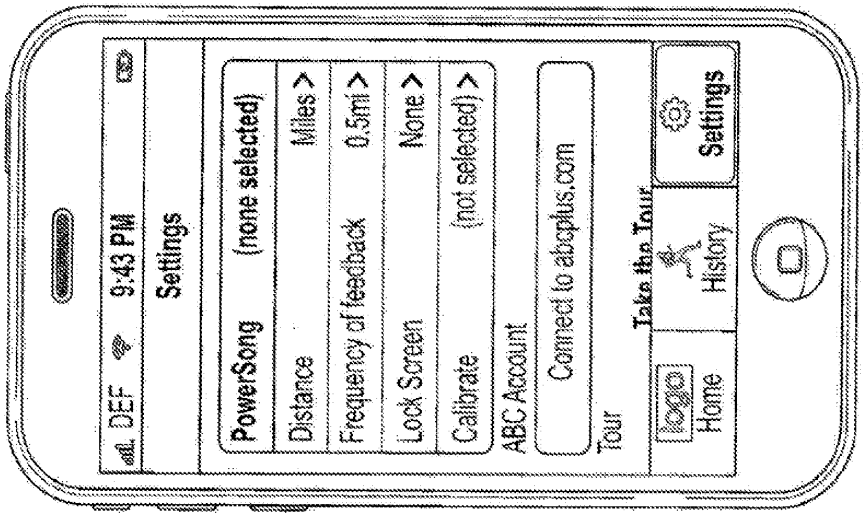


图 50A

148

AliveCor Exhibit 1002
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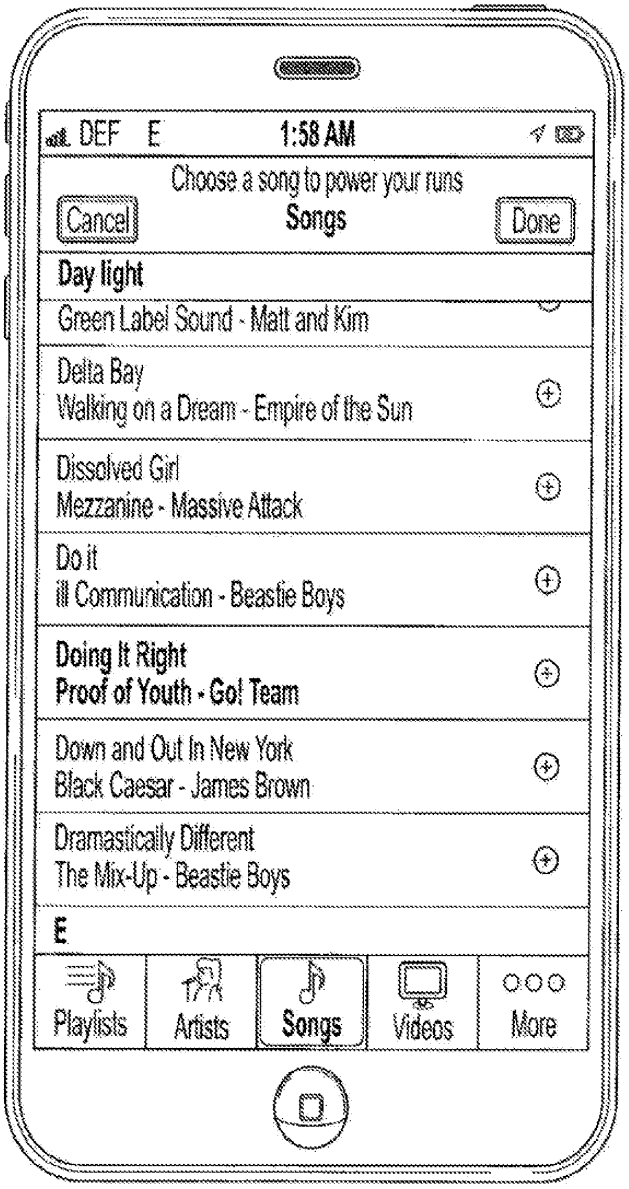


图 50B

AliveCor Exhibit 1002
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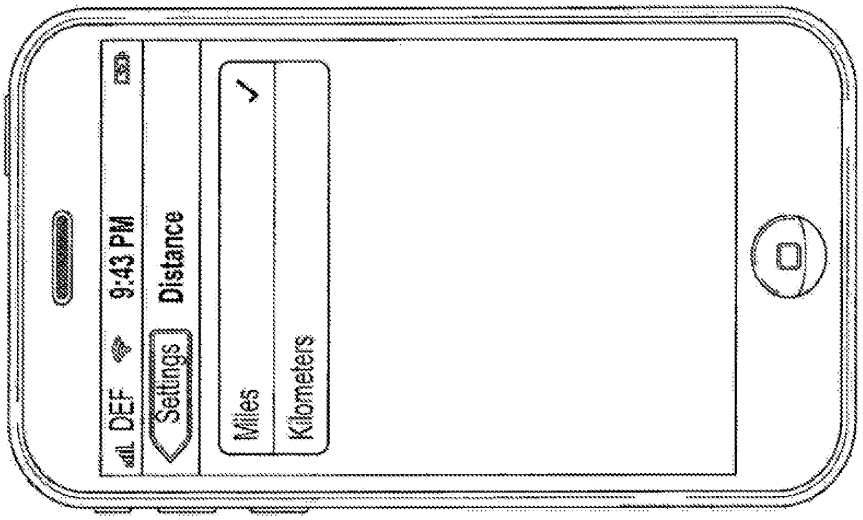


图 51A

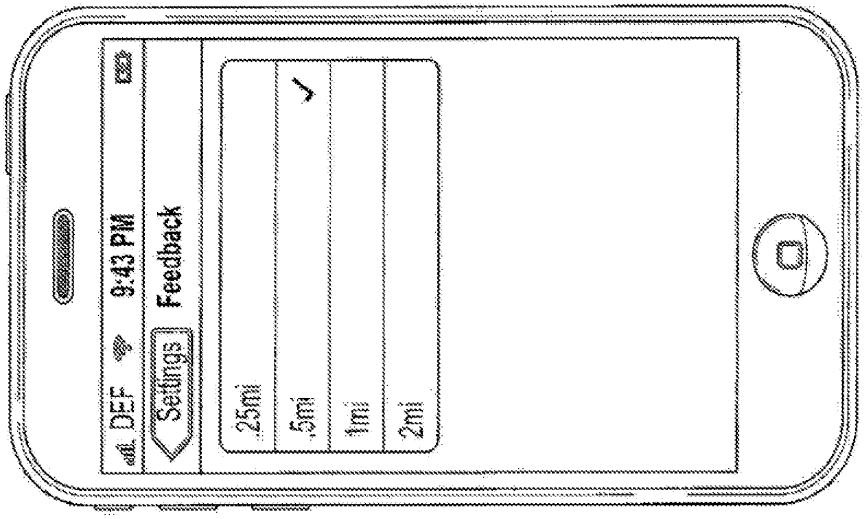


图 51B

150

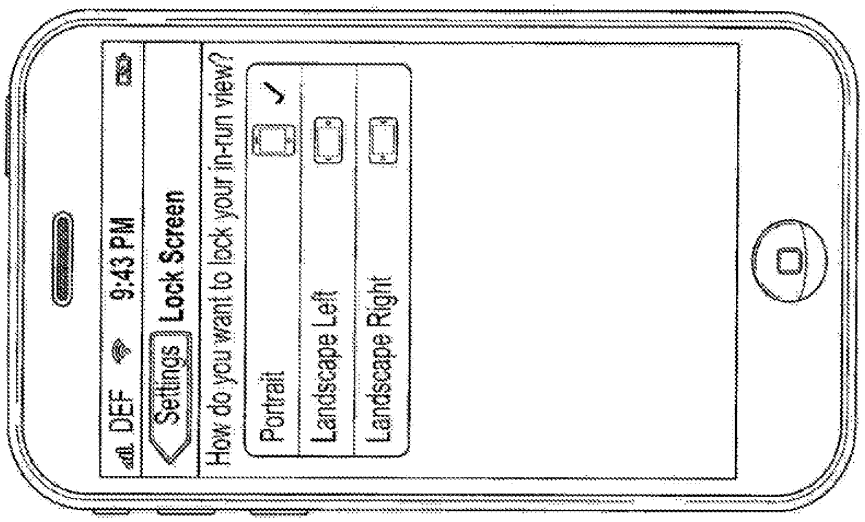


图 51C

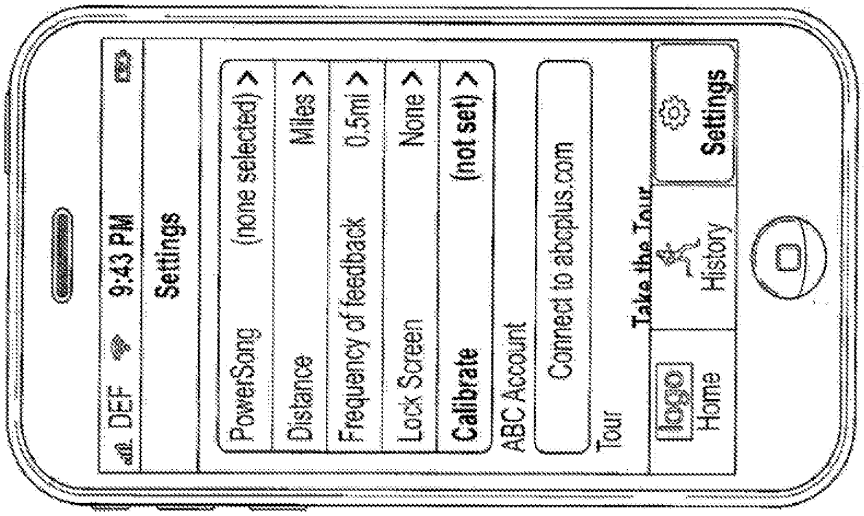


图 52A

151

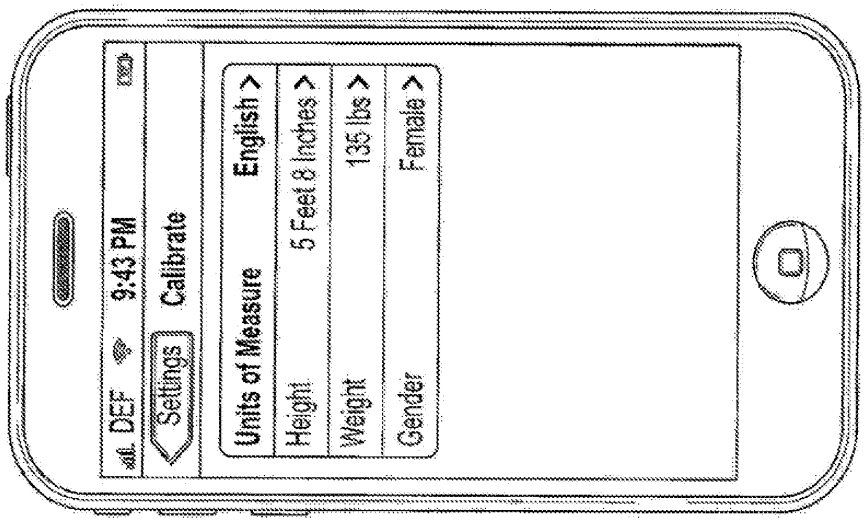


图 52B

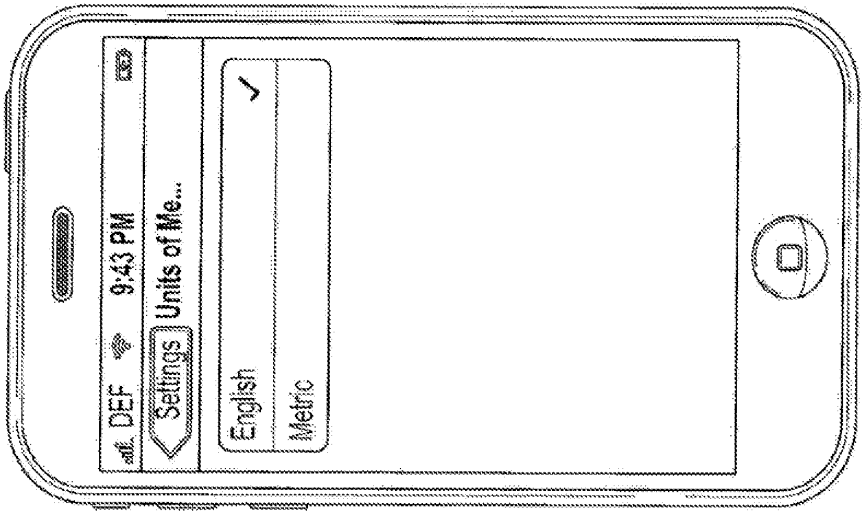


图 52C

152

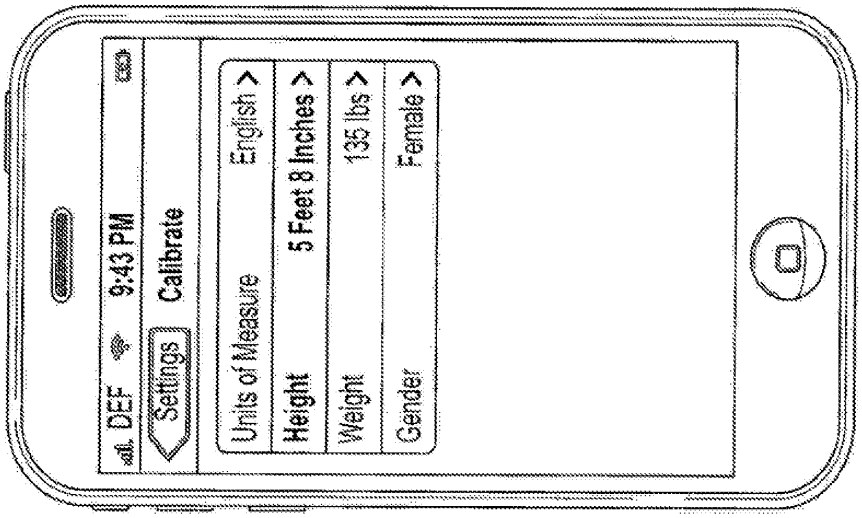


图 52D

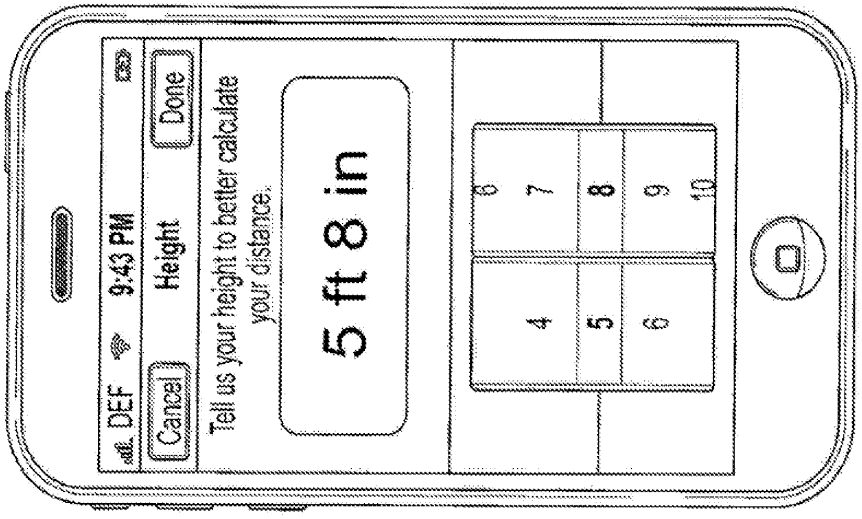


图 52E

AliveCor Exhibit 1002
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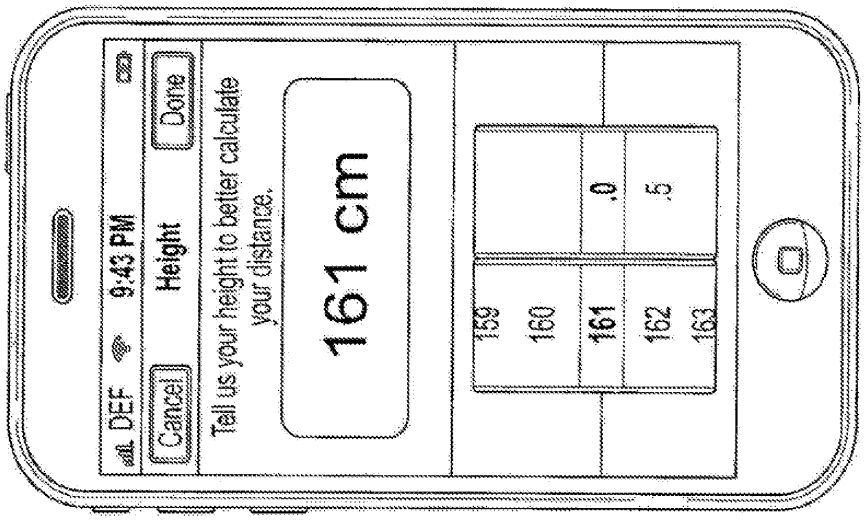


图 52F

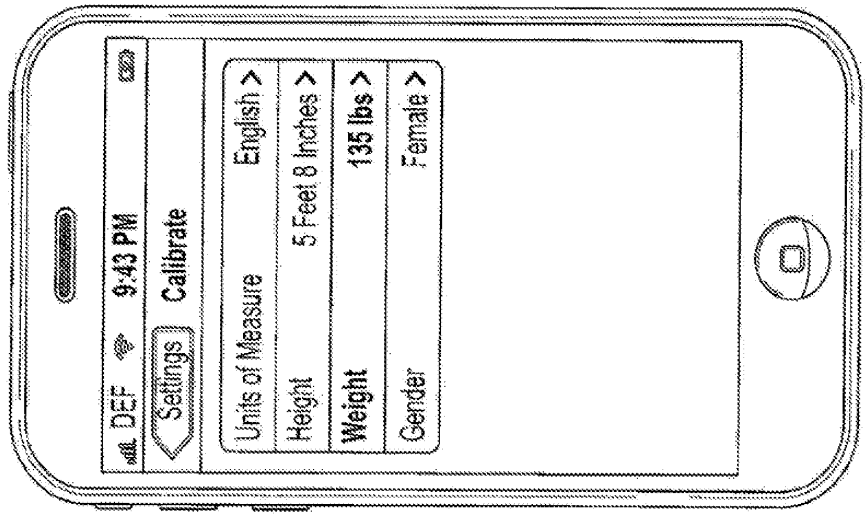


图 52G

AliveCor Exhibit 1002
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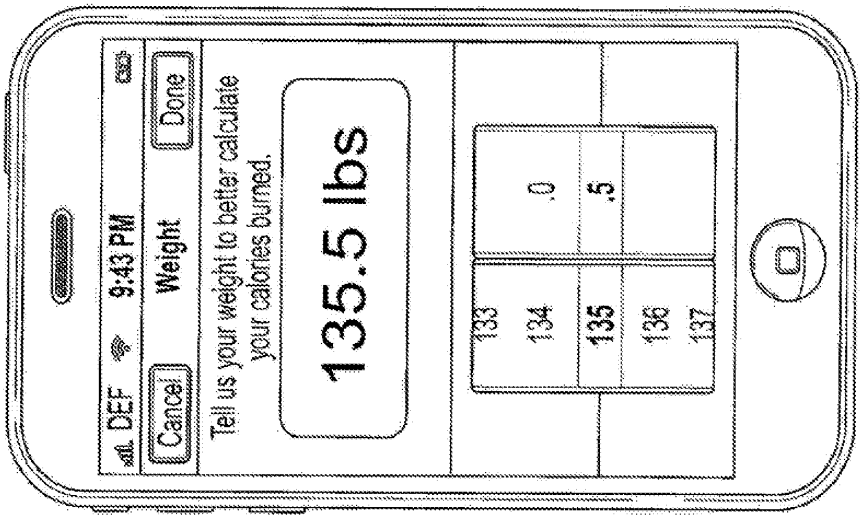


图 52H

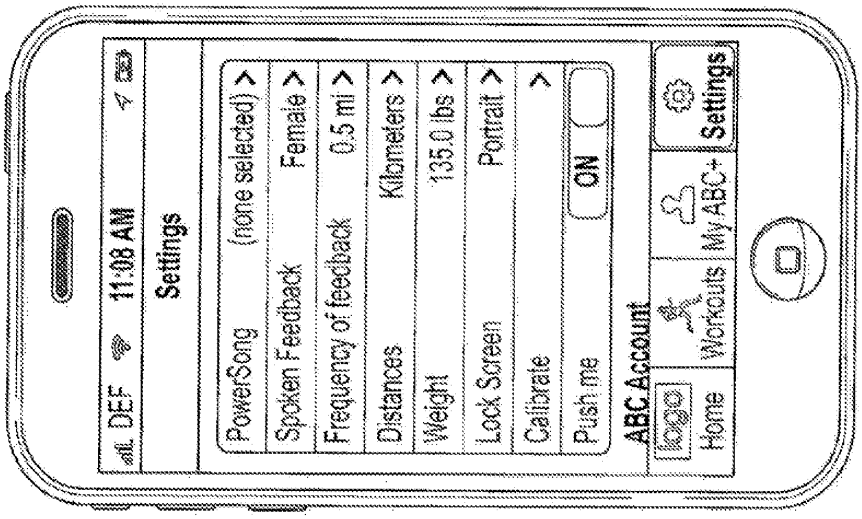


图 53A

AliveCor Exhibit 1002
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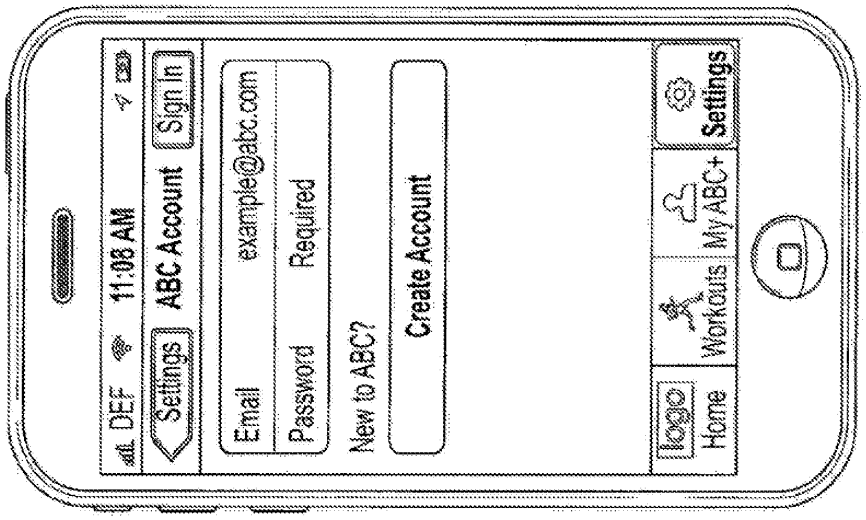


图 53B

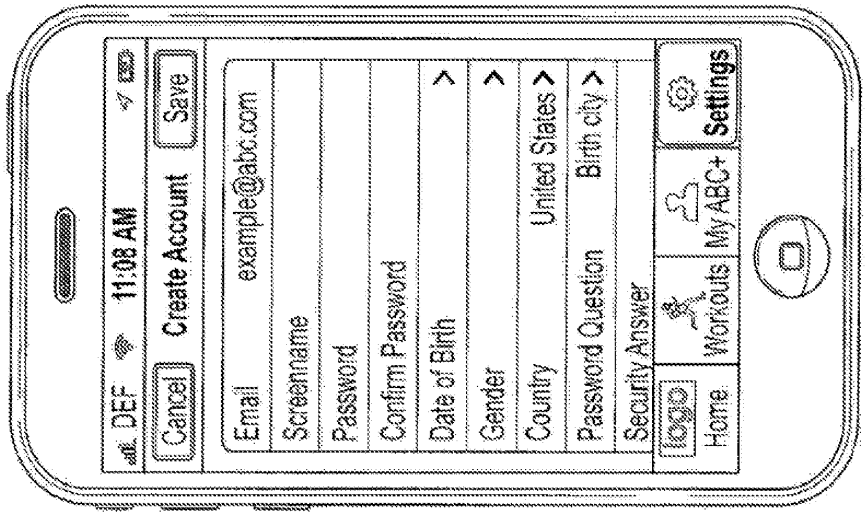


图 53C

156

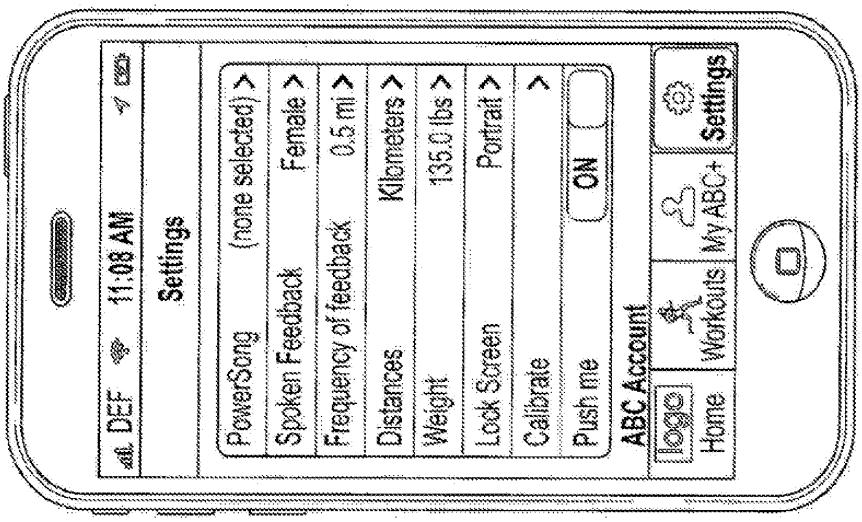


图 53D

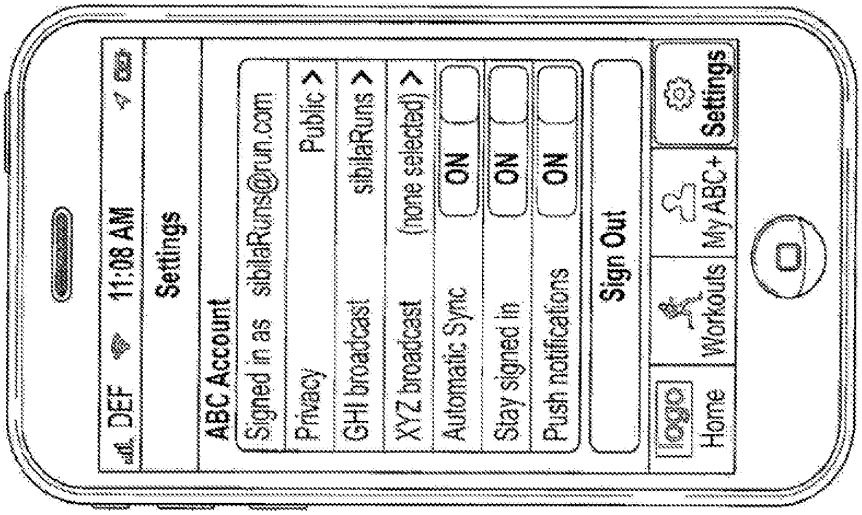


图 53E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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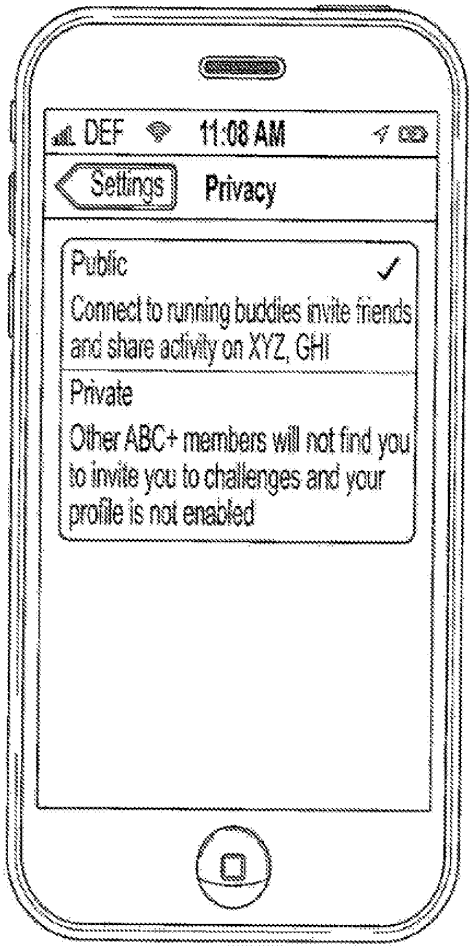


图 53F

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图 53G

AliveCor Exhibit 1002
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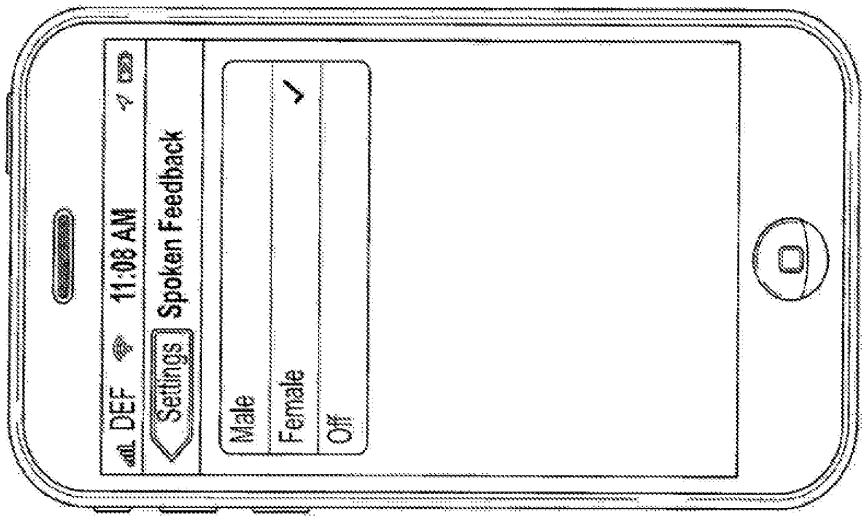


图 53H

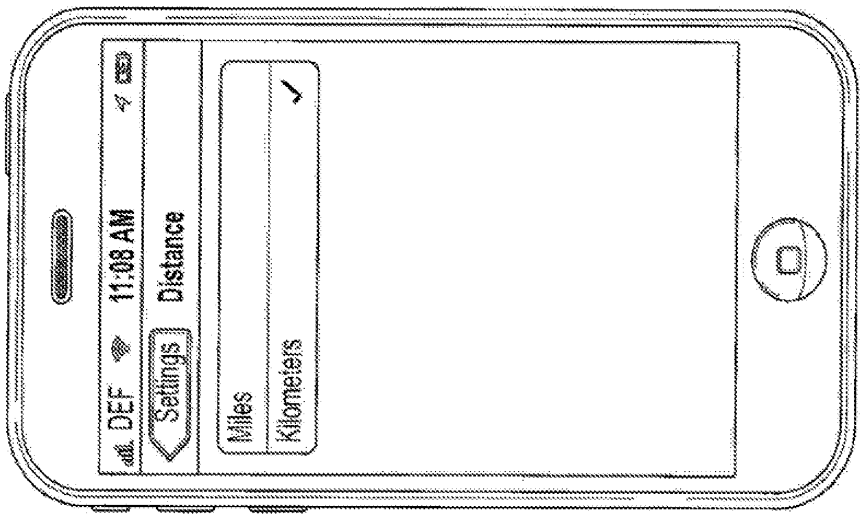


图 53I

AliveCor Exhibit 1002
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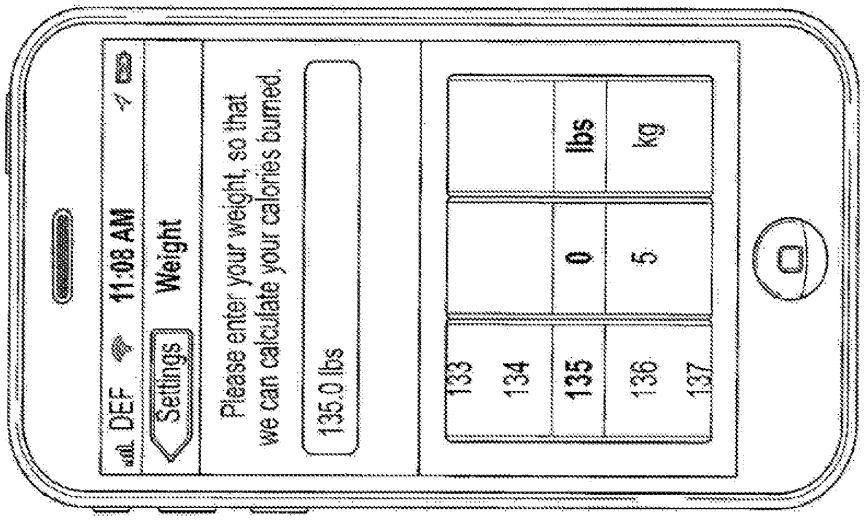


图 53J

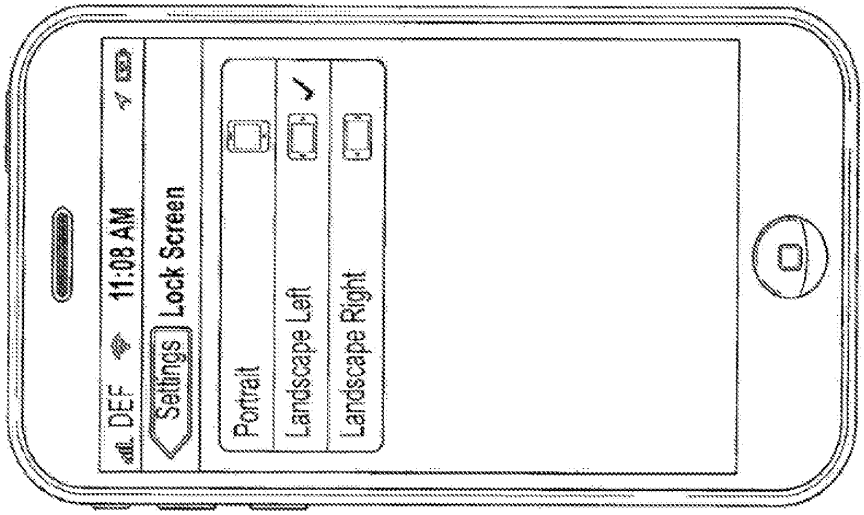


图 53K

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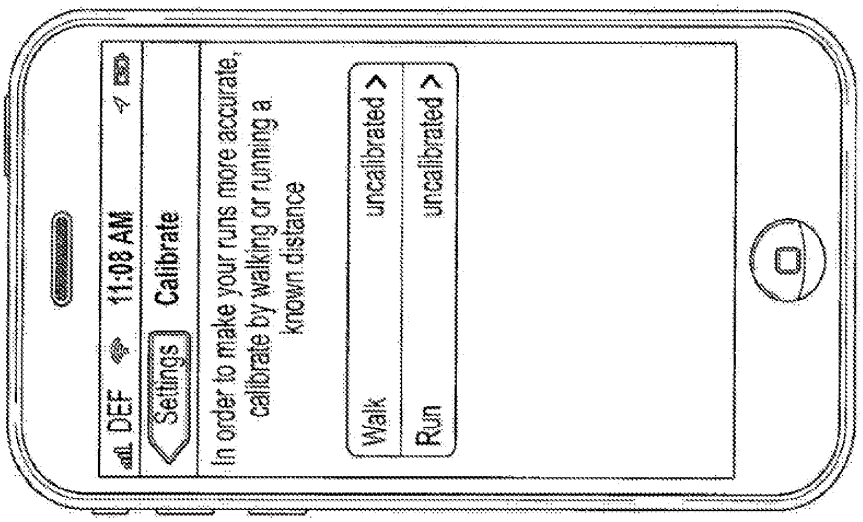


图 53L

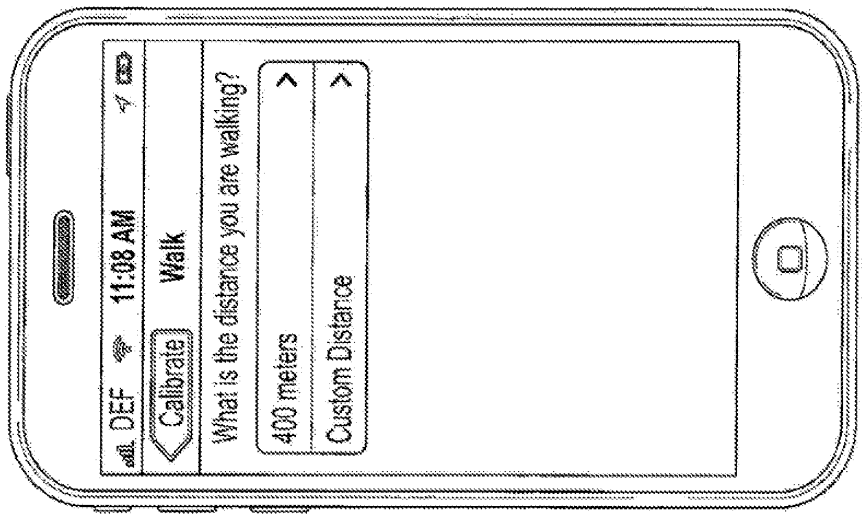


图 53M

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图 53N

AliveCor Exhibit 1002
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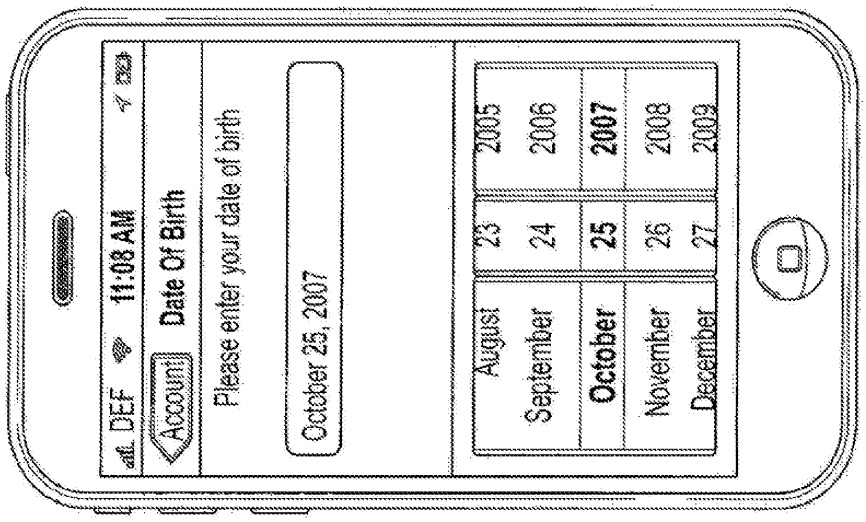


图 53O

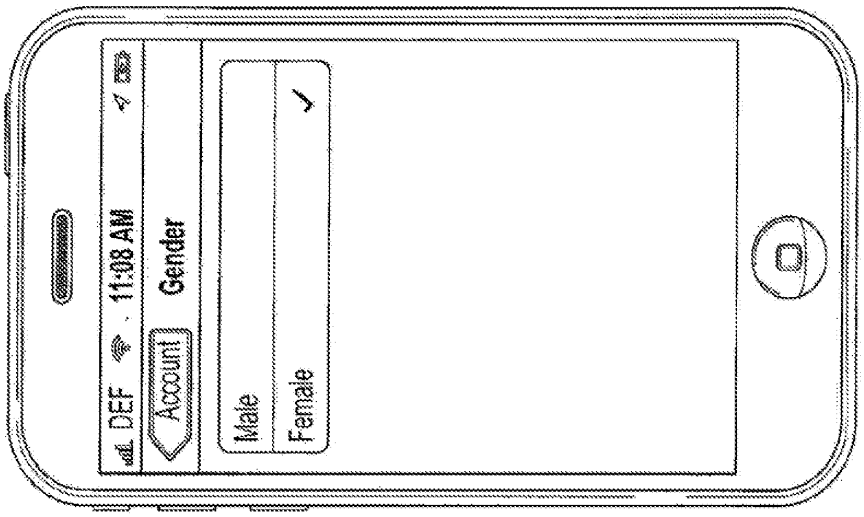


图 53P

AliveCor Exhibit 1002
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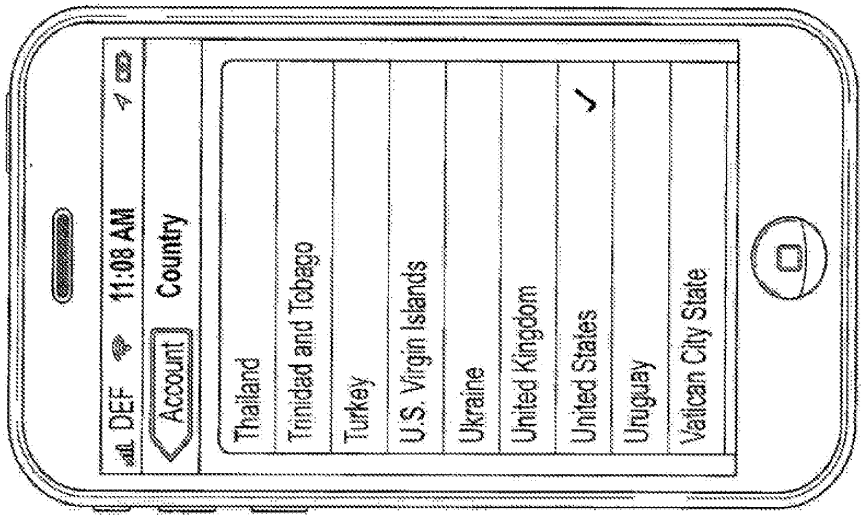


图 53Q

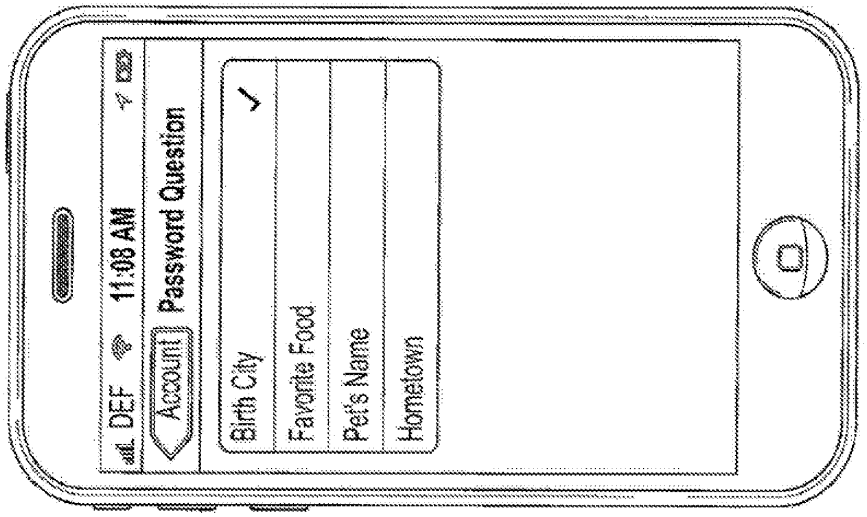


图 53R

AliveCor Exhibit 1002
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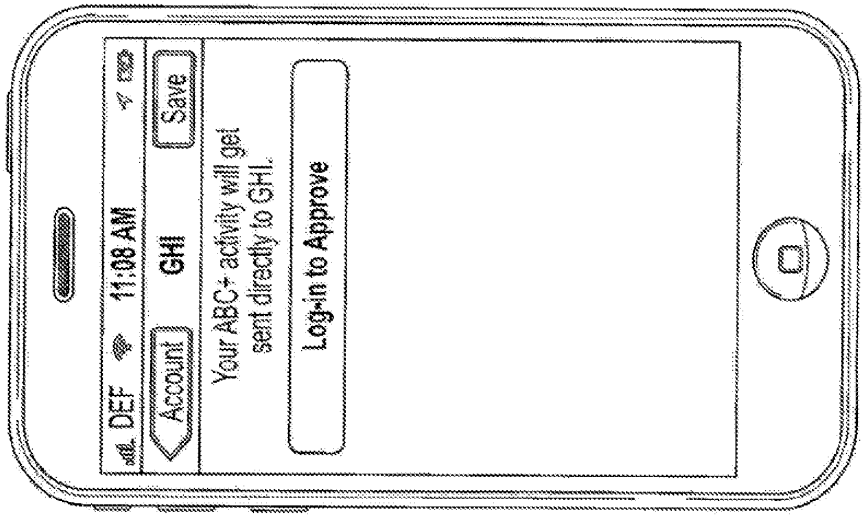


图 53S

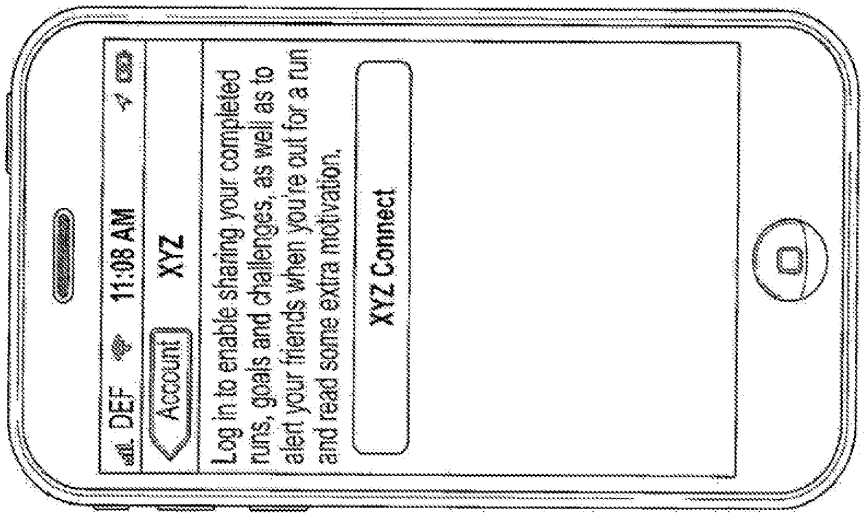


图 53T

AliveCor Exhibit 1002
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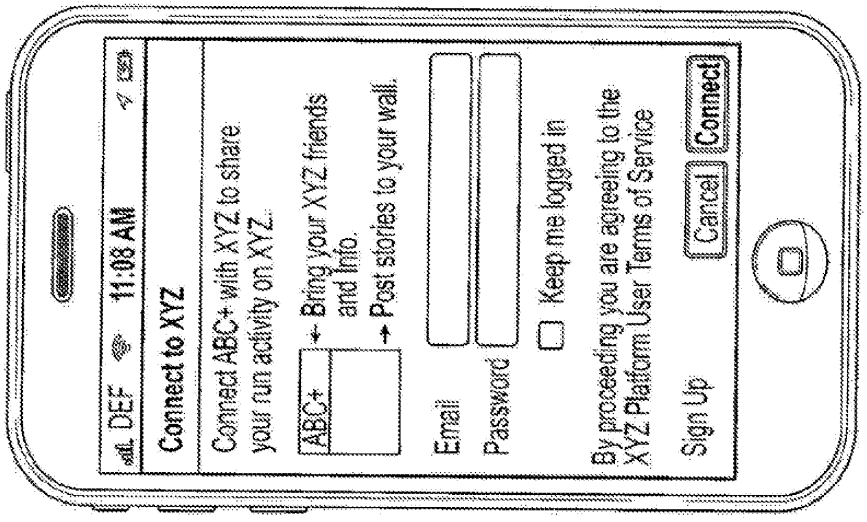


图 53U

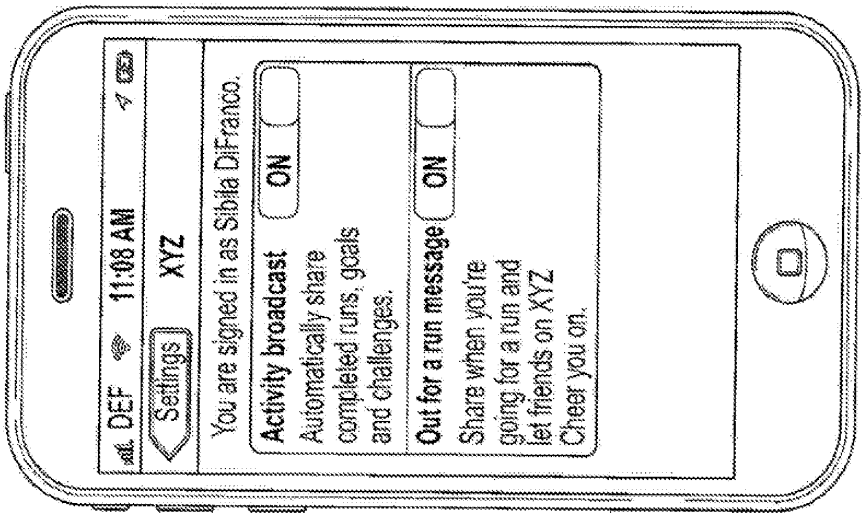


图 53V

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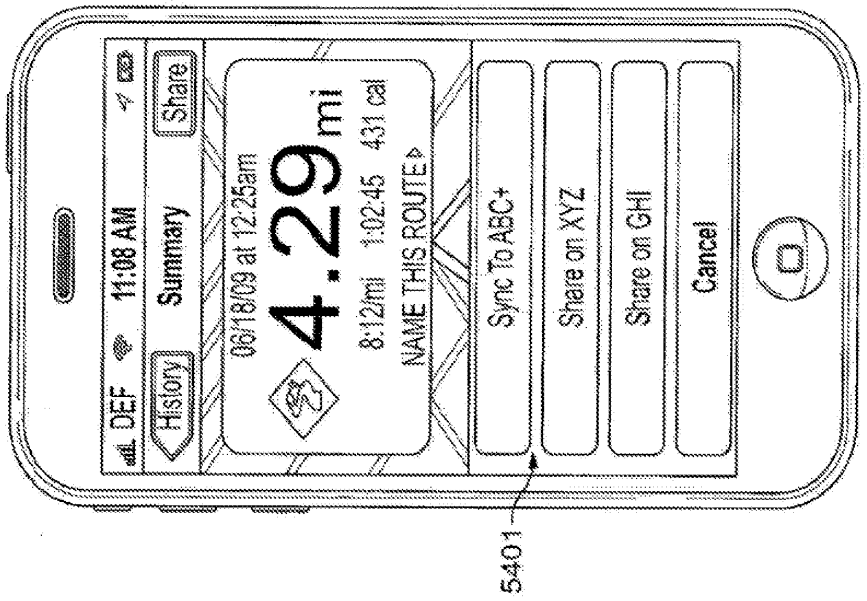


图 54A

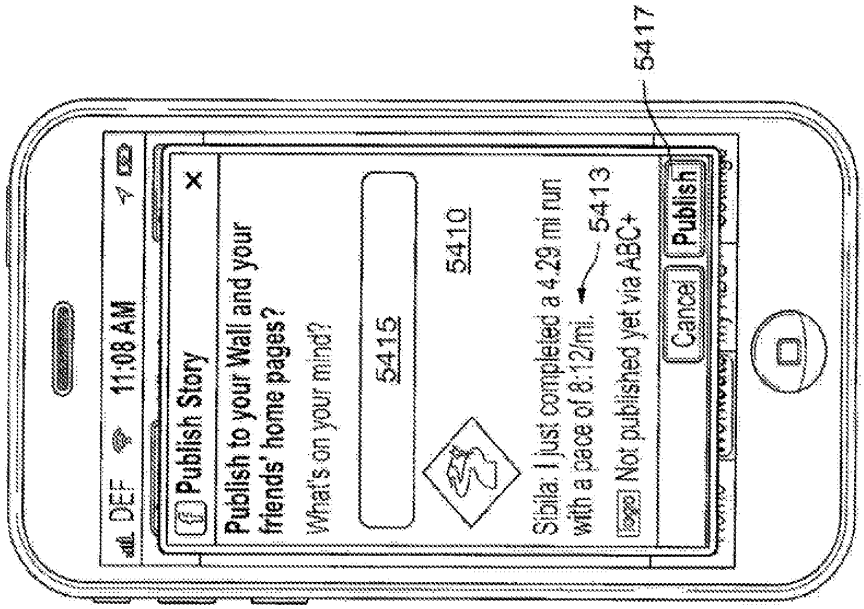


图 54B

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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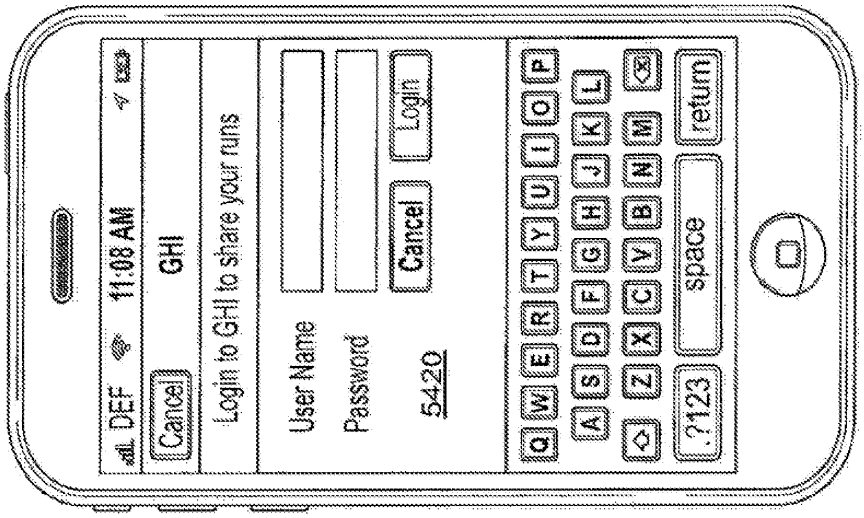


图 54C

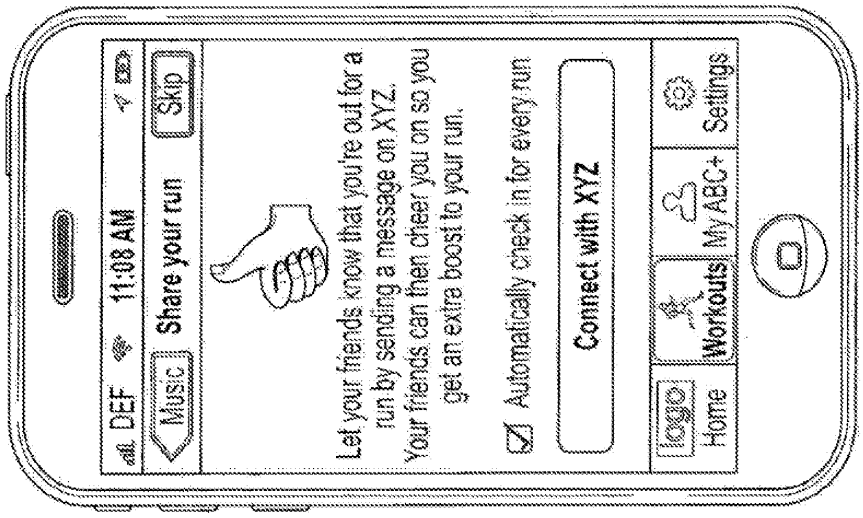


图 55A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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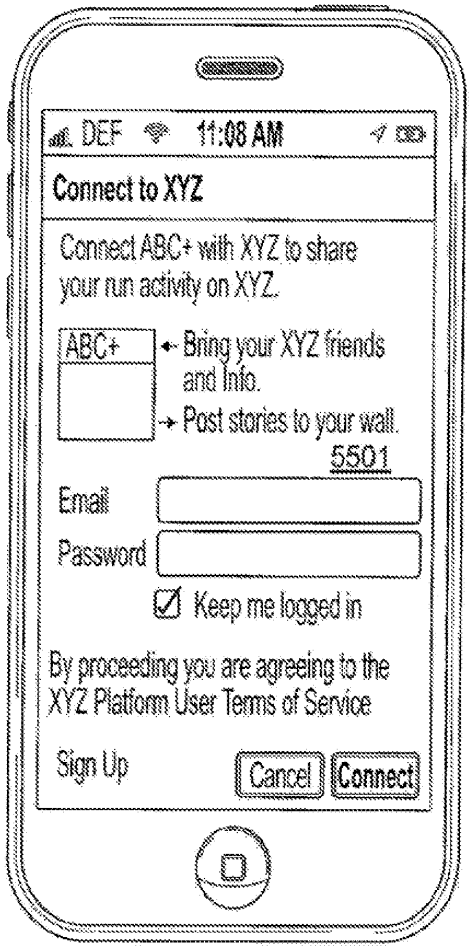


图 55B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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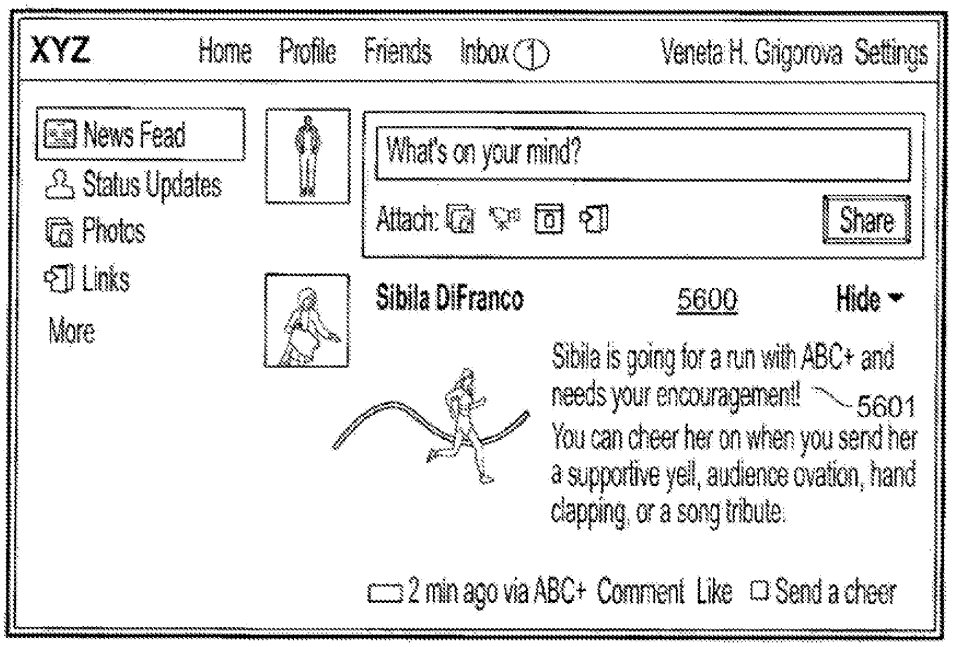


图 56

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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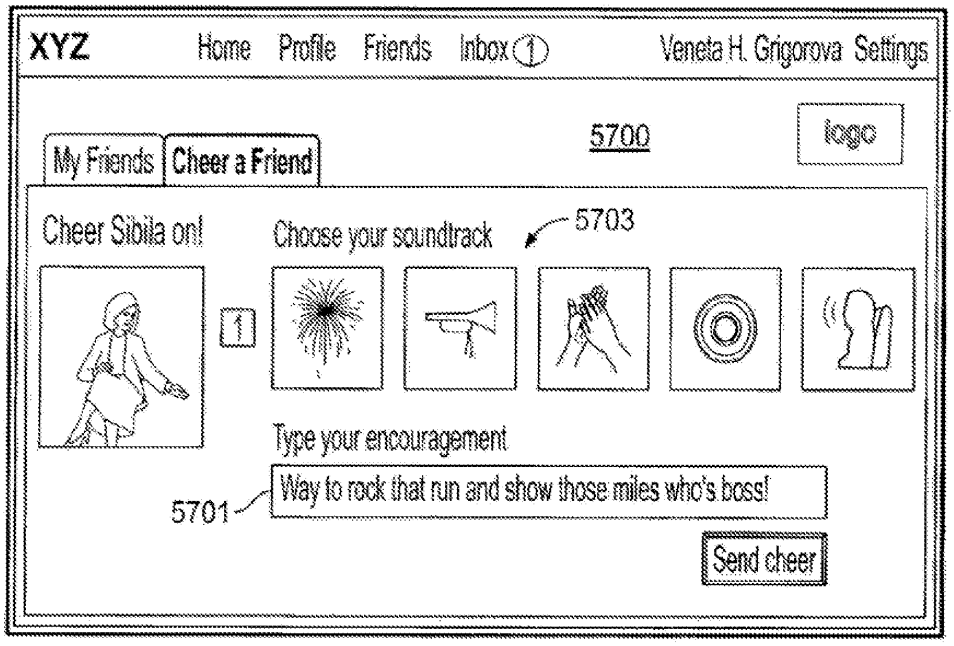


图 57

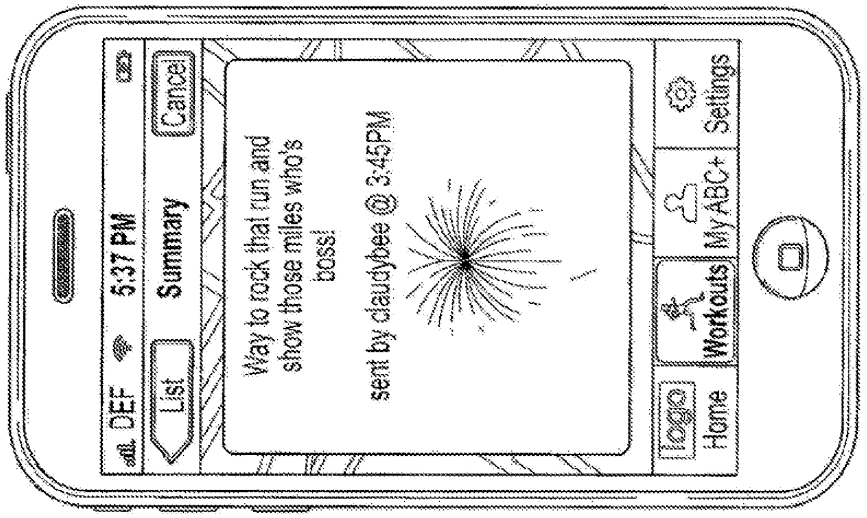


图 58

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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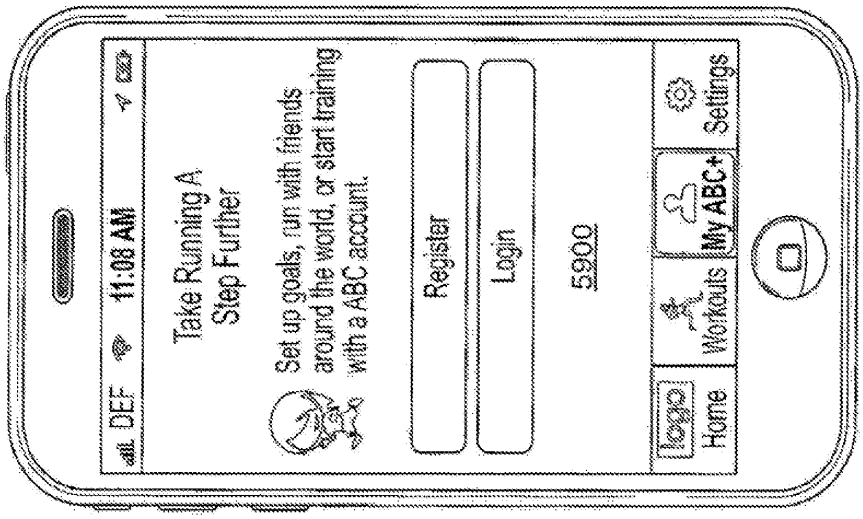


图 59

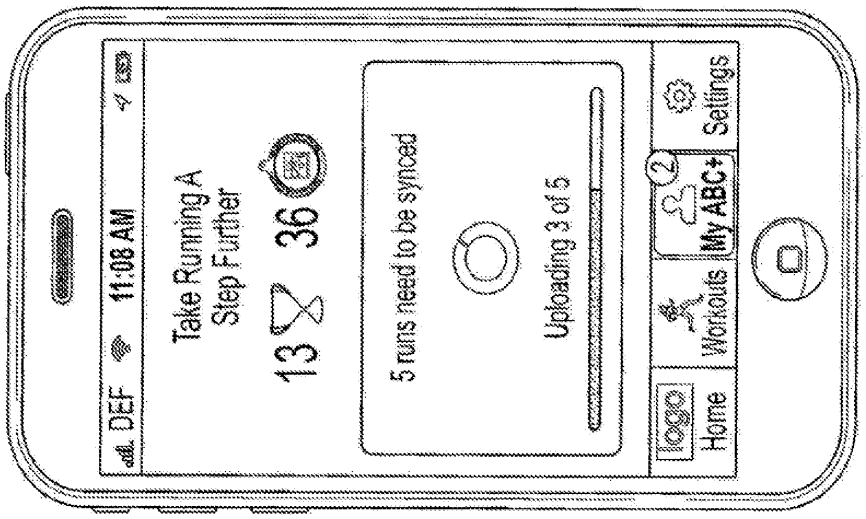


图 60A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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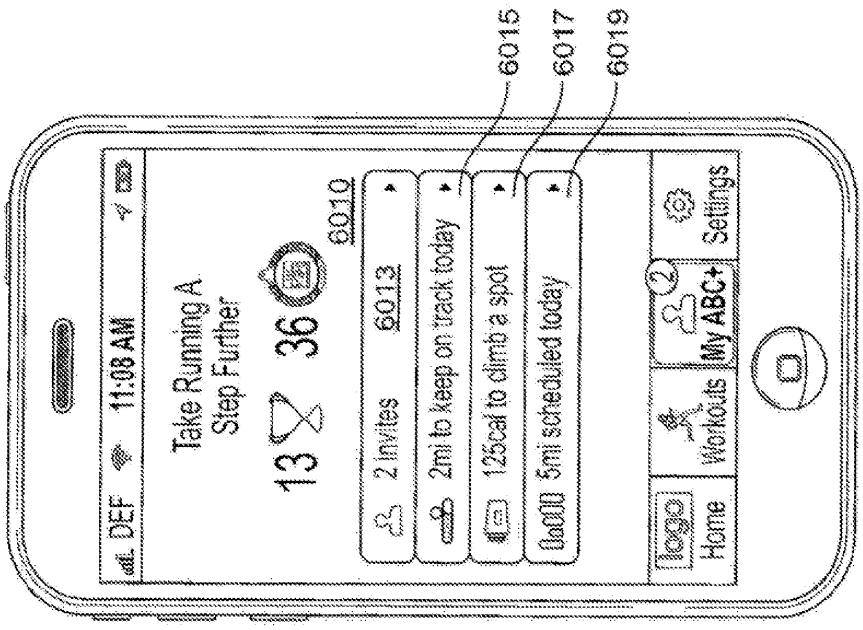


图 60B

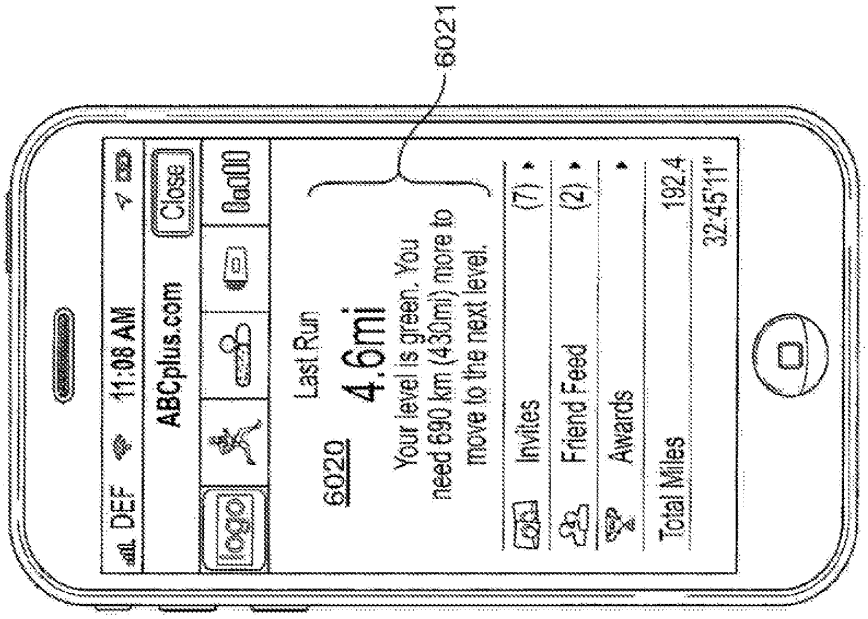


图 60C

174

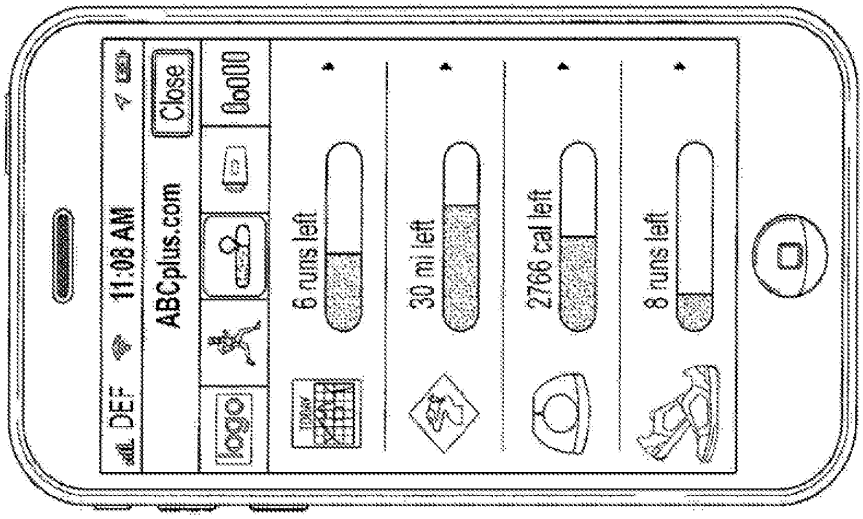


图 60D

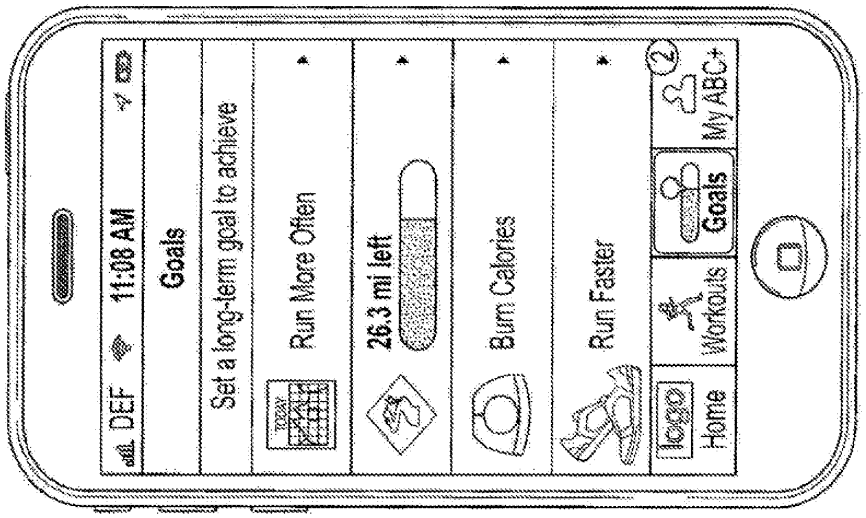


图 60E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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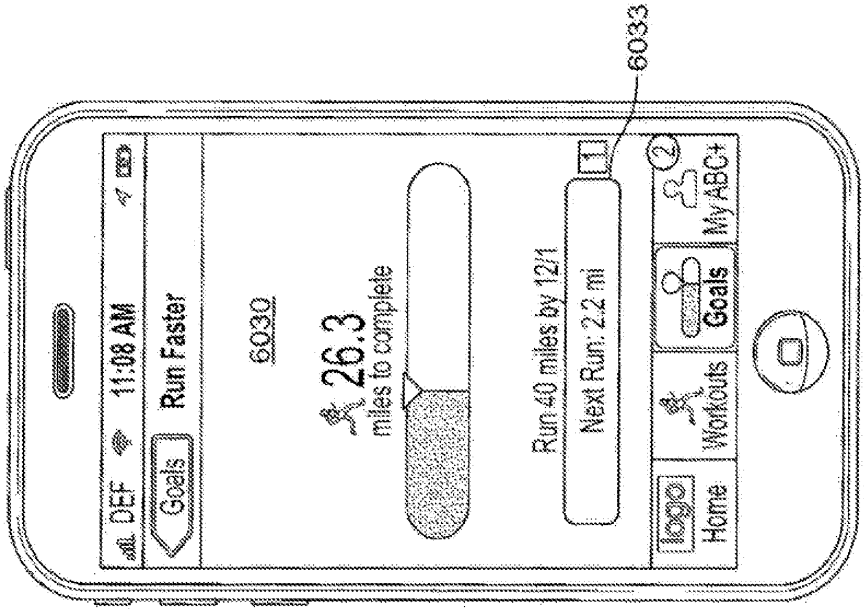


图 60F

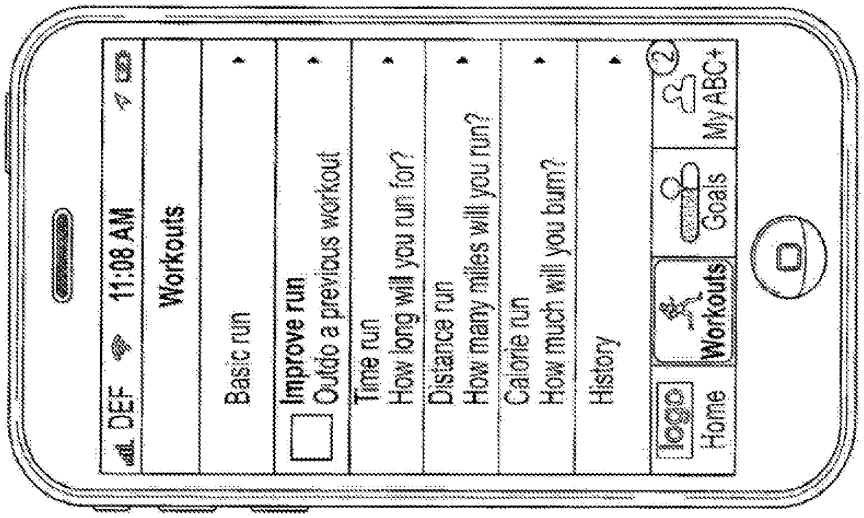


图 61A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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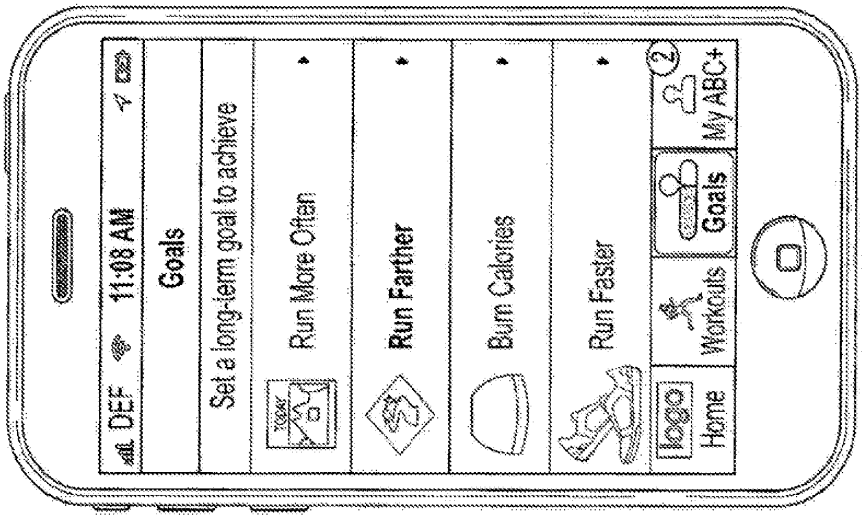


图 61B

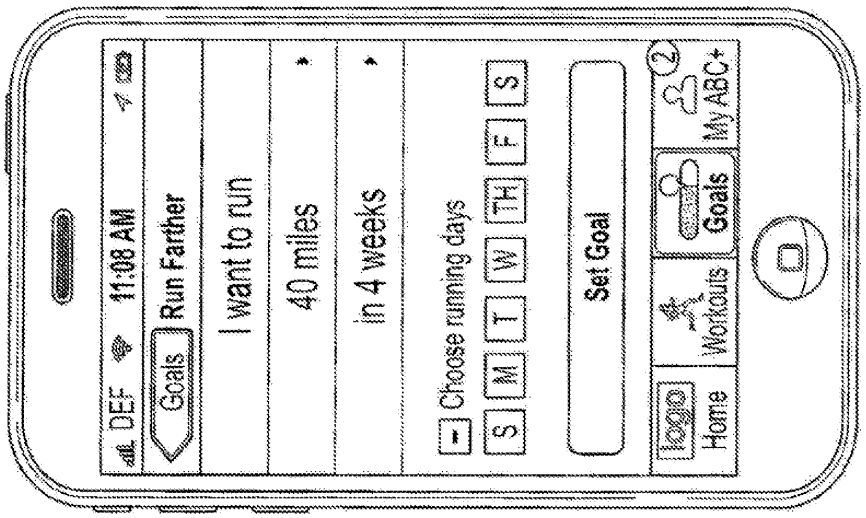


图 61C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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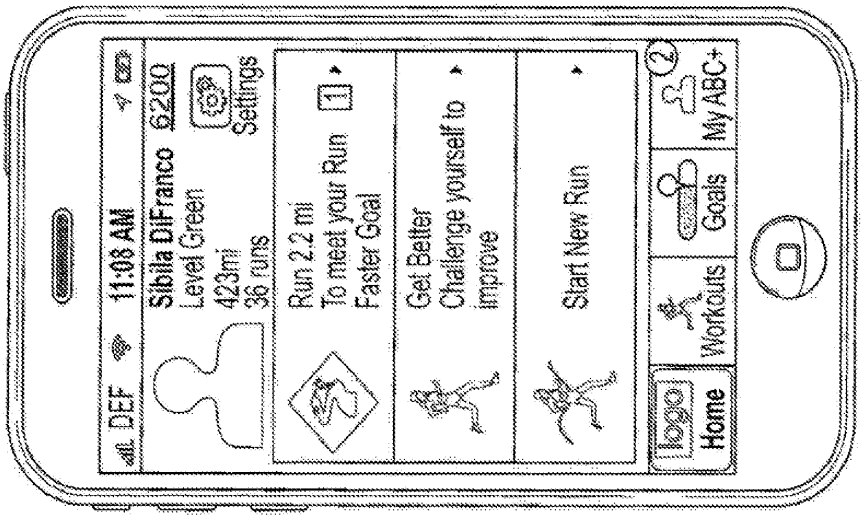


图 62A

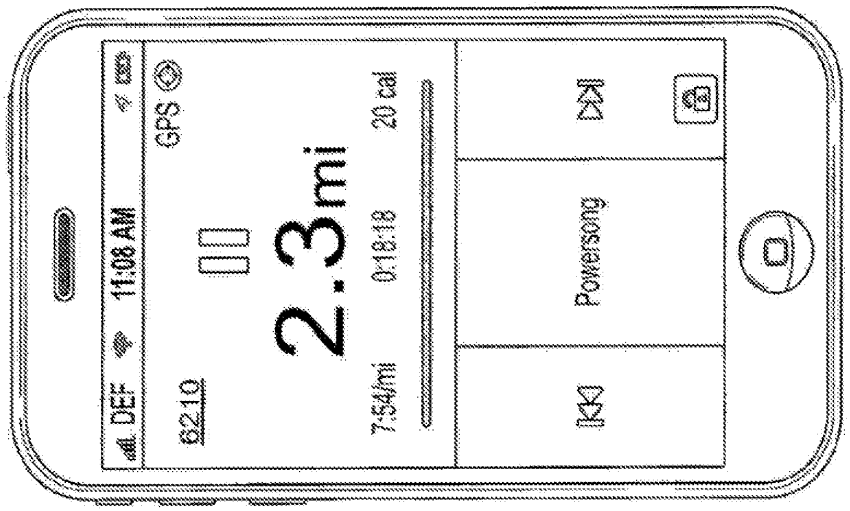


图 62B

178

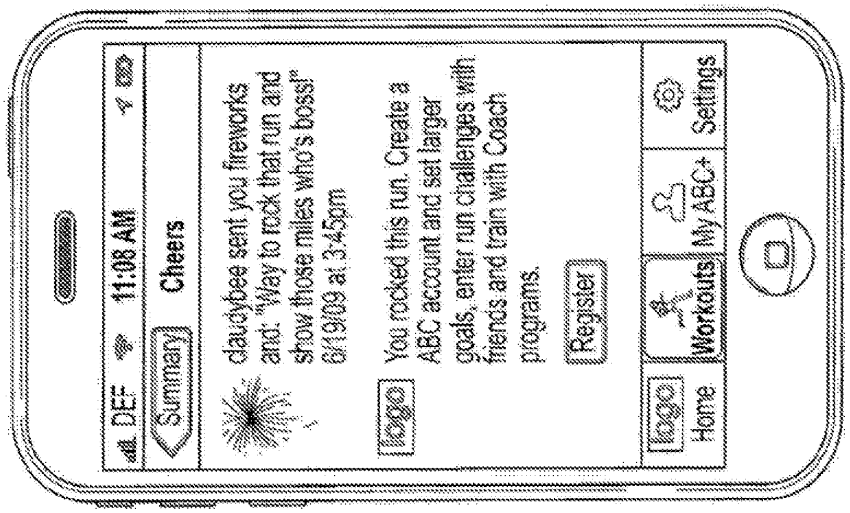


图 63A

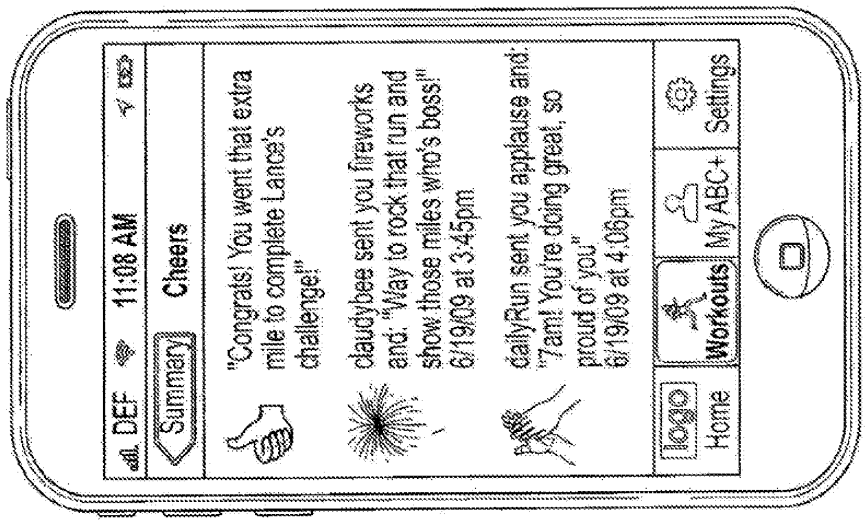


图 63B

179

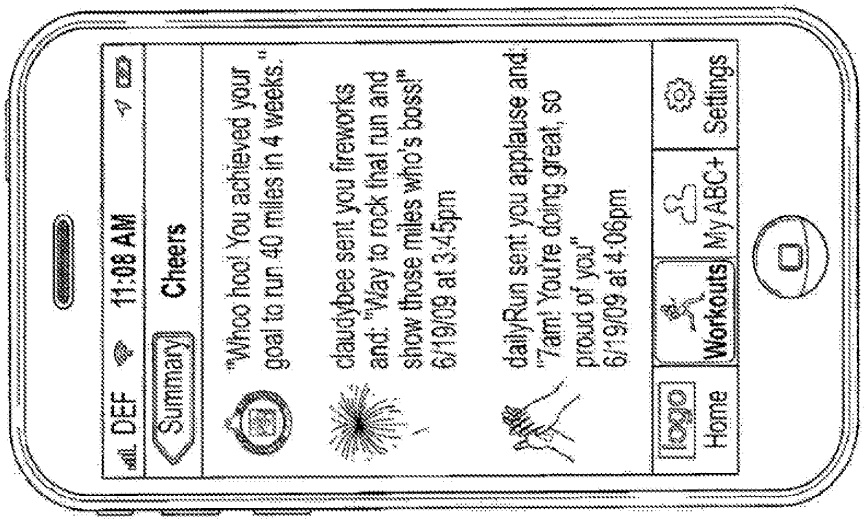


图 63C

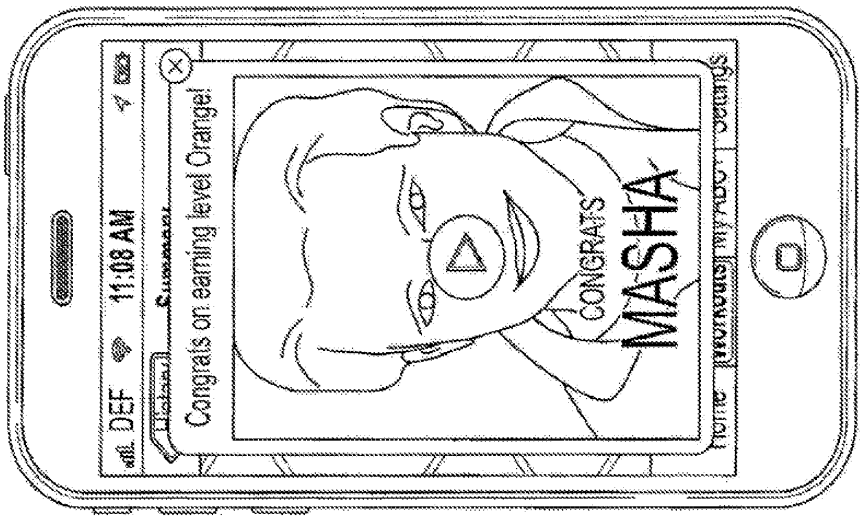


图 64A

180

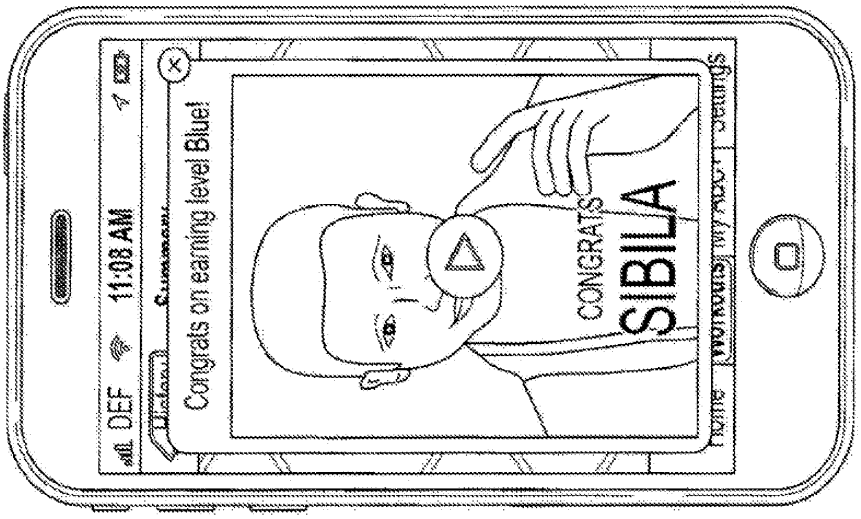


图 64B

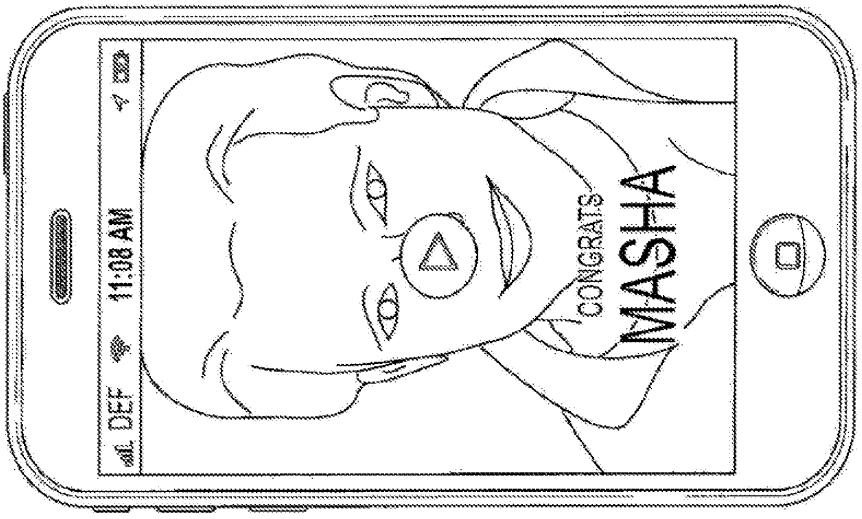


图 64C

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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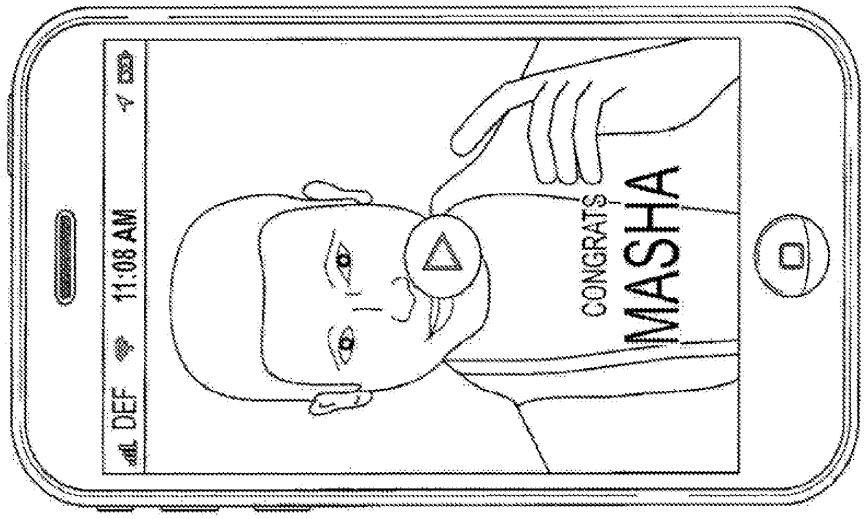


图 64D

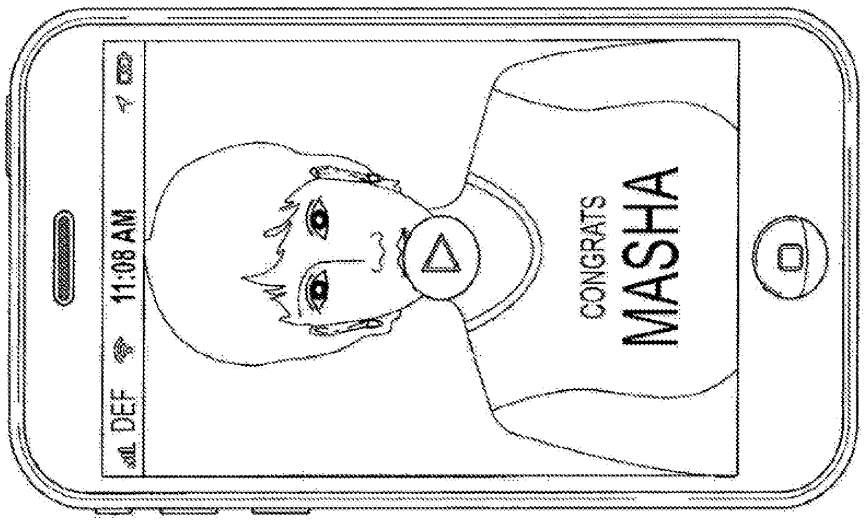


图 64E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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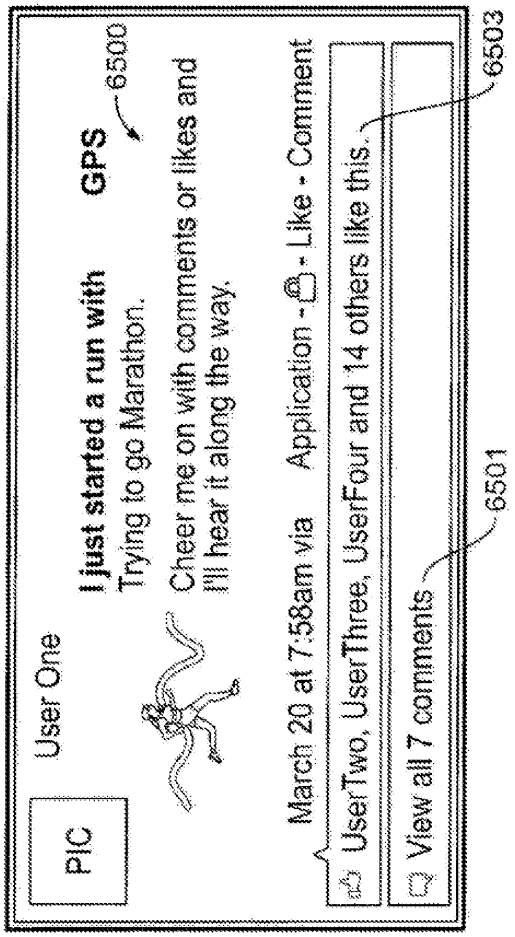


图 65A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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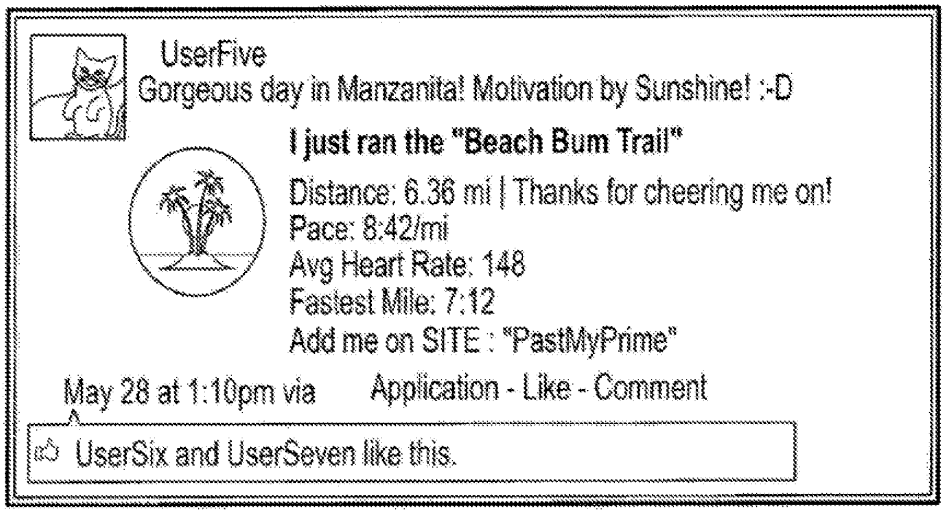


图 65B

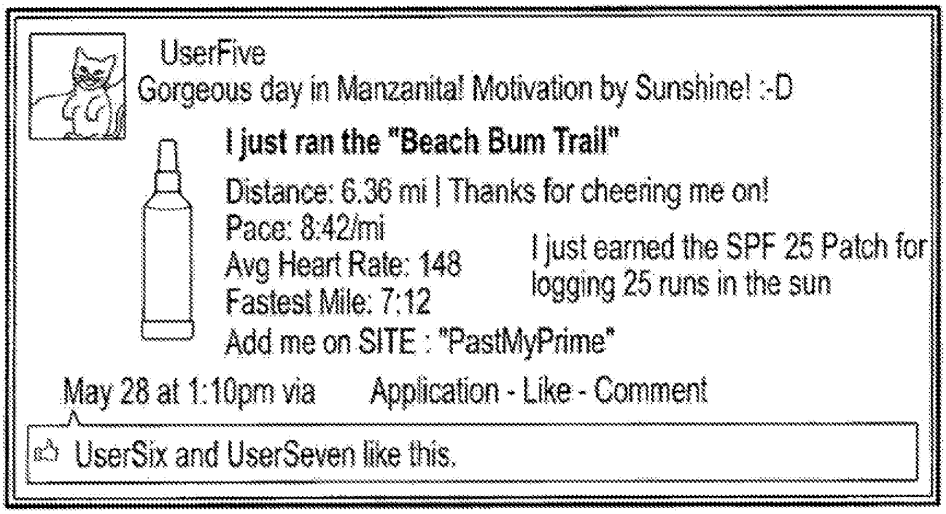


图 65C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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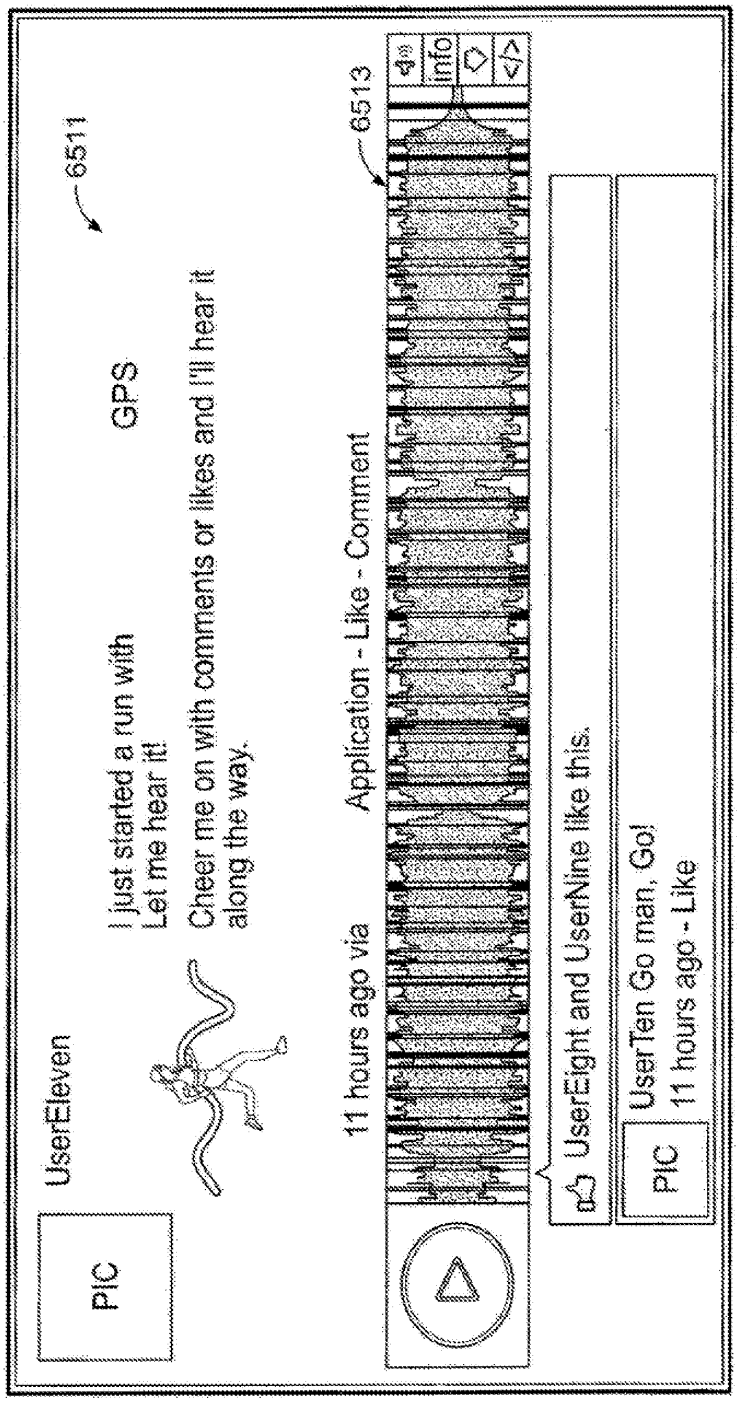


图 65D

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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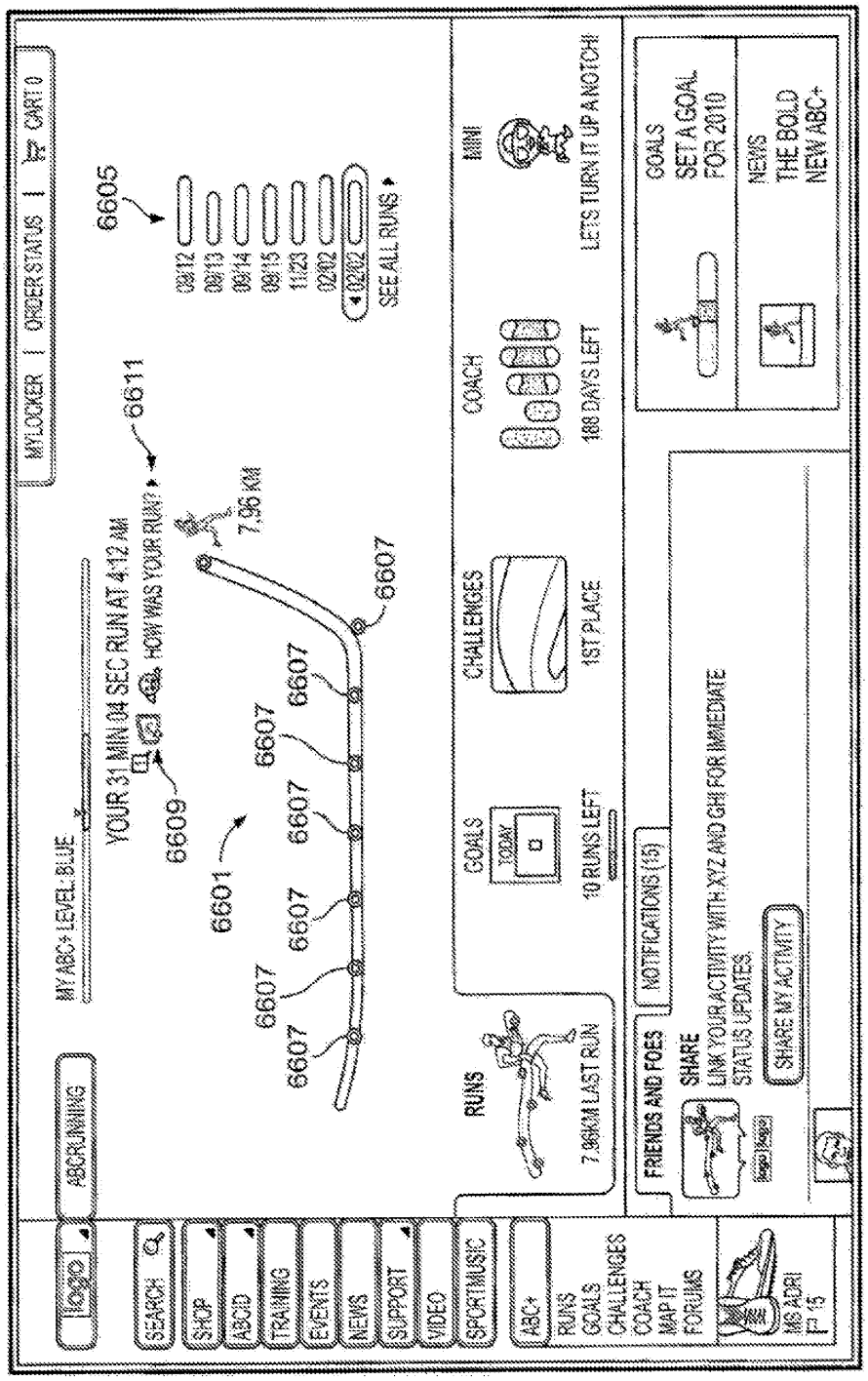


图 66A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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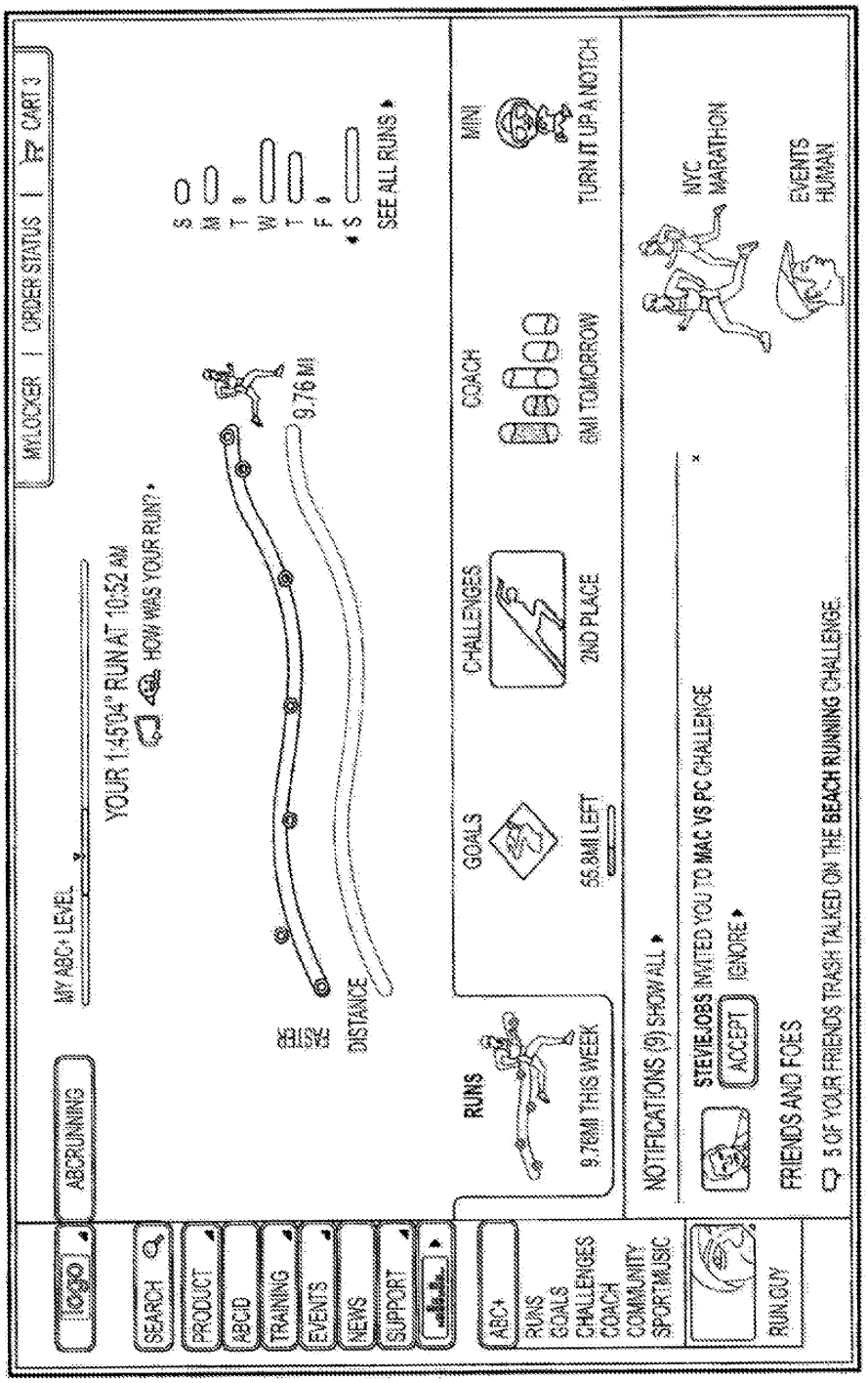


图 66B

187

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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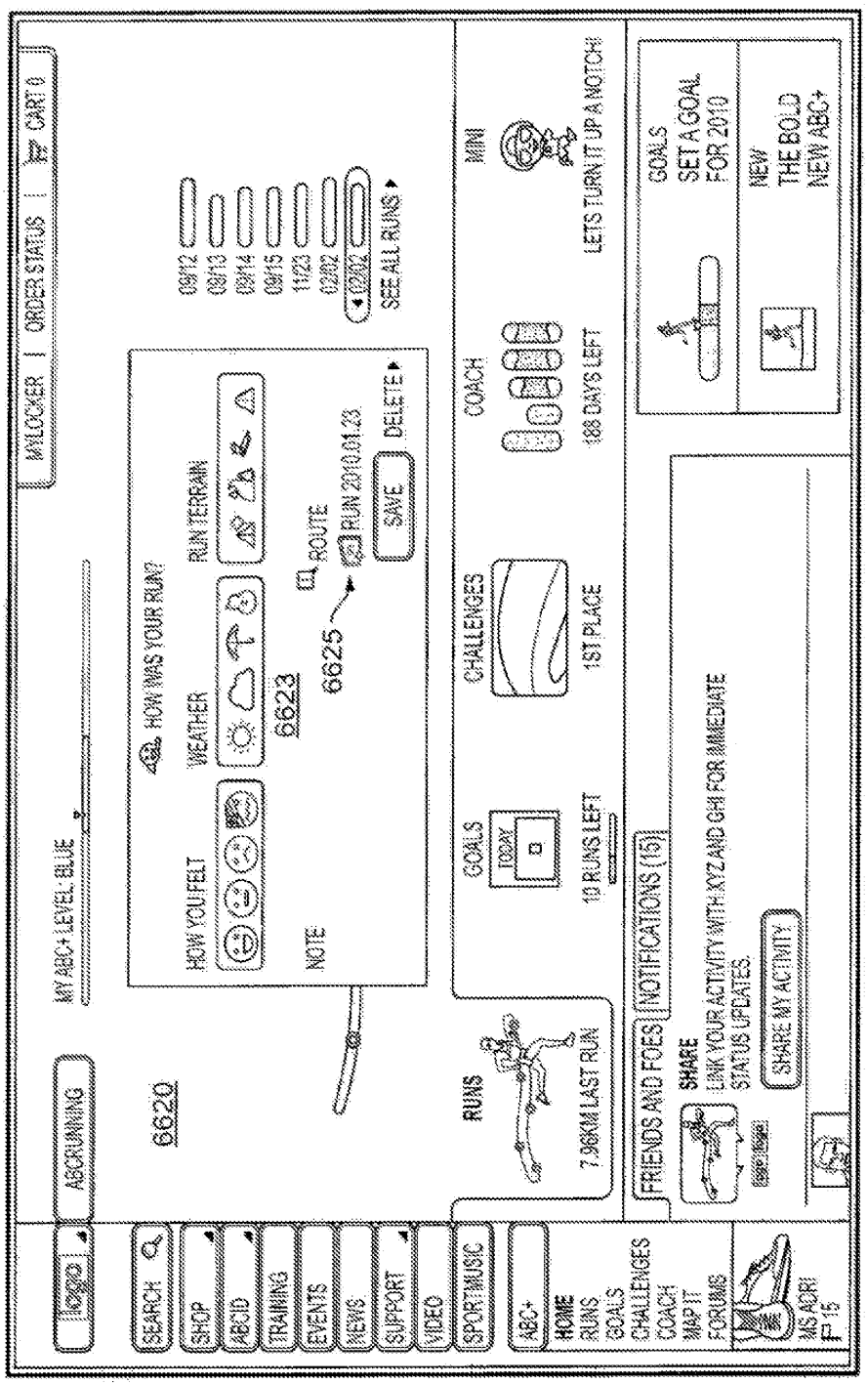

MY ABC+ LEVEL: BLUE
MY LOCKER | ORDER STATUS | CART 0
ABCRUNNING
6620
HOW WAS YOUR RUN?
HOW YOU FELT
WEATHER
RUN TERRAIN
6623
6625
ROUTE
RUN 2010.01.23
NOTE
SAVE
DELETE
09/12
09/13
09/14
09/15
11/23
02/02
12/02
SEE ALL RUNS
RUNS
7.96KM LAST RUN
GOALS
TODAY
10 RUNS LEFT
CHALLENGES
1ST PLACE
COACH
188 DAYS LEFT
MINI
LETS TURN IT UP A NOTCH!
FRIENDS AND FOES
NOTIFICATIONS (15)
SHARE
LINK YOUR ACTIVITY WITH XYZ AND GH FOR IMMEDIATE STATUS UPDATES.
SHARE MY ACTIVITY
GOALS
SET A GOAL FOR 2010
NEW
THE BOLD NEW ABC+
SEARCH
SHOP
ABCID
TRAINING
EVENTS
NEWS
SUPPORT
VIDEO
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ABC+
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GOALS
CHALLENGES
COACH
MAP IT
FORUMS
MS AORI
F 15

图 66C

188

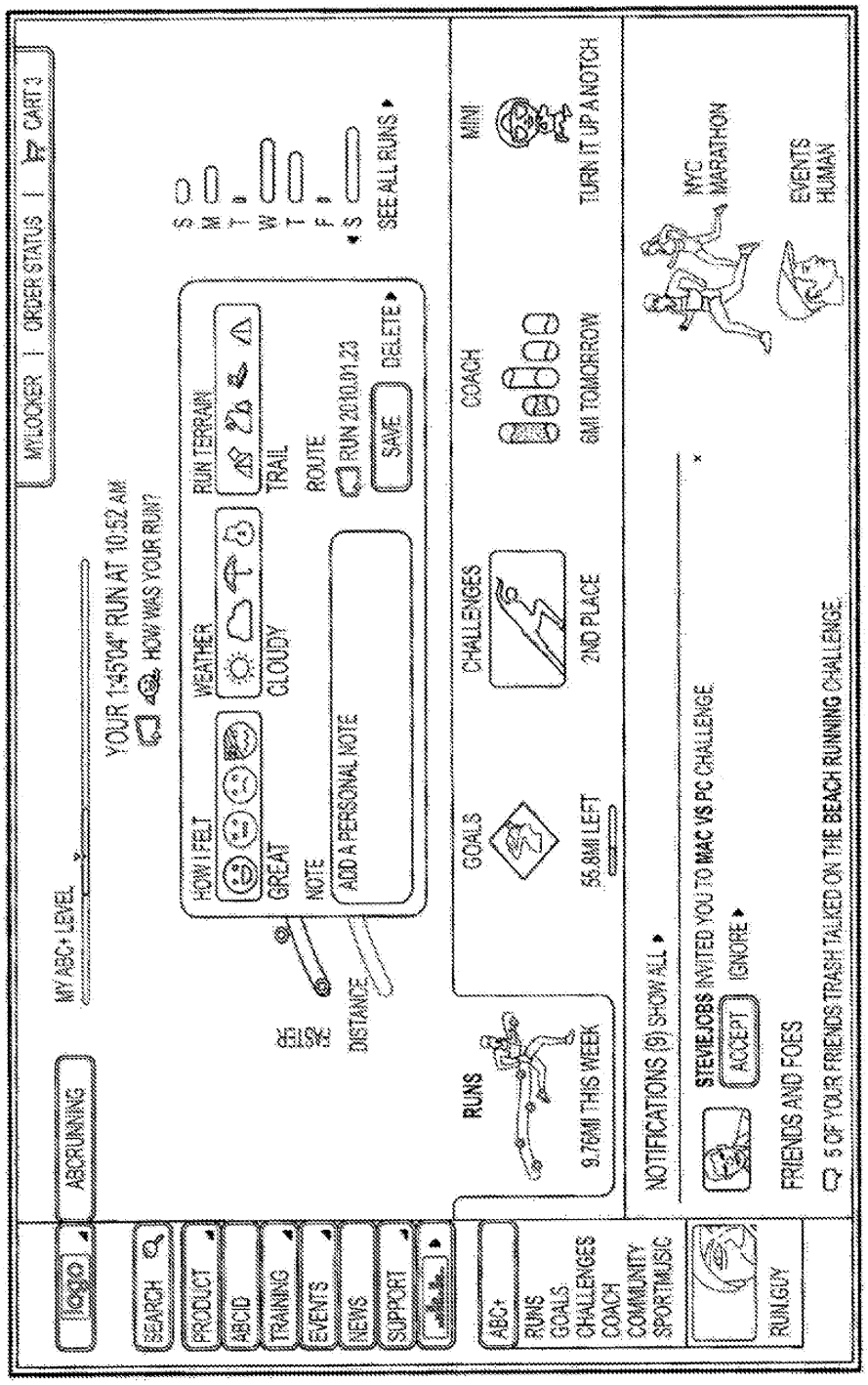


图 66D

189

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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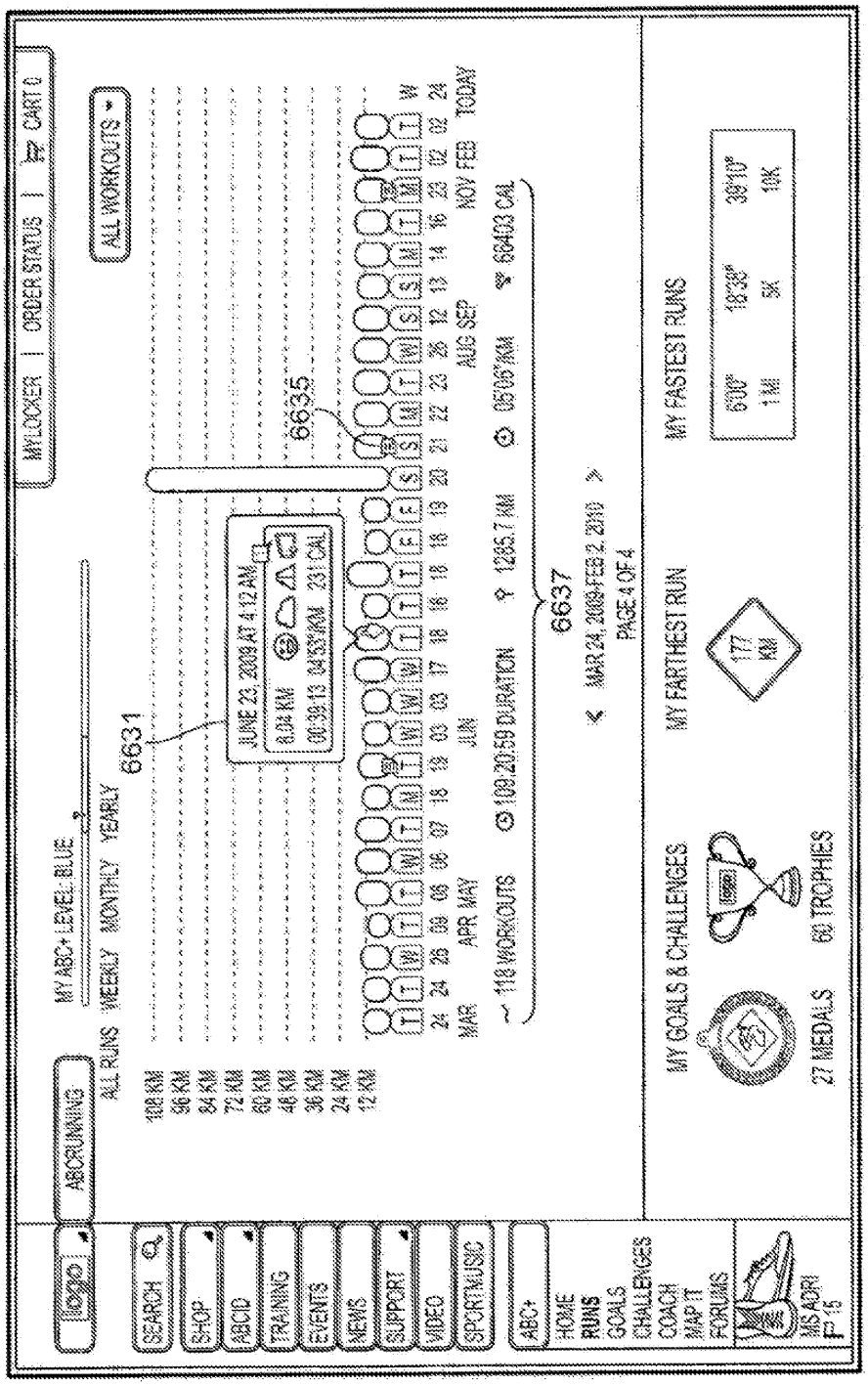


图 66E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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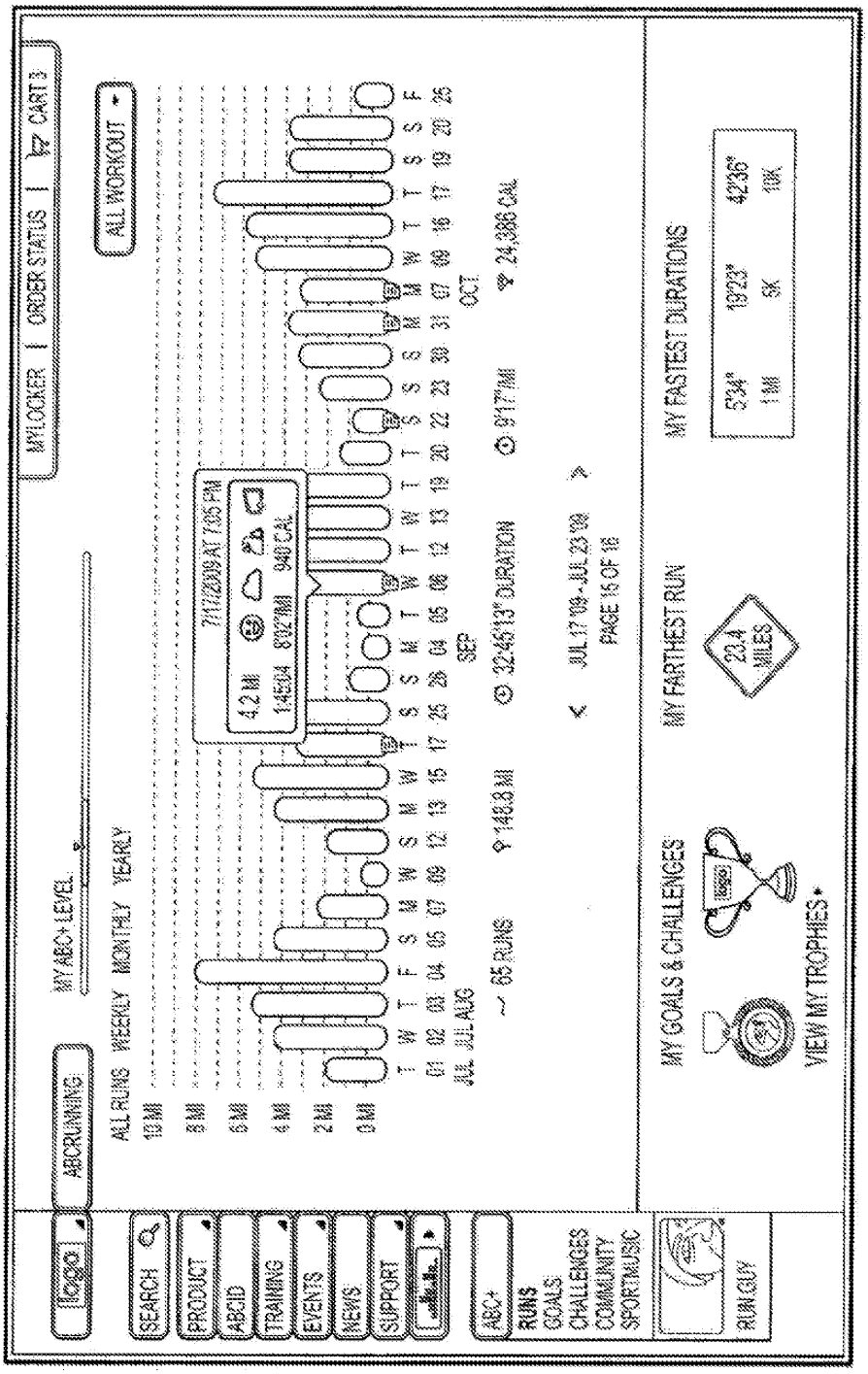


图 66F

191

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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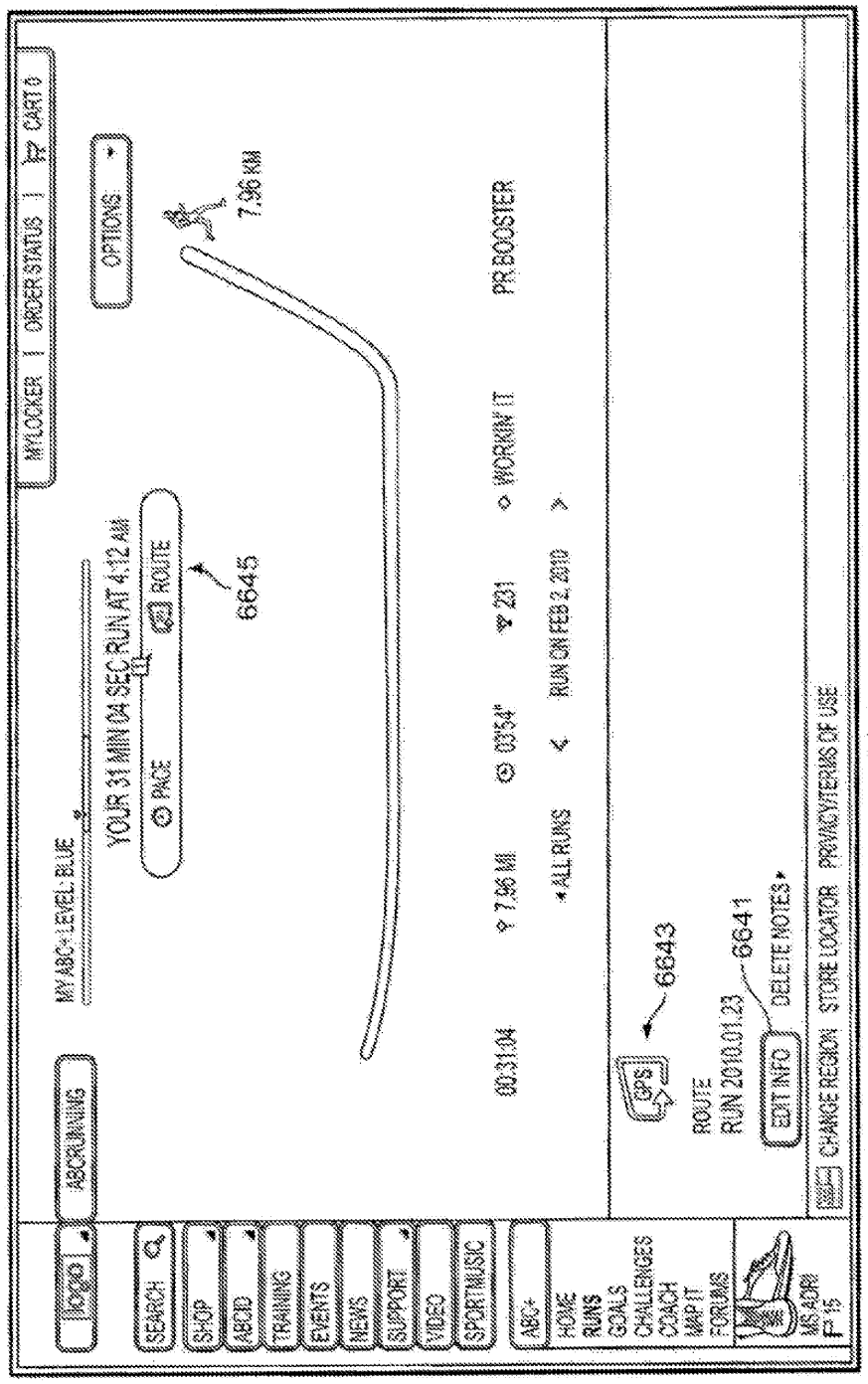


图 66G

192

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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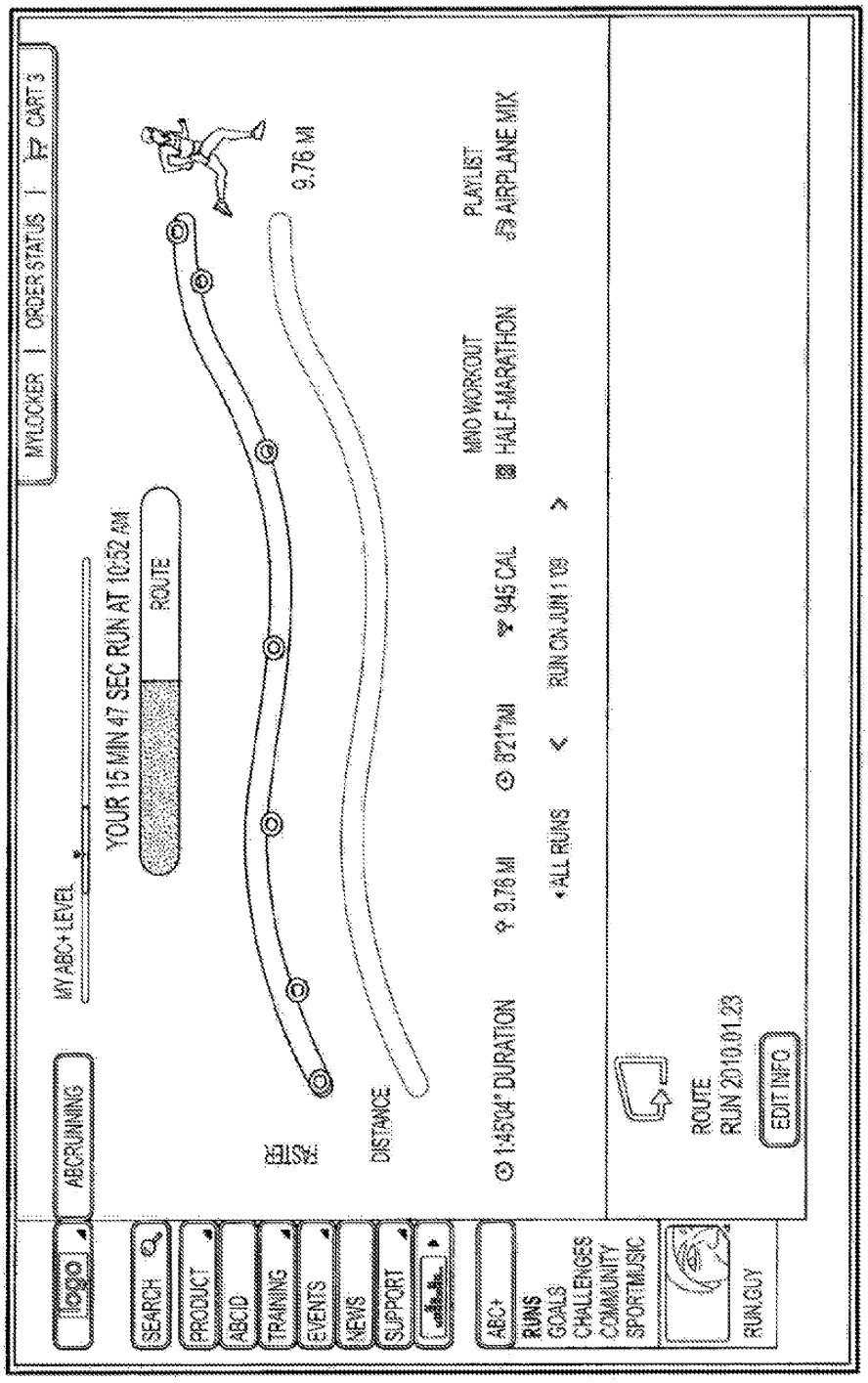


图 66H

193

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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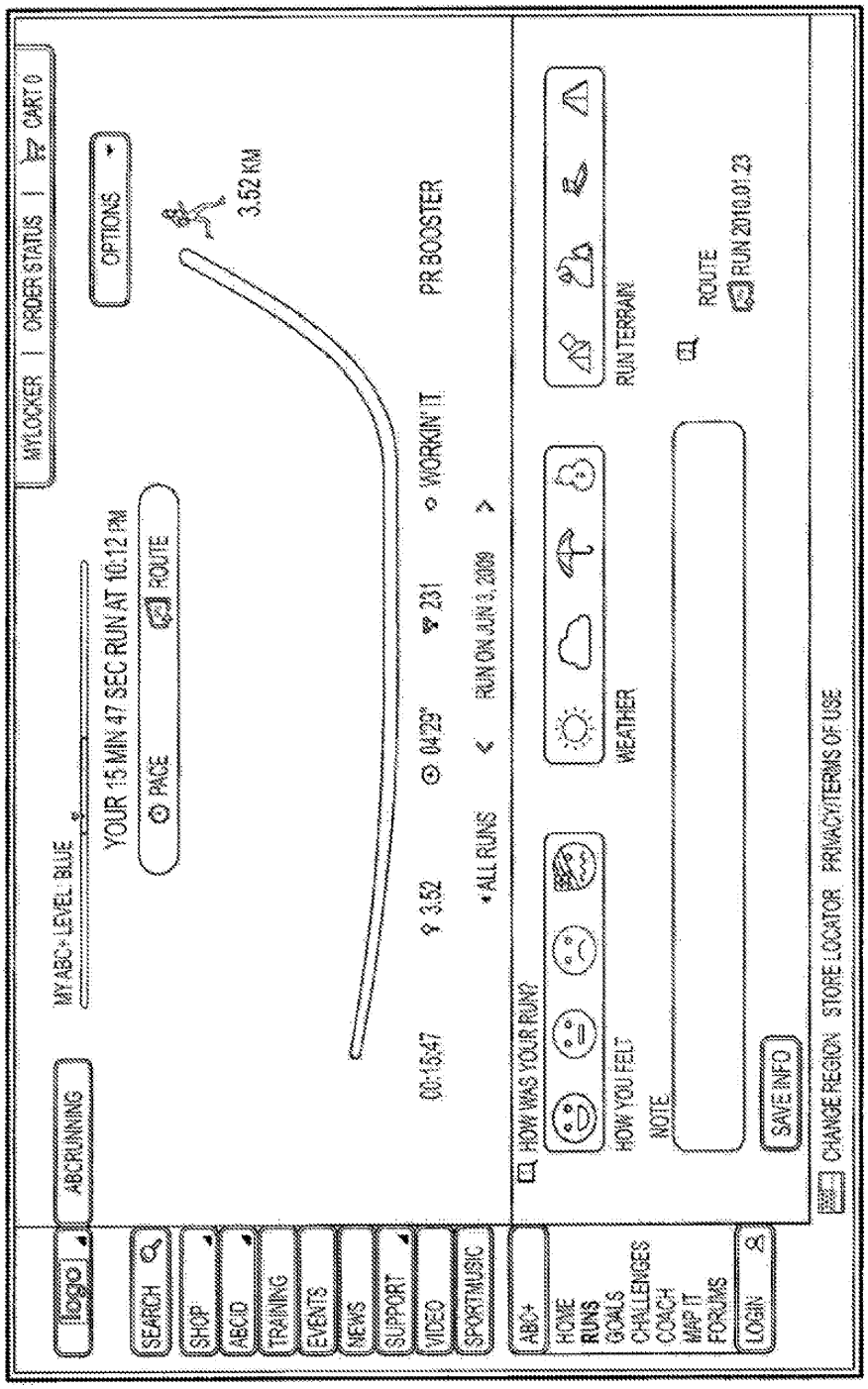


图 66I

194

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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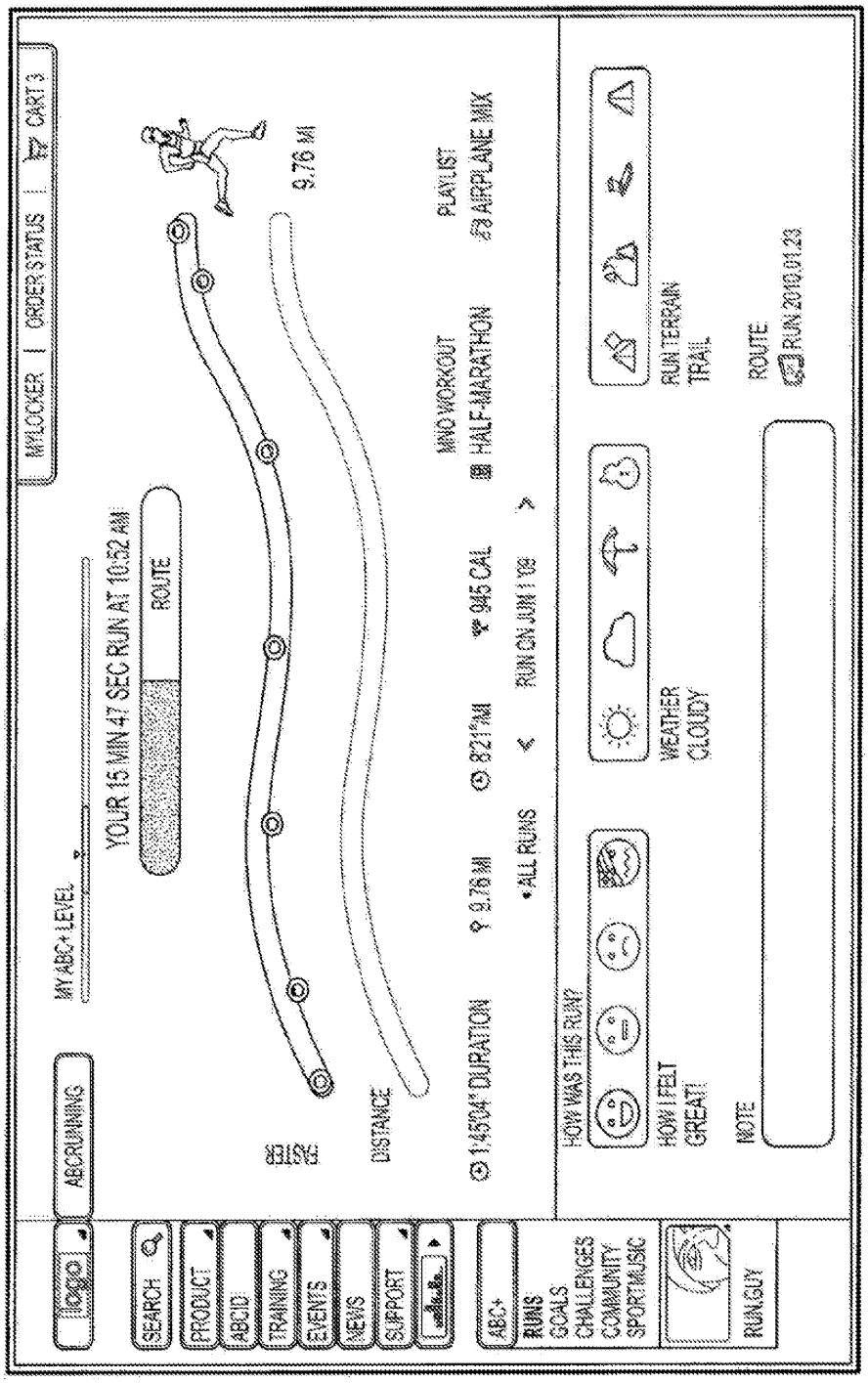


图 66J

195

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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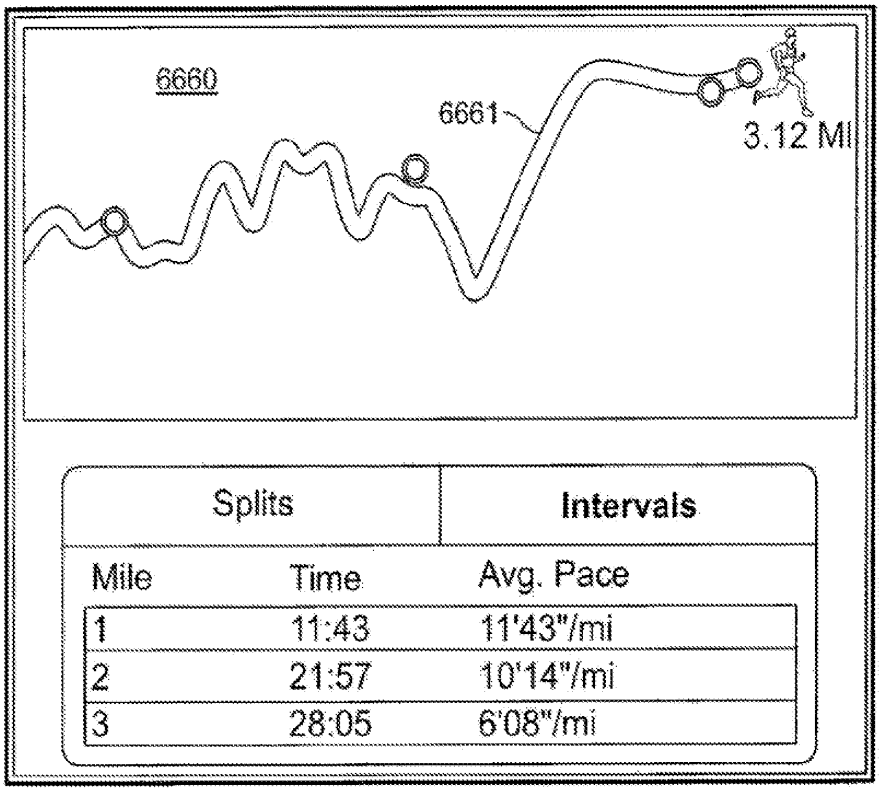


图 66K

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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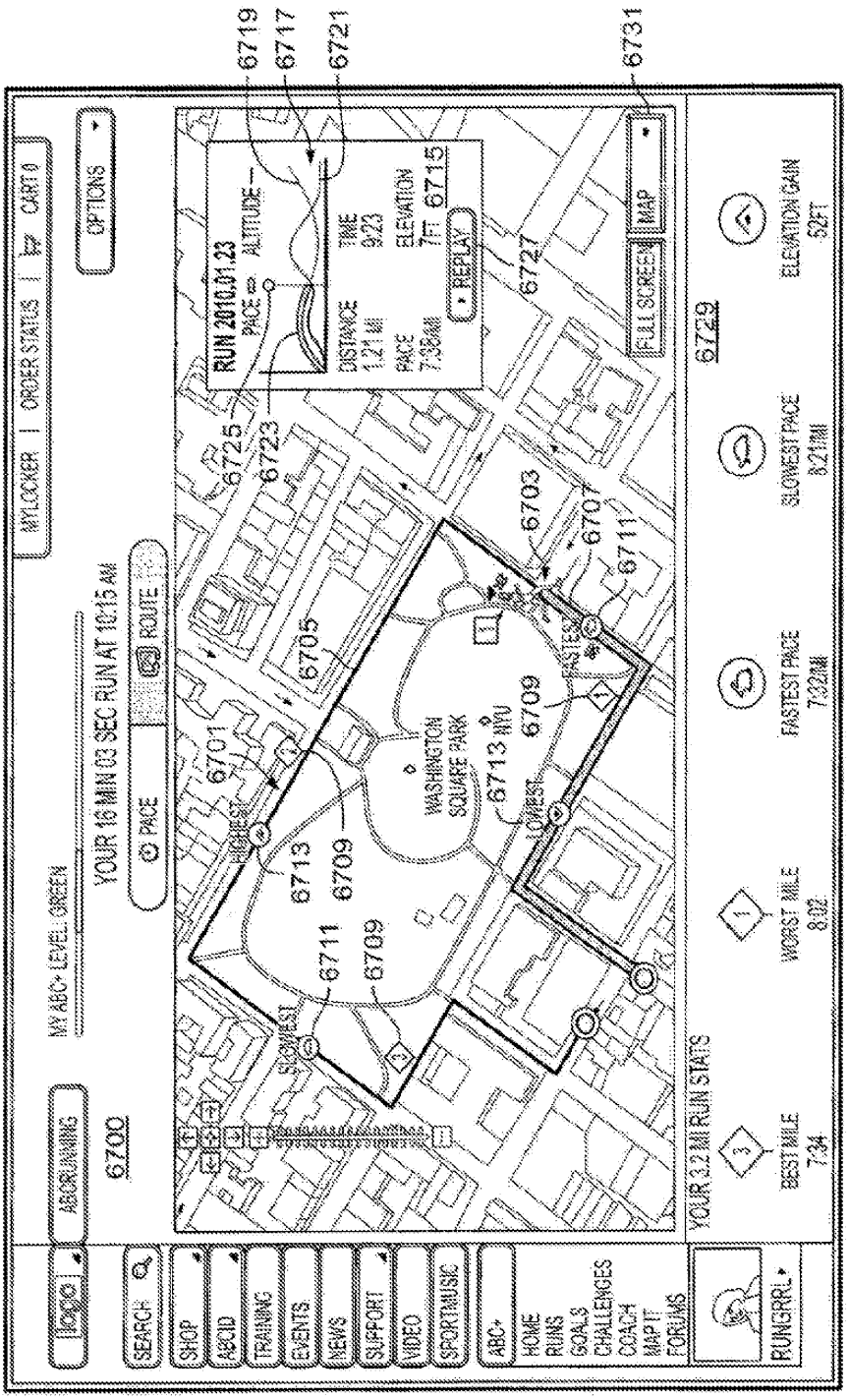


图 67A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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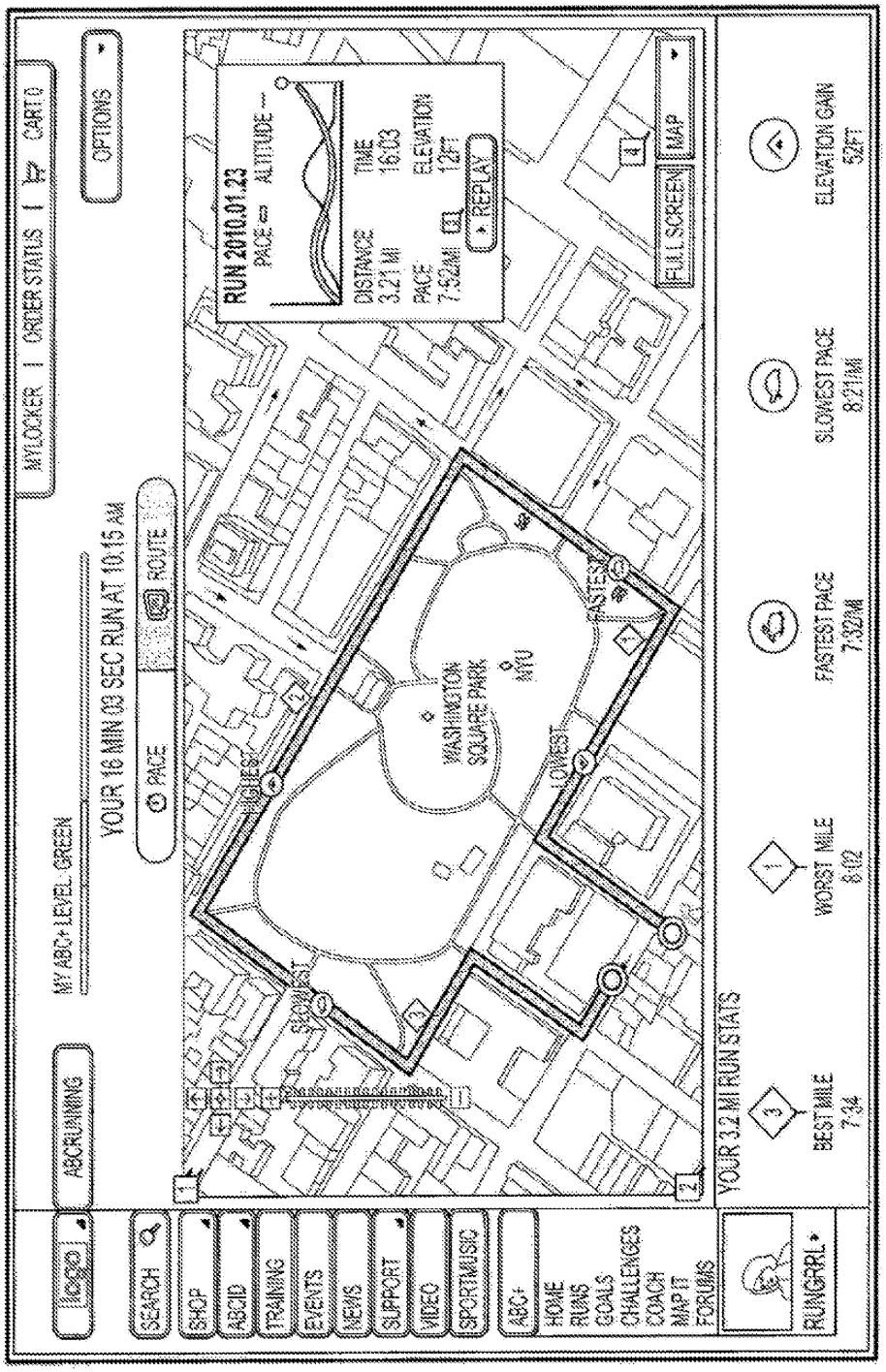


图 67B

198

AliveCor Exhibit 1002
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IPR2023-01434, U.S. Patent No. 10,270,898
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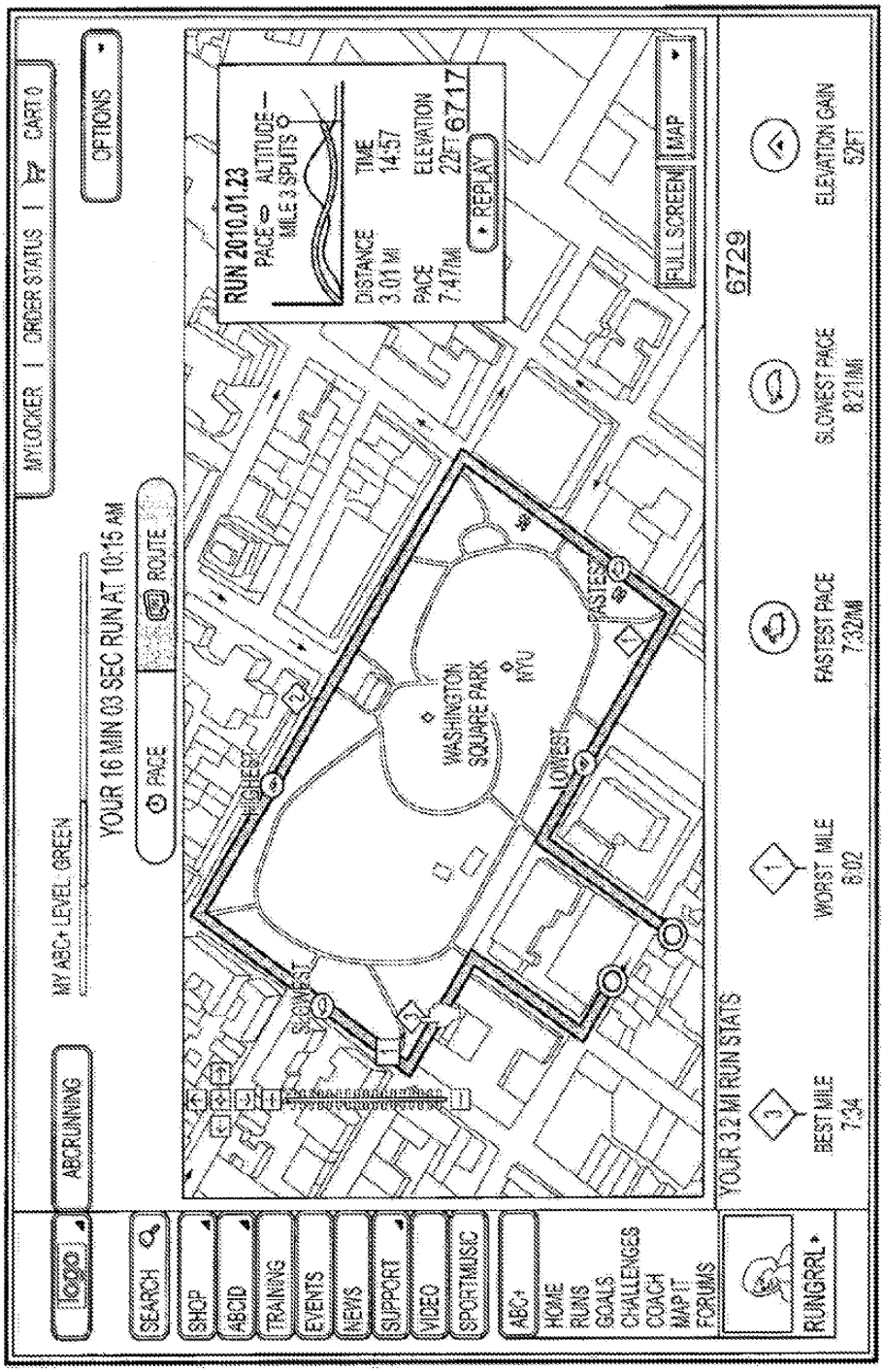


图 67C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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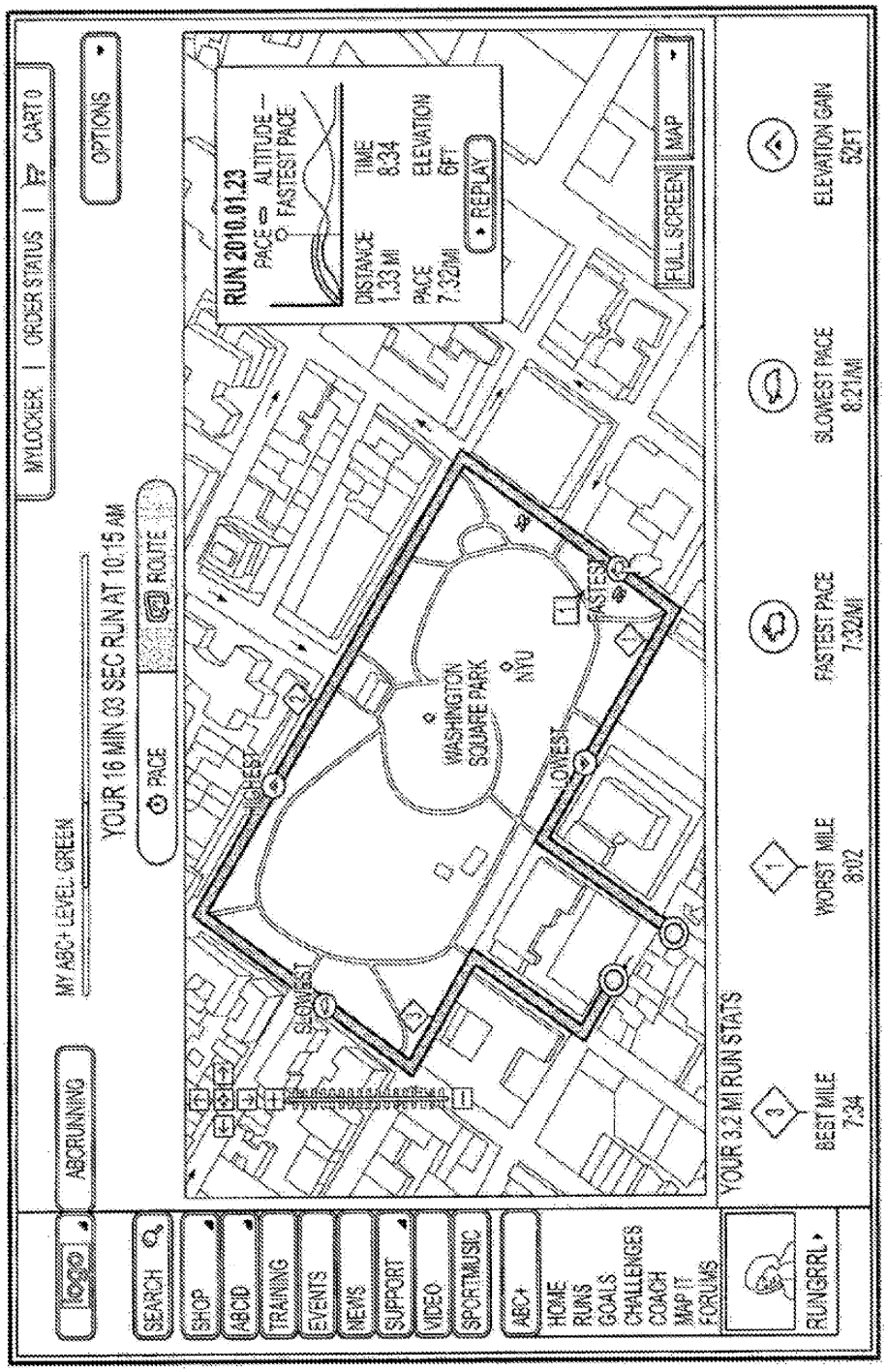


图 670

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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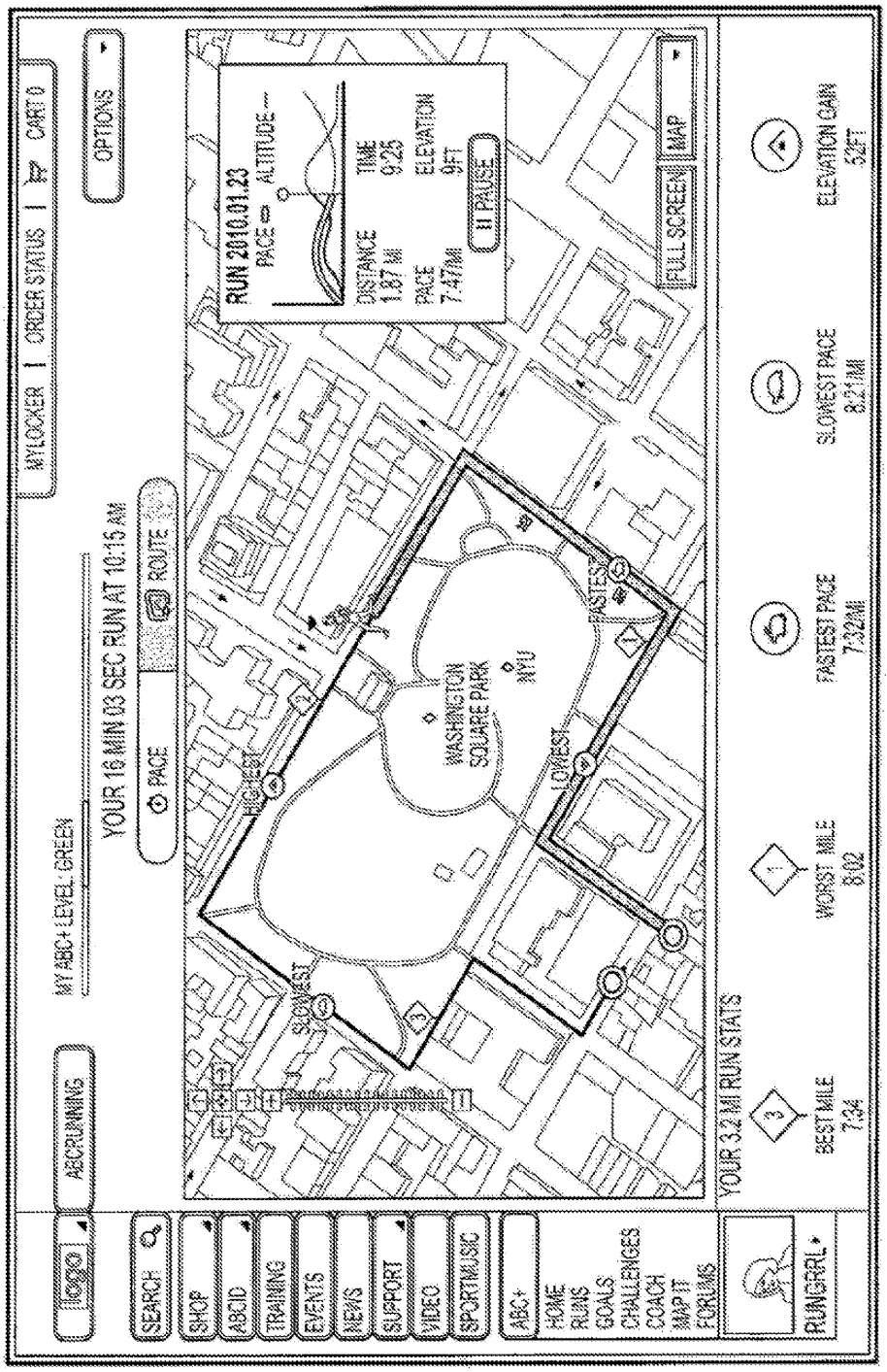

MYLOCKER | ORDER STATUS | CART 0
OPTIONS
MY ABC+ LEVEL GREEN
YOUR 16 MIN 03 SEC RUN AT 10:15 AM
PACE
ROUTE
RUN 2010.01.23
PACE
ALTITUDE
DISTANCE 1.87 MI
TIME 9:25
PACE 7.47/MI
ELEVATION 9FT
II PAUSE
FULL SCREEN
MAP
WASHINGTON SQUARE PARK
NYU
HIGHEST
SLOWEST
FASTEST
LOWEST
YOUR 3.2 MI RUN STATS
BEST MILE 7:34
WORST MILE 8:02
FASTEST PACE 7:32/MI
SLOWEST PACE 8:21/MI
ELEVATION GAIN 52FT
logo
AEROPUNNING
SEARCH
SHOP
ABCID
TRAINING
EVENTS
NEWS
SUPPORT
VIDEO
SPORTMUSIC
ABC+
HOME
RUNS
GOALS
CHALLENGES
COACH
MAP IT
FORUMS
RUNGRRL

图 67E

201

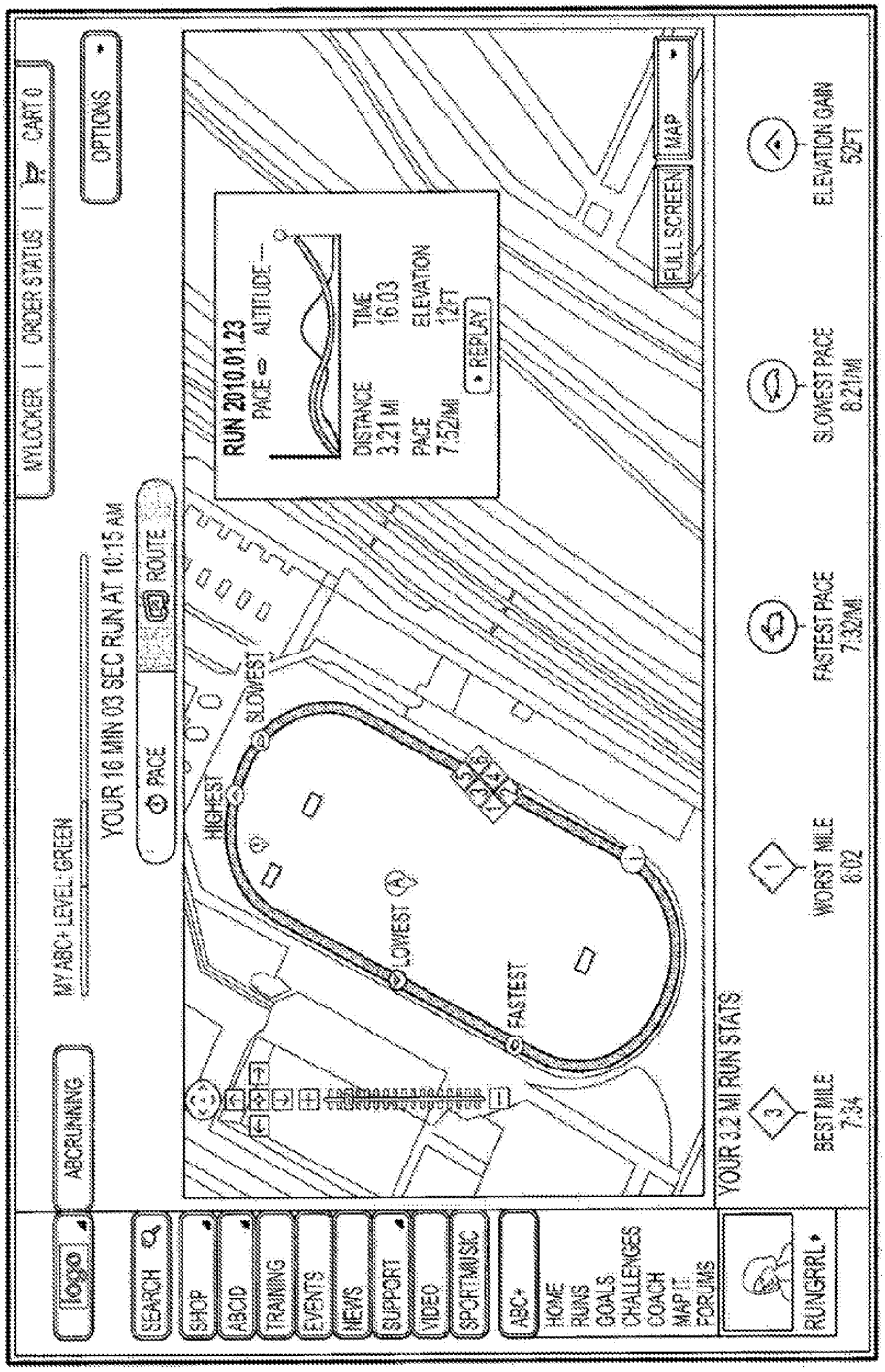


图 67F

202

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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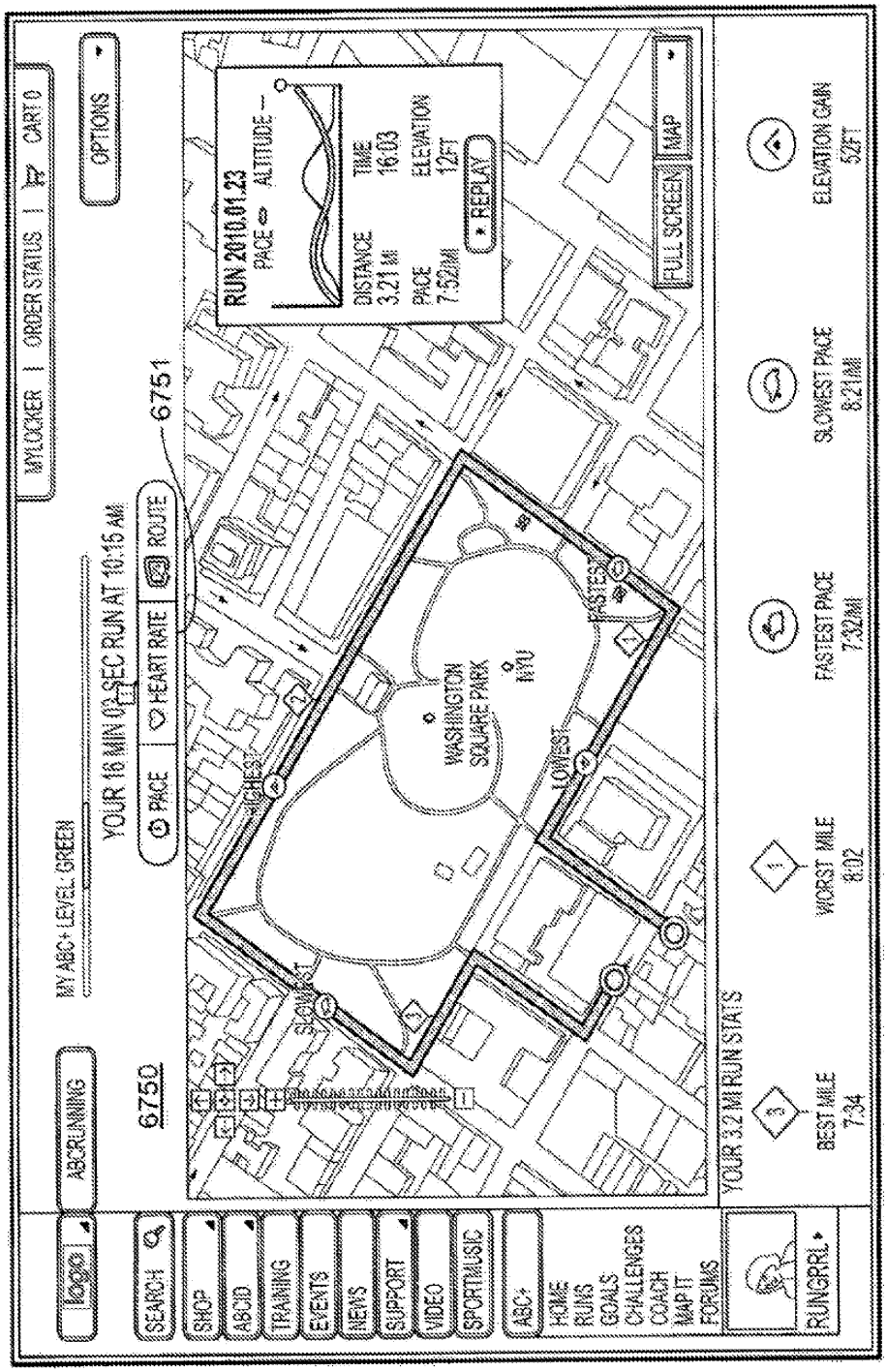


图 67G

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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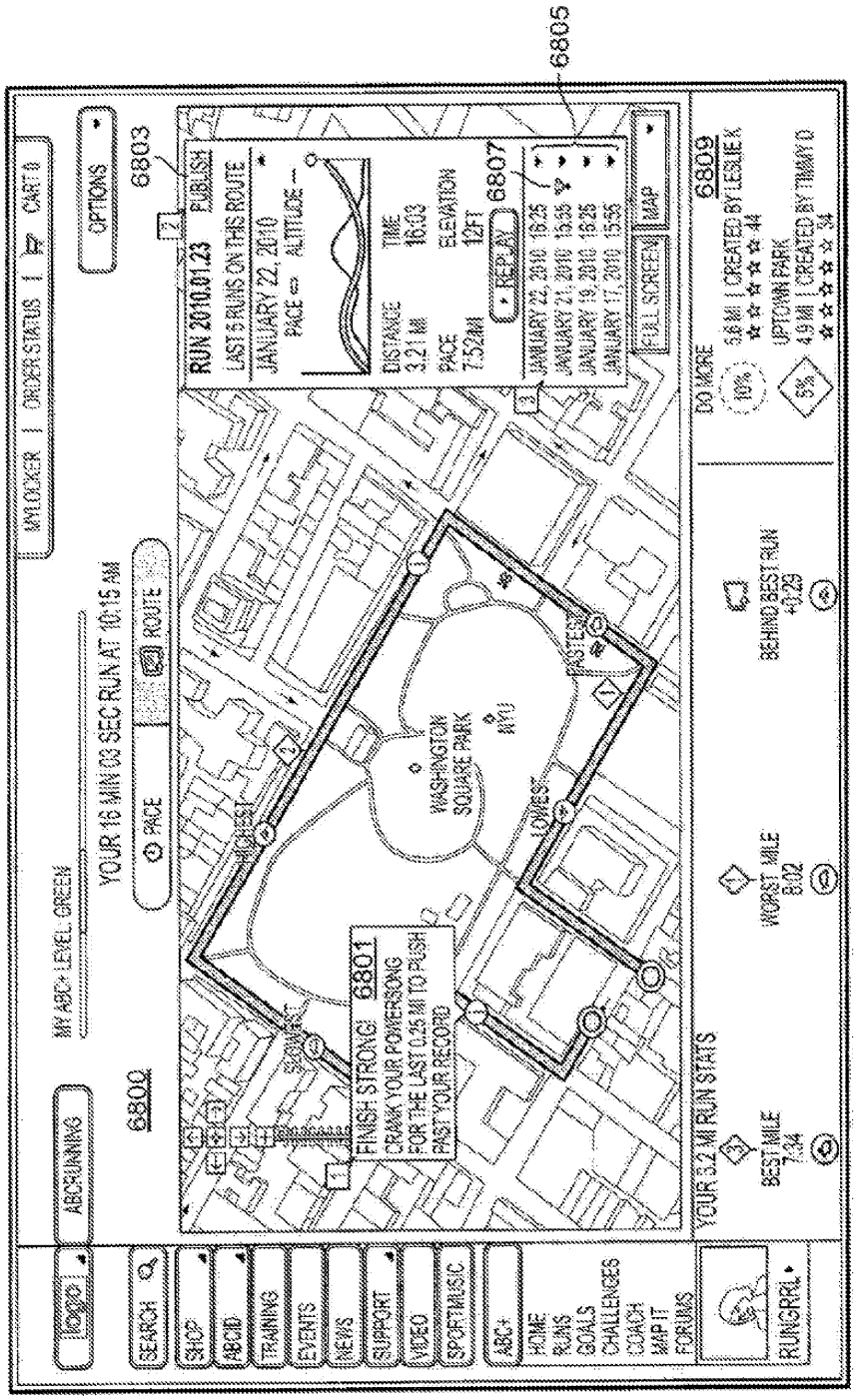


图 68A

204

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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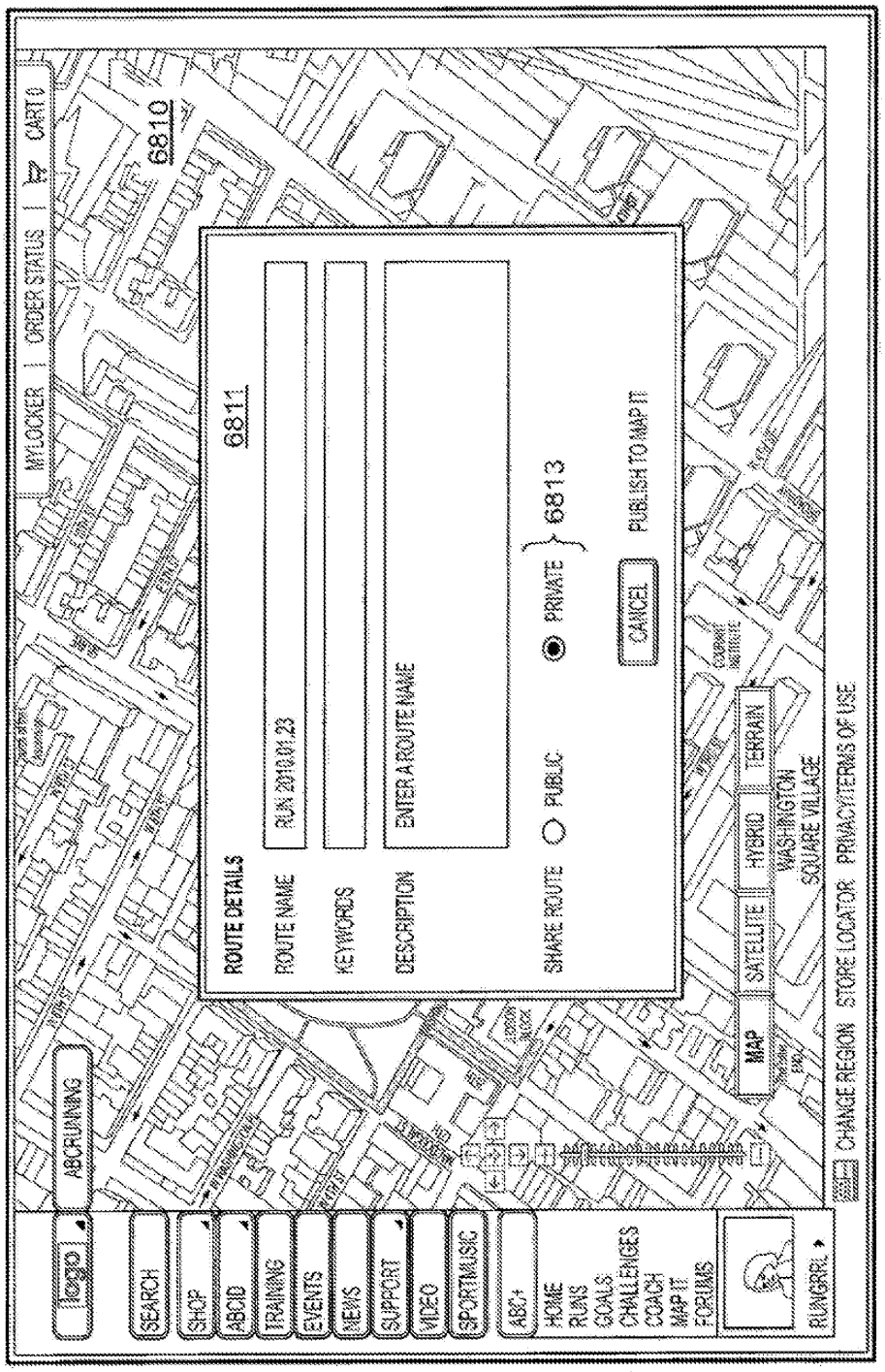

MYLOCKER | ORDER STATUS | CART 0
6810
ABCRUNNING
SEARCH
SHOP
ABCID
TRAINING
EVENTS
MEMS
SUPPORT
VIDEO
SPORTMUSIC
ABC+
HOME
RUNS
GOALS
CHALLENGES
COACH
MAP IT
FORUMS
RUNGIRL
MAP
SATELLITE
HYBRID
TERRAIN
WASHINGTON SQUARE VILLAGE
CHANGE REGION STORE LOCATOR PRIVACY/TERMS OF USE
6811
ROUTE DETAILS
ROUTE NAME
RUN 2010.01.23
KEYWORDS
DESCRIPTION
ENTER A ROUTE NAME
SHARE ROUTE
PUBLIC
PRIVATE
6813
CANCEL
PUBLISH TO MAP IT

图 68B

205

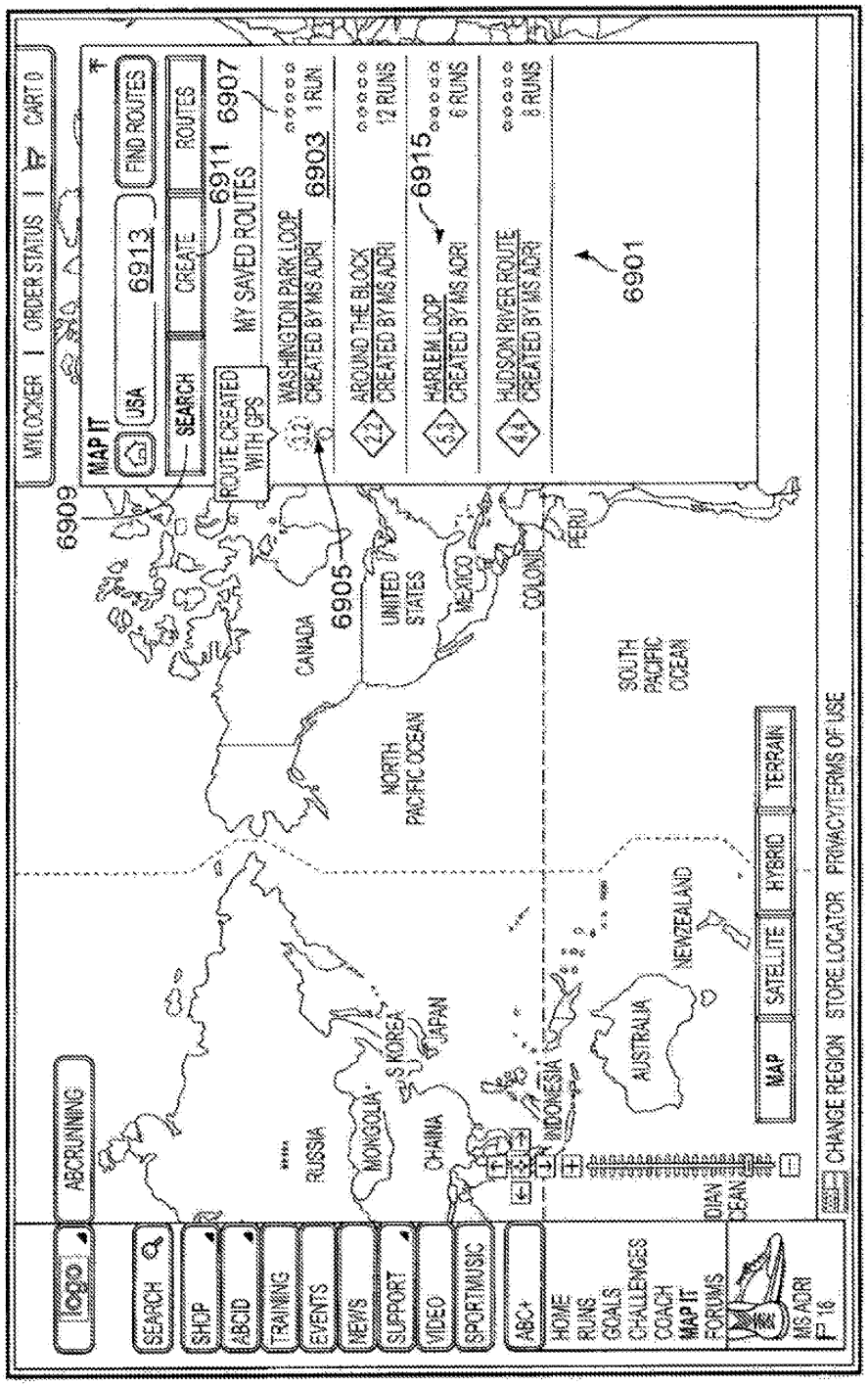

MY LOCKER | ORDER STATUS | CART 0
MAP IT
USA
6913
FIND ROUTES
SEARCH
CREATE
ROUTES
6911
6907
MY SAVED ROUTES
ROUTE CREATED WITH GPS
WASHINGTON PARK LOOP
CREATED BY MS ADRI
6903
1 RUN
AROUND THE BLOCK
CREATED BY MS ADRI
12 RUNS
6915
HARLEM LOOP
CREATED BY MS ADRI
6 RUNS
HUDSON RIVER ROUTE
CREATED BY MS ADRI
8 RUNS
6909
6905
6901
CANADA
UNITED STATES
MEXICO
COLOMBIA
PERU
NORTH PACIFIC OCEAN
SOUTH PACIFIC OCEAN
RUSSIA
MONGOLIA
S KOREA
JAPAN
CHINA
INDONESIA
AUSTRALIA
NEW ZEALAND
INDIAN OCEAN
MAP
SATELLITE
HYBRID
TERRAIN
CHANGE REGION
STORE LOCATOR
PRIVACY/TERMS OF USE
LOGO
ABC/RUNNING
SEARCH
SHOP
ABCID
TRAINING
EVENTS
NEWS
SUPPORT
VIDEO
SPORTMUSIC
ABC
HOME
RUNS
GOALS
CHALLENGES
COACH
MAP IT
FORUMS
MS ADRI
P 16

图 69A

206

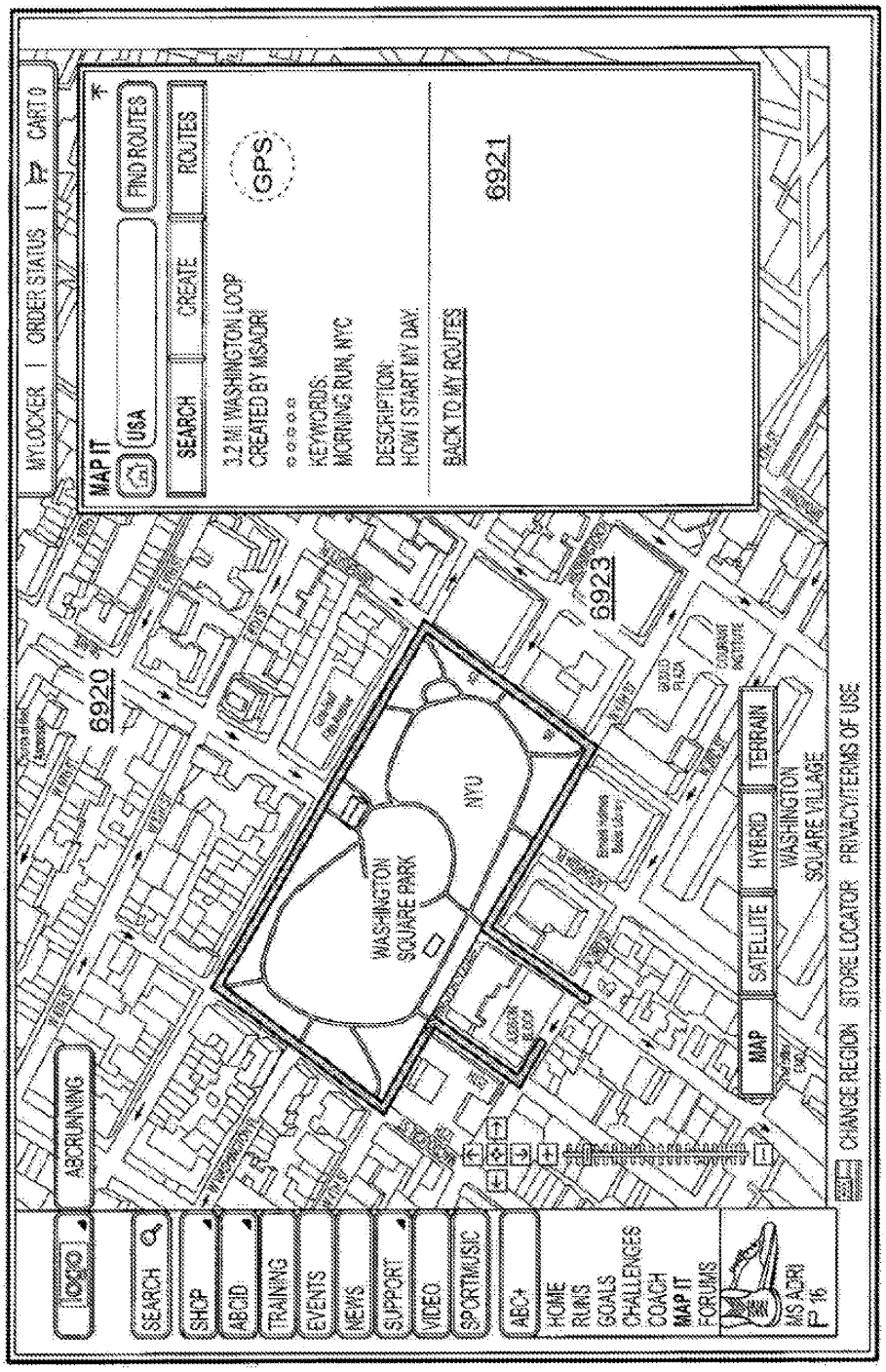


图 69B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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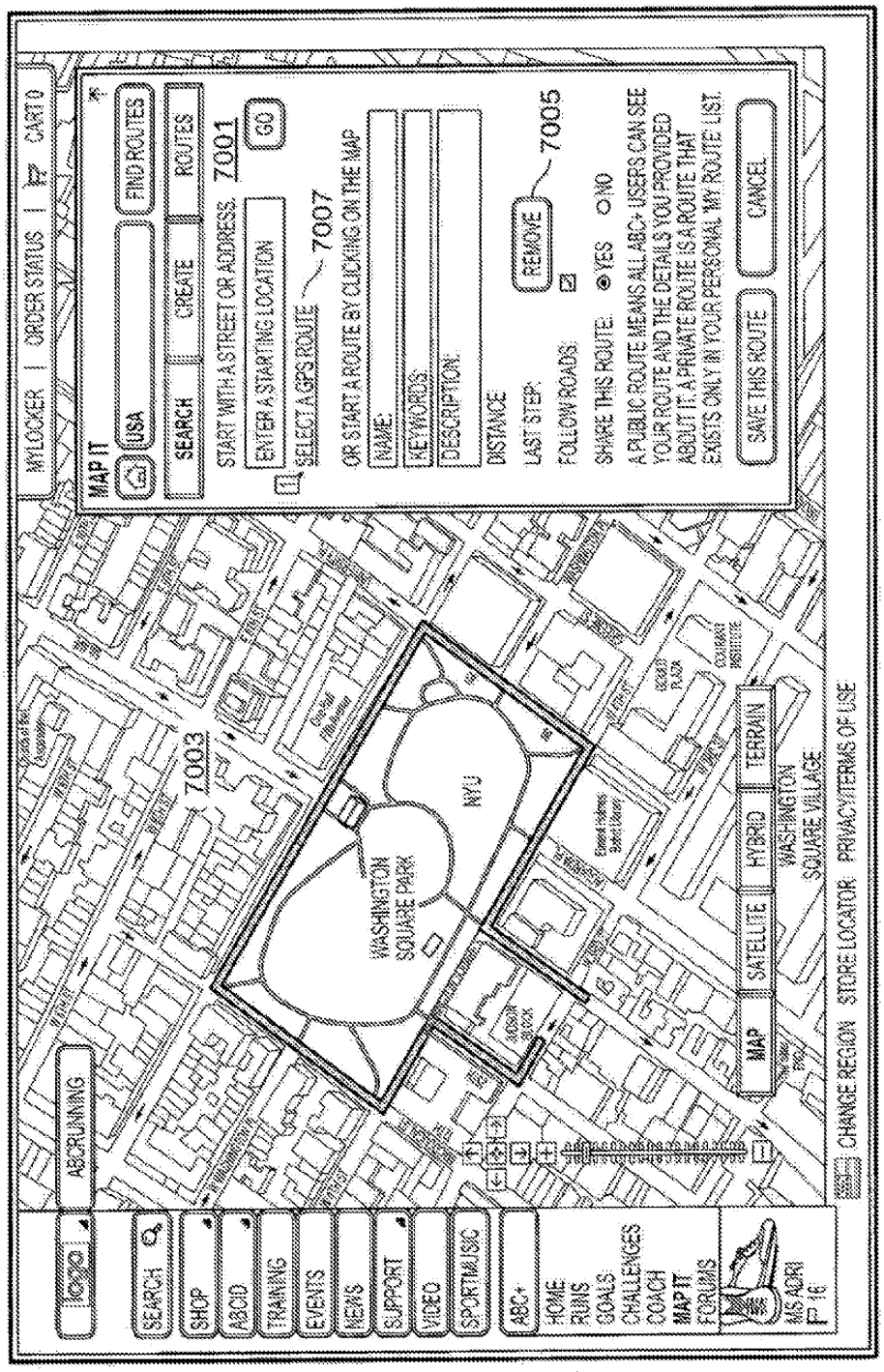


图 70A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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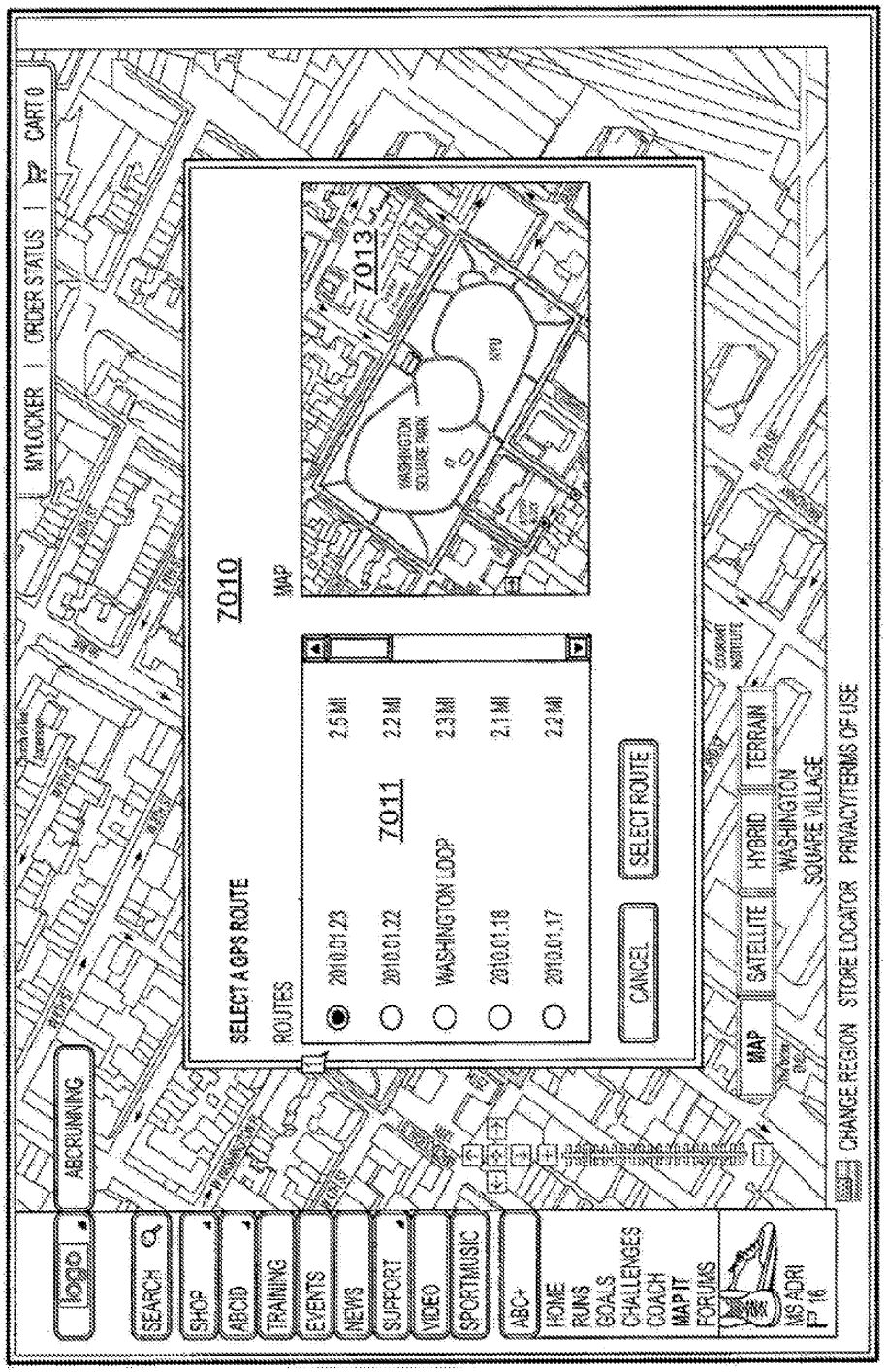


图 70B

209

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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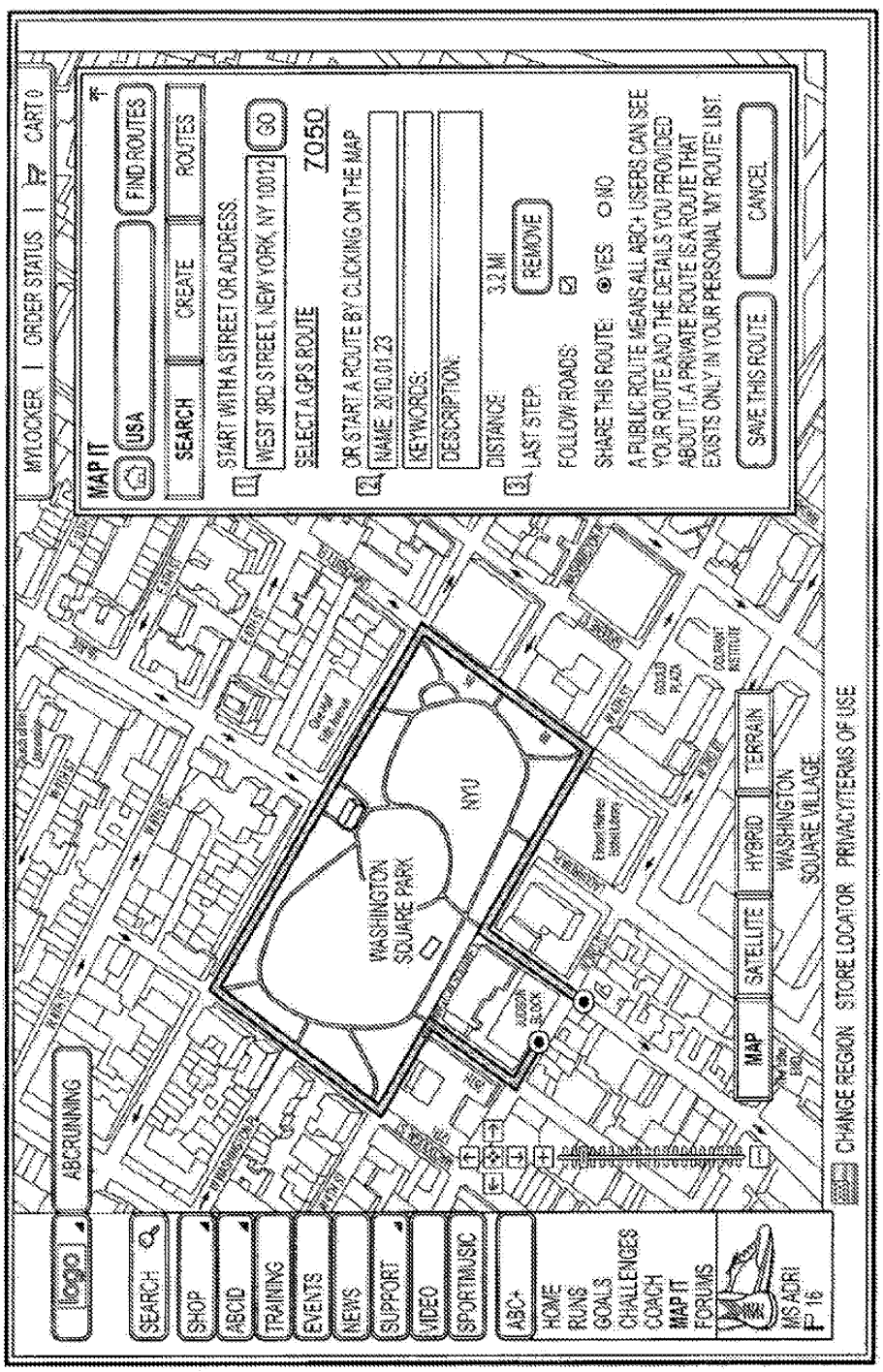


图 70C

210

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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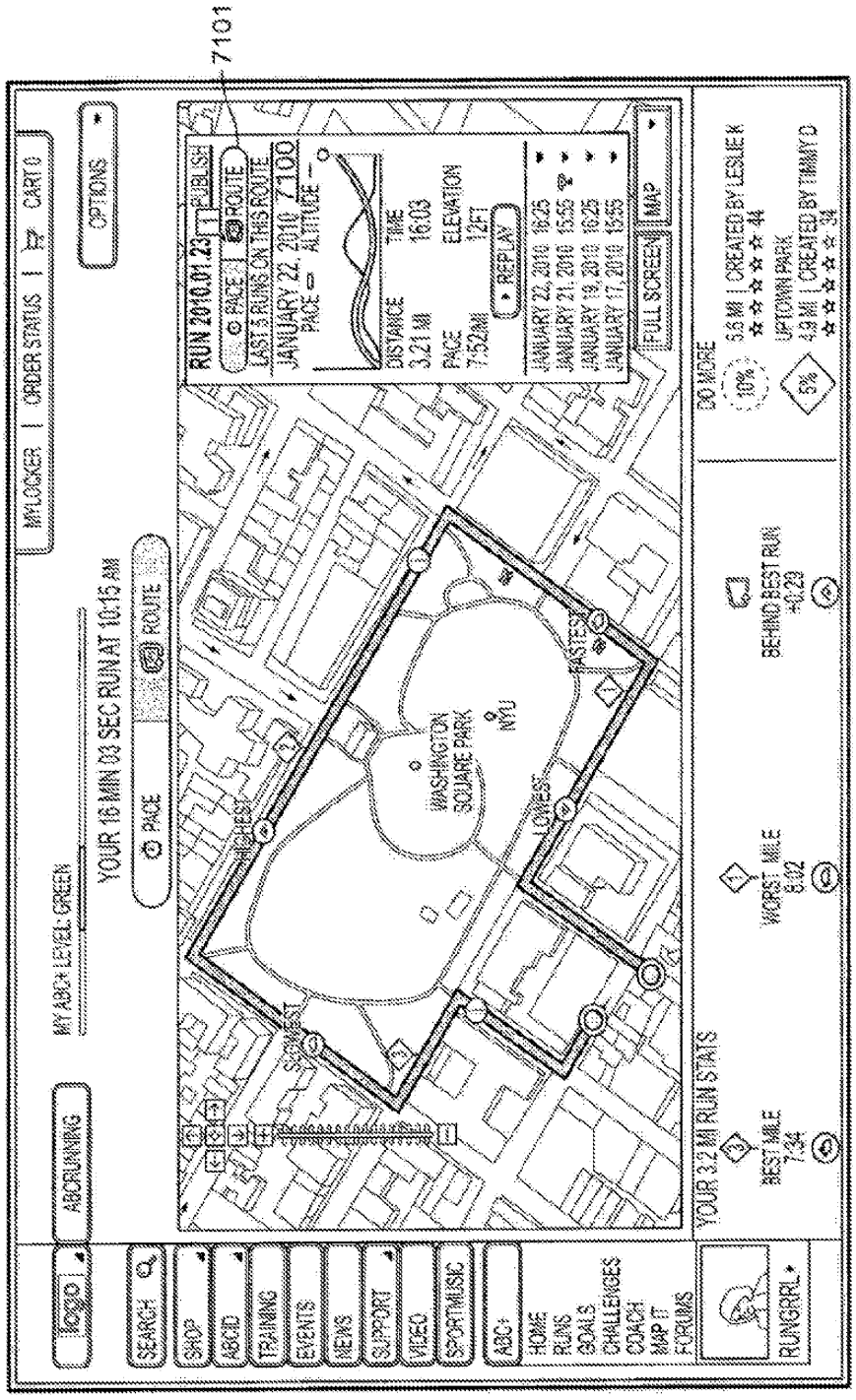


图 71A

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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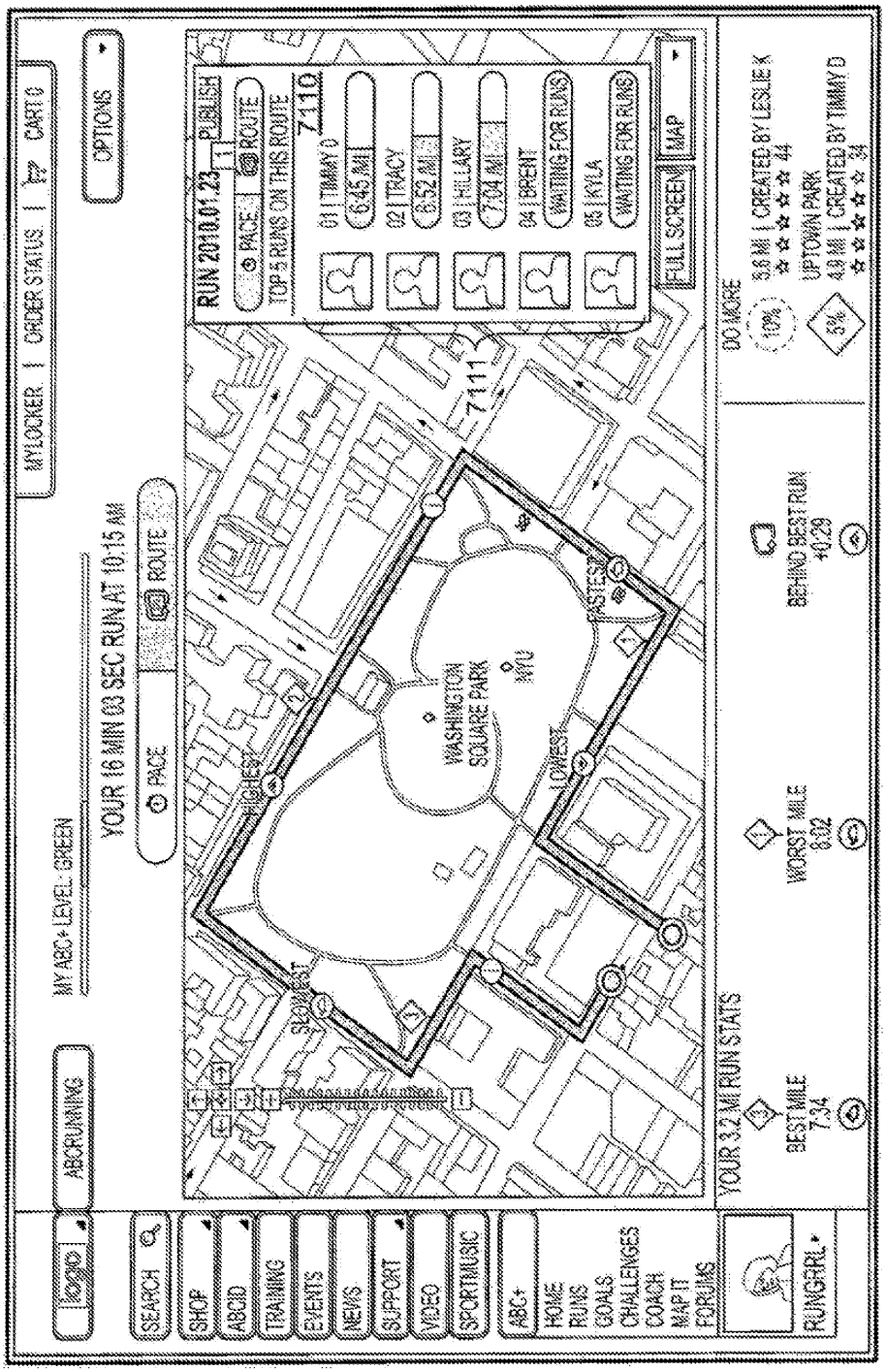


图 71B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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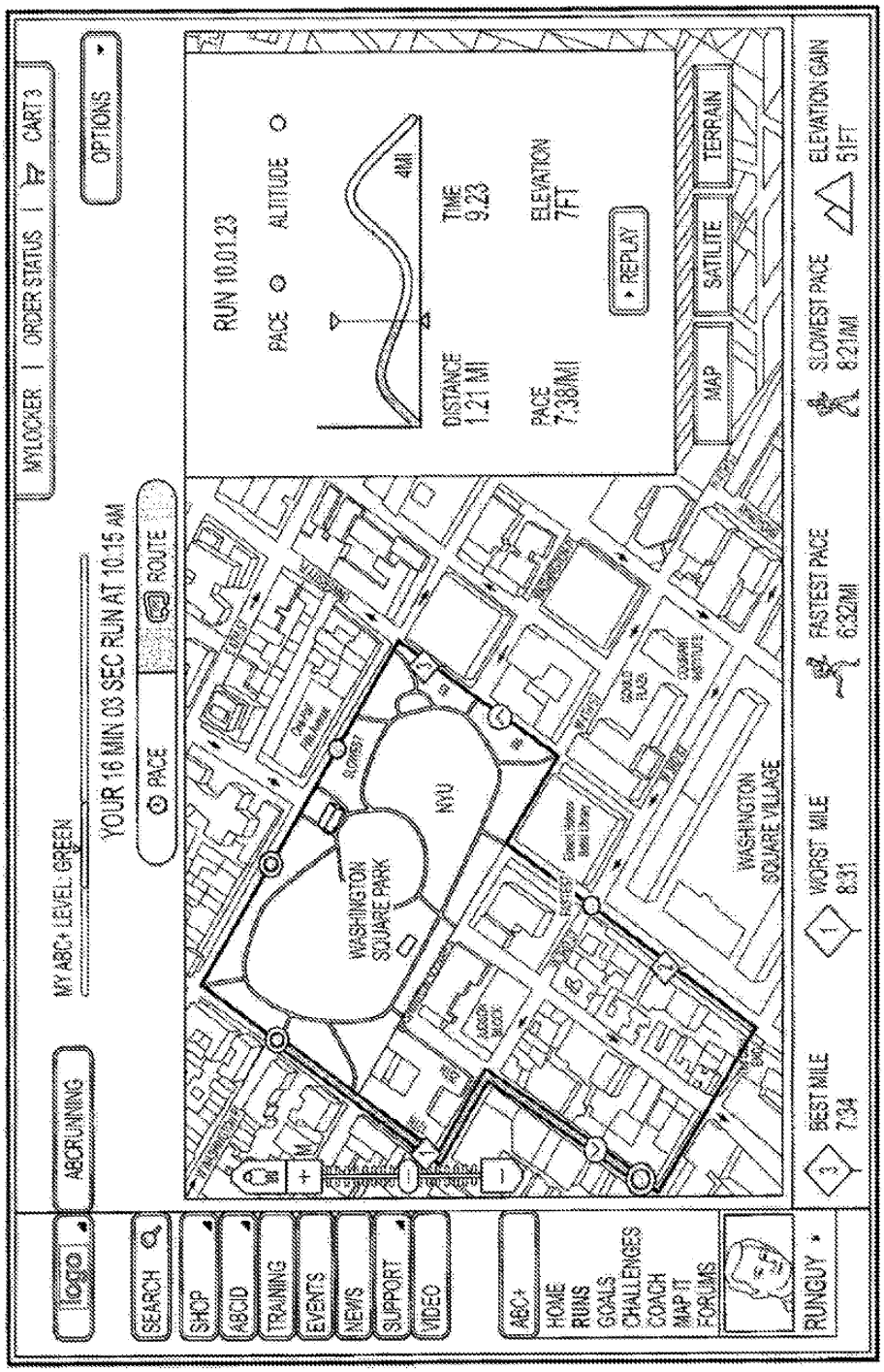


图 72A

213

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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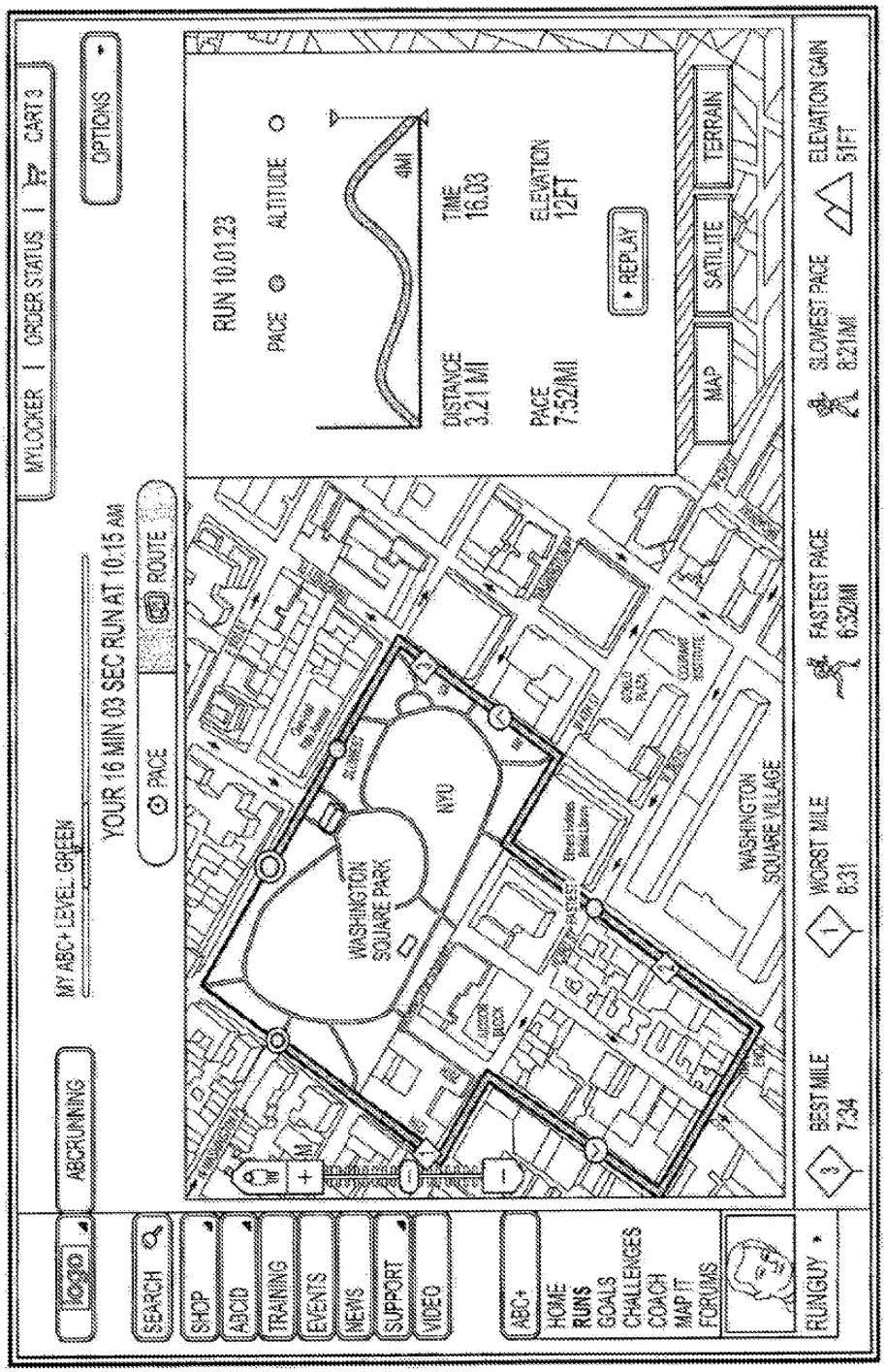


图 72B

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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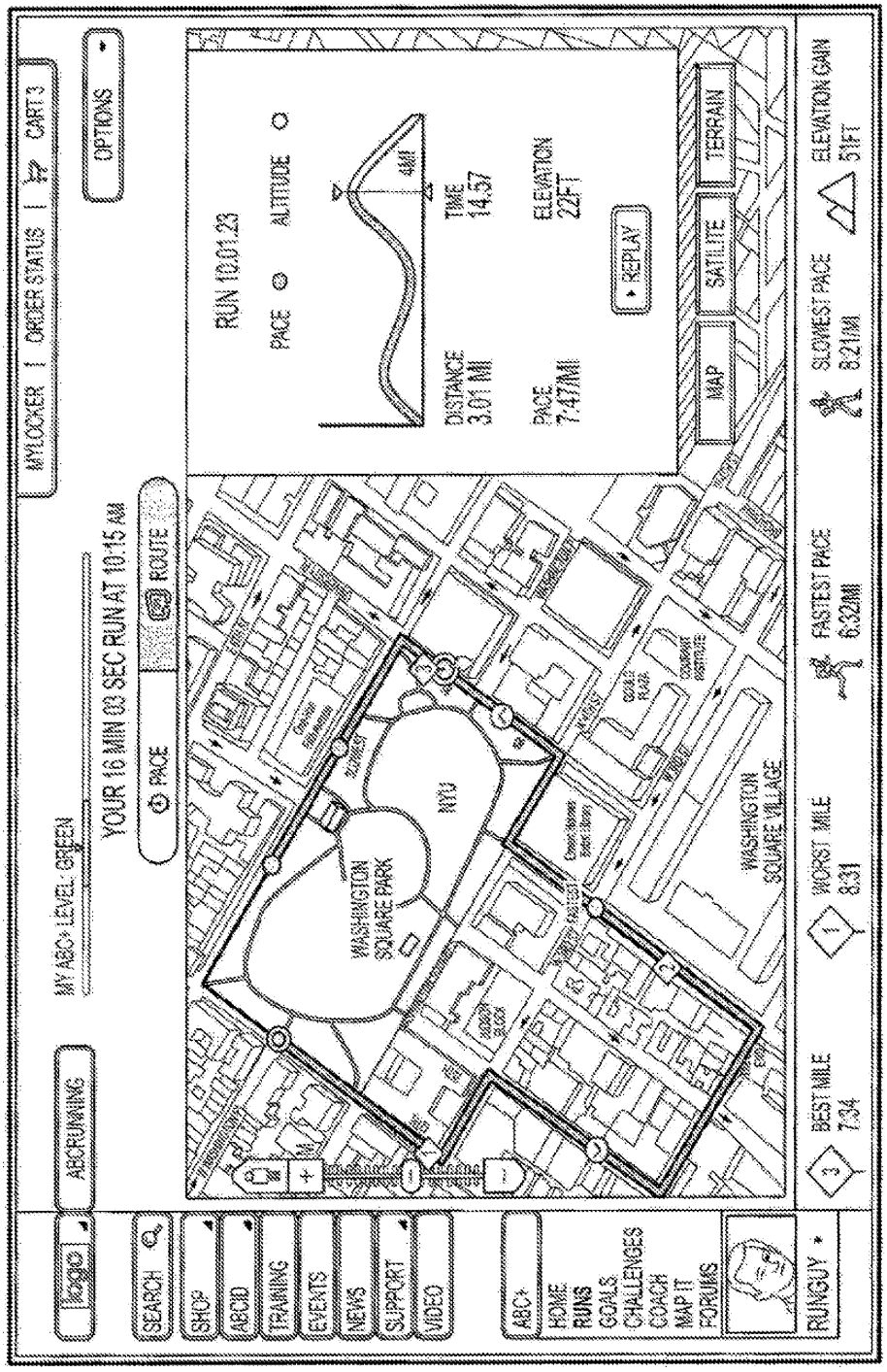


图 72C

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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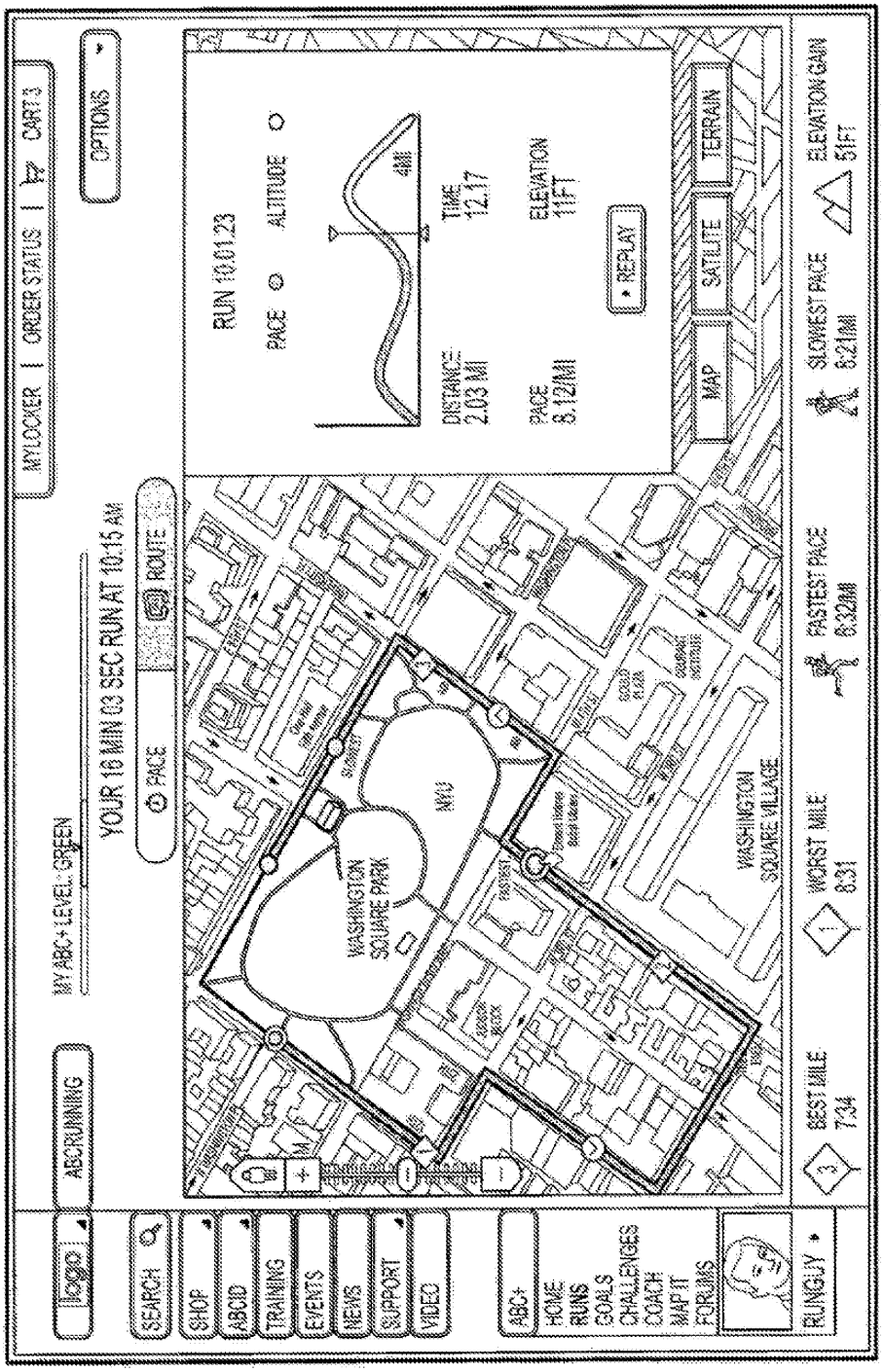

MYLOCKER | ORDER STATUS | CART 3
OPTIONS
logo
ABCRUNNING
MY ABC+ LEVEL: GREEN
YOUR 16 MIN 03 SEC RUN AT 10:15 AM
PACE
ROUTE
SEARCH
SHOP
ABCD
TRAINING
EVENTS
NEWS
SUPPORT
VIDEO
ABC+
HOME
RUNS
GOALS
CHALLENGES
COACH
MAP IT
FORUMS
RUNGUY
RUN 10.01.23
PACE
ALTITUDE
DISTANCE 2.03 MI
TIME 12.17
PACE 8.12/MI
ELEVATION 11FT
REPLAY
MAP
SATLITE
TERRAIN
BEST MILE 7:34
WORST MILE 8:31
FASTEST PACE 6:32/MI
SLOWEST PACE 8:21/MI
ELEVATION GAIN 51FT
WASHINGTON SQUARE PARK
NYU
WASHINGTON SQUARE VILLAGE

图 72D

216

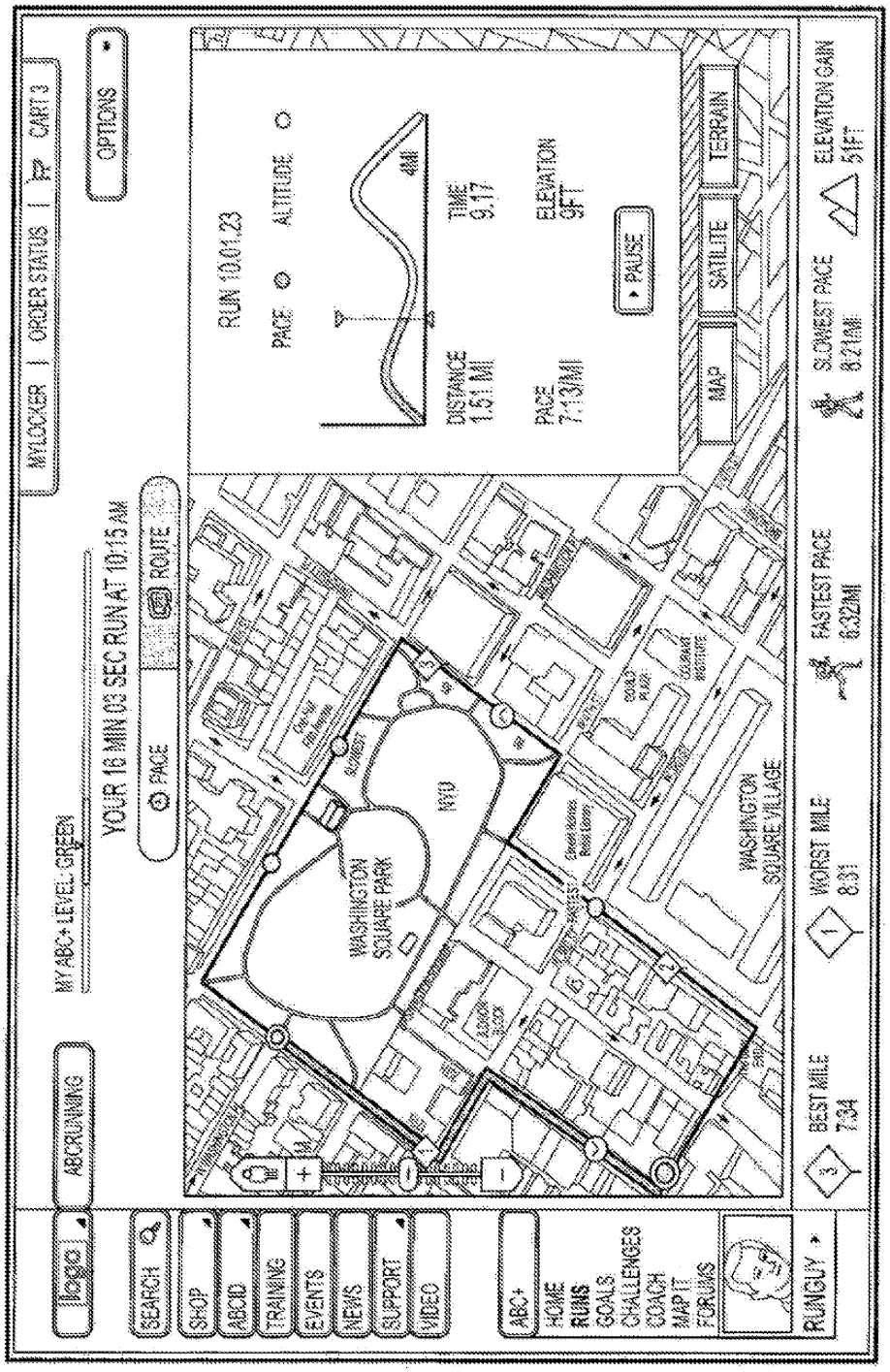


图 72E

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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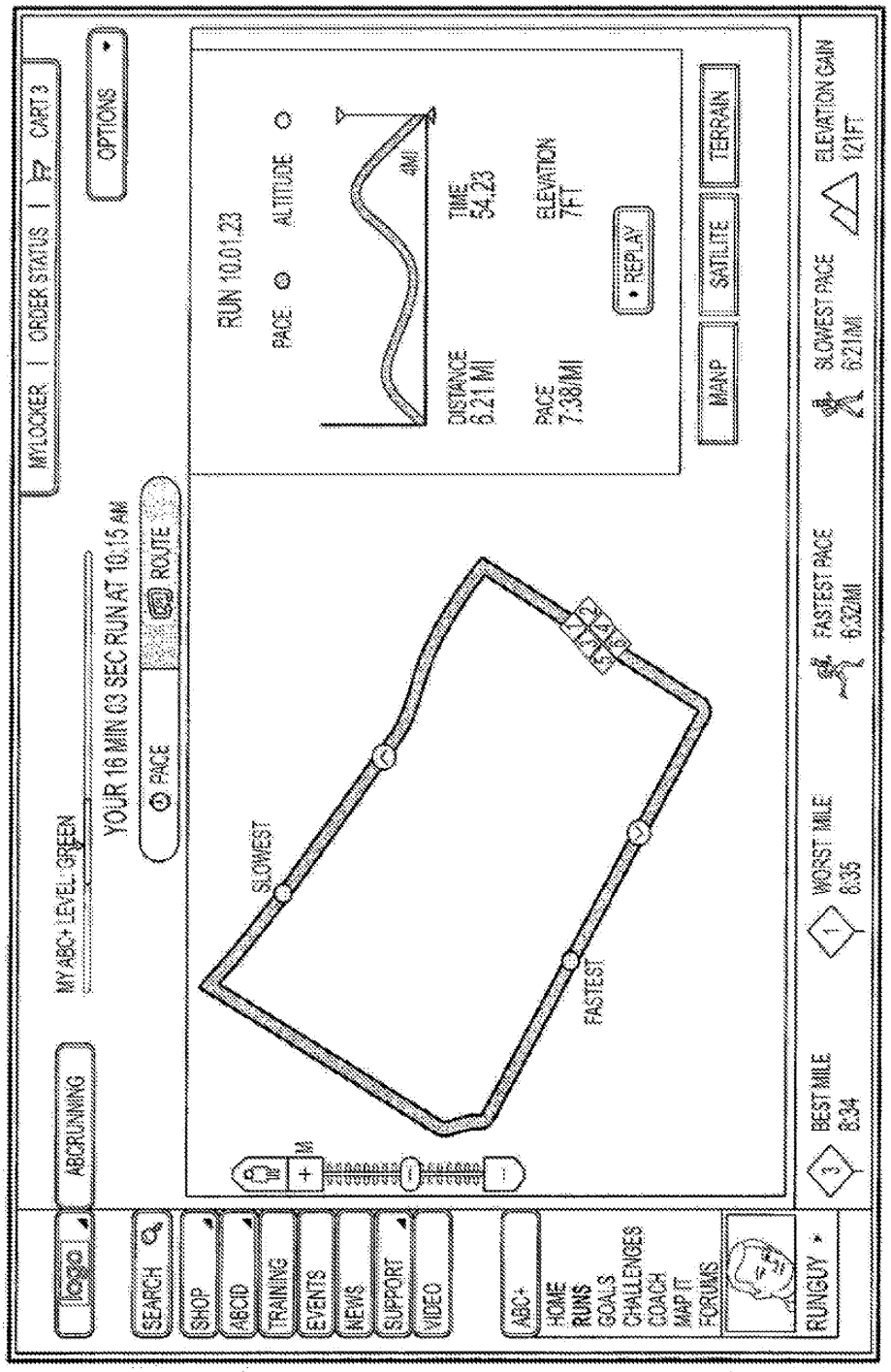


图 72F

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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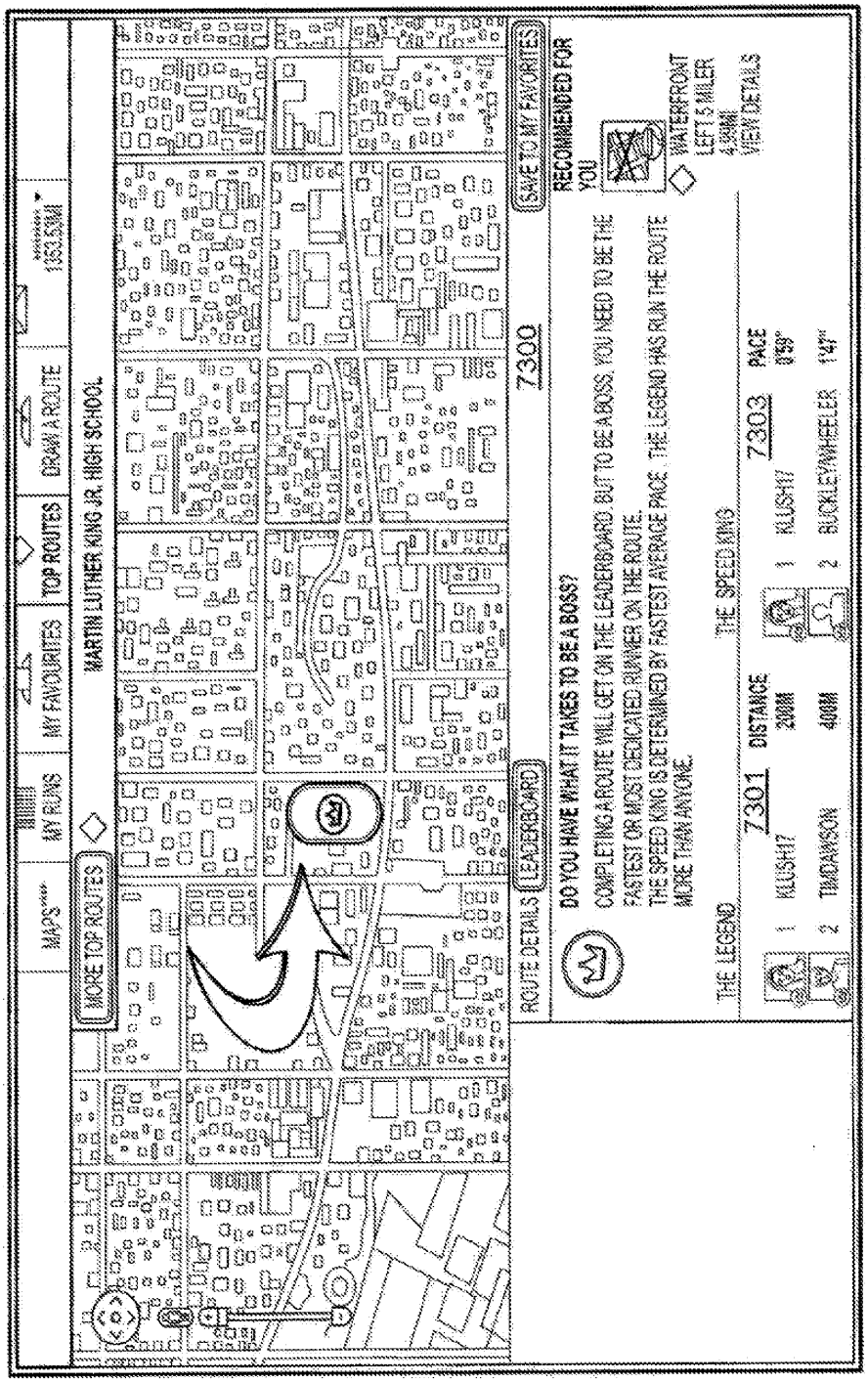


图 73

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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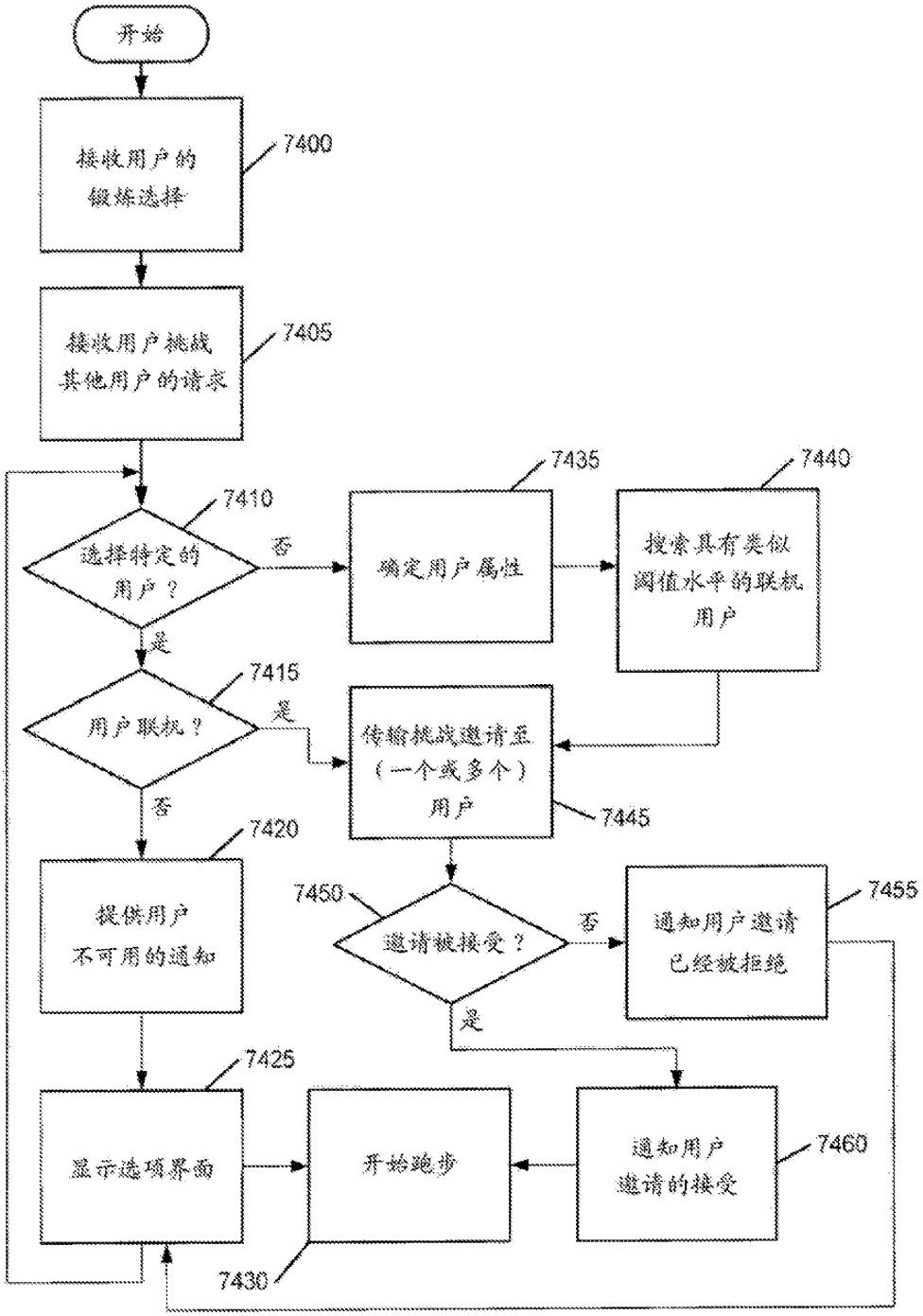


图 74

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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图 75

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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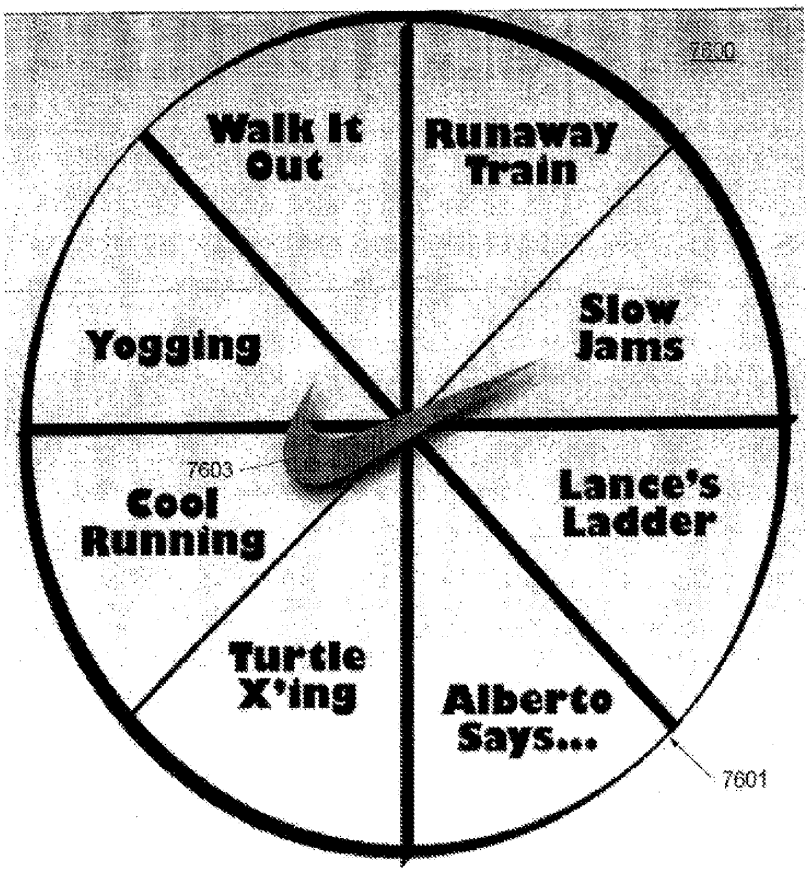


图 76

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	33404431
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Filer Authorized By:	Peter Jung-Hyon Yim
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	08-AUG-2018
Filing Date:	16-JAN-2015
Time Stamp:	03:38:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	080818INTEFSW03384700
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	107649 980278a0e52875caec072564ca4e29a4bc0cfbeb	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	CN_101061484_A.pdf	6996675 eef20b0f43e8dbb5e7da2a7f6d3666572a7275db	no	73
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Information:					
3	Foreign Reference	CN_103154954_A.pdf	22783098 791e84f70d888ef10c70385b02b12dc20fcab74c	no	224
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4	Non Patent Literature	2015800286779_CNOA_05_25_2018.pdf	2539698 c1813a3c44a17a64d54e82f00373cea8358ce019	no	14
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Information:					
		Total Files Size (in bytes):	32458161		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/599,424	01/16/2015	Christopher D. Soli	P23397US3/77770000376103	3136

150004 7590 06/28/2018

DENTONS US LLP - Apple
P.O. Box 061080
Wacker Drive Station, Willis Tower
Chicago, ILLINOIS 60606
UNITED STATES OF AMERICA

EXAMINER	
LAM, ELIZA ANNE	

ART UNIT	PAPER NUMBER
3686	

NOTIFICATION DATE	DELIVERY MODE
06/28/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

dentons_PAIR@firsttofile.com
patents.us@dentons.com

Office Action Summary	Application No. 14/599,424	Applicant(s) Soli et al.	
	Examiner ELIZA A LAM	Art Unit 3686	AIA Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 5/9/2018.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-29 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-29 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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DETAILED CORRESPONDENCE

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-29 is/are rejected under 35 U.S.C. 103 as being unpatentable over U.S. Patent Application Publication 2012/0116550 to *Hoffman* in view of U.S. Patent Application Publication 2012/0310674 to *Faulkner et al.*

As to claim 1, 28, and 29, *Hoffman* discloses a non-transitory computer-readable storage medium storing one or more programs, the one or more programs comprising instructions, which when executed by an electronic device with a display, cause the device to:

Receive information identifying a plurality of approved destinations of wellness data (*Hoffman* [0144]);

display a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from a plurality of approved sources for the sub-category of wellness data (*Hoffman* [0276]): and

a selectable data sharing option (*Hoffman* [0144]):

receive user selection of the selectable data sharing option and in response to receiving the selection of the selectable data sharing option, display (*Hoffman* [0144]);

the plurality of approved source data for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database (*Hoffman* [0133]); and

a plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data (*Hoffman* [0144]).

However, *Hoffman* does not explicitly teach receive information identifying a plurality of approved sources of wellness data and displaying the identification of source data. *Faulkner* discloses a step to receive information identifying a plurality of approved sources of wellness data and displaying the identification of source data (*Faukner* claim 1 and figure 4).

It would have been obvious to one of ordinary skill in the art at the time of the effective filing of the application by Applicant to identify a plurality of source data and display that information as in *Faulkner* in the system of *Hoffman* to allow a user to evaluate a source in context with data so that the user can make decisions regarding reliability or relevance of the data.

As to claim 2, see the discussion of claim 1, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the plurality of approved sources comprise an electronic device or software application (*Hoffman* [0133]).

As to claim 3, see the discussion of claim 1, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the plurality of approved destinations comprise an electronic device or software application (*Hoffman* [0144]).

As to claim 4, see the discussion of claim 1, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the plurality of approved sources are ranked amongst each other (*Hoffman* [0134]).

As to claim 5, see the discussion of claim 1, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to:

identify a first wellness data entry in the wellness database that was received from a first approved source of the plurality of approved sources, the first wellness data entry associated with a first sub-category of wellness data comprising a first timestamp (*Hoffman* [0276]); and

identify a second wellness data entry in the wellness database that was received from a second approved source of the plurality of approved sources, the second wellness data entry comprising the first sub-category of wellness data, and a second timestamp, and wherein the first timestamp is within a threshold length of time from the second timestamp (*Hoffman* [0276]).

As to claim 6, see the discussion of claim 5, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to use the first wellness data entry instead of using the second wellness data entry (*Hoffman* [0133])

As to claim 7, see the discussion of claim 5, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to prioritize the first wellness data entry over the second wellness data entry (*Hoffman* [0133])

As to claim 8, see the discussion of claim 7, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: in accordance with a determination that the first wellness data entry is prioritized over the second wellness data entry, use the first wellness data entry instead of using the second wellness data entry (*Hoffman* [0133])

As to claim 9, see the discussion of claim 5, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the second approved source has been identified by the user as being preferred over the first approved source, and wherein the non-transitory computer-readable storage

medium further comprises instructions to cause the electronic device to prioritize the second wellness data entry over the first wellness data entry (*Hoffman* [0133])

As to claim 10, see the discussion of claim 9, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: in accordance with a determination that the second wellness data entry is prioritized over the first wellness data entry, use the second wellness data entry instead of using the first wellness data entry (*Hoffman* [0133]).

As to claim 11, see the discussion of claim 1, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: display, on the display, a plurality of categories of wellness data stored in the wellness database (*Hoffman* [0276]).

As to claim 12, see the discussion of claim 11, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: detect a selection of a category of wellness data from the displayed plurality of categories of wellness data (*Hoffman* Figure 67E see pace/route toggle); and

in response to detecting the selection of the category of wellness data, display, on the display, one or more sub-categories of the category of wellness data (*Hoffman* Figure 67E see pace/route toggle).

As to claim 15, see the discussion of claim 12, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the detailed view of the sub-category further comprises an input field for entering a wellness data entry, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to:
receive a wellness data entry to be stored in the wellness database that was input into the input field (*Hoffman* [0212]).

As to claim 16, see the discussion of claim 12, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the detailed view of the sub-category further comprises a textual description of the sub-category (*Hoffman* [0133])

As to claim 17, see the discussion of claim 12, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the detailed view of the sub-category further comprises an option to view wellness data entries corresponding to the sub-category, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to: display, on the display, a plurality of wellness data entries corresponding to the sub-category stored in the wellness database (*Hoffman* Figure 67E see pace/route toggle).

As to claim 18, see the discussion of claim 17, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein each of the plurality of wellness data entries comprises a numerical value of the data entry, a timestamp, and an identification of a source of the data entry (*Hoffman* figure 67E).

As to claim 20, see the discussion of claim 12, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: detect a request to reorder the displayed plurality of approved sources (*Hoffman* [0212]); and
in response to detecting the request to reorder the displayed plurality of approved sources, reorder the displayed plurality of approved sources in accordance with the detected request to reorder the displayed plurality of approved sources (*Hoffman* [0212])

As to claim 21, see the discussion of claim 12, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the data sharing interface further comprises options to add an approved destination to the plurality of approved destinations and to remove an approved destination from the plurality of approved destinations (*Hoffman* [0144]).

As to claim 22, see the discussion of claim 11, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to:

receive a search query (*Hoffman* [0294]); and

display, on the display, one or more sub-categories of the plurality of categories that match the search query (*Hoffman* [0294])

However, *Hoffman* does not explicitly teach wherein the displayed one or more sub-categories that match the search query are color-coded based on their respective categories.

However these differences are only found the appearance of the displayed data. The color code is not functionally related to the functions of the system. Thus, this descriptive information will not distinguish the claimed invention from the prior art in terms of patentability, see Cf. In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 40, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different types of visual indicators as taught by *Hoffman* because such information does not functionally relate to the system and merely using different visual appearances from that in the prior art would have been obvious matter of design choice. See In re Kuhle, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975).

As to claim 23, see the discussion of claim 11, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: display, on the display, a source interface comprising a list of known sources (*Hoffman* [0065] and [0158]).

As to claim 24, see the discussion of claim 23, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the source interface further comprises an indicator associated a known source of the known sources that represents a number of new types of wellness data that can be provided by the known source (*Hoffman* [0065] and [0158]).

However, *Hoffman* does not explicitly teach wherein the displayed numerical indicator.

However these differences are only found the appearance of the displayed data. The numerical indicator is not functionally related to the functions of the system. Thus, this descriptive information will not distinguish the claimed invention from the prior art in terms of patentability, see Cf. In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 40, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use different types of indicators as taught by *Hoffman* because such information does not functionally relate to the system and merely using different visual appearances from that in the prior art would have been obvious matter of design choice. See In re Kuhle, 526 F.2d 553, 555, 188 USPQ 7, 9 (CCPA 1975).

As to claim 25, see the discussion of claim 23, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: detect a selection of a known source from the displayed list of known sources (*Hoffman* [0065] and [0158]).

; and

in response to detecting the selection of the known source, display, on the display, a list of types of wellness data that the known source can provide (*Hoffman* [0065] and [0158])..

As to claim 26, see the discussion of claim 25, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium wherein the list of types of wellness data that the known source can provide comprises a selectable option for each of the types of wellness data that the known source can provide to approve or reject the associated type of wellness data (*Hoffman* [0065] and [0158]).

As to claim 27, see the discussion of claim 26, additionally, *Hoffman* discloses the non-transitory computer-readable storage medium further comprising instructions to cause the electronic device to: detect a selection of the selectable option for a type of wellness data that the known source can provide (*Hoffman* [0065] and [0158]); and

in response to detecting the selection of the selectable option, approve or reject the type of wellness data that the known source can provide in accordance with the detected selection of the selectable option (*Hoffman* [0065] and [0158]).

.Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZA ANNE LAM whose telephone number is (571)270-7052. The examiner can normally be reached on Monday-Friday 8-4:30PST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Victoria Shumate can be reached on 313-446-4858. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ELIZA A LAM/
Primary Examiner, Art Unit 3686

Notice of References Cited	Application/Control No. 14/599,424	Applicant(s)/Patent Under Reexamination Soli et al.	
	Examiner ELIZA A LAM	Art Unit 3686	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20120310674-A1	12-2012	Faulkner; Judith R.	G06Q50/22	705/3
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
552 of 2716

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
☐ Claims renumbered in the same order as presented by applicant				☐ CPA		☐ T.D.		☐ R.1.47		
CLAIM		DATE								
Final	Original	01/06/2018	06/22/2018							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
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	28	✓	✓							
	29	✓	✓							

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/599,424	Soli et al.
	Examiner	Art Unit
	ELIZA A LAM	3686

CPC - Searched*		
Symbol	Date	Examiner
G06Q50/22	01/06/2018	EL

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	2	01/06/2018	EL

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Searched EAST and Google Patents	01/06/2018	EL
Updated Search		

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/ELIZA A LAM/ Primary Examiner, Art Unit 3686	

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
554 of 2716

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	20100331145	A1	2010-12-30	Lakovic et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1.	2012-230503	JP	A	2012-11-22	Nippon Telegr & Teleph Corp.	English Abstract Submitted	

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Danish Patent Application No. PA201670656, mailed on May 30, 2018, 5 pages.	
	2.	Office Action received for Japanese Patent Application No. 2016-557650, mailed on April 13, 2018, 9 pages (5 pages of English Translation and 4 pages of Official Copy).	☒
	3.	Summons to Attend Oral Proceedings received for European Patent Application No.15771747.1, mailed on May 25, 2018, 17 pages.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-06-13
Name/Print	Randy Omid	Registration Number	67,439

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Espacenet

Bibliographic data: JP2012230503 (A) — 2012-11-22

HEALTH MANAGEMENT SUPPORT SYSTEM AND USER TERMINAL DEVICE AND SUPPORT SERVER DEVICE THEREOF

Inventor(s): WATANABE SHIGEMICHI; ITO YOSHIHIRO; KONNO MICHIHIRO; MAEDA YUJI ± (WATANABE SHIGEMICHI, ; ITO YOSHIHIRO, ; KONNO MICHIHIRO, ; MAEDA YUJI, ; 渡邊 茂道, ; 伊藤 良浩, ; 今野 理洋, ; 前田 裕二)

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Classification: **- international:** ***G06Q50/22***
- cooperative:

Application number: JP20110097602 20110425 Global Dossier

Priority number(s): JP20110097602 20110425

Also published as: JP5659074 (B2)

Abstract of JP2012230503 (A)

PROBLEM TO BE SOLVED: To support target achievement by effectively maintaining user's exercise motivation.SOLUTION: A control unit 1 of a portable terminal includes a service use restriction control part 16 and an exercise support information generation part 17. The service use restriction control part 16 reads the number of days in which a target of walking amount is achieved, from a user information storage part 43, to determine whether the number of target achievement days reaches a predetermined target number of days. When the number of target achievement days does not reach the target number of days as a result of the determination, a service function is selected from service functions that are in an available state on the basis of use service information and flags stored in the user information storage part 43 and processing for restricting operation of the selected service function is performed.

(19)日本国特許庁(JP)　(12)公開特許公報(A)　(11)特許出願公開番号
特開2012-230503
(P2012-230503A)
(43)公開日　平成24年11月22日(2012.11.22)

(51)Int.Cl.		F I		テーマコード（参考）
G06Q 50/22	(2012.01)	G06F 17/60	126W	

審査請求 未請求　請求項の数 10　ＯＬ　（全 19 頁）

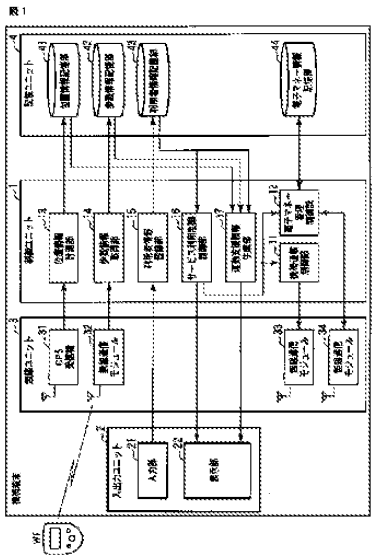
(21)出願番号　特願2011-97602 (P2011-97602)
(22)出願日　平成23年4月25日 (2011.4.25)

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弁理士　野河　信久

最終頁に続く

(54)【発明の名称】健康管理支援システムとその利用者端末装置及び支援サーバ装置

(57)【要約】
【課題】利用者の運動意欲を効果的に維持させることにより目標達成を支援する。
【解決手段】携帯端末の制御ユニット１に、サービス利用制限制御部１６及び運動支援情報生成部１７を設けている。そして、サービス利用制限制御部１６により、利用者情報記憶部４３から歩行量の目標を達成した日数を読込んで、この目標達成日数が予め設定された目標日数に達しているか否かを判定する。この判定の結果、目標達成日数が目標日数に達していなければ、利用者情報記憶部４３に記憶された利用サービス情報及びフラグをもとに、現在利用可能な状態になっているサービス機能の中からサービス機能を選択し、この選択したサービス機能の動作を制限する処理を行う。
【選択図】図１



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【特許請求の範囲】
【請求項１】
支援サーバ装置と、この支援サーバ装置との間で通信ネットワークを介して通信を行う手段、及び少なくとも一つのサービス機能を実行する手段を有する携帯型の利用者端末装置とを具備する健康管理支援システムであって、
利用者が所持するセンサから当該利用者の運動状態を表す情報を取得する手段と、
前記取得された利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第１の目標値と比較する手段と、
前記比較の結果前記運動量の計算結果が第１の目標値に満たないと判定された場合に、前記利用者端末装置が有するサービス機能実行手段を動作制限状態に設定する手段と
を、前記支援サーバ装置及び利用者端末装置に分散して備えることを特徴とする健康管理支援システム。
【請求項２】
前記利用者端末装置が有するサービス機能が動作制限状態に設定されているか否かを表す情報を保存する保存手段と、
前記保存手段に動作制限状態に設定されていることを表す情報が保存されている状態で、新たに取得された前記利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第２の目標値と比較する手段と、
前記比較の結果前記運動量の計算結果が第２の目標値を超えたと判定された場合に、前記動作制限状態を解除する手段と
を、前記支援サーバ装置及び利用者端末装置に分散してさらに備えることを特徴とする請求項１記載の健康管理支援システム。
【請求項３】
前記動作制限状態に設定する手段は、サービス機能実行手段を動作制限状態に設定する前に、その旨の通知メッセージを利用者に提示することを特徴とする請求項１又は２記載の健康管理支援システム。
【請求項４】
前記動作制限状態に設定する手段は、通話機能、メール送受信機能及び電子マネー管理機能のうちの少なくとも一つを利用停止状態に設定することを特徴とする請求項１乃至３のいずれかに記載の健康管理支援システム。
【請求項５】
少なくとも一つのサービス機能を実行する手段を有する携帯型の利用者端末装置であって、
利用者が所持するセンサから当該利用者の運動状態を表す情報を受信する手段と、
前記受信された利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第１の目標値と比較する手段と、
前記比較の結果前記運動量の計算結果が第１の目標値に満たないと判定された場合に、前記利用者端末装置が有するサービス機能実行手段を動作制限状態に設定する手段と
を具備することを特徴とする利用者端末装置。
【請求項６】
少なくとも一つのサービス機能を実行する手段を有する携帯型の利用者端末装置との間で通信ネットワークを介して通信が可能な健康管理支援サーバ装置であって、
利用者が所持するセンサにより検出された当該利用者の運動状態を表す情報を、前記利用者端末装置から前記通信ネットワークを介して受信する手段と、
前記受信された利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第１の目標値と比較する手段と、

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前記比較の結果前記運動量の計算結果が第１の目標値に満たないと判定された場合に、前記利用者端末装置に対し当該利用者端末装置が有するサービス機能実行手段を動作制限状態に設定するための制御信号を送信する手段と
を具備することを特徴とする健康管理支援サーバ装置。
【請求項７】
支援サーバ装置と、この支援サーバ装置との間で通信ネットワークを介して通信を行う手段を有する携帯型の利用者端末装置とを具備する健康管理支援システムであって、
利用者の移動経路を表す情報と、当該利用者の歩行距離目標値を表す情報とを記憶する手段と、
前記利用者の現在位置を表す情報を取得する手段と、
前記利用者が所持するセンサから当該利用者の歩行状態を表す情報を取得する手段と、
前記取得された利用者の歩行状態を表す情報をもとに単位期間における歩行距離を計算し、この計算された単位期間における歩行距離を前記記憶された歩行距離目標値と比較する手段と、
前記比較の結果前記単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、前記記憶された移動経路情報と前記取得された現在位置情報とをもとに、前記歩行距離を前記目標値に近づけるための歩行支援情報を作成する手段と、
前記作成された歩行支援情報を前記利用者に提示する手段と
を、前記支援サーバ装置及び利用者端末装置に分散して備えることを特徴とする健康管理支援システム。
【請求項８】
前記歩行支援情報を作成する手段は、
前記比較の結果単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、当該目標値を満たすために必要な残り歩行距離を算出する手段と、
前記記憶された移動経路情報と、前記取得された現在位置情報と、前記算出された残り歩行距離とをもとに、前記利用者が移動経路の終点に到達するまでの間に前記残り歩行距離を歩行可能か否かを判定する手段と、
前記残り歩行距離を歩行不可能と判定された場合に、前記移動経路情報の一部を変更し、この変更後の移動経路情報を歩行支援情報として出力する手段と
を有することを特徴とする請求項７記載の健康管理支援システム。
【請求項９】
利用者が所持する携帯型の利用者端末装置であって、
利用者の移動経路を表す情報と、当該利用者の歩行距離目標値を表す情報とを記憶する手段と、
前記利用者の現在位置を表す情報を取得する手段と、
前記利用者が所持するセンサから当該利用者の歩行状態を表す情報を取得する手段と、
前記取得された利用者の歩行状態を表す情報をもとに単位期間における歩行距離を計算し、この計算された単位期間における歩行距離を前記記憶された歩行距離目標値と比較する手段と、
前記比較の結果前記単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、前記記憶された移動経路情報と前記取得された現在位置情報とをもとに、前記歩行距離を前記目標値に近づけるための歩行支援情報を作成する手段と、
前記作成された歩行支援情報を前記利用者に提示する手段と
を具備することを特徴とする利用者端末装置。
【請求項１０】
利用者が所持する携帯型の利用者端末装置との間で通信ネットワークを介して通信が可能な健康管理支援サーバ装置であって、
利用者の移動経路を表す情報と、当該利用者の歩行距離目標値を表す情報とを記憶する手段と、
前記利用者端末装置から当該利用者の現在位置を表す情報を前記通信ネットワークを介

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して受信する手段と、
前記利用者が所持するセンサにより検出された当該利用者の運動状態を表す情報を、前記利用者端末装置から前記通信ネットワークを介して受信する手段と、
前記受信された利用者の歩行状態を表す情報をもとに単位期間における歩行距離を計算し、この計算された単位期間における歩行距離を前記記憶された歩行距離目標値と比較する手段と、
前記比較の結果、前記単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、前記記憶された移動経路情報と前記取得された現在位置情報とをもとに、前記歩行距離を前記目標値に近づけるための歩行支援情報を作成する手段と、
前記作成された歩行支援情報を前記通信ネットワークを介して前記利用者端末装置へ送信する手段と
を具備することを特徴とする健康管理支援サーバ装置。
【発明の詳細な説明】
【技術分野】
【０００１】
この発明は、利用者が携帯する利用者端末装置を利用して利用者の健康管理を支援する健康管理支援システムとその利用者端末装置及び支援サーバ装置に関する。
【背景技術】
【０００２】
近年、利用者の健康状態を表す情報を通信ネットワークを利用して収集し、この収集した情報をもとに医療関係者又は運動インストラクタが利用者に対し適切な指示を与えるようにした健康管理支援システムが種々提案されている。
【０００３】
例えば、特許文献１に記載されたシステムは、人体の活動量を測定する活動量計、血圧計及び体重計等のセンサを使用する。そして、サーバ装置が上記各センサからそれぞれ活動量を含む生体情報を受信して記録し、医師が自身の端末で上記記録された生体情報を閲覧することにより、上記生体情報と活動量との関係を把握するものとなっている。
【０００４】
また、特許文献２に記載されたシステムは、保険会社に健康管理装置を設け、この健康管理装置に対し、バイタル情報検出装置により検出された利用者のバイタル情報と、電子カルテ装置が管理する利用者の健康診断の受診の有無を表す情報と、利用状況管理装置が管理する利用者のスポーツクラブ利用回数の情報をそれぞれ報告する。そして、健康管理装置が、バイタル情報の報告が規則的か否かと、健康診断の受診の有無と、スポーツクラブの利用回数を当該利用者のポイントに反映させ、その累計値に基づいて当該利用者の次期保険料を演算するものとなっている。
【０００５】
これらのシステムによれば、医師が健康情報を提供したり或いはインセンティブとしてポイントを提供することで、利用者に対し継続的に健康管理を行うように促すことが可能となる。
【先行技術文献】
【特許文献】
【０００６】
【特許文献１】特開２００６－２５４９４８号公報
【特許文献２】特開２００２－２６３０７１号公報
【発明の概要】
【発明が解決しようとする課題】
【０００７】
ところが、医師が健康情報を提供するシステムは医師の介在が必須要件となり、大掛かりな体制構築と維持が必要となる。一方、インセンティブとしてポイントを提供するシステムは、利用者が健康管理を行う際の動機付けにはなるものの、ポイントが得られなくて

も利用者にとっては通常の生活上で特に不利益が生じるわけではないため、ポイント等に関心が低い利用者に対しては有効とはいえない。

【０００８】

この発明は上記事情に着目してなされたもので、その目的とするところは、利用者の運動意欲を効果的に維持させることにより目標達成を支援する健康管理支援システムとその利用者端末装置及び支援サーバ装置を提供することにある。

【課題を解決するための手段】

【０００９】

上記目的を達成するためにこの発明の第１の観点は、以下のような構成要素を備えている。すなわち、支援サーバ装置と、この支援サーバ装置との間で通信ネットワークを介して通信を行う手段、及び少なくとも一つのサービス機能を実行する手段を有する携帯型の利用者端末装置とを具備する健康管理支援システムにあって、利用者が所持するセンサから当該利用者の運動状態を表す情報を取得する手段と、この取得された利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第１の目標値と比較する手段と、この比較の結果上記運動量の計算結果が第１の目標値に満たないと判定された場合に、上記利用者端末装置が有するサービス機能実行手段を動作制限状態に設定する手段とを、上記支援サーバ装置及び利用者端末装置に分散して備えるようにしたものである。

【００１０】

具体的には、上記動作制限状態に設定する手段により、通話機能、メール送受信機能及び電子マネー管理機能のうちの少なくとも一つを利用停止状態に設定する。

【００１１】

したがって、単位期間における利用者の運動量が第１の目標値を達成できないと、利用者端末装置が備えるサービス機能、例えば通話機能、メール送受信機能或いは電子マネー管理機能が利用停止状態に設定される。このため、利用者が通常の生活上で頻繁に使用する機能の使用が制限されることになるため、これが利用者にとっては目標達成に対する大きな動機付けとなる。また、利用者端末装置と支援サーバ装置のみでシステムを構成できるため、医師の介在が必要な大掛かりなシステムの構築維持は不要となる。

【００１２】

この発明の第１の観点は以下のような態様を備えることも特徴とする。

第１の態様は、利用者端末装置が有するサービス機能が動作制限状態に設定されているか否かを表す情報を保存する保存手段と、この保存手段に動作制限状態に設定されていることを表す情報が保存されている状態で、新たに取得された上記利用者の運動状態を表す情報をもとに当該利用者の単位期間における運動量を計算し、この運動量の計算結果を予め記憶してある第２の目標値と比較する手段と、この比較の結果上記運動量の計算結果が第２の目標値を超えたと判定された場合に上記動作制限状態を解除する手段とを、上記支援サーバ装置及び利用者端末装置に分散してさらに備えるようにしたものである。

【００１３】

したがって、ある単位期間における運動量が第１の目標値に達せずに利用者端末装置のサービス機能の使用が一旦制限されても、その後の単位期間における運動量が第２の目標値を超えると、上記サービス機能の使用制限状態は解除される。このため、利用者にとってはこれが運動に対する動機付けとなる。

【００１４】

第２の態様は、サービス機能の実行手段を動作制限状態に設定する前にその旨の通知メッセージを利用者に提示するようにしたものである。このようにすると、利用者は事前にサービス機能が使用できなくなることを知ることができ、故障と明確に識別することが可能となる。

【００１５】

また、この発明の第２の観点は以下のような構成要素を備えている。すなわち、支援サーバ装置と、この支援サーバ装置との間で通信ネットワークを介して通信を行う手段を有

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する携帯型の利用者端末装置とを具備する健康管理支援システムにあって、利用者の移動経路を表す情報と、当該利用者の歩行距離目標値を表す情報とを記憶する手段と、上記利用者の現在位置を表す情報を取得する手段と、上記利用者が所持するセンサから当該利用者の歩行状態を表す情報を取得する手段と、上記取得された利用者の歩行状態を表す情報をもとに単位期間における歩行距離を計算し、この計算された単位期間における歩行距離を上記記憶された歩行距離目標値と比較する手段と、上記比較の結果上記単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、上記記憶された移動経路情報と上記取得された現在位置情報とをもとに、上記歩行距離を上記目標値に近づけるための歩行支援情報を作成する手段と、上記作成された歩行支援情報を上記利用者に提示する手段とを、上記支援サーバ装置及び利用者端末装置に分散して備えるように構成したものである。

【００１６】

具体的には、単位期間における歩行距離が歩行距離目標値に満たないと判定された場合に、当該目標値を満たすために必要な残り歩行距離を算出し、この算出された残り歩行距離と、予め記憶された利用者の移動経路情報と、利用者の現在位置情報とをもとに、利用者が移動経路の終点に到達するまでの間に上記残り歩行距離を歩行可能か否かを判定する。そして、上記残り歩行距離を歩行不可能と判定された場合に、上記移動経路情報の一部を変更して出力するものである。

【００１７】

したがって、単位期間における歩行距離が目標値に満たないと判定された場合に、歩行距離を目標値に近づけるための歩行支援情報、例えば移動経路の一部が変更された情報が作成されて利用者に提示されることになる。このため、利用者は目標を達成するために有効な具体的な支援情報を受け取ることができ、これにより運動意欲を効果的に維持することが可能となる。

【発明の効果】

【００１８】

すなわちこの発明によれば、利用者の運動意欲を効果的に維持させることにより目標達成を支援する健康管理支援システムとその利用者端末装置及び支援サーバ装置を提供することができる。

【図面の簡単な説明】

【００１９】

【図１】この発明の第１の実施形態に係る利用者端末装置の機能構成を示すブロック図。

【図２】図１に示した利用者端末装置の位置情報記憶部に記憶される位置情報の一例を示す図。

【図３】図１に示した利用者端末装置の歩数情報記憶部に記憶される歩数情報の一例を示す図。

【図４】図１に示した利用者端末装置の利用者情報記憶部に記憶される利用者情報の一例を示す図。

【図５】図１に示した利用者端末装置によるサービス利用制限制御の手順と制御内容を示すフローチャート。

【図６】図１に示した利用者端末装置による運動支援情報生成制御の手順と制御内容を示すフローチャート。

【図７】この発明の第２の実施形態に係る健康管理支援システムの概略構成図。

【図８】図７に示した健康管理支援システムの支援サーバの機能構成を示すブロック図。

【発明を実施するための形態】

【００２０】

以下、図面を参照してこの発明に係わる実施形態を説明する。

［第１の実施形態］

（構成）

図１は、この発明に係る利用者端末装置の第１の実施形態である携帯端末の機能構成を

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示すブロック図である。

携帯端末は、携帯電話機やスマートホン、ＰＤＡ（Personal Digital Assistant）、電子書籍端末からなり、制御ユニット１と、入出力ユニット２と、無線ユニット３と、記憶ユニット４とを備えている。

【００２１】

入出力ユニット２は、キーパッド又はタッチパネル式の入力デバイスからなる入力部２１と、液晶又は有機ＥＬを用いた表示部２２を有する。

無線ユニット３は、ＧＰＳ（Global Positioning System）受信機３１と、３個の無線通信モジュール３２，３３，３４とを備えている。ＧＰＳ受信機３１は、図示しない複数のＧＰＳ衛星から送信されるＧＰＳ信号をそれぞれ受信する。無線通信モジュール３２は、利用者が所持する歩数計ＷＴとの間で無線回線を介して通信可能を行うことで、歩数計ＷＴから歩数の計数値を受信する。無線回線として、例えばBluetooth（登録商標）が用いられる。無線通信モジュール３３は、公衆移動通信ネットワークを介して他の端末との間で通信を行うもので、無線アクセス方式としては例えばＣＤＭＡ（Code Division Multiple Access）が用いられる。無線通信モジュール３４は、Ｆｅｌｉｃａ（登録商標）等の非接触型ＩＣカードで使用されるデータ通信方式を用いて、自動販売機等との間で電子マネーの支払決済のための通信を行う。

【００２２】

記憶ユニット４は、例えばＮＡＮＤ型フラッシュメモリ等の随時書込み読み出しが可能な記憶デバイスを用いたもので、この実施形態を実施する上で必要な記憶部として、位置情報記憶部４１と、歩数情報記憶部４２と、利用者情報記憶部４３と、電子マネー情報記憶部４４を備えている。

【００２３】

位置情報記憶部４１は、携帯端末の位置情報を蓄積するために用いられる。歩数情報記憶部４２は、歩数計ＷＴにより計測された歩数の計数値を蓄積するために用いられる。利用者情報記憶部４３は、この携帯端末の利用者情報を記憶するために用いられる。利用者電子マネー情報記憶部４４は、電子マネーの管理情報を記憶するために用いられる。

【００２４】

制御ユニット１は、中央処理ユニット（Central Processing Unit；ＣＰＵ）と、アプリケーション・プログラムを格納するプログラムメモリと、データを一時記憶するデータメモリとを備え、携帯端末が備える標準的なサービス機能を実現するための制御部として、携帯通信制御部１１と、電子マネー管理制御部１２を有している。

【００２５】

携帯通信制御部１１は、通話機能と、電子メールの送受信を行うメーラと、Ｗｅｂサイトの閲覧等を行うためのブラウザを有する。電子マネー管理制御部１２は、上記電子マネー情報記憶部４４に記憶された利用者認証情報をもとに利用者の認証処理を行った上で、上記電子マネー情報記憶部４４に記憶された電子マネーの残額データに基づいて電子マネーの支払処理を行う機能を有する。

【００２６】

また制御ユニット１は、この実施形態を実施するために必要な制御機能として、位置情報計測部１３と、歩数情報取得部１４と、利用者情報登録部１５と、サービス利用制限制御部１６と、運動支援情報生成部１７を備えている。なお、これらの制御部１３～１７は、先に述べた携帯通信制御部１１及び電子マネー管理制御部１２と共に、プログラムメモリに格納されたアプリケーション・プログラムをＣＰＵに実行させることにより実現される。

【００２７】

位置情報計測部１３は、上記ＧＰＳ受信機３１により受信されたＧＰＳ信号をもとに、利用者端末、つまり利用者の現在位置を表す緯度・経度を算出する。そして、この算出された緯度・経度に計測時刻を付加した位置情報を、上記記憶ユニット４内の位置情報記憶部４１に記憶させる処理を行う。図２はその記憶結果の一例を示す図である。

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【００２８】
歩数情報取得部１４は、無線通信モジュール３２を一定の周期で動作させることで、歩数計ＷＴから歩数の計数値を表すデータを定期的に取得し、この取得した歩数の計数値を表すデータをその計測時刻と関連付けて上記記憶ユニット４内の歩数情報記憶部４２に記憶させる処理を行う。図３はその記憶結果の一例を示す図である。
【００２９】
利用者情報登録部１５は、入力部２１により利用者が入力した利用者の属性情報を、利用者の識別情報（利用者ＩＤ）と関連付けて記憶ユニット４内の利用者情報記憶部４３に記憶させる処理を行う。利用者の属性情報には、利用者の歩幅を表す情報と、単位期間（例えば１日当たり）の目標歩数値と、目標達成回数と、利用者の通勤経路情報と、携帯端末で使用可能なサービス機能の識別情報（サービスＩＤ）と、これらのサービス機能が制限された状態に設定されているか否かを表すフラグが含まれ、このうち目標達成回数及び制限状態フラグを除いた各情報が上記利用者による入力操作により記憶される。図４はこの利用者属性情報の一例を示すものである。
【００３０】
サービス利用制限制御部１６は、利用者情報記憶部４３から歩行量の目標を達成した日数を読込んで、この目標達成日数（目標達成回数）が予め設定された目標日数（目標回数）に達しているか否かを判定する。この判定の結果、目標達成回数が目標回数に達していなければ、利用者情報記憶部４３に記憶された利用サービス情報及びフラグをもとに、現在利用可能な状態になっているサービス機能の中からサービス機能を選択し、この選択したサービス機能の動作を制限する処理を行う。
【００３１】
運動支援情報生成部１７は、例えば１日の中で予め設定された判定タイミングごとに、歩数情報記憶部４２から歩数の計数値を読込み、この読込んだ歩数の計数値を利用者情報記憶部４３に記憶されている歩数の目標値と比較する。そして、この比較の結果、歩数の計数値が目標値に満たない場合に、支援メッセージを生成してこの支援メッセージを表示部２２に表示させる処理を行う。支援メッセージの具体的な作成方法は後述する。
【００３２】
（動作）
利用者情報記憶部４３には、例えば図４に示したように利用者属性情報が予め登録されているものとして説明を行う。
【００３３】
（１）位置情報及び歩数情報の蓄積
歩行を開始すると携帯端末では、位置情報計測部１３の制御の下で、予め決められた周期、例えば１分間隔で、ＧＰＳ受信機３１により受信されたＧＰＳ信号をもとに携帯端末の緯度・経度が計算される。そして、この計算された緯度・経度に現在時刻が付加され、この情報が現在位置情報として位置情報記憶部４１に記憶される。
【００３４】
また、歩数情報取得部１４の制御の下で、予め設定された周期、例えば３０分ごとに、無線通信モジュール３２を起動して歩数計ＷＴからこのときの歩数計数値を表すデータを受信し、この歩数計数値を表すデータを現在時刻情報と関連付けて歩数情報記憶部４２に記憶させる。
【００３５】
（２）サービス機能の利用制限
制御ユニット１は、サービス利用制限制御部１６の制御の下で、以下のようにサービス機能の利用制限処理を実行する。図５はその処理手順と処理内容を示すフローチャートである。
【００３６】
（２－１）利用制限の設定
サービス利用制限制御部１６は、先ずステップＳ１１により現在時刻が制限判定タイミ

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ングになったか否かを監視する。そして、例えば１週間が経過すると、ステップＳ１２において上記利用者情報記憶部４３からその週における目標達成回数Ｌを読込み、この目標達成回数Ｌを予め設定された目標回数Ｎとステップ１３で比較することにより、目標達成回数Ｌが目標回数Ｎに達しているか否かを判定する。すなわち、１週間のうち何日が目標を達成したかを判定する。

【００３７】

この判定の結果、例えばいま目標達成回数Ｌ（Ｌ＝３）であり、目標値Ｎ（Ｎ＝４）に満たなかったとする。すなわち、１週間において歩数の目標を達成した日が３日であり、目標とする４日に達しなかったとする。この場合サービス利用制限制御部１６は、ステップＳ１４により利用者情報記憶部４３から利用サービス情報と当該サービス情報に関連付けられた制限状態フラグを読込む。そして、この読込んだ利用サービス情報と制限状態フラグにより、現在携帯端末において利用可能になっているサービス機能を特定し、この特定されたサービス機能の動作を制限する処理をステップＳ１５において行う。

【００３８】

例えば、いまサービス機能として、通話機能、メーラ、ブラウザ及び電子マネー機能が何れも利用可能になっていたとする。この場合制御ユニット１は、上記通話機能、メーラ及びブラウザと、電子マネー機能のうち、予め設定された制限順位に従い、例えば電子マネー機能を選択する。そして、電子マネー管理制御部１２に対し機能停止要求を送り、当該電子マネー管理制御部１２を動作停止状態に設定する。

【００３９】

またサービス利用制限制御部１６は、上記電子マネー管理制御部１２の動作停止処理に先立ち、その旨の通知メッセージを生成してこの通知メッセージを表示部２２に表示させる。したがって、利用者はこの表示された通知メッセージにより、以後電子マネー管理制御部１２が動作停止状態に設定されることを認識することができる。

【００４０】

さらにサービス利用制限制御部１６は、上記電子マネー管理制御部１２を動作停止状態に設定したのち、当該電子マネーのサービス機能に関連付けられている制限状態フラグを、利用制限していないことを示す“０”から、利用制限中であることを示す“１”に変更する。そして最後に、利用者情報記憶部４３に記憶されている目標達成回数Ｌの値をクリアする。

【００４１】

なお、上記サービス機能の利用制限処理は、必ずしも１週間ごとではなくてもよく、例えば１日ごと、或いは１日のうちの決められた時間ごとに、歩数が目標歩数を超えたか否かを判定し、歩数が目標歩数に満たない場合に実行するようにしてもよい。

【００４２】

（２－２）利用制限の解除

またサービス利用制限制御部１６は、上記サービス機能の利用制限処理後、ステップＳ１６において制限解除判定タイミングになったか否かを監視する。この状態で、例えば上記利用制限処理後１日が経過すると、ステップＳ１７により利用者情報記憶部４３から目標達成回数Ｌを読込み、ステップＳ１８においてこの目標達成回数を基準値Ｍ（Ｍ＝１）と比較してＬ≧Ｍかどうかを判定する。この判定の結果、Ｌ≧Ｍであれば、つまり利用制限処理後の１日における歩行量が目標値に達したとすれば、続いてステップＳ１９により利用者情報記憶部４３から制限状態フラグの値を読込み、このフラグの値により利用制限状態に設定されているサービス機能の有無を判定する。そして、利用制限状態に設定されているサービス機能があれば、ステップＳ２０において当該サービス機能に対する利用制限状態を解除する。例えば、先に述べたように電子マネー機能が利用制限状態に設定されていれば、電子マネー管理制御部１２に対し動作停止解除要求を与えて動作可能状態に復帰させる。

【００４３】

そして、この動作停止状態の設定解除処理後に、サービス利用制限制御部１６はその旨

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の通知メッセージを生成し、この通知メッセージを表示部２２に表示させる。したがって、利用者は再び電子マネー機能が利用可能になったことを確認することができる。またサービス利用制限制御部１６は、利用者情報記憶部４３に記憶されている上記電子マネー機能に関連付けられた制限状態フラグを、利用制限状態を示す“１”から利用可能状態を示す“０”に変更する。

【００４４】

なお、サービス利用制限制御部１６は、上記ステップＳ１８においてＬ＜Ｍと判定された場合には、１日の歩数が目標に達しなかったと判断する。そして、利用者情報記憶部４３に記憶された制限状態フラグをもとに、携帯端末が備える上記各サービス機能のうちまだ利用制限状態に設定されていないサービス機能を選択する。そして、この選択したサービス機能を利用制限状態に設定する。

【００４５】

例えば、上記した例では、通話機能、メーラ、ブラウザ及び電子マネー機能のうち、通話機能、メーラ及びブラウザはまだ利用制限状態に設定されていないので、これらの中から少なくとも一つを、例えばブラウザを選択し、このブラウザを利用できないように設定する。すなわち、歩行量の目標が達成されない日が続くと、サービス機能が順次利用制限状態に設定されることになる。

なお、上記利用制限状態に設定された状態であっても、例えば地震発生時等の緊急時においてサービス利用制限制御部１６は利用制限解除要求を携帯端末へ送信する。このため、携帯端末において通話機能、メーラ、ブラウザ及び電子マネー機能に設定された利用制限状態は強制的に解除され、以後これらのサービス機能は通常通り利用可能となる。

【００４６】

（３）運動支援情報の生成と表示

制御ユニット１は、運動支援情報生成部１７の制御の下で、以下のように運動支援情報の生成・表示処理を実行する。図６はその処理手順と処理内容を示すフローチャートである。

【００４７】

運動支援情報生成部１７は、先ずステップＳ２１により判定タイミングになったか否かを監視する。この状態で、例えば歩数情報記憶部４２に新たな歩数計数値が記憶されると、ステップＳ２２により利用者情報記憶部４３から１日の歩数目標値Ｋと利用者の歩幅を表す情報を読込み、さらにステップＳ２３により歩数情報記憶部４２から上記新たな歩数計数値Ｊを読込む。そして、ステップＳ２４において、上記新たな歩数計数値Ｊを目標値Ｋと比較し、上記新たな歩数計数値Ｊが目標値Ｋに達していなければ、つまりＫ－Ｊ＞０であれば、ステップＳ２５により１日の歩行目標距離に対する残りの歩行距離Ｐを算出する。この残り歩行距離Ｐは、

Ｐ＝歩幅×（Ｋ－Ｊ）

により計算される。

【００４８】

次に運動支援情報生成部１７は、ステップＳ２６により利用者情報記憶部４３から当該利用者の通勤経路情報を読込む。またステップＳ２７により、位置情報記憶部４１から現在位置情報を読込む。そして、ステップＳ２８において、上記通勤経路情報、現在位置情報及び残り歩行距離Ｐをもとに、上記通勤経路上にある駅の中から歩行距離を増やす上で推奨される乗車駅又は降車駅を抽出する。そして、この抽出された乗車駅又は降車駅での乗車又は後者を利用者に薦めるための歩行支援メッセージをステップＳ２９で生成し、この生成した歩行支援メッセージを表示部２２に表示させる。

【００４９】

例えば、現在位置情報と通勤経路情報とから、利用者の現在位置が通勤経路上の乗車駅に近いか或いは降車駅に近いかを判定する。この判定の結果、現在位置が本来の乗車駅に近い場合には、利用者の現在位置から本来の乗車駅までの距離と残り歩行距離Ｐとから、利用者が当該乗車駅まで歩いたと仮定して歩行量の目標を達成できるか否かを判定する。

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そして、達成できないと判断されると、上記通勤経路情報から通勤経路上に存在する次の駅又は次々駅を選択し、この選択された次の駅又は次々駅からの乗車を薦めるための支援メッセージを生成する。すなわち、本来の乗車駅より遠くにある駅まで歩くことを薦める支援メッセージを作成し、表示部２２に表示させる。

【００５０】

一方、現在位置が降車駅に近い場合には、利用者の現在位置から本来の降車駅までの距離と残り歩行距離Ｐとから、利用者が当該降車駅で降車したのち歩いたと仮定して歩行量の目標を達成できるか否かを判定する。そして、達成できないと判断されると、上記通勤経路情報から通勤経路上に存在する一つ手前の駅又はさらに一つ手前の駅を選択し、この選択された一つ手前の駅又はもう一つ手前の駅での降車を薦めるための支援メッセージを生成する。すなわち、本来の降車駅よりも手前にある駅で降車して歩くことを薦める支援メッセージを作成し、表示部２２に表示させる。

このような支援情報が表示されることで、通勤途上において利用者は歩数を増やすためには具体的にどのような行動をとればよいかを知ることが可能となる。

【００５１】

なお、以上述べた例では通勤経路情報から次の乗車候補駅や一つ手前の降車候補駅を選択するようにしたが、通勤経路を含む地図情報を地図情報記憶部に記憶しておき、この地図情報を用いて残り歩行距離Ｐを消化する上で好適な位置に存在する乗車駅又は降車駅を選択するようにしてもよい。

【００５２】

以上詳述したように第１の実施形態では、携帯端末の制御ユニット１にサービス利用制限制御部１６を設けている。そして、サービス利用制限制御部１６により、利用者情報記憶部４３から歩行量の目標を達成した日数を読込んで、この目標達成日数が予め設定された目標日数に達しているか否かを判定する。この判定の結果、目標達成日数が目標日数に達していなければ、利用者情報記憶部４３に記憶された利用サービス情報及びフラグをもとに、現在利用可能な状態になっているサービス機能の中からサービス機能を選択し、この選択したサービス機能の動作を制限する処理を行うようにしている。

【００５３】

したがって、例えば１週間における利用者の歩行距離が目標値に達しないと、携帯端末が備えるサービス機能、例えば通話機能、メーラ、ブラウザ、電子マネー機能が選択的に動作停止状態に設定される。このため、利用者が通常の生活上で頻繁に使用する機能の使用が制限されることになるため、これが利用者にとっては目標達成に対する大きな動機付けとなる。また、サービス機能の使用が制限されたのち、１日における歩行距離が目標値を超えると、上記サービス機能の使用制限状態は解除される。このため、利用者にとってはこれが運動に対する動機付けとなる。

【００５４】

また第１の実施形態では、携帯端末の制御ユニット１に運動支援情報生成部１７を設け、この運動支援情報生成部１７により、例えば１日の中で予め設定された判定タイミングごとに、歩数情報記憶部４２から歩数の計数値を読込み、この読込んだ歩数の計数値を利用者情報記憶部４３に記憶されている歩数の目標値と比較する。そして、歩数の計数値が目標値に満たない場合に、支援メッセージを生成してこの支援メッセージを表示部２２に表示させる処理を行うようにしている。

【００５５】

したがって、歩行距離が目標値に満たないと判定された場合に、歩行距離を目標値に近づけるための歩行支援情報が作成されて利用者に提示されることになる。このため、利用者は目標を達成するために具体的な支援情報を受け取ることができ、これにより運動意欲を効果的に維持することが可能となる。

【００５６】

また第１の実施形態では、この発明を実施するために必要な制御部や記憶部をすべて携帯端末に設けている。このため、支援サーバ装置に頼ることなく、また支援サーバ装置と

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の間の通信ネットワークの通信品質に影響を受けることなく、常に安定した処理が可能となる。

【００５７】

［第２の実施形態］

（構成）

図７は、この発明の第２の実施形態に係る健康管理支援システムの概略構成図である。このシステムは、利用者が所持する携帯端末ＭＴに対し健康機器ＶＳを接続可能とすると共に、携帯端末ＭＴを通信ネットワークＮＷを介して支援サーバＳＶに接続可能としたものである。

【００５８】

通信ネットワークは、ＩＰ（Internet Protocol）網と、このＩＰ網にアクセスするためのアクセス網とから構成される。アクセス網には、携帯電話網、無線ＬＡＮ（Local Area Network）、Bluetooth（登録商標）やWiMAX（登録商標）等の近距離無線データ通信ネットワークが含まれる。

【００５９】

携帯端末ＭＴは、第１の実施形態と同様に携帯電話機やスマートホン，電子書籍端末、ネットブックと呼称される携帯型のパーソナル・コンピュータからなり、各々がアプリケーション・プログラムをＣＰＵに実行させるにより実現される複数種のサービス機能を備えている。

【００６０】

また携帯端末ＭＴは、ＧＰＳを利用して自端末の位置を計測してその位置情報を通信ネットワークＮＷを介して支援サーバＳＶへ送信する機能と、健康機器ＶＳからその計測データを受信してこの各種健康計測データを通信ネットワークＮＷを介して支援サーバＳＶへ転送する機能を備える。

【００６１】

一方、支援サーバＳＶは、例えば通信事業者やスポーツクラブ等が運用するサーバコンピュータからなり、制御ユニット５と、送受信ユニット６と、記憶ユニット７とを備えている。

【００６２】

送受信ユニット６は、制御ユニット５の制御の下で、利用者が使用する各携帯端末ＭＴとの間で通信ネットワークＮＷを介して計測データや運動支援情報等の送受信を行う。

【００６３】

記憶ユニット７は、ハードディスク等の大容量の記憶媒体を用いたもので、この実施形態を実施する上で必要な記憶部として、認証データベース７１と、位置情報データベース７２と、歩数情報データベース７３と、利用者情報データベース７４を備えている。

【００６４】

認証データベース７１には、利用者の認証処理に必要な利用者ＩＤやパスワード等の認証情報が格納されている。位置情報データベース７２は、各携帯端末ＭＴから送られた位置情報を利用者ＩＤと関連付けて蓄積するために用いられる。歩数情報データベース７３は、携帯端末ＭＴから送られた健康機器ＶＳによる計測データを利用者ＩＤと関連付けて蓄積するために用いられる。利用者情報データベース７４は、携帯端末ＭＴから送られる各利用者の属性情報を利用者ＩＤと関連付けて記憶するために用いられる。

【００６５】

制御ユニット５は、中央処理ユニット（Central Processing Unit；ＣＰＵ）と、アプリケーション・プログラムを格納するプログラムメモリと、データを一時記憶するデータメモリとを備え、この実施形態を実施するために必要な制御機能として、利用者認証部５１と、位置情報取得制御部５２と、歩数情報取得制御部５３と、利用者情報取得制御部５４と、サービス利用制限制御部５５と、運動支援情報送信制御部５６を備えている。なお、これらの制御部５１～５６は、何れもプログラムメモリに格納されたアプリケーション・プログラムを上記ＣＰＵに実行させることにより実現される。

【００６６】
利用者認証部５１は、認証データベース７１に記憶された認証情報を用いて、利用者の携帯端末ＭＴとの間で利用者の認証処理を行う機能を有する。
位置情報取得制御部５２は、各利用者の携帯端末ＭＴに対し任意の時間間隔で位置情報の送信要求を送り、この送信要求に対し携帯端末ＭＴから送信される位置情報を送受信ユニット６を介して受信する。そして、この受信した位置情報を利用者ＩＤと関連付けて位置情報データベース７２に記憶させる処理を行う。
【００６７】
歩数情報取得制御部５３は、各携帯端末ＭＴに対し任意の時間間隔で歩数情報の送信要求を送り、この送信要求に対し携帯端末ＭＴから送信される歩数情報を送受信ユニット６を介して受信する。そして、この受信した歩数情報を利用者ＩＤと関連付けて位置情報データベース７２に記憶させる処理を行う。なお、必要に応じて、健康機器ＶＳにより得られた歩数情報以外の健康情報を取得することも可能である。
【００６８】
利用者情報取得制御部５４は、携帯端末ＭＴにおいて利用者が入力した利用者の属性情報を当該携帯端末ＭＴから受信し、この受信された利用者属性情報を利用者の識別情報（利用者ＩＤ）と関連付けて記憶ユニット７内の利用者情報データベース７４に記憶させる処理を行う。利用者の属性情報には、第１の実施形態と同様に、利用者の歩幅を表す情報と、単位期間（例えば１日当たり）の目標歩数値と、目標達成回数と、利用者の通勤経路情報と、携帯端末で使用可能なサービス機能の識別情報（サービスＩＤ）と、これらのサービス機能が制限された状態に設定されているか否かを表すフラグが含まれる。このうち、目標達成回数及び制限状態フラグを除いた各情報が上記利用者により入力される。
【００６９】
サービス利用制限制御部５５は、利用者ごとに、利用者情報データベース７４から歩行量の目標を達成した日数、つまり目標達成回数を読込み、この目標達成回数が予め設定された目標日数（目標回数）に達しているか否かを判定する。この判定の結果、目標達成回数が目標回数に達していなければ、利用者情報データベース７４に記憶された利用サービス情報及びフラグをもとに、現在利用可能な状態になっているサービス機能の中からサービス機能を選択し、この選択したサービス機能の動作を制限するための制御信号を送受信ユニット６から該当する利用者の携帯端末ＭＴへ送信する処理を行う。
【００７０】
運動支援情報送信制御部５６は、利用者ごとに、例えば１日の中で予め設定された判定タイミングにおいて歩数情報データベース７３から歩数の計数値を読込み、この読込んだ歩数の計数値を利用者情報データベース７４に記憶されている歩数の目標値と比較する。そして、この比較の結果、歩数の計数値が目標値に満たない場合に支援メッセージを生成し、この生成した支援メッセージを送受信ユニット６から該当する利用者の携帯端末ＭＴへ送信する処理を行う。
【００７１】
（動作）
このような構成であるから、各携帯端末ＭＴにおいて計測された位置情報は通信ネットワークＮＷを介して支援サーバ装置ＳＶに送られ、位置情報データベース７２に蓄積される。また、健康機器ＶＳの歩数計により計測された各利用者の歩行計数値も、各携帯端末ＭＴから通信ネットワークＮＷを介して支援サーバ装置ＳＶに送られ、歩数情報データベース７３に蓄積される。
【００７２】
支援サーバ装置ＳＶでは、制御ユニット５がサービス利用制限制御部５５の制御の下で、各利用者の携帯端末ＭＴについてそれぞれサービス機能の利用制限処理を実行する。その処理手順と処理内容は第１の実施形態において図５に述べたものと同様である。
【００７３】
すなわち、１週間ごとに上記利用者情報データベース７４からその週における目標達成

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回数Ｌを読込み、この目標達成回数Ｌを予め設定された目標回数Ｎと比較することにより、目標達成回数Ｌが目標回数Ｎに達しているか否かを判定する。そして、目標達成回数Ｌが目標値Ｎに満たなかったとすると、利用者情報データベース７４から利用サービス情報と当該サービス情報に関連付けられた制限状態フラグを読込み、この読込んだ利用サービス情報と制限状態フラグにより、該当する携帯端末ＭＴにおいて利用可能になっているサービス機能のうち特定のサービス機能の利用を制限するための処理を実行する。

【００７４】

例えば、通話機能、メーラ、ブラウザ及び電子マネー機能が何れも利用可能になっていれば、これらの通話機能、メーラ、ブラウザ、電子マネー機能のうち、予め設定された制限順位に従い、例えば電子マネー機能を選択する。そして、この選択した電子マネー機能を機能停止状態に設定するための制御信号と通知メッセージを生成し、これらの制御信号及び通知メッセージを送受信ユニット６から該当する携帯端末ＭＴへ送信する。この結果、携帯端末ＭＴでは、上記制御信号に従い電子マネー管理制御部が動作停止状態に設定され、同時に電子マネー機能が利用停止状態になった旨の通知メッセージが表示部に表示される。

【００７５】

さらにサービス利用制限制御部５５は、上記動作停止状態に設定した電子マネーのサービス機能に関連付けられている制限状態フラグを、利用制限していないことを示す“０”から、利用制限中であることを示す“１”に変更する。そして、最後に利用者情報データベース７４に記憶されている目標達成回数Ｌの値をクリアする。

【００７６】

なお、上記利用制限状態に設定されたサービス機能の利用制限を解除する処理も、支援サーバＳＶにおいてサービス利用制限制御部５５の制御の下で行われる。その処理手順と処理内容は第１の実施形態と同様である。

特に、サービス機能が利用制限状態に設定された状態において、例えば地震発生時等の緊急時にサービス利用制限制御部５５が利用制限解除要求を携帯端末へ送信することにより、通話機能、メーラ、ブラウザ及び電子マネー機能等のサービス機能に対し設定された利用制限状態は強制的に解除される。このため、緊急時においては上記サービス機能は通常通り利用可能となる。

【００７７】

また、支援サーバ装置ＳＶでは、制御ユニット５が運動支援情報送信制御部５６の制御の下で、各携帯端末ＭＴに対し以下のように運動支援情報の生成・送信制御を実行する。その処理手順と処理内容は第１の実施形態において図６に述べたものと同じである。

【００７８】

すなわち、歩数情報データベース７３にある利用者の新たな歩数計数値が記憶されると、歩数情報データベース７３から上記利用者の新たな歩数計数値Ｊを読込み、さらに利用者情報データベース７４から当該利用者の１日における歩数目標値Ｋと利用者の歩幅を表す情報を読込む。そして、上記新たな歩数計数値Ｊを目標値Ｋと比較し、上記新たな歩数計数値Ｊが目標値Ｋに達していなければ、つまりＫ－Ｊ＞０であれば、１日の歩行目標距離に対する残りの歩行距離Ｐを算出する。この残り歩行距離Ｐは、

Ｐ＝歩幅×（Ｋ－Ｊ）

により計算される。

【００７９】

次に運動支援情報送信制御部５６は、利用者情報データベース７４から当該利用者の通勤経路情報を読込むと共に、位置情報データベース７２から現在位置情報を読込む。そして、上記通勤経路情報、現在位置情報及び残り歩行距離Ｐをもとに、上記通勤経路上にある駅の中から歩行距離を増やす上で推奨される乗車駅又は降車駅を抽出する。そして、この抽出された乗車駅又は降車駅での乗車又は後者を利用者に薦めるための歩行支援メッセージを生成し、この生成した歩行支援メッセージを送受信ユニット６から該当する携帯端末ＭＴへ送信する。この歩行支援メッセージの送信には、例えば電子メールが用いられる

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【００８０】

例えば、現在位置情報と通勤経路情報とから、利用者の現在位置が通勤経路上の乗車駅に近いか或いは降車駅に近いかを判定する。この判定の結果、現在位置が本来の乗車駅に近い場合には、利用者の現在位置から本来の乗車駅までの距離と残り歩行距離Ｐとから、利用者が当該乗車駅まで歩いたと仮定して歩行量の目標を達成できるか否かを判定する。そして、達成できないと判断されると、上記通勤経路情報から通勤経路上に存在する次の駅又は次々駅を選択し、この選択された次の駅又は次々駅からの乗車を薦めるための歩行支援メッセージを生成する。すなわち、本来の乗車駅より遠くにある駅まで歩くことを薦める歩行支援メッセージを生成する。そして、この生成された歩行支援メッセージを送受信ユニット６から該当する携帯端末ＭＴへ送信する。

【００８１】

この結果、携帯端末ＭＴでは上記歩行支援メッセージが表示部に表示され、利用者はこの歩行支援メッセージにより具体的な支援情報を受け取ることができ、これにより運動意欲を効果的に維持することが可能となる。

一方、現在位置が降車駅に近い場合には、利用者の現在位置から本来の降車駅までの距離と残り歩行距離Ｐとから、利用者が当該降車駅で降車したのち歩いたと仮定して歩行量の目標を達成できるか否かを判定する。そして、達成できないと判断されると、上記通勤経路情報から通勤経路上に存在する一つ手前の駅又はさらに一つ手前の駅を選択し、この選択された一つ手前の駅又はもう一つ手前の駅での降車を薦めるための支援メッセージを生成する。すなわち、本来の降車駅よりも手前にある駅で降車して歩くことを薦める歩行支援メッセージを作成し、この歩行支援メッセージを携帯端末ＭＴへ送信し表示させる。

このような支援情報が表示されることで、通勤途上において利用者は歩数を増やすためには具体的にどのような行動をとればよいかを知ることが可能となる。

【００８２】

なお、以上述べた例では通勤経路情報から次の乗車候補駅や一つ手前の降車候補駅を選択するようにしたが、通勤経路を含む地図情報を地図情報データベースに記憶しておき、この地図情報と現在位置情報を用いて残り歩行距離Ｐを消化する上で好適な位置に存在する乗車駅又は降車駅を選択するようにしてもよい。

【００８３】

以上詳述したように第２の実施形態では、支援サーバＳＶにサービス利用制限制御部５５と運動支援情報送信制御部５６を設け、これらの制御部によりそれぞれ利用者の歩行距離に応じた携帯端末ＭＴのサービス機能の動作制限処理と、運動支援情報の生成及び送信処理を行うようにしている。

【００８４】

したがって、前記第１の実施形態と同様に利用者に対し運動に対する動機付けを効果的に行うことができる。しかも、実施形態を実施するために必要なすべての制御機能及びデータベースを支援サーバＳＶに設けているので、ＣＰＵの処理能力が低かったり、メモリ容量の少ない携帯端末であっても、この実施形態をスムーズに実施することができる利点がある。

【００８５】

［その他の実施形態］

この発明を実施する上で必要な各機能を、第１の実施形態では利用者端末装置としての携帯端末に、第２の実施形態では支援サーバ装置にそれぞれ設けた場合を示した。しかし、上記各機能を利用者端末装置及び支援サーバ装置に分散して設けてもよい。この場合、どの機能を支援サーバ装置に設けるかは任意であるが、一般に利用者端末装置は支援サーバ装置に比べ記憶容量が少ないため、位置情報記憶部や歩数情報記憶部、地図情報記憶部等のように記憶データ量が多くなる記憶部は支援サーバ装置に設ける方がよい。

【００８６】

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また、第１及び第２の実施形態では歩数の計数値に基づいてサービス機能の利用制限処理を行う場合を例にとって説明したが、歩数だけでなく体重等の他の健康情報と組み合わせて利用制限を行うか否かを判断するようにしてもよい。

例えば、体重を目標にした場合には、

目標との体重差＝（目標体重－現在の体重）＞０

と判定された段階で、サービス機能の一部を利用制限する。

【００８７】

その他にも、測定可能な健康情報を用いて同様に目標と実績との差分からサービス機能の利用制限を行うことで、利用者の目標達成に向けた動機を強くすることが可能である。また、これらの健康情報は単独で利用手段を制限するだけでなく、歩数と体重のように複数組み合わせて実施することも可能である。利用制限処理を実施するか否かの判定方法についても、目標と実績との単なる差分だけでなく、より複雑な方法で判定してもよい。

【００８８】

第１及び第２の実施形態は、利用者端末装置が備えるサービス機能のうち通話機能、メーラ、ブラウザ及び電子マネー機能を利用制限処理の対象としたが、他に撮影機能や映像・音楽再生機能、ゲーム機能を制限対象としてもよい。

また、第１及び第２の実施形態では、サービス機能の利用を制限する場合を説明したが、応用例として、利用者が目標を達成し続けた場合には逆に通話機能を利用できる時間を長くしたり、電子現金として利用できる金額を増やすといった形で利用者が目標を達成した度合いに応じて、利用できる機能や幅を追加していくことも考えられる。

【００８９】

さらに、この発明に係るシステムを活用した応用例として、例えば過食を抑制できず、体重を減らすため入院し、運動療法や食事療法により体重減少を達成するが、退院後自己管理できず再び入院するような患者に適用することで、大きな効果を発揮するものと考えられる。同様に、糖尿病を患い、インシュリンによる血糖管理を行っているにもかかわらず、食事療法や運動療法による治療が継続できない患者に適用する場合にも、大きな効果を発揮するものと考えられる。さらには、歩数、体重などの健康情報管理に利用するだけでなく、禁煙、禁酒ができないといった利用者に対しては、健康情報計測手段によって例えば血中のニコチン濃度やアルコール濃度を計測し、達成目標を利用者情報記憶部又はデータベースに登録しておくことにより、一定の目標を達成しない限り、利用者が必要とする手段を制限することでこれまで難しかった禁煙、禁酒を実現するといったことにも利用できると考えられる。

【００９０】

要するにこの発明は、上記各実施形態そのままに限定されるものではなく、実施段階ではその要旨を逸脱しない範囲で構成要素を変形して具体化できる。また、上記各実施形態に開示されている複数の構成要素の適宜な組み合せにより種々の発明を形成できる。例えば、各実施形態に示される全構成要素から幾つかの構成要素を削除してもよい。さらに、異なる実施形態に亘る構成要素を適宜組み合せてもよい。

【符号の説明】

【００９１】

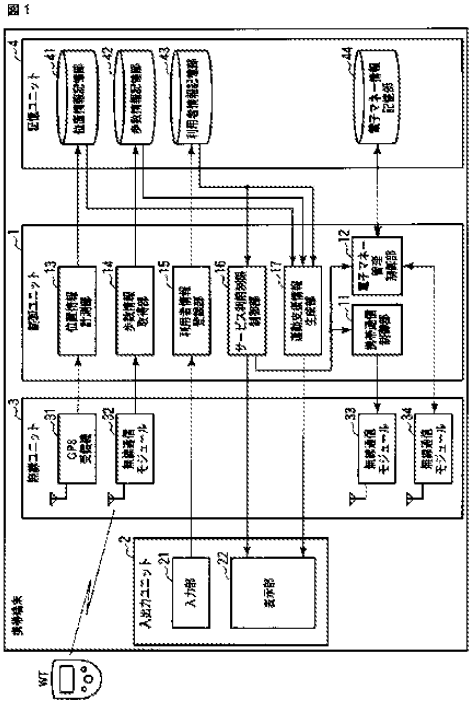
ＶＳ…バイタルセンサ、ＭＴ…携帯端末装置、ＳＶ…健康管理支援サーバ、１…利用者端末装置の制御ユニット、２…利用者端末装置の入出力ユニット、３…利用者端末装置の無線ユニット、４…利用者端末装置の記憶ユニット、５…支援サーバの制御ユニット、６…支援サーバの送受信ユニット、７…支援サーバの記憶ユニット、１１…携帯通信制御部、１２…電子マネー管理制御部、１３…位置情報計測部、１４，５３…歩数情報取得部、１５…利用者情報登録部、１６，５５…サービス利用制限制御部、１７…運動支援情報生成部、２１…入力部、２２…表示部、３１…ＧＰＳ受信機、３２，３３，３４…無線通信モジュール、４１…位置情報記憶部、４２…歩数情報記憶部、４３…利用者情報記憶部、４４…電子マネー情報記憶部、５１…利用者認証部、５２…位置情報取得制御部、５３…歩数情報取得制御部、５４…運動支援情報送信制御部、７１…認証データベース、７２…

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位置情報データベース、７３…歩数情報データベース、７４…利用者情報データベース、４４…電子マネー情報データベース。

【図１】

図１



【図２】

図２

<位置情報の記憶例>

計測時刻	緯度	経度
2011/04/18 15：00：00	35.681382	139.76604
2011/04/18 15：01：00	35.681383	139.76603
⋮	⋮	⋮

【図３】

図３

<歩数情報の記憶例>

取得時刻	歩数値
2011/04/18 15：00：00	1256
2011/04/19 15：30：00	3200
⋮	⋮

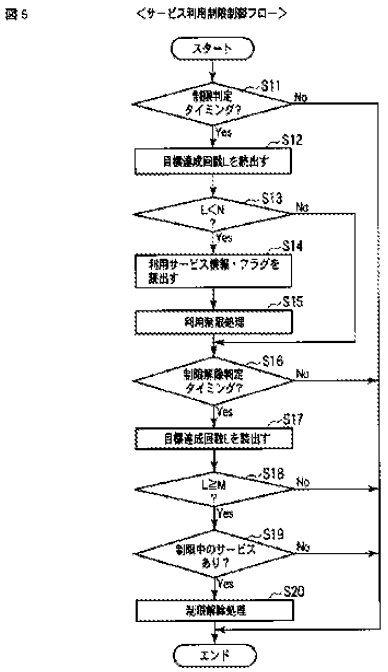
【図４】

図４

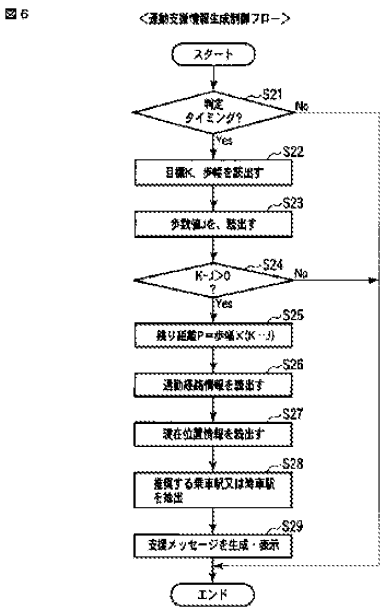
<利用者情報の記憶例>

利用者ID	歩幅[cm]	目標	目標達成回数	通勤経路情報	利用サービス情報	制限状態フラグ
01	50	5000	3	ルート1	サービス1 サービス2 ⋮	0 0 ⋮

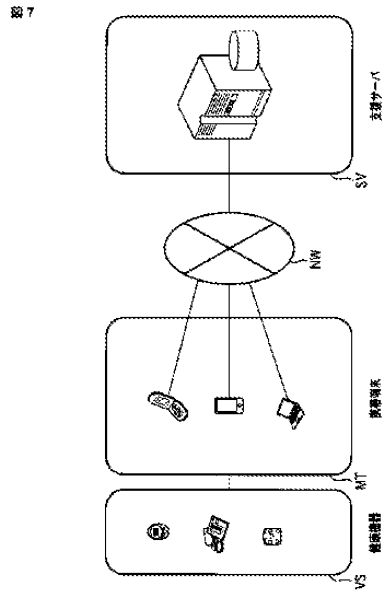
【図５】


図５
<サービス利用制限制御フロー>
スタート
制限判定タイミング?
S11
No
Yes
目標達成回数Lを読出す
S12
L<N ?
S13
No
Yes
利用サービス情報・プログラムを読出す
S14
利用制限処理
S15
制限解除判定タイミング?
S16
No
Yes
目標達成回数Lを読出す
S17
L≧M ?
S18
No
Yes
制限中のサービスあり?
S19
No
Yes
制限解除処理
S20
エンド

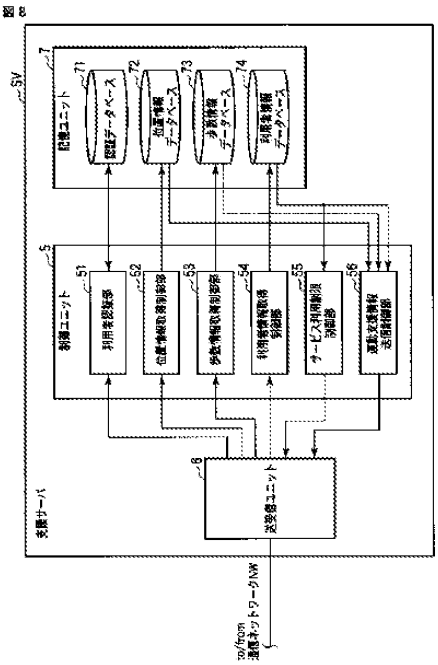
【図６】


図６
<運動支援情報生成制御フロー>
スタート
判定タイミング?
S21
No
Yes
目標K、歩幅を読出す
S22
歩数値Jを、読出す
S23
K-J>0 ?
S24
No
Yes
残り距離P=歩幅×(K…J)
S25
運動経路情報を読出す
S26
現在位置情報を読出す
S27
推奨する乗車駅又は降車駅を抽出
S28
支援メッセージを生成・表示
S29
エンド

【図７】


図７
支援サーバ
SV
NW
携帯端末
MT
情報端末
VS

【図８】


図８
SV
7
記憶ユニット
71
登録データベース
72
位置情報データベース
73
歩数情報データベース
74
利用者情報データベース
5
制御ユニット
51
利用者認証部
52
位置情報取得制御部
53
歩数情報取得制御部
54
利用者情報取得制御部
55
サービス利用制限制御部
56
運動支援情報送信制御部
8
送受信ユニット
支援サーバ
to/from 通信ネットワークNW

フロントページの続き

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Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Raminder Singh				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	32880895
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Raminder Singh
Filer Authorized By:	Peter Jung-Hyon Yim
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	13-JUN-2018
Filing Date:	16-JAN-2015
Time Stamp:	07:20:57
Application Type:	Utility under 35 USC 111(a)

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RAM confirmation Number	061318INTEFSW07220700
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	120022 579fdb210b3ee0895760c48a478a15530a761110	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	JP_2012230503_A.pdf	1797623 cefb464dd746c0398cc10fbe31bda0a2cb4d784f	no	20
Warnings:					
Information:					
3	Non Patent Literature	PA201670656_DKOA_05_30_2018.pdf	865187 3617149406 5f00b0db2f7ec03aa98e36e9933a8d	no	5
Warnings:					
Information:					
4	Non Patent Literature	2016557650_JPOA_04_13_2018.pdf	1894954 89a68830b8795dd831e2c0ef39a3cf370df29508	no	9
Warnings:					
Information:					
5	Non Patent Literature	157717471_STAOP_05_25_2018.pdf	1045667 4c79bcc4d1ffa27671598c8551e2b4df057a399e	no	17
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	30709 4ba5b34d589bfe81e54d8e1e30bb99d4b9d8a6d1	no	2
Warnings:					

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Total Files Size (in bytes):	5754162

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T[5]

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Notice of Acceptance received for Australian Patent Application No. 2015267240, mailed on April 10, 2018, 3 pages.	
	2.	Office Action received for European Patent Application No. 13811085.3, mailed on April 20, 2018, 15 pages	
	3.	Office Action received for European Patent Application No. 18154145.9, mailed on April 03, 2018, 6 pages.	

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-05-23
Name/Print	Randy Omid	Registration Number	67,439

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
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Pages:					
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Extension-of-Time:					

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Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	32698712
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Filer Authorized By:	Peter Jung-Hyon Yim
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	116043 6927f6e5ca8e406072f03ac3e9bae44bcd450046	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	2015267240_AUNOA_04_10_2018.pdf	215106 b1d5e3aaf2f03dfdc7f5eeda31be9016c67d7880	no	3
Warnings:					
Information:					
3	Non Patent Literature	138110853_EPOA_04_20_2018.pdf	614421 777244dfdb28ded5001ffa10a1a9c9fb90359312	no	15
Warnings:					
Information:					
4	Non Patent Literature	181541459_EPOA_04_03_2018.pdf	387101 acd9217afcad1477d6ad8aa21cb484d1230bb795	no	6
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	31041 61af9c0598560fafd84900397ce936c814c9927e	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1363712		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this paper is being transmitted via the Office electronic filing system in accordance with 37 CFR § 1.6(a)(4).

Dated: May 9, 2018
Electronic Signature for Morgan Adams: /Morgan Adams/

Docket No.: P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Christopher D. SOLI et al.

Application No.: 14/599,424 Confirmation No.: 3136

Filed: January 16, 2015 Art Unit: 3686

For: WELLNESS AGGREGATOR Examiner: LAM, ELIZA ANNE

AMENDMENT IN RESPONSE TO NON-FINAL OFFICE ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

INTRODUCTORY COMMENTS

This is in response to the non-final Office Action dated January 17, 2018 (hereinafter "Office Action"), for which a response was due on April 17, 2018. Filed herewith is the fee for a one-month extension of time, thereby extending the deadline to May 17, 2018. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims in light of the remarks presented herein are respectfully requested.

Amendment to the Claims begin on page 2 of this paper.

Remarks/Arguments begin on page 9 of this paper.

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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A non-transitory computer-readable storage medium storing one or more programs, the one or more programs comprising instructions, which when executed by an electronic device with a display, cause the device to:

receive information identifying a plurality of approved sources of wellness data;

receive information identifying a plurality of approved destinations of wellness data;

display a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from [[a]] the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receive user selection of the selectable data sharing option; and

in response to receiving the selection of the selectable data sharing option, display:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

[[a]] the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

2. (Original) The non-transitory computer-readable storage medium of claim 1, wherein the plurality of approved sources comprise an electronic device or software application.

3. (Original) The non-transitory computer-readable storage medium of claim 1, wherein the plurality of approved destinations comprise an electronic device or software application.

4. (Original) The non-transitory computer-readable storage medium of claim 1, wherein the plurality of approved sources are ranked amongst each other.

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5. (Previously Presented) The non-transitory computer-readable storage medium of claim 1, further comprising instructions to cause the electronic device to:

identify a first wellness data entry in the wellness database that was received from a first approved source of the plurality of approved sources, the first wellness data entry associated with a first sub-category of wellness data comprising a first timestamp; and

identify a second wellness data entry in the wellness database that was received from a second approved source of the plurality of approved sources, the second wellness data entry comprising the first sub-category of wellness data, and a second timestamp, and wherein the first timestamp is within a threshold length of time from the second timestamp.

6. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to use the first wellness data entry instead of using the second wellness data entry.

7. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the first approved source has been identified by the user as being preferred over the second approved source, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to prioritize the first wellness data entry over the second wellness data entry.

8. (Original) The non-transitory computer-readable storage medium of claim 7, further comprising instructions to cause the electronic device to: in accordance with a determination that the first wellness data entry is prioritized over the second wellness data entry, use the first wellness data entry instead of using the second wellness data entry

9. (Original) The non-transitory computer-readable storage medium of claim 5, wherein the second approved source has been identified by the user as being preferred over the first approved source, and wherein the non-transitory computer-readable storage medium further

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comprises instructions to cause the electronic device to prioritize the second wellness data entry over the first wellness data entry.

10. (Original) The non-transitory computer-readable storage medium of claim 9, further comprising instructions to cause the electronic device to: in accordance with a determination that the second wellness data entry is prioritized over the first wellness data entry, use the second wellness data entry instead of using the first wellness data entry.

11. (Original) The non-transitory computer-readable storage medium of claim 1, further comprising instructions to cause the electronic device to:

display, on the display, a plurality of categories of wellness data stored in the wellness database.

12. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

detect a selection of a category of wellness data from the displayed plurality of categories of wellness data; and

in response to detecting the selection of the category of wellness data, display, on the display, one or more sub-categories of the category of wellness data.

13. (Canceled)

14. (Canceled)

15. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises an input field for entering a wellness data entry, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to:

receive a wellness data entry to be stored in the wellness database that was input into the input field.

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16. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises a textual description of the sub-category.

17. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the detailed view of the sub-category further comprises an option to view wellness data entries corresponding to the sub-category, and wherein the non-transitory computer-readable storage medium further comprises instructions to cause the electronic device to:

display, on the display, a plurality of wellness data entries corresponding to the sub-category stored in the wellness database.

18. (Original) The non-transitory computer-readable storage medium of claim 17, wherein each of the plurality of wellness data entries comprises a numerical value of the data entry, a timestamp, and an identification of a source of the data entry.

19. (Canceled)

20. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, further comprising instructions to cause the electronic device to:

detect a request to reorder the displayed plurality of approved sources; and

in response to detecting the request to reorder the displayed plurality of approved sources, reorder the displayed plurality of approved sources in accordance with the detected request to reorder the displayed plurality of approved sources

21. (Previously Presented) The non-transitory computer-readable storage medium of claim 12, wherein the data sharing interface further comprises options to add an approved destination to the plurality of approved destinations and to remove an approved destination from the plurality of approved destinations.

22. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

receive a search query; and

display, on the display, one or more sub-categories of the plurality of categories that match the search query, wherein the displayed one or more sub-categories that match the search query are color-coded based on their respective categories.

23. (Original) The non-transitory computer-readable storage medium of claim 11, further comprising instructions to cause the electronic device to:

display, on the display, a source interface comprising a list of known sources.

24. (Original) The non-transitory computer-readable storage medium of claim 23, wherein the source interface further comprises a numerical indicator associated a known source of the known sources that represents a number of new types of wellness data that can be provided by the known source.

25. (Original) The non-transitory computer-readable storage medium of claim 23, further comprising instructions to cause the electronic device to:

detect a selection of a known source from the displayed list of known sources; and

in response to detecting the selection of the known source, display, on the display, a list of types of wellness data that the known source can provide.

26. (Original) The non-transitory computer-readable storage medium of claim 25, wherein the list of types of wellness data that the known source can provide comprises a selectable option for each of the types of wellness data that the known source can provide to approve or reject the associated type of wellness data.

27. (Original) The non-transitory computer-readable storage medium of claim 26, further comprising instructions to cause the electronic device to:

detect a selection of the selectable option for a type of wellness data that the known source can provide; and

in response to detecting the selection of the selectable option, approve or reject the type of wellness data that the known source can provide in accordance with the detected selection of the selectable option.

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28. (Currently Amended) A computer-implemented method comprising:

at an electronic device:

receiving information identifying a plurality of approved sources of wellness data;

receiving information identifying a plurality of approved destinations of wellness data;

displaying a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from [[a]] the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receiving user selection of the selectable data sharing option; and

in response to receiving the selection of the selectable data sharing option, displaying:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

[[a]] the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

29. (Currently Amended) An electronic device comprising:

a display;

a memory; and

a processor coupled to the display and the memory, the processor configured to:

receive information identifying a plurality of approved sources of wellness data;

receive information identifying a plurality of approved destinations of wellness data;

display a detailed view of a sub-category of wellness data, the detailed view comprising:

a graph representation of the sub-category of wellness data that includes aggregated values of the sub-category of wellness data, wherein the sub-category of wellness data is from [[a]] the plurality of approved sources for the sub-category of wellness data; and

a selectable data sharing option;

receive user selection of the selectable data sharing option; and

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in response to receiving the selection of the selectable data sharing option, display:

the plurality of approved sources for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be received from the plurality of approved sources and stored in a wellness database; and

[[a]] the plurality of approved destinations for the sub-category of wellness data, wherein the sub-category of wellness data is approved to be accessed from the wellness database by the plurality of approved destinations of wellness data.

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REMARKS

I. Status of the Claims

Claims 1-12, 15-18, and 20-29 were pending. As noted above, claims 1, 28, and 29 have been amended. Support for these amendments may be found throughout the Specification, for example, at least at paragraph [0011], [0012], [0306], [0307], and [0400], and FIG. 37A. As such, no new matter has been introduced. Thus, claims 1-12, 15-18, and 20-29 will remain pending.

Applicant respectfully requests reconsideration of this application based on the foregoing amendments and the following remarks.

II. Interview Summary

Applicant thanks Examiner Lam for the courtesy of a telephonic interview on April 13, 2018 with Applicant's representative Randy Omid.

During the interview, the rejections of the pending claims, particularly the 35 U.S.C. § 102 rejection of claim 1 based on U.S. Patent Publication No. 2012/0116550 ("Hoffman"), was discussed. The Examiner acknowledged that Hoffman does not explicitly describe "in response to receiving the selection of the selectable data sharing option, display: the plurality of approved sources for the sub-category of wellness data . . ., and the plurality of approved destinations for the sub-category of wellness data," as recited in amended claim 1. However, the Examiner indicated that displaying the data derived from the sources could potentially read on these features of the claim. The Examiner suggested further clarifying the claim to further clarify that the information identifying the sources and destinations is more than content being displayed. The Examiner further indicated that amending the independent claims to recite, *inter alia*, "receive information identifying a plurality of approved sources of wellness data; receive information identifying a plurality of approved destinations of wellness data destinations" would likely overcome the cited reference.

The 35 U.S.C. § 101 rejections were also discuss, particularly the rejection of claim 1 in view of the recent Federal Circuit decision of Core Wireless v. LG Electronics (herein after "Core Wireless"), which was decided on January 25, 2018 after the January 17, 2018 mailing date of the

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current Office Action. Applicant submitted that the pending claims describe enhancements to a user interface similar to Core Wireless, which the Federal Circuit deemed is not abstract and patent eligible because it is directed to an improved user interface. The Examiner indicated that the in view of Core Wireless the claim, particularly with the above amendment, is likely not abstract and patent eligible.

No agreement was reach during the interview as to the allowability of the claims.

III. Rejections under 35 U.S.C. § 101

Claims 1-12, 15-18, and 20-29 stand rejected under AIA 35 U.S.C § 101 for being directed to an abstract idea of selecting and displaying content. Applicant respectfully disagrees.

A. Claim 1

During the Examiner interview on April 13, 2018, Applicant's representative cited to the recent Federal Circuit decision of Core Wireless, which affirmed that the claims, which are directed to a "particular manner of summarizing and presenting information in electronic devices," are not abstract ideas and are patent eligible. Thus, as pointed out in Core Wireless, the idea of summarizing information, even if known, is not sufficient grounds for patent ineligibility. Instead, the standard is whether the claims are directed to a specific improvement in the capabilities of computing devices. (See Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1336 (Fed. Cir. 2016)) Applicant submits that the pending claims are directed to an improved user interface of a computing device, enabling the device to present to a user what sources are providing information and, importantly, which destinations have access to the information. As such, the claims are not abstract and are patent eligible.

In addition, during the Examiner interview on April 13, 2018, the Examiner indicated that in view of Core Wireless, which was decided after the January 17, 2018 mailing date of the current Office Action, the current claims are likely not abstract and are likely directed to patentable subject matter. Therefore, as acknowledged by the Examiner, amended claim 1 is not abstract and is directed to patent eligible subject matter.

Accordingly, Applicant respectfully requests that the 35 U.S.C § 101 rejection of amended claim 1 be withdrawn and that the claim be allowed.

B. Claims 28 and 29

Claims 28 and 29 recite features similar to amended claim 1. Therefore, claims 28 and 29 are also directed to patent eligible subject matter for at least similar reasons as discussed above with respect to amended claim 1. Accordingly, Applicant respectfully requests that the rejections of claims 28 and 29 under 35 U.S.C § 101 be withdrawn and that the claims be allowed.

C. Claims 2-12, 15-18, and 20-27

Claims 2-12, 15-18, and 20-27 each depend from amended claim 1, which is as discussed above, is directed to patent eligible subject matter. Claims 2-12, 15-18, and 20-27 are therefore directed to patent eligible subject matter for at least the reason that they each depend from claim 1. Accordingly, Applicant respectfully requests that the rejections of claims 2-12, 15-18, and 20-27 under 35 U.S.C § 101 withdrawn.

IV. Claim Rejection – 35 U.S.C. § 102

Claims 1-12, 15-18, and 20-29 stand rejected under 35 U.S.C. § 102(a)(1) as being anticipated by Hoffman. Applicant respectfully disagrees.

D. Claim 1

As discussed during the Examiner interview on April 13, 2018, the Examiner acknowledged that Hoffman describes concepts that are different from the current disclosure. In view of the difference, the Examiner agreed that amending the independent claims to recite, *inter alia*, "receive information identifying a plurality of approved sources of wellness data; receive information identifying a plurality of approved destinations of wellness data destinations" would likely overcome the current rejection, including Hoffman.

To further advance prosecution, claim 1 has been amended to recite, *inter alia*, "receive information identifying a plurality of approved sources of wellness data; receive information

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identifying a plurality of approved destinations of wellness data," in accordance with the Examiner interview. Thus, as acknowledged by the Examiner, amended claim 1 is patentable over Hoffman.

Accordingly, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 102(a)(1) be withdrawn and that the claim be allowed.

E. Claims 28 and 29

Claims 28 and 29 have been amended to recite features similar to amended claim 1. Therefore, claims 28 and 29 are allowable for at least similar reasons as discussed above with respect to amended claim 1. Accordingly, Applicant respectfully requests that the rejections of claims 28 and 29 under 35 U.S.C. § 102(a)(1) be withdrawn and that the claims be allowed.

F. Claims 2-12, 15-18, and 20-27

Claims 2-12, 15-18, and 20-27 each depend from amended claim 1, which is allowable Hoffman. Claims 2-12, 15-18, and 20-27 are therefore allowable for at least the reason that they each depend from an allowable claim. Accordingly, Applicant respectfully requests that the rejections of claims 2-12, 15-18, and 20-27 under 35 U.S.C. § 102(a)(1) be withdrawn and that the claims be allowed.

V. Claim Rejection – 35 U.S.C. § 103

Claims 22 and 24 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hoffman. Applicant respectfully disagrees.

As discussed above Hoffman does not teach or suggest all of the claim features as discussed above with respect to amended claim 1. Thus, as acknowledged by the Examiner, amended claim 1 overcomes the current rejection.

Claims 22 and 24 depend from amended claim 1, which is allowable over Hoffaman. Claims 22 and 24 are therefore allowable for at least the reason that each depends from an allowable claim.

Accordingly, Applicant respectfully requests that the rejections of claims 22 and 24 under 35 U.S.C. § 103(a) be withdrawn and that the claims be allowed.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 193140** referencing **Docket No. P23397US3/77770000376103**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: May 9, 2018

Respectfully submitted,

Electronic signature: /Randy Omid/
Randy Omid
Registration No.: 67,439
DENTONS US LLP
One Market Plaza
Spear Tower, 24th Floor
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Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Randy Omid/Morgan Adams				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
		Total in USD ($)		**200**

Electronic Acknowledgement Receipt	
EFS ID:	32578003
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Randy Omid/Morgan Adams
Filer Authorized By:	Randy Omid
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	09-MAY-2018
Filing Date:	16-JAN-2015
Time Stamp:	18:32:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$200
RAM confirmation Number	051018INTEFSW18323900
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		P23397US3_NFOAresponse.pdf	154329 dc46ad10911e081c6ad8fe377ad85e5033e73e61	yes	13
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	8	
	Applicant Arguments/Remarks Made in an Amendment		9	13	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30565 a3a47f0562fab8c7318c2be4ca7041941c46ae56	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	184894		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/599,424	Filing Date 01/16/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	05/09/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 26	Minus	** 29	= 0	X $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**0**

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
MARGARET BYARS

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	7970827	B1	2011-06-28	Cumberbatch et al.	

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	20100202368	A1	2010-08-12	Hans, Martin	
	2.	20120209829	A1	2012-08-16	Thomas et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T[5]
	1.	1443427	CN	A	2003-09-17	Nokia Corp.	English Abstract Submitted	
	2.	1997050	CN	A	2007-07-11	ZTE Corp.	English Abstract Submitted	
	3.	103297610	CN	A	2013-09-11	Samsung Electronics Co. Ltd.	English Abstract Submitted	
	4.	103581456	CN	A	2014-02-12	Yihui Technology Suzhou Co. Ltd.	English Abstract Submitted	

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Office Action received for Australian Patent Application No. 2015267240, mailed on March 21, 2018, 5 pages.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

	2.	Office Action received for Chinese Patent Application No. 201510284850.3, mailed on November 28, 2017, 15 pages (5 pages of English Translation and 10 pages of Official Copy).	☒

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-04-10
Name/Print	Randy Omid	Registration Number	67,439

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Method for selecting emergency service number in mobile phone

Application Number	01808172	Application Date	2001.03.09
Publication Number	1443427	Publication Date	2003.09.17
Priority Information	2000/3/10 US 60/188,849		
International Classification	H04Q7/38;H04Q7/32;H04M1/247		
Applicant(s) Name	Nokia Corp		
Address			
Inventor(s) Name	R. Lindholm		
Patent Agency Code	72001	Patent Agent	cheng tianzheng chen ji

Abstract

A user of a mobile terminal is enabled to call emergency services in a wireless telecommunications network, whether or not the user is in a foreign country. If the user signals for emergency help by sending an emergency call code to the base station, the user is connected to an emergency center corresponding to the user's base station. The user may also be provided with an emergency services display. Further, the user may be connected to a specific type of emergency center corresponding to the user's base station, if the user signals for the specific type of emergency center by sending a service category to the base station. These emergency signals sent from the mobile terminal to the base station are location-independent, and therefore work well at an international level.

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[19] 中华人民共和国国家知识产权局

[51] Int. Cl[7]
H04Q 7/38
H04Q 7/32 H04M 1/247

[12] 发明专利申请公开说明书

[21] 申请号 01806172.9

[43] 公开日 2003 年 9 月 17 日

[11] 公开号 CN 1443427A

[22] 申请日 2001.3.9 [21] 申请号 01806172.9
[30] 优先权
[32] 2000. 3.10 [33] US [31] 60/188,649
[86] 国际申请 PCT/IB01/00337 2001.3.9
[87] 国际公布 WO01/67796 英 2001.9.13
[85] 进入国家阶段日期 2002.9.6
[71] 申请人 诺基亚有限公司
地址 芬兰埃斯波
[72] 发明人 R·林德霍姆

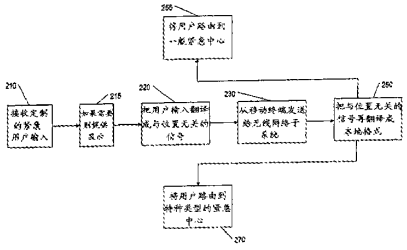
[74] 专利代理机构 中国专利代理(香港)有限公司
代理人 程天正 陈 霁

权利要求书 5 页 说明书 10 页 附图 4 页

[54] 发明名称 用于在移动电话中选择紧急服务号码的方法

[57] 摘要

在无线通信网络中，不管移动终端用户是否在外国，都允许该用户呼叫紧急服务。 如果用户通过向基站发送紧急呼叫代码以发送紧急求助信号，则该用户被连接到相应于该用户的基站的紧急中心。用户也可以被提供给紧急服务显示。 另外，如果用户通过向基站发送服务类别以向特定类型的紧急中心发信号，用户也可以连接到与该用户的基站相应的特定类型的紧急中心。 这些从移动终端向基站发送的紧急信号与所在位置无关。



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1. 一种由移动电话用户提供紧急呼叫到移动电话网络的方法，包括的步骤有：

把一个紧急呼叫号码输入到移动电话中；以及

将一个与位置无关的紧急服务类别附带于该紧急呼叫号码，所述紧急服务类别是由每个移动网络以同样方式标识的。

2. 按照权利要求 1 的方法，其中该方法进一步包括在用户已拨叫一个紧急号码后提供一个紧急呼叫代码阿尔法标记标识符的步骤，以致用户可以滚动移动电话的、用于储存在移动电话中或者储存在位于移动电话内的通用用户标识模块中的可得到紧急服务的显示。

3. 按照权利要求 2 的方法，其中该方法进一步包括步骤：如果用户没有选择一个可选择的紧急呼叫号码，则在预定时间后提供一个具有紧急呼叫号码和其附带的、与位置无关的紧急服务类别的紧急呼叫到该移动网络。

4. 按照权利要求 2 的方法，其中该方法进一步包括在移动网络中将该紧急呼叫自动路由到一相应的紧急呼叫中心的步骤。

5. 按照权利要求 1 的方法，其中该方法进一步包括在移动电话中维持紧急呼叫代码数据文件的步骤。

6. 按照权利要求 2 的方法，其中该方法进一步包括在移动电话中维持紧急呼叫代码数据文件的步骤。

7. 按照权利要求 6 的方法，其中紧急呼叫代码数据文件储存与位置无关的紧急服务类别、紧急呼叫代码和紧急呼叫代码阿尔法标记标识符。

8. 按照权利要求 7 的方法，其中该方法进一步包括使用智能卡来储存该紧急呼叫代码数据文件的步骤。

9. 按照权利要求 1 的方法，其中与位置无关的紧急服务类别标识紧急情况，包括一般救援、警察、救护车、火灾或者其组合。

10. 按照权利要求 1 的方法，其中该方法进一步包括把一个紧急呼叫代码阿尔法标记标识符附带于一紧急呼叫代码用于滚动可得到的紧急服务的步骤。

11. 按照权利要求 1 的方法，其中该方法进一步包括万一输入的紧急号码与想得到的紧急服务不对应则滚动用于可得到的紧急服务的移

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动电话显示的步骤。

12. 一种在用户位于外国或者本国时允许用户向无线电信网络中的无线网络子系统进行不同类别紧急呼叫的移动终端（102），所述紧急呼叫分别具有多种不同的功能，该移动终端包括:

数据文件和呼叫转换电路（302），用于响应一定制的紧急用户输入信号（306）而提供一个与位置无关的紧急信号（304），所述紧急用户输入信号具有表示用户所寻找的选择紧急援助的量值，其中当该移动终端（102）被携带跨越国界时，不改变要求的紧急用户输入;

发送和接收设备（308），响应原始进入的被传送信号（309）并且响应与位置无关的紧急信号(304)而提供一个外出的传送信号（310），

其中该定制的紧急用户输入信号（306）从被编程地定制以适合用户的、多个容许的紧急用户输入信号中选择，以及其中该与位置无关的紧急信号（304）被包括在多个不同容许的、与位置无关的紧急信号中，所述紧急信号分别具有由外出传送信号（310）实现的不同功能。

13. 按照权利要求 12 的移动终端（102），进一步包括:

一个响应用户的音频输入而提供用户话音信号（316）的话筒（314）；以及

一个响应进入的话音信号（320）而提供音频输出给用户的扬声器（318），

其中该进入的话音信号（320）包含从一般紧急中心来的信息，该一般紧急中心与在无线接口上用户与之通信的基站相对应。

14. 按照权利要求 13 的移动终端（102），进一步包括一个响应具有表示阿尔法标识符的量值的显示信号（324）的显示屏（322），其中该显示屏（322）用于给用户提供至少一个含紧急呼叫信息的紧急服务显示，以及其中该显示信号（324）是由数据文件和呼叫转换电路（302）提供。

15. 按照权利要求 12 的移动终端（102），进一步包括:

一个响应用户的音频输入而提供用户话音信号（316）的话筒（314）；以及

一个响应进入的话音信号（320）而提供音频输出给用户的扬声器（318），

其中如果与位置无关的紧急信号（304）包括一个紧急呼叫代码，

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同时也包括一个指示紧急呼叫类型的服务类别，则该进入的话音信号（320）包含从特定类型紧急中心来的信息，该紧急中心与在无线接口上用户与之通信的基站相对应。

16. 按照权利要求13的移动终端（102），其中数据文件和呼叫转换电路（302）是一个可拆卸地位于移动终端（102）中的可编程的智能卡。

17. 按照权利要求15的移动终端（102），其中用户可以从至少包含警察、救护车和消防队的一个组中选择该特定类型的紧急中心。

18. 按照权利要求14的移动终端（102），其中显示屏（322）显示有关如何得到关于警察、救护车和火灾帮助的信息。

19. 按照权利要求14的移动终端，其中如果用户在一段定义的时间内不响应该至少一个显示的紧急服务，则将该呼叫自动路由到该一般紧急中心。

20. 按照权利要求14的移动终端（102），其中一个紧急呼叫代码文件储存在可从该移动终端中拆卸的智能卡中，并且其中该紧急呼叫代码文件提供有关紧急呼叫代码、阿尔法标识符和服务类别的信息。

21. 按照权利要求15的移动终端（102），其中如果用户在一段定义的时间内不响应该至少一个显示的紧急服务，则将该呼叫自动路由到一个一般紧急中心。

22. 按照权利要求15的移动终端（102），其中一个到该一般紧急中心的不成功的呼叫被自动路由到一个备用的一般紧急中心，该紧急中心与在无线接口上用户与之通信的基站相对应。

23. 按照权利要求16的移动终端（102），其中显示该至少一个紧急服务显示的显示屏（322）允许用户通过选择紧急服务而自动进行一个呼叫。

24. 按照权利要求12的移动终端（102），其中当数据文件和呼叫转换电路（302）提供与位置无关的紧急信号（304）时，该发送和接收设备（308）也用于提供可由紧急服务人员用来导向追踪该移动终端的遇险信号。

25. 按照权利要求13的移动终端（102），进一步包括一个响应定制的紧急输入而提供该定制的紧急用户输入信号（306）的小键盘（326）。

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26. 按照权利要求 17 的移动终端（102），进一步包括一个响应用户输入而提供定制的紧急用户输入信号（306）的紧急按钮（328），以及其中该特定类型的紧急中心是救护车设施。

27. 一种在用户处于外国或者本国时允许一个移动终端（102）在无线电信网络中向无线网络子系统（128）进行不同类别的紧急呼叫的系统，所述紧急呼叫分别具有多种不同的功能，该系统包括：

移动终端（102），它响应定制的紧急信号（402）而提供与位置无关的紧急传送信号（406），所述紧急信号具有表示用户所寻找的选择紧急援助的量值，而所述紧急传送信号被包括在具有各个不同功能的、多个不同容许的与位置无关的紧急传送信号中；以及

无线网络子系统（128），它响应该与位置无关的紧急传送信号（406）而提供一个紧急响应信号（408）给该移动终端（102），

其中用户可以从多个容许的紧急用户输入信号中选择该定制的紧急信号（402），在某种意义上该紧急信号可以被编程地定制以适合用户，并且在某种意义上该紧急信号在移动终端（102）被携带跨越国界时不改变，以及

其中该无线网络子系统（128）进一步包括在无线接口上直接与移动终端（102）进行无线通信的基站（114），和与基站（114）通信的无线网络控制器（112）。

28. 按照权利要求 27 的系统，其中与位置无关的紧急传送信号（406）包含一个具有表示紧急情况的量值的紧急呼叫代码。

29. 按照权利要求 28 的系统，其中与位置无关的紧急传送信号（406）还包含一个阿尔法标识符，以及其中该紧急响应信号（408）包括用户能显示和滚动的紧急信息。

30. 按照权利要求 28 的系统，其中与位置无关的紧急传送信号（406）也包含一个服务类别，以及其中该紧急响应信号（408）包括用户和与基站相对应以及服务类别相对应的特定类型紧急中心之间的呼叫的下行链路部分。

31. 按照权利要求 27 的系统，进一步包括一个用于经由无线网络子系统（128）与用户通信的紧急中心（410），其中该无线网络子系统（128）通过把与位置无关的紧急传送信号（406）翻译成相应的本地电话呼叫来建立通信。

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32. 一种工作在无线通信网络中的移动终端内的智能卡，该智能卡包括一个紧急呼叫代码文件，它进一步包括一个紧急呼叫代码、一个阿尔法标识符和一个与位置无关的服务类别，其中该紧急呼叫代码文件用于把紧急数据从一种用户输入的格式翻译成与位置无关的格式。

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用于在移动电话中选择紧急服务号码的方法

发明背景

1. 发明技术领域

本发明通常涉及利用无线电信网络用电话接入紧急服务的领域，以及更具体而言涉及到国际级的紧急电话接入。

2. 相关技术描述

在全球移动通信系统（GSM）中，定义了一种紧急呼叫代码以进行紧急呼叫。典型地，紧急号码被用来向移动终端指示必须启动紧急呼叫，然后执行紧急呼叫的建立，该建立被特殊化以在网络中得到优先。只要识别出是紧急情况并且在呼叫建立中指示，则用户实际拨打的特定紧急号码是不重要的，以及然后是基于该呼叫建立而把呼叫路由给紧急中心的。

移动终端通常包括含一个通用用户标识模块（USIM）的可拆卸的智能卡（UICC）。UICC是一种IC卡，因而该UICC装有一个包含用户数据、终端用户数据、认证数据以及/或者用于一个或多个应用的应用数据的集成电路。紧急呼叫代码储存在UICC中一个命名为“紧急呼叫代码”（EF_{ECC}）的数据文件中。这个基本文件能包含一个或多个紧急呼叫代码。当用户在键盘上拨一个号码（比如911）时，该号码将与储存在EF_{ECC}中的号码相比较。如果从键盘输入的号码与EF_{ECC}中号码匹配，那么不管那个特定号码是什么，该呼叫都作为一个紧急呼叫建立。

下表是数据文件（EF_{ECC}）结构的一个例子：

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标识符:	结构: 透明		强制
文件大小: 3n (n>1) 字节	更新活动性: 低		
访问情况: 读 ALW 更新 ADM 去激活 ADM 激活 ADM			
字节	描述	M/O	长度
1 - 3	紧急呼叫代码1	M	3字节
4 - 6	紧急呼叫代码2	O	3字节
(3n - 2) - 3n	紧急呼叫代码n	O	3字节

此表格可以在技术规范 3G TS 31.102 中找到。该 EF_{ECC} 数据文件包含一个最大六位数的紧急号码集。此数据文件的目的是它能包含各种不同国家的紧急呼叫号码。典型地，在一个 EF_{ECC} 中已包含高达五个紧急呼叫代码（即 n=5）。如果服务网络没有识别出该“n”个紧急呼叫代码中的任何一个，那么该呼叫通常被路由到默认的紧急号码。万一拨叫的号码与储存在 EF_{ECC} 中的号码都不匹配，那么移动设备就检查储存在移动设备内部的用于匹配的默认紧急号码。如果能匹配，则该呼叫就作为一个紧急呼叫建立。在 USIM 不存在时也能获得这些默认号码。这些都在技术规范 3G TS 22.101 中进行了论述。在这样的相关技术系统中，虽然各种紧急信号可以从移动终端发送，但是这些紧急信号都有着相同的目的：通过一个特定的电话号码使得用户与一个特定的紧急中心连接起来。

用户熟悉本国号码，像美国的 911。在国际漫游时，拨打国家紧急呼叫号码能自动在漫游网络中建立一个到紧急中心的紧急呼叫。只要输入的号码与紧急呼叫代码数据文件中的一项匹配，则在这种情况下实际输入的号码并不重要。换句话说，用户甚至能在一个没有把 911 认作一个紧急号码的国家拨叫 911，其原因是终端和网络知道拨打正确的号码。

如果有不同的特定号码分别用作对警察、救护车以及消防队的紧急呼叫，则可以通过在紧急呼叫建立期间向网络发送特定拨叫号码来指示此情况。这可以基于国家地运行，其中每个紧急号码被唯一定义。

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但是，如果出现跨国界的漫游情况，则用户正在旅行的国家可以有着跟其本国不同的紧急呼叫号码情况。基于紧急呼叫建立提交的号码，漫游网络不能确定所请求的紧急服务类型。最坏的情况是在漫游网络和本国网络中使用相同号码作为紧急呼叫，但是它们有着不同的含义。举个例子，用户归属网络中救护车紧急呼叫号码可能与漫游网络中用于消防队的紧急呼叫号码相同。这使得不可能使用所拨叫的紧急号码用于呼叫的可路由性，因为该呼叫可能会在错误的紧急中心终止。

此问题在国际级上还没有被解决。在国家级，解决该问题是通过使用不同的紧急号码。由于相同的号码在不同国家用于不同的紧急服务，所以目前不能保证正确的紧急服务。在国际漫游时，由于所拨号码是基于储存在USIM（它位于终端智能卡中）中的本国紧急编号情况，所以在紧急呼叫建立时提交的所拨号码可以把紧急呼叫路由到完全不同的紧急服务。换句话说，所拨号码根据漫游网络的紧急编号情况进行解释，该编号情况可以与储存在USIM中的编号情况不同。

关于编码情况的国际协定能够基于所拨号码指示需要哪种紧急服务。然后所拨紧急号码能被转换成漫游网络中的相应紧急服务。一直到这样的协定出现，一个紧急号码才可以在不同国家指示一不同类型的紧急情况，并且一些国家将不具有用于不同类型紧急情况的特定号码。同样，一些终端用户即使在他们自己国家里也不想记住一个以上的号码。

发明内容

在国际漫游时，用户能使用她习惯于使用的紧急号码以获得不同类型的紧急服务将是方便的。用户在实际连接到这些紧急服务之前得到有关可获得的各种紧急服务的显示信息也将是方便的。因而，本发明在移动通信网络中增强了紧急号码的使用，允许用户进行含多种不同功能的各种紧急呼叫。

按照本发明，在移动通信网络的语境中，紧急呼叫以一种特定方式建立。根据涉及的紧急情况类型，紧急呼叫被路由到最近的紧急中心。

本发明允许将一个阿尔法标识符增加到紧急呼叫号码上。该阿尔法标记允许用户访问显示以识别该紧急呼叫将要连接的紧急中心的类型。该显示信息储存在移动电话的 USIM 中。此外，本发明定义了能在网络中用来把紧急呼叫路由到该适当的紧急中心（警察、救护车、消防队等等）的服务类别。

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阿尔法标记解决了指示用户哪种紧急服务可被呼叫的问题。服务种类解决了给该网络一个请求什么类型紧急服务的、与所在位置无关的指示的问题。

本发明公开一种新的且唯一的、用于由移动电话用户将一个紧急呼叫提供到移动电话网络的方法，它包括两个唯一的步骤：（1）把一个紧急呼叫号码输入到移动电话；以及（2）将一个与位置无关的紧急服务类别附带于该紧急呼叫号码，该紧急服务类别由每个移动网络以同样方式标识，而不管国家如何。与位置无关的紧急服务类别（也被称为呼叫类型指示符）标识紧急情况，例如一般救援、警察、救护车、火灾或其组合。典型地，紧急呼叫号码由处于紧急情况中的用户提供，在该种情况下需要一种或一种以上的上述紧急服务。该方法的另一个步骤包括把一个紧急呼叫代码阿尔法标记标识符附带于一个紧急呼叫代码，从而使得一旦用户已经拨叫一个紧急号码，该用户就可以滚动用于可得到的紧急服务的移动电话显示，例如，万一输入的紧急号码与想得到的紧急服务不对应。紧急号码的输入能作为一个触发器以向用户显示紧急服务号码。一段预定时间后，如果用户没有选择一个可选的紧急呼叫号码，则一个附带有与位置无关的紧急服务类别的紧急呼叫将被提供给该移动网络。

该方法也包括在移动网络中自动将紧急呼叫路由给相应的紧急呼叫中心。该方法进一步包括在移动电话中维护一个紧急呼叫代码数据文件，具有与位置无关的紧急服务类别、紧急呼叫代码和/或紧急呼叫代码阿尔法标记标识符。

附图简述

图 1 给出了本发明运行在其中的无线通信体系结构的一个实例。

图 2 是说明本发明的实施方案的流程图。

图 3 给出了按照本发明的实施方案的移动终端。

图 4 阐明了按照本发明的实施方案的系统。

用于实施本发明的最佳模式

为了说明本发明的最佳模式实施方案，考虑本发明运行在其中的通信基础结构是有用的。图 1 就是一个例子，它给出了按照 3GPP 电信系统（3GPP 与 WCDMA 或者宽带码分多址接入同义，也与 GSM 或者全球移动通信系统同义）的无线系统的结构。从图 1 中可以看出，该 3GPP 体系

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结构的组成部分有用户设备 102（UE 在这里与“移动设备”、“终端设备”以及“装备有紧急情况的移动电话”同义）、3G 陆地无线接入网络 104（UTRAN）以及核心网 126（CN）。UTRAN 和 UE 之间的空中接口称为 Uu，UTRAN 和核心网之间的接口称为 Iu。UTRAN 由一组无线网络子系统 128(RNS)组成，每个无线网络子系统在地理上覆盖若干个小区 110(C)。子系统之间的接口称为 Iur。每个无线网络子系统 128（RNS）包括一个无线网络控制器 112（RNC）以及至少一个节点 B 114，每个节点 B 在地理上至少覆盖一个小区 110（一个节点 B 与一个基站同义）。从图 1 中可以看出，RNC 112 和节点 B 114 之间的接口称为 Iub，Iub 是一个硬连线接口，而不是一个空中接口。对于任何节点 B 114，都仅有一个 RNC 112。节点 B 114 负责无线发送信号给 UE 102 以及接收从 UE 102 来的信号（典型地看到节点 B 天线在高塔顶上，或者优选地在不太显著的地方）。RNC 112 完全控制 RNS 128 中每个节点 B 114 的逻辑资源，并且 RNC 112 也负责进行使得呼叫从一个小区交换到另一个小区或者在同一小区的无线信道之间交换的切换决定。

按照本发明的最佳实施方案，与位置无关的紧急服务种类可以附带于该紧急呼叫号码。不管在什么位置或在哪个国家，该紧急服务种类都被每个网络以同样方式识别出来。像一般紧急情况、警察、救护车、消防队和/或救援这样的呼叫类型在相应编码时定义。

除了上述内容之外，为了允许一个阿尔法标记附带于一个紧急呼叫代码，要修改该紧急呼叫代码数据文件（EF_{ECC}）的内容。例如，这意味着一旦用户在紧急情况中已拨打了一个号码，则她可以滚动用于可得到的紧急服务的显示，例如如果输入的号码与要求的紧急服务类别不对应的话。换句话说，输入一个不能通过的紧急号码可以作为一个触发器以向用户显示可得到的紧急服务号码，连同别的紧急信息。如果在一段定义的时间内用户没有选择显示的选择对象，则对一个紧急号码建立呼叫，同时向该网络指示紧急服务类别（例如一般紧急情况类别）。

按照该最佳模式的实施方案，基于呼叫建立中指示的紧急服务类别，网络能够将紧急呼叫路由到相应的紧急中心。这样，移动终端把用户的输入翻译成发送给网络的与位置无关（即国际标准）的代码，然后网络把该代码翻译成本地理区域必须的任何号码。虽然这不是必要的，但是在这种情况下用户所拨的紧急号码也能被传送给网络。

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例如，作为实现本发明的一部分，要对 UICC 上的 EF_{ECC} 做下述修改：

标识符：	结构：线性固定		强制
记录大小：X+6字节		更新活动性：低	
访问情况： 读 ALW 更新 ADM 去激活 ADM 激活 ADM			
字节	描述	M/O	长度
1－3	紧急呼叫代码1	M	3字节
4到X+4	紧急呼叫代码阿尔法标识符	O	X字节
X+5到X+6	紧急服务类别	M	1字节

关于该 EF_{ECC} 应注意的主要事情是在描述标题下列出下述项：

描述
紧急呼叫代码 1
紧急呼叫代码阿尔法标识符
紧急服务类别

为了更全面地描述本发明的最佳模式实施方案，让我们假想一个美国公民（“帕特”）在某个任意的国家遇到一个紧急情况。帕特想呼叫一个一般紧急号码，或者她宁愿直接呼叫她需要的特定紧急服务类型。

按照本发明，帕特可以处于世界上的任何地方，并且她能简单地拨一个在她的智能卡中建立的特定号码（比如 911）以便接到本地的一般紧急中心。智能卡提供用于帕特的“911”紧急呼叫代码的、与位置无关的紧急服务类别，然后无线网络子系统把与位置无关的紧急信号再译成与帕特的基站所处本地理区域相应的本地一般紧急电话号码。于是帕特就可以临时与本地紧急服务人员连接上。

但是，假想帕特想在呼叫一般紧急中心前找出可得到哪些种类的紧急服务。帕特的移动电话被构造以及编程，以致于她能拨一个特定号码（比如*911）以引出可得到的紧急中心的显示。该信息已经储存在帕特的移动电话中，比如 USIM 中，并且可以利用阿尔法标记访问该信息。

刚提到的特定号码仅是一个实例，原籍是不同国家的人可能选择不

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同的编号方案；因此他们的移动终端能被编程。但是，从移动终端发送给网络的服务类别可以与位置无关；即不管用户处于哪个国家，一个服务类别总是指示火灾，一个服务类别总是指示警察，等等。

当帕特选择访问紧急显示，或者由于一些别的理由要给出显示时，帕特能够选择一个特定紧急号码来呼叫。显示设备的用户接口可允许帕特简单地单击特定的设施或者她想要呼叫的设施的电话号码，那么得到的结果与帕特利用键盘输入特定紧急电话号码得到的结果是同样的。显示可以有多个信息层，并且如果国家方案变化的话，那么从 USIM 读出的显示信息可以被网络经营者更新。

移动终端可以另外或者二中选一地配备有一个紧急按钮和/或别的触发器（像话音触发器或者涉及气袋利用的触发器），该触发器能自动拨打用于一般紧急援助；因而，帕特将不一定必须使用键盘来获得援助。一个紧急按钮能启动用于救护车（A911）的呼叫，或者二中选一地启动一个一般紧急呼叫（911），尽管前种类型的呼叫是优选的，因为尤其是在医疗紧急情况中，一个移动终端用户将不会喜欢研究键盘，然后小心翼翼地选择要拨的数字。

不管帕特在什么时候进行何种紧急呼叫，无线网络子系统都可能被编程，以致于启动一个另外的单独呼叫或者自动且是计算机产生的消息；该自动消息从无线网络子系统发送给与帕特通过无线接口与之通信的基站相应的一般紧急中心（这样就有两个紧急呼叫，而不是只有一个）。例如，自动消息报告帕特启动了一个紧急无线呼叫，报告帕特请求的特定类型的紧急中心（如果有的话），报告帕特的移动电话号码，报告基站所处的位置，以及报告帕特的紧急无线呼叫的时间。该自动消息是本地语言，因此它有助于确保帕特获得她需要的援助，即使她不会说本地语言。即使帕特确实说本地语言，自动消息也通过提供有关帕特位置以及紧急情况类型的信息而对管理机构有帮助。

另外，移动电话能被设计以便不管发给紧急中心的呼叫发生在什么时候都能发射遇险信号，以致于一旦紧急服务人员在基站附近，他们就能对移动电话用户定位。仅关闭移动电话电源就能关闭信标。有关遇险信号的细节（比如频率和信号强度）是计算机自动产生的、从无线网络子系统到一般紧急中心的报告的一部分。

图 2 给出了按照本发明最佳模式的方法。当用户处于外国或者本国

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时，该方法允许一个移动终端用户在无线电信网络 104（见图 1）中进行到无线网络子系统 128（图 1 给出）的紧急呼叫。第一步是接收在移动终端定制的紧急用户输入 210。换句话说，移动终端可被编程以定制进行紧急呼叫必需的特定按键。例如，与日本公民喜欢像 110、118 和 119 这样的号码相比，一个美国用户喜欢像 911 这样的号码。这要求在移动终端被跨国界携带时，不改变紧急用户输入，举例来说，因此访问美国的日本公民仍然能够在她的移动终端上拨打像 110、118 和 119 这样的号码。紧急用户输入是从多种允许的紧急用户输入中进行选择，这意味着本系统提供更多的选项，而不仅仅是拨打 911。像已讨论的，别的选项包括用于特定类型的紧急援助的拨叫。

用户输入之后，在步骤 215，移动设备可以显示紧急服务选项，然后用户可以选择其中一项；这些选项来自包含在位于 USIM 的 EF_{ECC} 中的阿尔法标记信息。对于移动设备，下一步是把紧急用户输入翻译 220 成与紧急用户输入相对应的与位置无关的紧急信号，其中该与位置无关的紧急信号包括在多个不同容许的与位置无关的紧急信号中，所述紧急信号分别具有不同功能，像用于救护车的呼叫、用于消防队的呼叫、用于警察的呼叫或者用于本地紧急信息显示的呼叫。然后移动终端在空中接口上发送包含在从移动终端到无线网络子系统的、与位置无关的紧急信号中的信息 230，该无线网络子系统包括与移动终端能直接进行无线通信的基站。

于是无线网络子系统（RNS）可以把包含在与位置无关的紧急信号中的信息 250 再次翻译，以得到一种与基站所处的本地区域相对应的格式。换句话说，RNS 为了建立与紧急中心的连接，该 RNS 必需确定并拨叫一个用于紧急中心的正常本地电话号码。因而用户呼叫能被路由 255 给与通过无线接口与用户通信的基站相应的一般紧急中心，或者 RNS 将用户呼叫路由 270 到与通过无线接口与用户通信的基站相应的特种类型的紧急中心。

图 3 阐明了一种按照最佳模式的实施方案设计的实施本方法的移动终端。图 3 阐明了移动终端 102，也阐明了已经讨论的它实施的方法。

移动终端 102 包括一个数据文件以及呼叫转换电路 302，例如它可以是包含 EF_{ECC} 文件的智能卡。该电路提供一个与位置无关的信号 304，这意味着该信号 304 的各种不同格式被标准化了，但这并不意味着该信

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号 304 一直是相同的（即用户可以确定在信号 304 中包含哪种与位置无关的格式）。电路 302 响应定制的紧急用户输入信号 306，该信号具有表示用户寻找选择的紧急援助的量值，同时当移动终端 102 被带到另一个国家时，不会改变要求的紧急用户输入。

移动终端包括发送和接收设备 308，它响应经由天线 312 接收的原始进入的被传送信号 309，并且该发送和接收设备 308 也响应该与位置无关的紧急信号 304。当然，该发送和接收设备 308 是用于提供外出传送信号 310 的。定制的紧急用户输入信号 306 可以从多个被编程地定制以适合用户的、容许的紧急用户输入信号中选择，举例来说，这意味着用户将有一种喜欢用于紧急情况的键盘编号方案。在特定国家销售的移动终端能被编程以适应在该特定国家最流行的编号方案。该与位置无关的紧急信号 304 包括在多个不同的、容许的与位置无关的紧急信号中，它们分别具有由输出传送信号 310 实现的不同功能。因此，用户不仅可以点击各种不同的电话号码以获得同样的结果，而且如果合适地选择号码，用户也能获得不同的结果。

正如移动终端的通常情况，图 3 给出的终端包括一个响应用户音频输入而提供用户话音信号 316 的话筒 314。同样图 3 也给出了一个响应进入的话音信号 320 而提供音频输出给用户的扬声器 318。进入的话音信号 320 包含从与用户在无线接口上进行通信的基站相对应的一般紧急中心来的信息。

图 3 给出的移动终端 102 也包括响应从数据文件和呼叫转换电路 302 来的显示信号 324 的显示屏 322，同时显示屏 322 是用于给用户提供包含储存在数据文件和呼叫转换电路 302 中的紧急信息的至少一个紧急服务显示。如果定制的紧急用户输入信号 304 包括涉及到一个阿尔法标记（比如如果用户拨打*911），则将出现该显示。图 3 给出了样本显示，并且该显示允许用户激活各种超级链接以获得特定类型的紧急援助。一个有用的特性是能够单击显示上的一个特定项，以致不需要拨叫就可以自动接通呼叫。

如果用户想联系特定类型的紧急中心，则这是由移动终端 102 容许的。那样的话，与位置无关的紧急信号 304 包括指示紧急呼叫类型的紧急服务类别。

从图 3 可以清楚了解，移动终端有一个用于提供定制紧急用户输入

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信号 306（响应定制的紧急输入）的小键盘 326。但是，定制的紧急用户输入信号 306 可以二中选一地由一个救护车按钮 328 提供。

图 4 给出了按照最佳模式实施方案的本发明的系统概观。在用户处于外国或者本国时，移动终端 102 能进行到无线电信网络中的无线网络子系统 128（见图 1）的、分别具有多种不同功能的不同类别的紧急呼叫。移动终端响应定制的紧急信号 402，该信号具有表示用户寻找的选择紧急援助的量值，并且移动终端是用于提供与位置无关的紧急传送信号 406 的，该紧急传送信号从多种分别含有不同功能的、不同容许的与位置无关的紧急传送信号中选择。无线网络子系统 128 响应该与位置无关的紧急传送信号 406，并且用于提供一个紧急响应信号 408 给移动终端 102。用户可以从多种容许的紧急用户输入信号中选择该定制紧急信号 402，在某种意义上该紧急信号被编程地定制以适合用户，以及在某种意义上该紧急信号不必因移动终端 102 被从一个国家带到另一个国家而改变。

无线网络子系统 128 包括一个在无线接口上直接与移动终端 102 进行无线通信的基站 114，以及一个与基站 114 通信的无线网络控制器 112。这由图 1 和图 4 给出。

如果该与位置无关的紧急传送信号 406 包含服务类别，那么紧急响应信号 408 将包括用户和特定类型的紧急中心之间的呼叫的下行链路部分。当然，可以选择紧急中心以在地理上相应于移动终端与之通信的基站，同时也相应于服务类别。

图 4 给出的系统也包括一个经由无线网络子系统 128 与用户通信的紧急中心 410。该无线网络子系统 128 建立用户和紧急中心之间的通信，并且它是通过把与位置无关的紧急传送信号 406 翻译成相应的本地电话呼叫来完成这一通信的。

本领域的技术人员也应当了解，图中描述的块和信号可以在不脱离本发明范围的情况下以众多和各式各样的方式重新安排，并且这些块表示以各种方式实施的硬件和软件的组合，此外这些信号在不排除干预事件等的情况下表示一般因果关系。

虽然本发明用有关其最佳模式实施方案给出并且描述，但是本领域的技术人员应当了解，在遵守本发明的精神的情况下，可以在其格式和细节方面进行上述和各种其它的改变、删除和补充。

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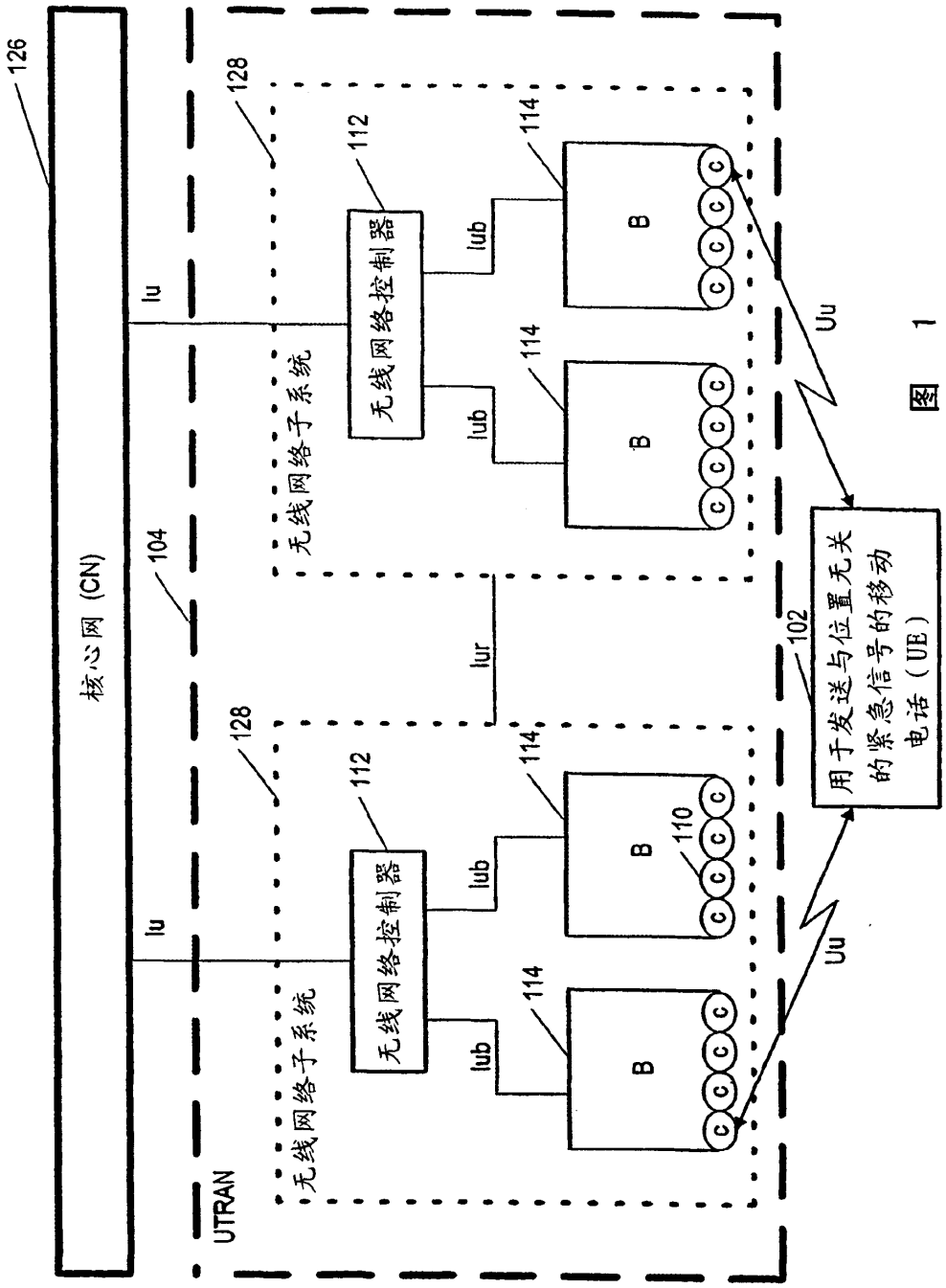


图 1

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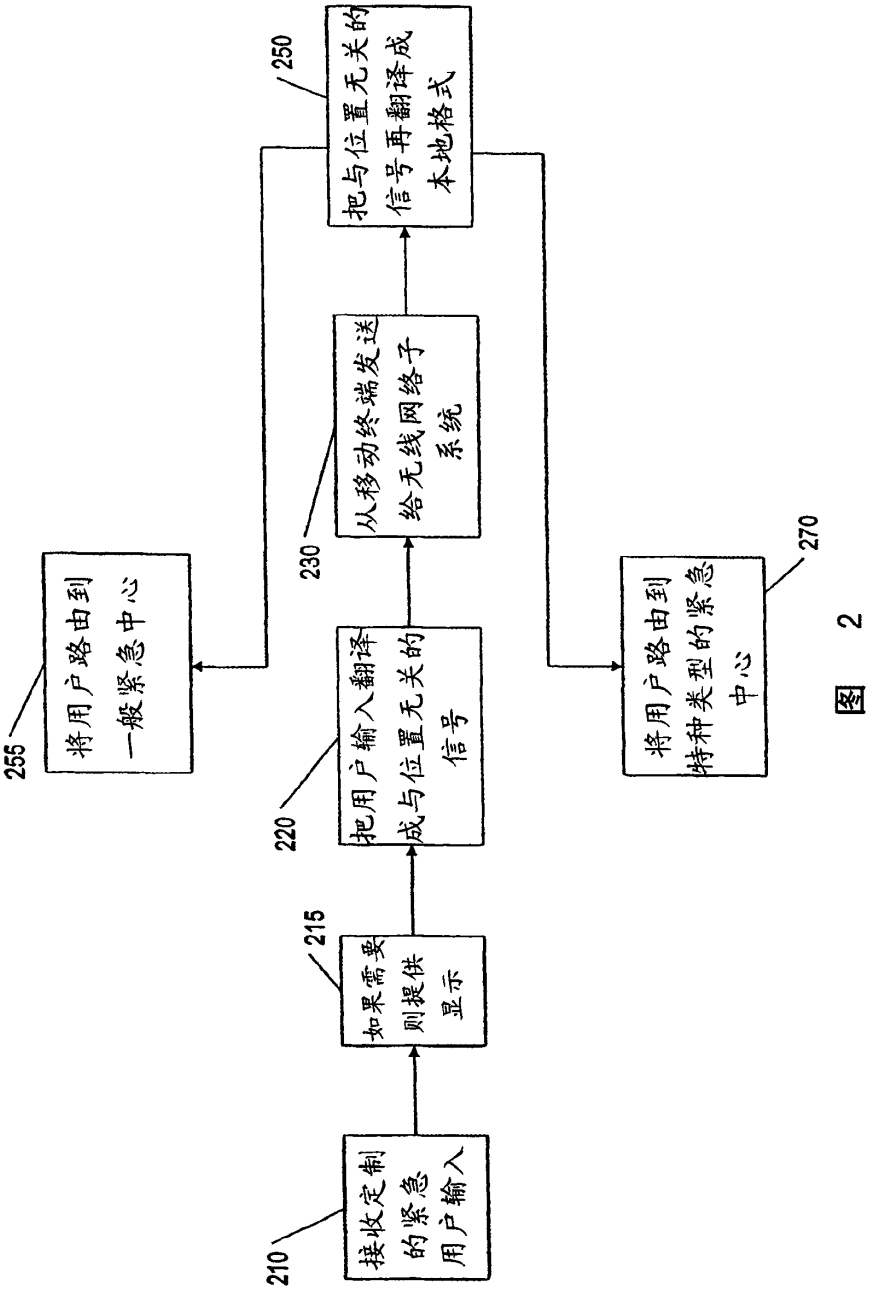


图 2

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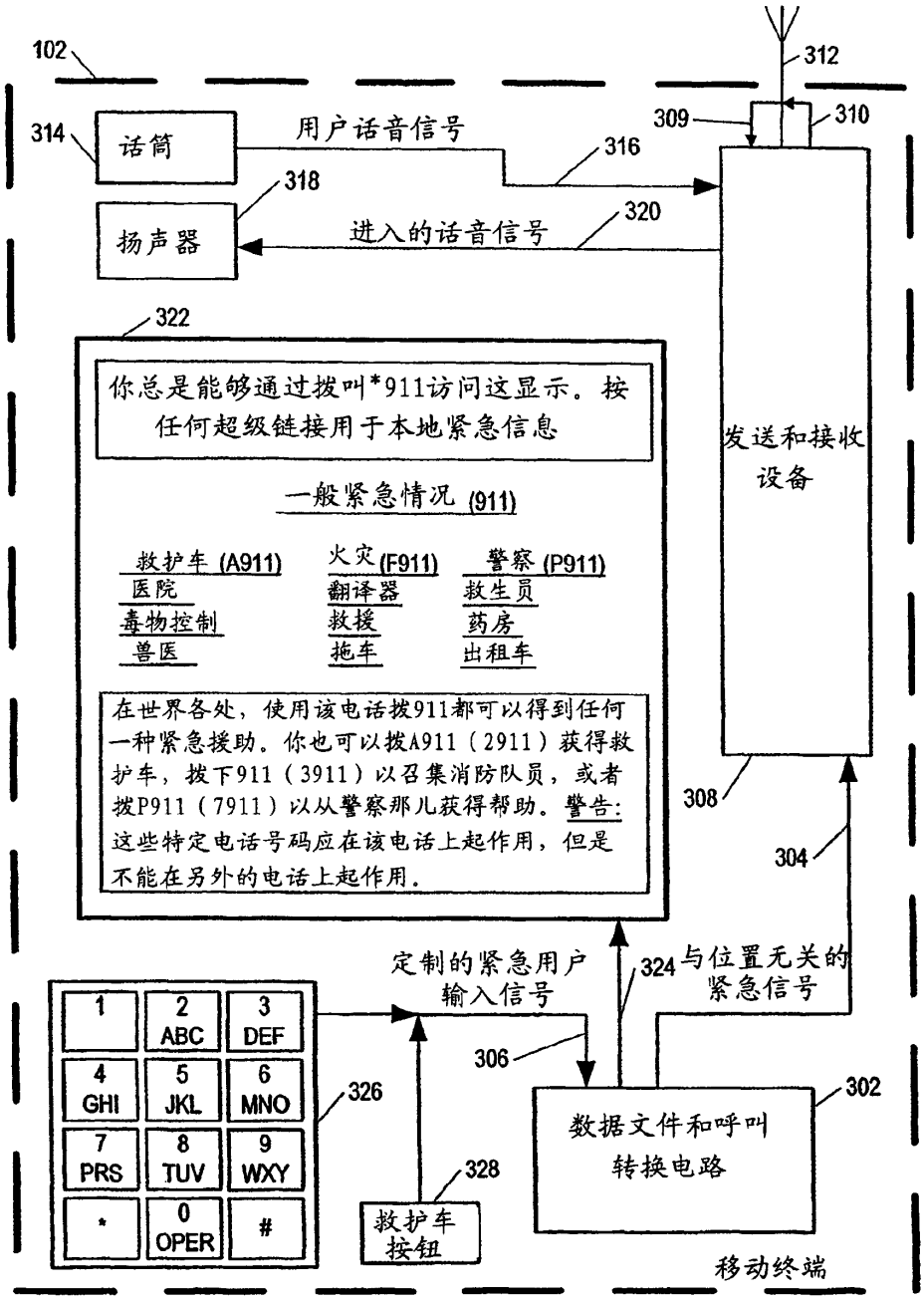


图 3

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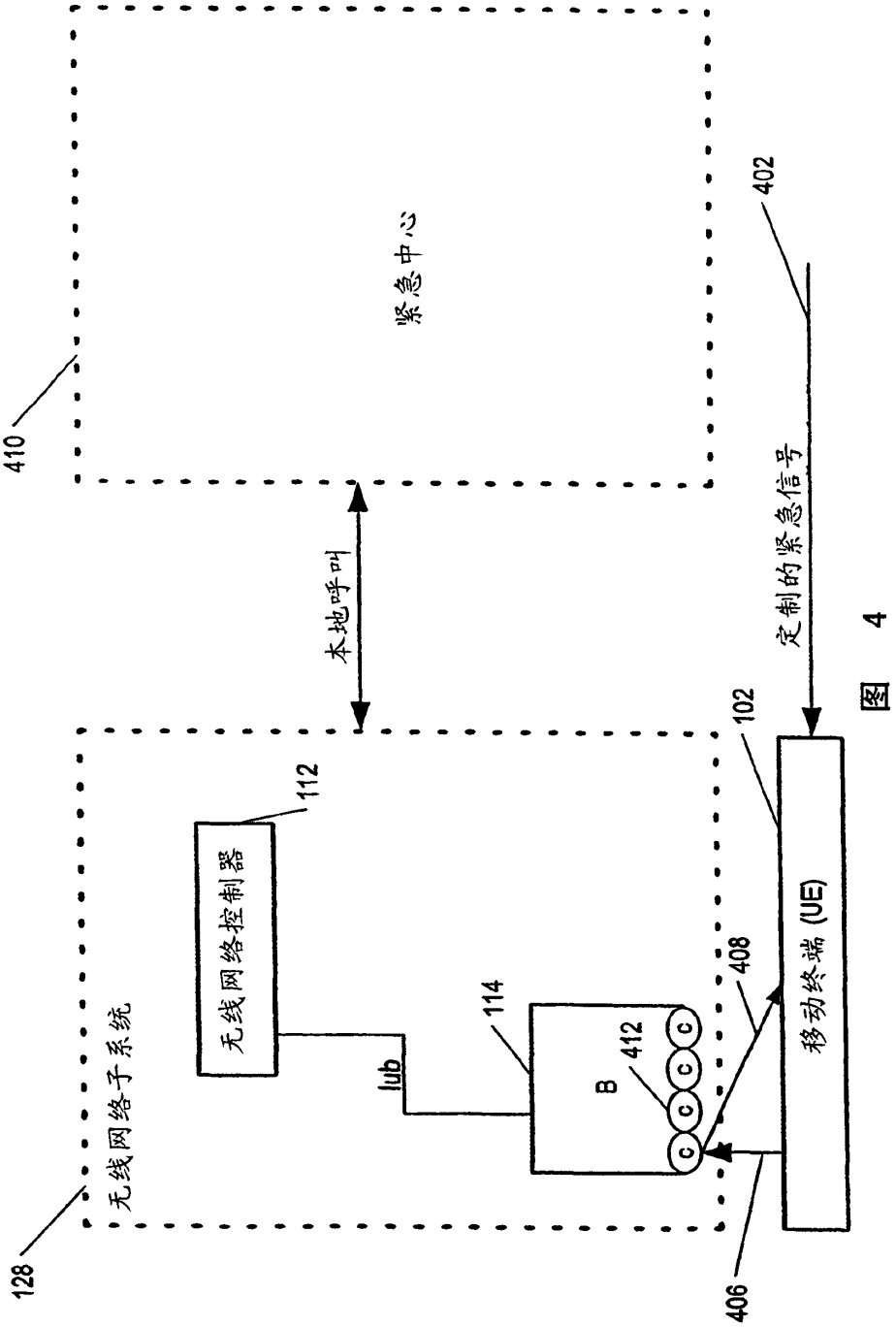


图 4

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A mobile terminal and its emergent call method

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Publication Number	1997050	Publication Date	2007.07.11
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International Classification	H04M1/26;H04M1/2745;H04M1/247;H04Q7/32		
Applicant(s) Name	ZTE Corporation		
Address			
Inventor(s) Name	Wang Tong		
Patent Agency Code	11282	Patent Agent	xuzhi yong yantao

Abstract

This invention discloses one mobile terminal and its emergency call method, wherein, the terminal comprises the following parts: emergency call key to trigger emergency call; emergency call set module to set emergency call number and its priority according to user input; automatically call module to inquire emergency call set module number and to call number according its priority; short message automatic information module to send preset message to said number according to its priority.

» Machine Translation » Close

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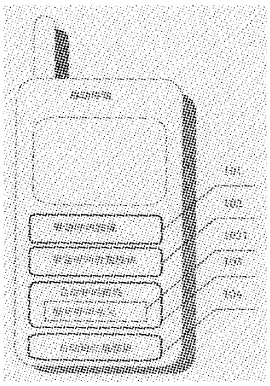
权利要求书 2 页 说明书 5 页 附图 2 页

[54] 发明名称

一种移动终端及其紧急呼叫方法

[57] 摘要

本发明公开了一种移动终端及其紧急呼叫方法，移动终端包括：用于触发紧急呼叫的紧急呼叫按键；根据用户输入来设置紧急呼叫的号码及其优先级的紧急呼叫设置模块；在监测到所述紧急呼叫按键被按下后，自动查询紧急呼叫设置模块设置的紧急呼叫号码，并按照其优先级自动呼叫号码的自动呼叫模块，和按照其优先级自动向所述号码发送预设的短信息自动短信息模块。 使用本发明能够在遇到紧急情况时，只需要按一个紧急按键就可以拨通相关预设的电话号码，以及发送短信通知相关的人，针对老年人的生理特点来说，对于老年人显得尤其实用、更具有重要意义。



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1、一种移动终端，其特征在于，包括:

紧急呼叫按键，用于通过该按键来触发紧急呼叫;

紧急呼叫设置模块，用于根据用户输入来设置紧急呼叫的号码及其优先级;

自动呼叫模块，用于在监测到所述紧急呼叫按键被按下后，自动查询所述紧急呼叫设置模块设置的紧急呼叫号码，并按照其优先级自动呼叫所述号码。

2、如权利要求 1 所述的移动终端，其特征在于，还包括:

自动短信息模块，用于在监测到所述紧急呼叫按键被按下后，自动查询所述紧急呼叫设置模块设置的紧急呼叫号码，并按照其优先级自动向所述号码发送预设的短信息。

3、如权利要求 1 所述的移动终端，其特征在于，所述自动呼叫模块，包括:

循环呼叫单元，用于按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

4、如权利要求 3 所述的移动终端，其特征在于，所述循环呼叫单元在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，再次按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

5、如权利要求 3 所述的移动终端，其特征在于，所述移动终端为无线市话手机。

6、一种用于移动终端的紧急呼叫方法，其特征在于，包括:

在移动终端中设置紧急呼叫按键，并提供一个紧急呼叫菜单;

利用该菜单，接收用户输入，并根据用户输入，记录用户设置的紧急呼叫号码及其优先级;

当监测到所述紧急呼叫按键被按下后，自动查询所述设置的紧急呼叫号码，并按照其优先级自动呼叫所述号码。

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7、如权利要求 6 所述的方法，其特征在于，进一步包括:

在监测到所述紧急呼叫按键被按下后，自动查询所述设置的紧急呼叫号码，并按照其优先级自动向所述号码发送预设的短信息。

8、如权利要求 6 所述的方法，其特征在于，所述自动呼叫紧急呼叫号码步骤，包括: 按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

9、如权利要求 7 所述的方法，其特征在于，所述自动呼叫紧急呼叫号码步骤，进一步包括: 在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，再次按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

10、如权利要求 6 所述的方法，其特征在于，所述移动终端为无线市话手机。

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一种移动终端及其紧急呼叫方法

技术领域

本发明涉及一种移动终端及其紧急呼叫方法，特别涉及一种能紧急呼叫的移动终端及其紧急呼叫方法。

背景技术

移动终端中，尤其是PHS（Personal Handy Phone System，无线市话或小灵通）技术采用微蜂窝技术，通过微蜂窝基站实现无线覆盖，将用户端，即无线市话手机以无线的方式接入本地电话网，使传统意义上的固定电话不再固定在某个位置，可在无线网络覆盖范围内移动使用，随时随地接听、拨打本地和国内、国际电话。PHS手机具有和其他制式手机一样方便的可移动性，而其突出特点在于发射功率很小，发射功率小也意味对人体的辐射小，通话平均功率在10mW 以内，峰值功率也在80mW 的范围，远远小于GSM手机的发射功率（峰值功率为2W），就是比俗称的“绿色环保手机”CDMA（Code Division Multiple Access，码分多址)手机，通常为0.2W的发射功率还小得多，堪称真正的绿色环保手机。同时，由于定位于固定电话的延伸和有益补充，消费者可享受到低廉的话费，因此从小灵通在甫一面世，就深受消费者喜爱，特别是随着医疗卫生和整个生活环境的提高，老龄人口越来越多，PHS手机低廉的资费和低辐射的环保特性获得了老年人的垂青。

然而，由于老年人独特的生理特点，记忆力，眼力都退化的情况下，要呼叫某个号码时如果要操作菜单，有的时候还要翻页寻找才能找到所需的号码，这对于老人来说尤其是在紧急情况下要求实在苛刻了。因此移动终端针对这些老年用户提供一个方便可靠的呼救方案成为一个非常迫切和有意义的课题。然而当前市场上还没有考虑到老人的这类特殊需求移动终端。

发明内容

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本发明所解决的技术问题是提供了一种移动终端及其紧急呼叫方法，以达到在遇到紧急情况时,只需要按此紧急按键就可以拨通相关预设的电话号码，以及发送短信通知相关的人。

为解决上述问题，本发明提供了一种移动终端及其紧急呼叫方法，意动终端包括：紧急呼叫按键、紧急呼叫设置模块、自动呼叫模块，其中：

紧急呼叫按键，用于通过该按键来触发紧急呼叫；

紧急呼叫设置模块，用于根据用户输入来设置紧急呼叫的号码及其优先级；

自动呼叫模块，用于在监测到所述紧急呼叫按键被按下后，自动查询所述紧急呼叫设置模块设置的紧急呼叫号码，并按照其优先级自动呼叫所述号码。

还可以包括：

自动短信息模块，用于在监测到所述紧急呼叫按键被按下后，自动查询所述紧急呼叫设置模块设置的紧急呼叫号码，并按照其优先级自动向所述号码发送预设的短信息。

所述自动呼叫模块，可以包括：

循环呼叫单元，用于按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

所述循环呼叫单元可以在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，再次按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

所述移动终端可以为无线市话手机。

紧急呼叫方法包括：

在移动终端中设置紧急呼叫按键，并提供一个紧急呼叫菜单；

利用该菜单，接收用户输入，并根据用户输入，记录用户设置的紧急呼叫号码及其优先级；

当监测到所述紧急呼叫按键被按下后，自动查询所述设置的紧急呼叫号

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码，并按照其优先级自动呼叫所述号码。

可以进一步包括:

在监测到所述紧急呼叫按键被按下后，自动查询所述设置的紧急呼叫号码，并按照其优先级自动向所述号码发送预设的短信息。

所述自动呼叫紧急呼叫号码步骤，可以包括: 按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

所述自动呼叫紧急呼叫号码步骤，可以进一步包括: 在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，再次按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。

所述移动终端可以为无线市话手机。

使用本发明能够在遇到紧急情况时,只需要按一个紧急呼叫按键就可以拨通相关预设的电话号码，以及发送短信通知相关的人，针对老年人的生理特点来说，对于老年人显得尤其实用、更具有重要意义。

附图说明

图 1 是根据本发明实施例所述移动终端结构示意图;

图 2 是根据本发明所述方法在实施例中的具体实施流程图。

具体实施方式

下面结合附图来描述本发明的具体实施。

图 1 为本发明实施例的移动终端结构示意图，如图所示，为了实现在紧急状态下能迅速的拨通所需电话、以及发短信通知对方，本发明实施例中移动终端包括: 紧急呼叫按键 101、紧急呼叫设置模块 102、自动呼叫模块 103、自动短信息模块 104，其中:

移动终端通过紧急呼叫按键 101 来触发紧急呼叫;

紧急呼叫设置模块 102 则是，根据用户输入来设置紧急呼叫的号码及其优先级的; 紧急呼叫设置模块 102 主要是设定紧急呼救号码,由于使用人可

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能不大会进行该操作,可以通过其亲属帮其设置好，以后就可以高枕无忧了。在其中可以设置多个号码，如：可以包括120号码,家庭电话,儿女电话,亲戚电话等等,也可以规定一个号码数目的上限,比如最多10个；对每个号码还可以设置其状态为禁止或活动,一旦该号码被禁止,就失去效用了。号码是有优先级的,优先的级别用户输入时可以通过菜单的交互来选择，第一个号码优先级最高,比如可以将120号码设定为第一个号码,第二个号码次之,以此类推。

自动呼叫模块103，在监测到紧急呼叫按键101被按下后，自动查询紧急呼叫设置模块102设置的紧急呼叫号码，并按照其优先级自动呼叫号码。自动短信息模块104，在监测到紧急呼叫按键101被按下后，也开始自动查询紧急呼叫设置模块102设置的紧急呼叫号码，并按照其优先级自动向这些号码发送预设的短信息，当然也可以对于其他号码还可以选择自动发送预定的短消息与通知。

为了更安全的保证在紧急状态下能够拨通所需的电话，自动呼叫模块103中还有循环呼叫单元1031，它按照优先级顺序逐个呼叫所述设置的紧急呼叫号码，直至其中之一被接通。循环呼叫单元1031在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，再次按照优先级顺序逐个呼叫设置的紧急呼叫号码，直至其中之一被接通。

图2是本发明在实施例中的具体实施流程图，如图所示，本发明的实施流程是：

步骤201：在移动终端中设置紧急呼叫按键，并提供一个紧急呼叫菜单；

步骤202：利用该菜单，接收用户输入，并根据用户输入，记录用户设置的紧急呼叫号码及其优先级；

步骤203：当监测到紧急呼叫按键被按下后，自动查询设置的紧急呼叫号码，并按照其优先级自动呼叫号码，并向号码发送预设的短信息；

步骤204：自动呼叫紧急呼叫号码是按照优先级顺序逐个呼叫设置的紧急呼叫号码的，直至其中之一被接通；

步骤205：如果在依次呼叫完全部预设的紧急呼叫号码后，仍未接通时，

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再次按照优先级顺序逐个呼叫设置的紧急呼叫号码，直至其中之一被接通。

考虑到 PHS 手机低廉的资费和低辐射的环保特性，本发明优选 PHS 手机。

在实际使用时，一开始可以由老人的亲友帮其进行设定，用户选择紧急呼救号码设定菜单，依次输入紧急呼叫号码(第一个号码优先级最高,最后一个号码优先级最低)，对于已有的号码可以选择禁止，所有号码设定完毕后，系统自动保存相应的设置。这样经过别人的设置以后，老人就可以开始十分方便的进行使用了。

而在别人的帮助下进行设定后，老人在紧急情况下使用仅仅只是按一下紧急呼救按键就可以进行呼救了，整个呼救的流程如下:

1、用户按下紧急呼救键;

2、移动终端自动读取紧急呼救号码列表;

3、移动终端按照优先级高低顺序自动逐个呼叫紧急呼救号码列表中的没有被禁止的号码，直至其中之一被接通，对于其他的号码还可以自动发送预定的短消息;

4、如果紧急呼救号码列表中的号码在上面的一遍扫描过程中一个也未被呼通，移动终端自动循环从第一个优先级号码重新开始呼叫。

由此可见，使用本发明所需的仅仅是按一下紧急呼叫按键就能完成整个过程，使用十分方便，使用本发明,针对老年人的生理特点显得对于老年人尤其实用，它可以解决儿女的后顾之忧,在老人遇到紧急情况时,仅仅通过一个按键就可以达到通知其亲友或者联系社区,医院救援中心的目的,而且由于采用了多个号码,所以不会造成只用一个号码时,当该号码因为关机或故障等原因无法呼通时紧急呼救就失去效用的问题。

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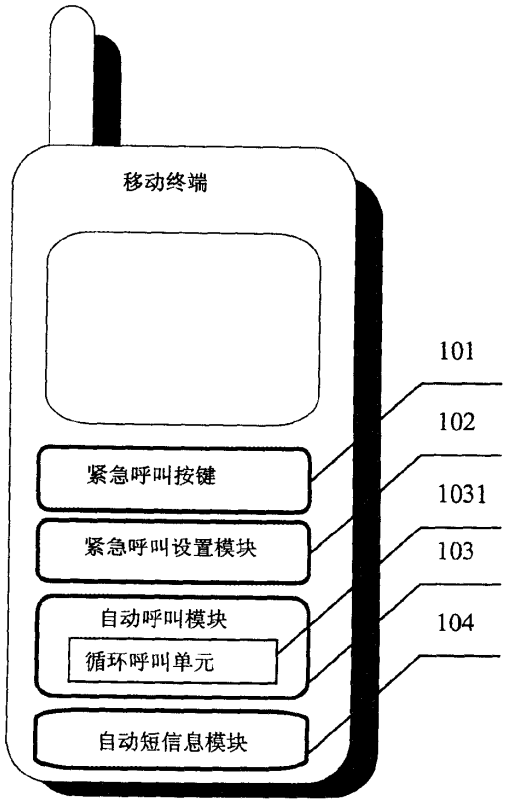


图1

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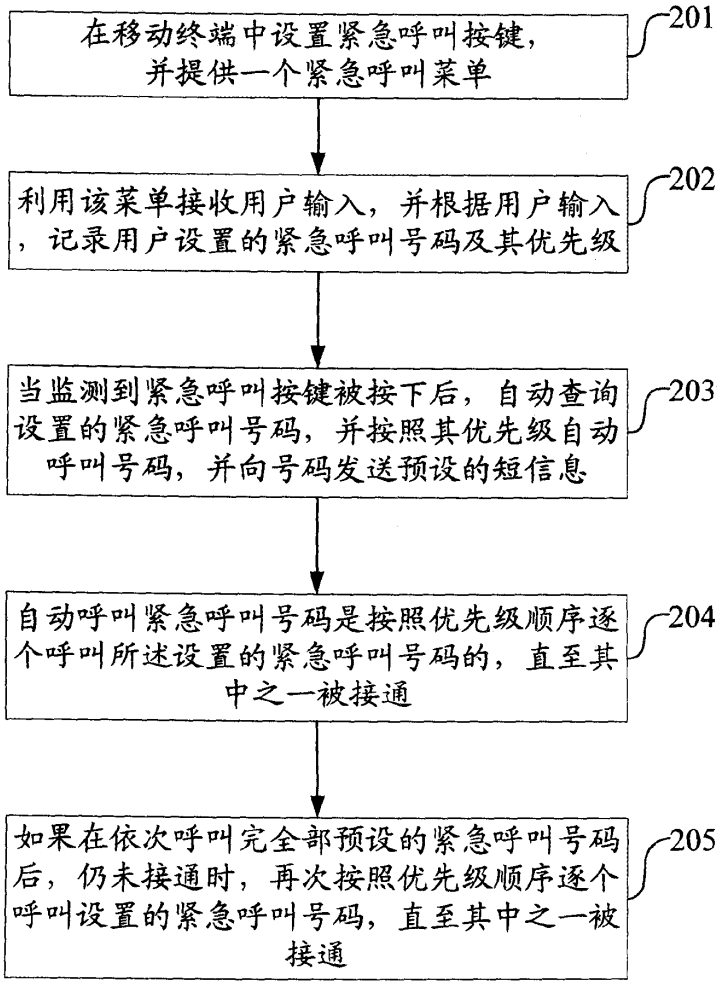


图2

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Espacenet

Bibliographic data: CN103297610 (A) — 2013-09-11

Method and apparatus for sending emergency call in mobile terminal

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Applicant(s): SAMSUNG ELECTRONICS CO LTD ± (SAMSUNG ELECTRONICS CO LTD)

Classification: - international: ***H04M1/725; H04W4/90***
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Abstract of CN103297610 (A)

A method for sending an emergency call in a mobile terminal includes receiving a request for transmitting an emergency call in a screen-locked state; and displaying a keypad and/or an emergency button icon in response to the request.

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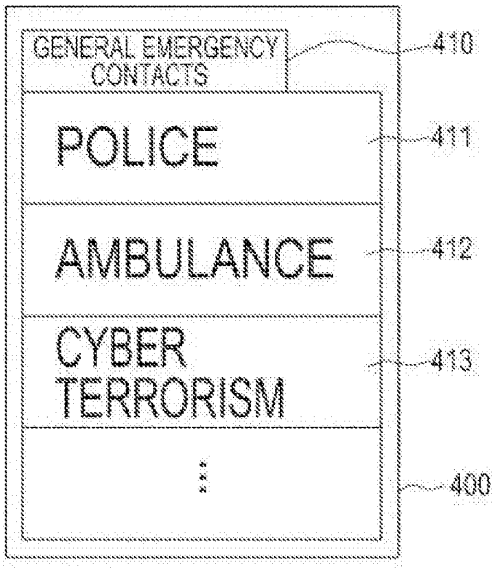

GENERAL EMERGENCY CONTACTS
410
POLICE
411
AMBULANCE
412
CYBER TERRORISM
413
400

FIG.4A

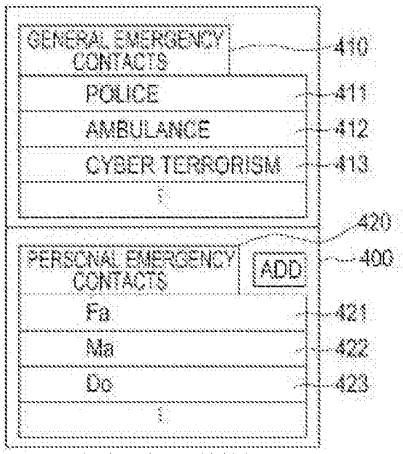
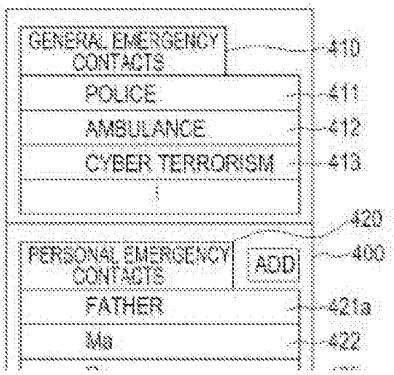

GENERAL EMERGENCY CONTACTS
410
POLICE
411
AMBULANCE
412
CYBER TERRORISM
413
420
PERSONAL EMERGENCY CONTACTS
ADD
400
Fa
421
Ma
422
Do
423

FIG.4B


GENERAL EMERGENCY CONTACTS
410
POLICE
411
AMBULANCE
412
CYBER TERRORISM
413
420
PERSONAL EMERGENCY CONTACTS
ADD
400
FATHER
421a
Ma
422

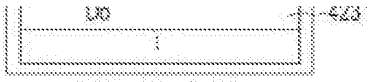


FIG.4C

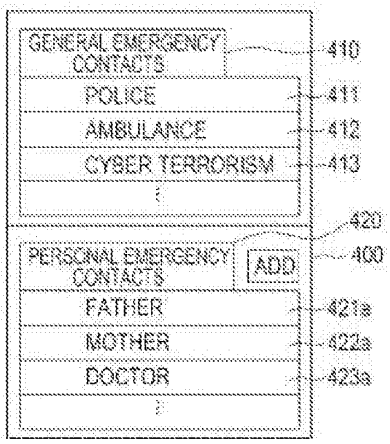


FIG.4D

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(51)Int.Cl.
H04M 1/725(2006.01)

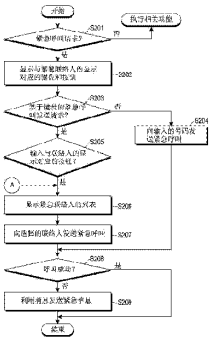
权利要求书2页 说明书7页 附图5页

(54)发明名称

在移动终端中发送紧急呼叫的方法和设备

(57)摘要

一种在移动终端中发送紧急呼叫的方法，包括：在锁屏状态下接收发送紧急呼叫的请求；和响应于所述请求，显示键盘和/或紧急按钮图标。



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1. 一种在移动终端中发送紧急呼叫的方法，所述方法包括：

在锁屏状态下接收发送紧急呼叫的请求；和

响应于所述请求显示键盘和/或紧急按钮。

2. 根据权利要求 1 所述的方法，所述方法还包括：当输入紧急按钮时显示紧急联络人的列表，和

其中，紧急联络人的列表包括普通紧急联络人的列表和个人紧急联络人的列表，用户在紧急联络人的列表中设置联络人。

3. 根据权利要求 2 所述的方法，其中，将与个人紧急联络人对应的至少一个联络人显示为与注册的姓名不同的姓名，和

其中，当用户选择联络人时，显示为不同姓名的联络人更新为注册的姓名。

4. 根据权利要求 1 所述的方法，所述方法还包括：将紧急呼叫发送到在显示的键盘上输入的号码或者发送到在显示的紧急联络人的列表中选择的联络人。

5. 根据权利要求 4 所述的方法，所述方法还包括：确定所述紧急呼叫是否成功，如果不成功，则将预设的紧急信息发送到接收方。

6. 根据权利要求 5 所述的方法，其中，紧急信息包括预设的文本信息和/或关于紧急呼叫失败时移动终端的位置的信息。

7. 一种在移动终端中发送紧急呼叫的方法，所述方法包括：

在锁屏状态下接收发送紧急呼叫的请求；和

响应于所述请求确定在紧急联络人的列表中注册的联络人的数量，并基于确定的结果将呼叫发送到至少一个紧急联络人。

8. 根据权利要求 7 所述的方法，其中，发送呼叫的步骤包括：

通过检查紧急联络人的列表来确定注册的联络人的数量；和

如果注册的联络人的数量是一个，则将呼叫发送到这一个联络人，如果注册的联络人的数量是两个以上，则显示紧急联络人的列表以供选择并将呼叫发送到在显示的紧急联络人的列表中选择的联络人。

9. 根据权利要求 8 所述的方法，其中，紧急联络人的列表包括普通紧急联络人的列表和个人紧急联络人的列表，用户在紧急联络人的列表中设置联络人。

10. 根据权利要求 9 所述的方法，其中，将与个人紧急联络人对应的至少一个联络人显示为与注册的姓名不同的姓名，和

其中，当用户选择联络人时，显示为不同姓名的联络人更新为注册的姓名。

11. 根据权利要求 8 所述的方法，所述方法还包括：确定发送的呼叫是否成功，如果不成功，则将预设的紧急信息发送到接收方。

12. 根据权利要求 11 所述的方法，其中，紧急信息包括预设的文本信息和/或关于呼叫失败时移动终端的位置的信息。

13. 一种在移动终端中发送紧急呼叫的设备，所述设备包括：

显示器，具有触摸屏；和

控制器，响应于在触摸屏的锁屏状态下发送紧急呼叫的请求，在显示器上显示键盘和/或紧急按钮。

14. 根据权利要求 13 所述的设备，其中，当输入紧急按钮时，控制器显示紧急联络人的

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列表，和

其中，紧急联络人的列表包括普通紧急联络人的列表和个人紧急联络人的列表，用户在紧急联络人的列表中设置联络人。

15. 根据权利要求 14 所述的设备，其中，控制器将与个人紧急联络人对应的至少一个联络人显示为与注册的姓名不同的姓名，并且其中，当用户选择联络人时，控制器将显示为不同姓名的联络人更新为注册的姓名。

16. 根据权利要求 13 所述的设备，其中，控制器将紧急呼叫发送到在显示的键盘上输入的号码或者发送到在显示的紧急联络人的列表中选择的联络人。

17. 根据权利要求 16 所述的设备，其中，控制器确定呼叫发送是否成功，并且如果不成功，将预设的紧急信息发送到接收方。

18. 根据权利要求 17 所述的设备，其中，紧急信息包括预设的文本信息和 / 或关于呼叫失败时移动终端的位置的信息，并且通过全球定位系统 GPS 模块和无线保真 Wi-Fi 模块中的至少一个获取位置信息。

19. 一种在移动终端中发送紧急呼叫的设备，所述设备包括 ：

显示器，具有触摸屏 ；和

控制器，在触摸屏的锁屏状态下响应于紧急呼叫请求，确定在紧急联络人的列表中注册的联络人的数量，并基于确定结果将呼叫发送到至少一个紧急联络人。

20. 根据权利要求 19 所述的设备，其中，控制器通过检查紧急联络人的列表确定注册的联络人的数量，

如果注册的联络人的数量是一个，则将呼叫发送到这一个联络人，

如果注册的联络人的数量是两个以上，则显示紧急联络人的列表以供选择，并将呼叫发送到在显示的紧急联络人的列表中选择的联络人。

21. 根据权利要求 20 所述的设备，其中，紧急联络人的列表包括普通紧急联络人的列表和个人紧急联络人的列表，用户在紧急联络人的列表中设置联络人。

22. 根据权利要求 21 所述的设备，其中，控制器将与个人紧急联络人对应的至少一个联络人显示为与注册的姓名不同的姓名，并且当用户选择联络人时，控制器将显示为不同姓名的联络人更新为注册的姓名。

23. 根据权利要求 20 所述的设备，其中，控制器确定发送的呼叫是否成功，并且如果不成功，将预设的紧急信息发送到接收方。

24. 根据权利要求 23 所述的设备，其中，紧急信息包括预设的文本信息，和

其中，紧急信息包括关于呼叫失败时移动终端的位置的信息，并且通过全球定位系统 GPS 模块和无线保真 Wi-Fi 模块中的至少一个获取位置信息。

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在移动终端中发送紧急呼叫的方法和设备

技术领域

[0001] 本发明通常涉及移动终端，更具体地讲，涉及在移动终端中发送紧急呼叫。

背景技术

[0002] 随着技术的不断改进，利用触摸屏实现的移动终端（诸如智能电话）目前提供更多种类的功能，诸如多媒体播放器、电子书阅读器、文件编辑器和游戏机。

[0003] 很多不同的锁屏功能已经应用于移动终端来防止触摸屏在移动终端的待机状态下被激活。诸如滑动解锁和图案解锁的锁屏功能可防止触摸屏由于意外的滑动或意外的图案输入而导致非故意性解锁。

[0004] 这些锁屏功能的优势在于可防止非故意性激活，但是由于这些锁屏功能要花费一些时间去解锁或者重复尝试解锁，所以在使用中还会成为快速操作移动终端的障碍。这是在发生事故的用户需要快速拨打紧急呼叫时所不期望的。

[0005] 为了减少传统锁屏功能的不便利性，已经提供了一些新的功能，通过这些新的功能，即使在锁屏状态下，用户也可以进行紧急呼叫而无需对触摸屏进行解锁，并且可以使用为执行紧急呼叫而设计的单独的按钮来实现这些功能。

[0006] 当前可用的发送紧急呼叫的功能的优势在于可以允许用户在不对触摸屏进行解锁的情况下快速拨打紧急呼叫。然而，这些功能仅限于特定的号码，诸如政府或政府机构管理的官方救援所使用的 911。

[0007] 有时，除了官方救援所使用的 911，在紧急情况下，用户还会需要紧急呼叫其它个人（诸如他们的父母或医生）。

[0008] 因此，需要一种新的方法和设备，当终端处于锁屏状态下时，该方法和设备能够对除了普通的紧急呼叫联络人（诸如 911）之外的用户设置的单独的联络人（例如，父母或医生）发送紧急呼叫。

发明内容

[0009] 本发明的示例性实施例的一方面提供了一种在锁屏状态期间向用户设置的单独联络人发送紧急呼叫的方法和设备。

[0010] 本发明的示例性实施例的另一方面提供了一种允许用户在锁屏状态期间更方便且快速地拨叫紧急呼叫的方法和设备。

[0011] 根据本发明的一方面，一种在移动终端中发送紧急呼叫的方法，所述方法包括：在锁屏状态下接收发送紧急呼叫的请求；响应于发送紧急呼叫的请求，显示与紧急联络人的显示对应的键盘和按钮中的至少一个。

[0012] 根据本发明的另一方面，一种在移动终端中发送紧急呼叫的方法，所述方法包括：在锁屏状态下接收发送紧急呼叫的请求；响应于发送紧急呼叫的请求，确定在紧急联络人的列表中注册的联络人的数量，并根据确定的数量将呼叫发送到特定联络人。

[0013] 根据本发明的另一方面，一种在移动终端中发送紧急呼叫的设备，所述设备包括：

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存储器，用于存储紧急联络人；显示器，具有触摸屏；无线收发器，提供呼叫发送功能；控制器，当在触摸屏的锁屏状态下接收到发送紧急呼叫的请求时，在显示器上显示与紧急联络人的显示对应的键盘和按钮中的至少一个。

[0014] 根据本发明的又一方面，一种在移动终端中发送紧急呼叫的设备，所述设备包括：存储器，用于存储紧急联络人；显示器，具有触摸屏；无线收发器，提供呼叫发送功能；控制器，当在触摸屏的锁屏状态下接收到发送紧急呼叫的请求时，确定在紧急联络人的列表中注册的联络人的数量，并根据确定的数量将呼叫发送到特定联络人。

附图说明

[0015] 通过下面结合附图进行的描述，本发明的某些示例性实施例的以上和其它方面、特征和优点将更清楚，在附图中：

[0016] 图 1 是根据本发明实施例的移动终端的框图；

[0017] 图 2 示出了根据本发明实施例的发送紧急呼叫的过程；

[0018] 图 3A 至图 3C 示出了根据本发明实施例的发送紧急呼叫的过程的第一示例；

[0019] 图 4A 至图 4D 示出了根据本发明实施例的发送紧急呼叫的过程的第二示例；

[0020] 图 5A 至图 5C 示出了根据本发明实施例的发送紧急呼叫的过程的第三示例；

[0021] 图 6 示出了根据本发明另一实施例的发送紧急呼叫的过程。

[0022] 在整个附图中，相同的附图标号将被理解为指的是相同的元件、特征和结构。

具体实施方式

[0023] 现在将参照附图详细地描述本发明的优选实施例。在下面的描述中，提供诸如详细的构造和组件的具体细节仅为了有助于全面理解本发明的示例性实施例。因此，本领域技术人员应该清楚的是，在不脱离本发明的范围和精神的情况下，可以对这里描述的实施例做出各种改变和修改。另外，为了清晰和简洁，省略了对公知功能和结构的描述。

[0024] 图 1 是根据本发明实施例的移动终端的框图。应该注意的是，可应用本发明示例性实施例的移动终端可以是便携式电子装置或任意的双系统，诸如传统移动电话与由 Windows8®、iOS®、Android®等驱动的最新平板个人电脑(PC)和智能电话。

[0025] 如所示，无线收发器 23 包括射频(RF)单元和调制器 / 解调器(调制解调器)。RF 单元包括：RF 发送器，用于将发送信号上变频并对上变频的发送信号进行放大；和 RF 接收器，用于对接收的信号进行低噪声放大并将放大的接收信号下变频。调制解调器包括：发送器，对发送信号进行编码和调制；和接收器，对从 RF 单元输出的接收信号进行解调和解码。

[0026] 通过无线收发器 23，用户不仅可以很好地使用呼叫发送 / 接收功能，而且还可以很好地使用紧急呼叫发送 / 接收功能。

[0027] 音频处理器 25 可构成编码器 / 解码器(编解码器)，它包括数据编解码器和音频编解码器。数据编解码器处理包数据等，音频编解码器处理诸如语音和多媒体文件的音频信号。音频处理器 25 可通过音频编解码器将从调制解调器接收的数字音频信号转换成模拟音频信号，并使用扬声器 SPK 播放模拟音频信号。音频处理器 25 可通过音频编解码器将由麦克风 MIC 拾取的模拟音频信号转换成数字音频信号，并将数字音频信号传输到调制解调器。编解码器可被设置成单独的装置或者可包括在控制器 10 中。

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[0028] 键输入单元 27 可包括输入数字 / 字符信息所需的数字 / 字符键以及设置各种功能所需的功能键或触摸板。当显示器 50 被实现为具有电容或电阻触摸屏时，键输入单元 27 可包括最少量的预设键，并且显示器 50 可代替键输入单元 27 的部分键输入功能。

[0029] 存储器 30 可包括程序存储器和数据存储器。程序存储器可存储用于控制移动终端的一般操作的程序。存储器 30 还可包括外部存储器，诸如压缩闪存（CF）卡、安全数字（SD）卡、微型安全数字（Micr-SD）卡、迷你安全数字（Mini-SD）卡、卡极限数字（xD）卡和记忆棒。存储器 30 还可以包括诸如硬盘驱动（HDD）和固态盘（SSD）的盘。

[0030] 根据本发明的实施例，存储器 30 可存储包括在紧急联络人的列表中的联络人的注册信息（例如，诸如姓名、电话号码、电子邮件地址等的联络人信息），并且紧急联络人可包括诸如警察局和医院的普通紧急联络人以及诸如医生和宗教领袖（religious leaders）的个人紧急联络人。

[0031] 普通紧急联络人对应于政府或政府机构管理的公共紧急联络人，并可通过移动终端的制造商、操作系统的提供商或者通信服务提供商来缺省设置。例如，普通紧急联络人可包括例如 118（用于网络恐怖主义报告中心）、112（用于犯罪报告）、128（用于污染报告）、131（用于天气预报）、132（用于法律咨询）、125（用于走私报告）、182（用于走失 / 离家出走报告）、127（用于毒品报告）、1333（用于交通信息）、1336（用于个人信息侵害报告）、1339（用于医院信息）、1366（用于妇女保护）、1391（用于儿童虐待报告）等。

[0032] 个人紧急联络人可指的是用户提前设置以当他 / 她在锁屏状态下想要进行紧急呼叫时显示的私人联络人（例如，父亲、母亲、医生等）。当用户直接输入诸如姓名和电话号码的注册信息时可添加在个人紧急呼叫的列表中注册的联络人。当用户设置或选择期望联络人（从现有的电话薄数据中读取并显示在个人紧急联络人的列表中）时，也可以添加联络人。

[0033] 全球定位系统（GPS）模块 40 接收包括诸如星历和历书的信息的 GPS 信息以及标准系数，并基于与移动终端的当前位置对应的经度值和位置值提供移动终端的当前位置的位置信息。通常，对于移动终端，主要使用辅助 GPS 系统和自主 GPS 系统组合的辅助自主（Assismous GPS）（A-GPS）系统，这是因为该系统的首次定位时间（TTFF）短，其中，首次定位时间（TTFF）是移动终端可接收 GPS 信号并计算其当前位置的时间。然而，可以使用本领域内公知的其它系统。

[0034] 根据本发明的实施例，当请求紧急呼叫时发送的呼叫（即，紧急呼叫）失败时，GPS 模块 40 可用于发送紧急信息。换言之，当发送紧急呼叫失败时，控制器 10 可使用 GPS 模块 40 对失败的紧急呼叫的对方移动终端提供关于移动终端在发送紧急呼叫失败时（或在发送失败的紧急呼叫时）的位置的信息。

[0035] 显示器 50 输出在移动终端中产生的各种显示信息，其中，显示器 50 可包括液晶显示器（LCD）或有机发光二极管（OLED），OLED 可分为无源模式 OLED（PMOLED）和有源模式 OLED（AMOLED）。被实现为具有电容或电阻触摸屏的显示器 50 可与键输入单元 27 一起用作控制移动终端的输入单元。

[0036] 在本发明的实施例中，显示器 50 支持为在锁屏状态下发送紧急呼叫所提供的触摸屏功能，并且可由用户选择性地设置和解除锁屏功能。

[0037] 根据本发明的实施例，控制器 10 控制移动终端的全部操作。控制器 10 可根据从

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键输入单元 27 和 / 或显示器 50 接收的用户输入来切换或控制移动终端的操作。根据本发明的实施例，当在锁屏状态下请求发送紧急呼叫时，控制器 10 显示与紧急联络人的显示对应的键盘和按钮中的至少一个。

[0038] 尽管包括在移动终端中的装置（诸如蓝牙模块、照相机模块、无线保真（Wi-Fi）模块、加速器传感器、接近传感器、地磁传感器和数字媒体广播（DMB）接收器）未示出在图 1 的框图中，但是本领域的普通技术人员将清楚的是，这些未描述的装置也可以包括在本发明实施例提供的移动终端中以提供它们自身独特的功能。

[0039] 例如，支持互联网语音传输协议（VoIP）功能的 Wi-Fi 模块可代表无线收发器 23 提供呼叫（或紧急呼叫）发送 / 接收功能。Wi-Fi 模块还可以用于代表 GPS 模块确定移动终端的位置信息。

[0040] 图 2 示出了根据本发明实施例的发送紧急呼叫的过程。图 3A 至图 3C、图 4A 至图 4D 以及图 5A 至图 5C 分别示出了根据本发明实施例的发送紧急呼叫的过程的第一示例、第二示例和第三示例。

[0041] 如所示，在步骤 S201 和 S202，当检测到发送紧急呼叫的请求时，控制器 10 显示与紧急联络人的显示对应的键盘和 / 或按钮。

[0042] 参照图 3A，图 3A 中示出的屏幕 310 对应于触摸屏，通过图案锁特征将屏幕锁应用于触摸屏。用户可以通过使用图 3A 中示出的图案输入针（pint）312 输入预设图案来释放或解锁屏幕锁，或者可通过图 3A 所示的从左到右滑动紧急呼叫按钮 311 来请求发送紧急呼叫。

[0043] 如果确定当移动终端处于锁屏状态时在紧急状况中的用户通过操作紧急呼叫按钮 311 请求发送紧急呼叫，则控制器 10 如图 3B 所示在屏幕 320 上显示与紧急联络人图标对应的键盘 321 和按钮 322。可选择地，可通过激活滑动按钮或为这种目的所设计的其它按钮来实现发送紧急呼叫的请求。

[0044] 这里，用户可通过在如图 3B 所示的虚拟键盘 321 上输入特定数字（例如，119）来请求呼叫发送，或者可通过输入或触摸按钮 322 请求显示紧急联络人的列表。

[0045] 在本发明的实施例中，如果确定用户请求发送紧急呼叫，则移动终端不仅可显示与紧急联络人的显示对应的键盘和按钮中的至少一个，而且还可以基于紧急呼叫历史，显示最经常被发送紧急呼叫的预定数量的对方联络人，或者显示最后发送的紧急呼叫的预定数量的对方联络人。

[0046] 例如，当用户通过激活图 3A 中示出的紧急呼叫按钮 311 请求紧急呼叫时，除了预设键盘 321 和按钮 322 之外，控制器 10 还基于紧急呼叫历史显示预定数量的（例如，2 个）联络人 331 和 332，如图 3C 所示。图 3C 中示出的联络人 331 和 332 可以是紧急呼叫历史中最经常被发送紧急呼叫的前两个联络人或者最后发送的紧急呼叫的前两个联络人。尽管在图 3C 中假设预定数量为两个，但是用户可以自己进行再设置。

[0047] 因此，如以上参照图 3C 所描述的，用户可以通过选择联络人 331 或 332 立即请求发送紧急呼叫，而无需手动按压键盘 321 上的键或无需按压按钮 322 以检查紧急联络人。

[0048] 除了存储呼叫历史的传统技术之外，控制器 10 可单独地管理紧急呼叫历史并将紧急呼叫历史存储在存储器 30 中。

[0049] 返回参照图 2，在步骤 S203 和 S204 中，当请求发送基于键盘的紧急呼叫时，控制

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器 10 将紧急呼叫发送到用户输入的号码。这里，如果用户请求发送紧急呼叫，则显示屏幕可显示在显示器 50 上，如图 3B 或图 3C 所示。因此，用户可在图 3B 或图 3C 中示出的虚拟键盘 321 上输入他 / 她期望的号码，并将紧急呼叫发送到输入的号码。

[0050] 控制器 10 响应于发送紧急呼叫的请求，使用无线收发器 23 或 Wi-Fi 模块（未示出）与通信服务器（未示出）合作将呼叫发送到从键盘 321 输入的号码。

[0051] 在步骤 S205 至 S207，如果输入或触摸与紧急联络人的显示对应的按钮，则控制器 10 显示紧急联络人的列表并将呼叫发送到用户已选择的联络人。

[0052] 如果输入（例如，触摸）图 3B 或图 3C 中示出的按钮 322，则控制器 10 响应于该输入，显示紧急联络人的列表，如图 4A 或图 4B 所示。

[0053] 在本发明的实施例中，紧急联络人可包括普通紧急联络人和个人紧急联络人。如果用户请求显示紧急联络人（例如，如果输入与紧急联络人的显示对应的按钮），则可仅显示普通紧急联络人，或者可选择地，可一起显示普通紧急联络人和个人紧急联络人。换言之，当从用户接收到显示紧急联络人的请求时，控制器 10 可仅显示普通紧急联络人（如图 4A 所示），或可一起显示普通紧急联络人和个人紧急联络人（如图 4B 所示）。

[0054] 图 4A 示出了响应于显示紧急联络人的用户请求仅显示紧急联络人中的普通紧急联络人 410。标号 411 至 413 表示普通紧急联络人，分别为用于联络警察局的 112，用于呼叫救护车的 119，用于报告网络恐怖主义的 118。

[0055] 如这里所使用的术语“个人紧急联络人”可以指用户通过直接输入姓名和号码来设置的紧急联络人。图 4B 示出了响应于显示紧急联络人的用户请求既显示普通紧急联络人 410 又显示个人紧急联络人 420 的示例。

[0056] 关于图 4B 中示出的个人紧急联络人 420，可以理解的是，用户已经在个人紧急联络人的列表中注册了联络人“Fa”421、“Ma”422 和“Do”423。

[0057] 图 4B 中示出的用姓名“Fa”421、“Ma”422 和“Do”423 显示的联络人可分别对应于名字为“父亲”、“母亲”和“医生”的联络人。

[0058] 如果用户选择或触摸显示为其化名的特定联络人，则本发明的实施例提供了显示特定联系人的姓名的功能。这一点可以从图 4C 中理解到。

[0059] 换言之，如果在如图 4B 所示地显示紧急联络人时选择显示为化名“Fa”的联络人 421，则控制器 10 可显示联络人 421 注册的真实姓名“父亲”421a，如图 4C 所示。在图 4B 中将属于个人紧急联络人的联络人 421 至 423 显示为与他们注册的名字不同的化名的原因是为了保护用户的隐私。即，当显示个人紧急联络人时，移动终端通常不会显示属于个人紧急联络人的联络人的姓名，从而保护用户的隐私。

[0060] 可选择地，与前面参照图 4B 和图 4C 进行的描述不同的是，当用户请求显示紧急联络人时，本发明的实施例可提供立即显示属于个人紧急联络人的联络人的注册的姓名（例如，父亲、母亲和医生）421a、422a 和 423a 的功能，如图 4D 所示。

[0061] 如果紧急联系人显示为图 4B 至图 4D 中的任何一个，则用户可选择任意的联络人以请求对其发送呼叫（即，紧急呼叫）。例如，如果用户通过触摸图 4C 所示的联络人 421a 持续预定时间以上或者通过单独的菜单设置来请求向与“父亲”对应的联络人发送呼叫，则控制器 10 可检查注册在联络人 421a 中的号码并响应该请求向该号码发送呼叫。

[0062] 在步骤 S208 和 S209，控制器 10 确定呼叫发送是否成功，并且如果发送的呼叫失

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败，则控制器 10 将预设的紧急文本消息发送到对方联络人。

[0063] 在一些情况下，即使用户发送了紧急呼叫，另一方或对方联络人因为某些原因可能没有响应该呼叫。因此，如果另一方接收发送的呼叫失败，则移动终端将预设的紧急信息发送到计划方。

[0064] 例如，如果即使用户向图 4C 所示的联络人 421a 发送了特定呼叫，但是另一方（例如，父亲）接收指定呼叫失败，则控制器 10 可将预设的紧急信息发送到联络人 421a。这里，预设的紧急信息可包括文本信息和位置信息中的至少一个。文本信息指的是可由移动终端的系统设置或用户设置的信息，位置信息指的是关于呼叫发送失败时（或开始发送呼叫时）移动终端的位置的信息。

[0065] 图 5A 示出了呼叫失败时向另一方（例如，父亲）发送预设的紧急文本消息（例如，“请联络”）的示例。

[0066] 图 5B 示出了向另一方（例如，父亲）发送呼叫失败（或开始发送呼叫）时移动终端的位置信息（例如，地址信息和地图信息）的示例。

[0067] 图 5C 示出了向另一方（例如，父亲）既发送文本信息又发送位置信息的消息的另一示例。

[0068] 假设当接收包括位置信息的紧急信息时，接收移动终端运行能够利用接收的紧急信息的预设应用程序。例如，接收移动终端可运行诸如 Google 地图的应用程序并在地图上对用户显示与包括在紧急信息中的位置信息对应的位置。

[0069] 可基于从支持通信服务的基站（未示出）获取的预定信息，或通过对在呼叫发送过程中产生的回铃音信号进行计数来确定紧急呼叫的发送完成或成功。例如，在呼叫发送过程中，控制器 10 可从基站（未示出）获取表示接收方的移动终端关闭的信息或表示接收方已经进入留下语音消息的服务的信息。此外，如果在呼叫发送过程中产生的回铃音信号的计数数量大于或等于预定的数量（例如，10），则控制器 10 可确定呼叫发送失败。

[0070] 尽管这里假设在紧急呼叫失败时发送预设的紧急信息，但是可以实现的是，无论紧急呼叫是成功还是失败，在紧急呼叫之前或之后发送这种信息。

[0071] 同时，发送的预设紧急信息（例如，诸如消息的文本信息）可包括标记位，其中，接收移动终端基于标记位能够确定该信息是否是紧急信息。因此，当接收预设的紧急信息时，接收移动终端可确定接收的信息是紧急信息还是一般信息。例如，当以与普通信息不同的包括标记位的消息的形式接收紧急信息（例如，文本信息）时，接收移动终端可确定接收的信息是普通信息还是紧急信息（例如，包括文本信息的紧急信息）。之后，已经接收紧急信息的接收移动终端可确定接收的呼叫是紧急呼叫，并可经警报音频信号、光信号、振动信号、电子邮件、语音或它们的任何组合向用户通知接收到紧急呼叫。

[0072] 图 6 示出了根据本发明另一实施例的发送紧急呼叫的过程，下面将参照图 4A 至图 6 来描述。需要注意的是，当移动终端在锁屏状态下从其用户接收发送紧急呼叫的请求时实现该实施例。

[0073] 在步骤 S601 和 S602，当检测到用户的发送紧急呼叫的请求时，控制器 10 确定在紧急联络人的列表中注册的联络人的数量。

[0074] 对于处于锁屏状态（诸如图案锁状态）下的移动终端，如果它的用户通过操作请求紧急呼叫的按钮（诸如图 3A 中示出的紧急呼叫按钮 311）来请求发送紧急呼叫，则控制器 10

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可通过检查存储在存储器 30 中的紧急联络人的列表来确定联络人的总数量。为此，控制器 10 确定包括在存储在存储器 30 中的普通紧急联络人的列表和个人紧急联络人的列表中的联络人的数量。

[0075] 在步骤 S603 和 S604，如果紧急联络人的列表中的联络人的数量是 1，则控制器 10 向这一个联络人发送呼叫，如果联络人的数量是 2 个以上，则控制器 10 进行至步骤 A（或图 2 中的步骤 S206）。

[0076] 根据本发明的另一实施例，如果紧急联络人的列表中的联络人的数量是 1，则控制器 10 立即向该联络人发送呼叫，有助于快速发送紧急呼叫。

[0077] 然而，如果紧急联络人的列表中的联络人的数量是 2 个以上，则控制器 10 进行至步骤 A（或步骤 S206）。在进行至步骤 A 之后，如结合图 2 所描述的，控制器 10 显示联络人的列表，向选择的联络人发送呼叫，确定发送的呼叫是否失败，如果这样的话，如果发送呼叫失败，向选择的联络人发送预设的紧急信息。

[0078] 从前面的描述所清楚的是，移动终端可在锁屏状态下向用户设置的单独联络人发送紧急请求，还可以允许用户在锁屏状态下更方便且快速地进行紧急呼叫。应该注意的是，本发明的教导可应用于其它不同的情景。例如，假设绑匪在小孩上学的路上绑架了他 / 她并使用紧急联络图标向小孩的父母发送了呼叫，支持通信功能的预定监控中心可执行紧急呼叫。因此，当请求发送紧急呼叫时，发送紧急呼叫的移动终端向监控中心发送用于识别呼叫者 ID 的双音多频（DTMF）信号，并且监控中心支持与对应于 DTMF 信号的电话号码的呼叫连接。之后，监控中心监控连接的呼叫的电话通话。如果监控到诸如“绑架”和“敲诈”的词语，则监控中心可在无需得到移动终端的用户（即，绑匪）同意的情况下请求并获取发送该呼叫的移动终端的位置信息。因此，监控中心可对警察提供获取的移动终端的位置信息以应对紧急情况（例如，绑架）。

[0079] 根据本发明的上述方法可在硬件、固件中被实施或被实施为可在记录介质（诸如 CD ROM、RAM、软盘、硬盘、或磁光盘）中存储的软件或计算机代码，或被实施为通过网络下载的并将被存储在本地记录介质上的计算机代码（其中，所述计算机代码最初存储在远程记录介质或非暂时性机器可读介质上），使得描述于此的所述方法可使用通用计算机或专用处理器在被存储在记录介质上的软件中被实施，或者在可编程硬件或专用硬件（诸如 ASIC 或 FPGA）中被实施。如本领域中所理解：计算机、处理器、微处理器控制器或可编程硬件包括存储器组件（例如 RAM、ROM、闪存等），其中，所述存储器组件可存储或接收软件或计算机代码，其中，所述软件或计算机代码在被计算机、处理器或硬件访问并执行时将实施描述于此的处理方法。此外，将认识到：当通用计算机访问用于实施于此示出的所述处理的代码时，所述代码的执行将通用计算机转变为用于执行于此示出的所述处理的专用计算机。

[0080] 尽管已经参照本发明的某些示例性实施例示出和描述了本发明，但是本领域技术人员将理解的是，在不脱离由权利要求及其等同物限定的精神和范围的情况下，可于此在形式和细节上做出各种改变。

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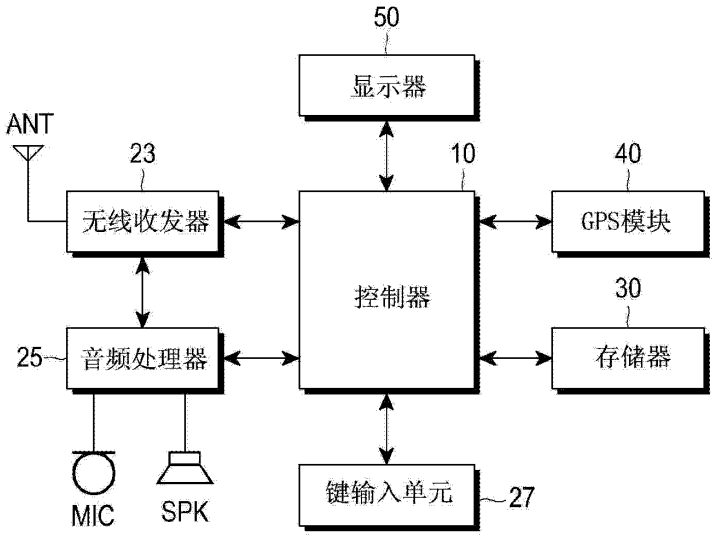


图 1

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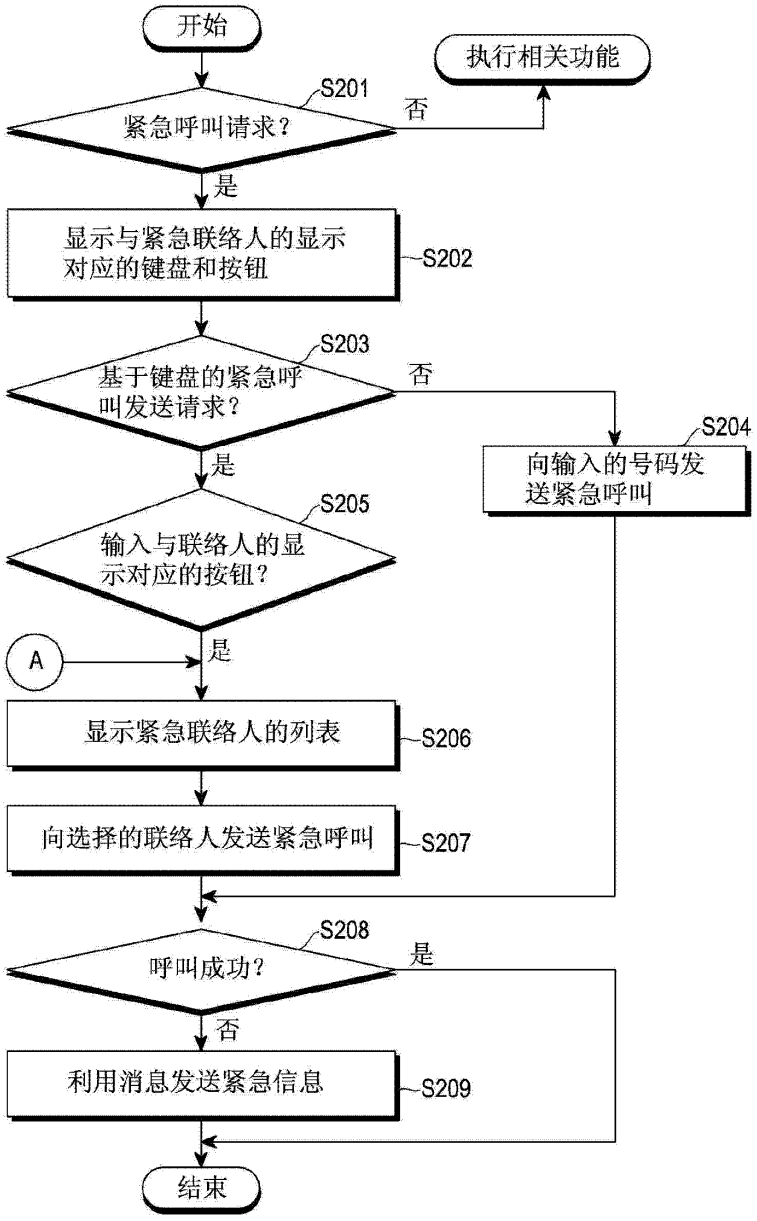


图 2

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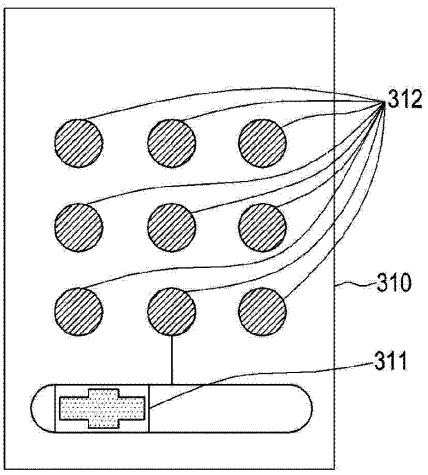


图 3A

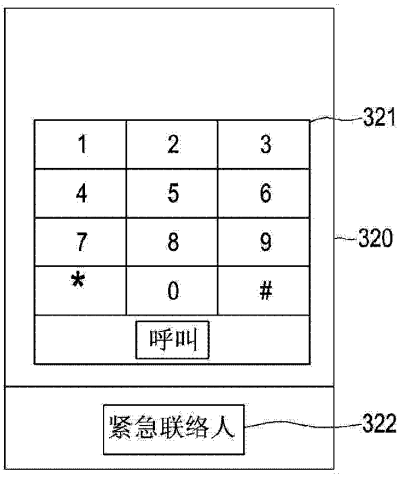


图 3B

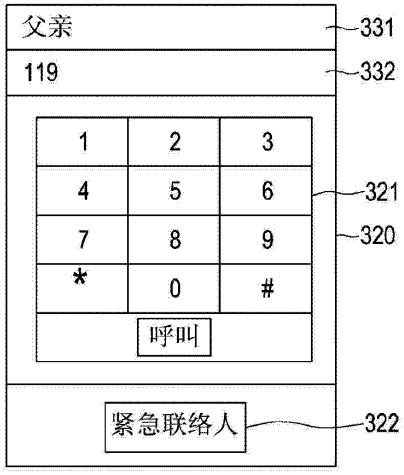


图 3C

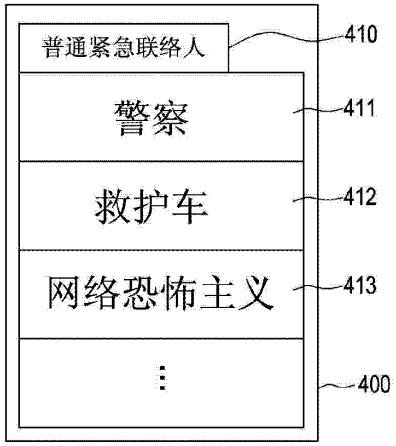


图 4A

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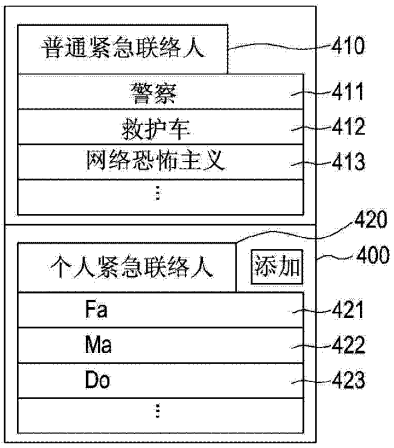


图 4B

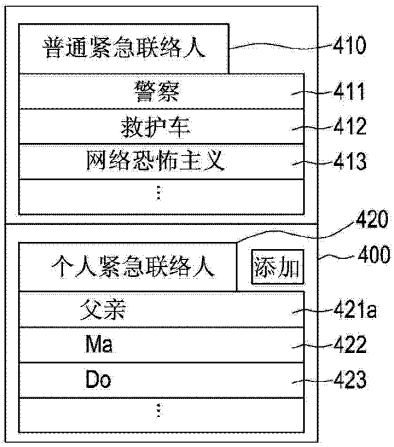


图 4C

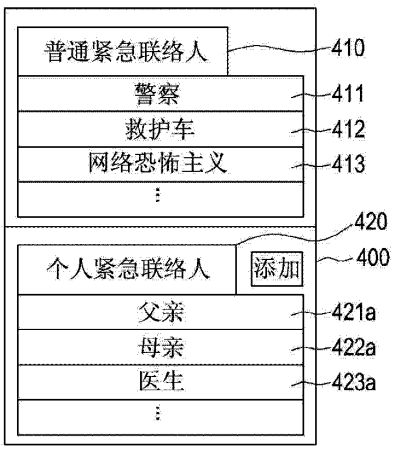


图 4D

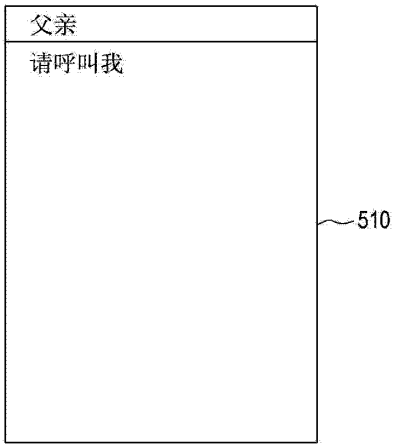


图 5A

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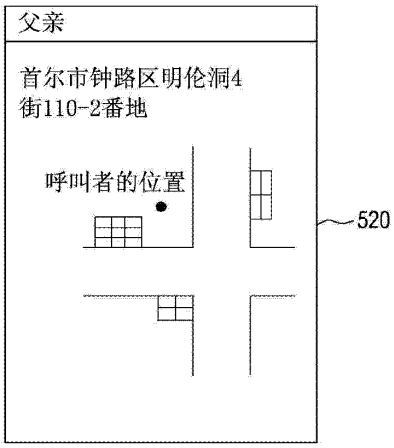


图 5B

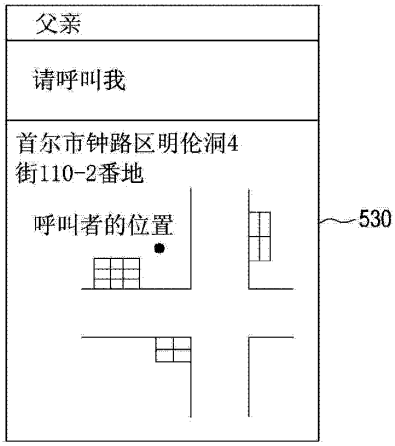


图 5C

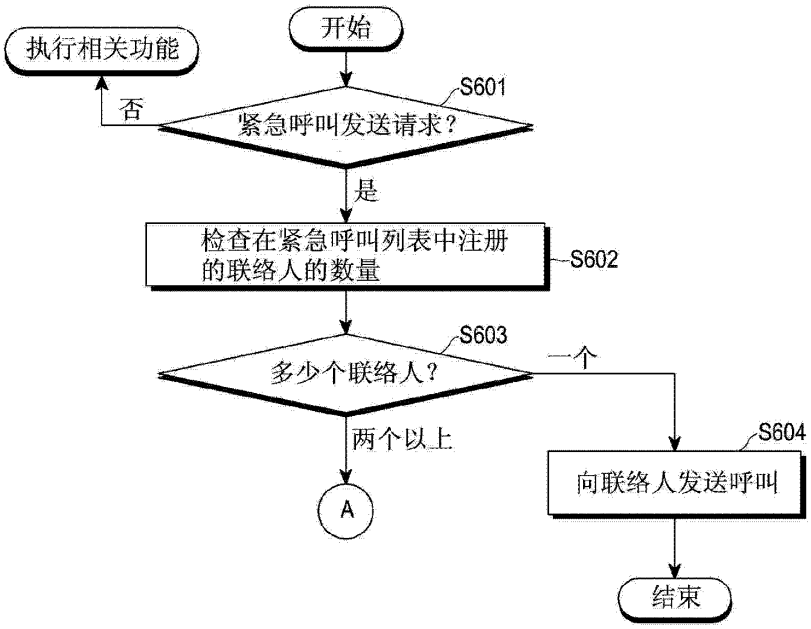


图 6

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Espacenet

Bibliographic data: CN103581456 (A) — 2014-02-12

Intelligent health terminal based on android

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Applicant(s): YIHUI TECHNOLOGY SUZHOU CO LTD ± (YIHUI TECHNOLOGY (SUZHOU) CO., LTD)

Classification: **- international:** ***A61B5/02; A61B5/0402; A61B5/145; H04M1/725; H04M11/00***

- cooperative:

Application number: CN20131482623 20131015 Global Dossier

Priority number(s): CN20131482623 20131015

Abstract of CN103581456 (A)

Disclosed is an intelligent health terminal based on the android. The intelligent health terminal comprises a health accessory and a piece of health mobile phone software. A health mobile phone obtains human physiological parameters through the health accessory (a data collection terminal), the mobile phone health software is adopted to conduct data analysis and calculation, and human physiological information is displayed in a real-time mode. The health accessory comprises a handheld electrocardiogram, blood-oxygen and pulse collector, a MiniHolter single-guide electrocardiogram collector and the like.

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(72)发明人 章笠中

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A61B 5/145(2006.01)
A61B 5/02(2006.01)

权利要求书1页 说明书3页 附图1页

(54)发明名称

一种基于android智能健康终端

(57)摘要

一种基于android智能健康终端包含健康配件和健康手机软件两大部分。健康手机通过健康配件(数据采集终端)获取人体生理参数,采用手机健康软件进行数据分析计算,实时展示人体的生理信息。健康配件包含手持式心电、血氧、脉搏采集器,MiniHolter单导心电采集器等。

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1. 一种基于 android 智能健康终端包含健康配件和健康手机软件。

2. 如权利要求 1 所述的健康配件包括手持式心电、血氧、脉搏采集器，Mini Holter 单导心电采集器。

3. 如权利要求 2 所述的健康配件可将手持式心电、血氧、脉搏、Mini Holter 单导心电采集器通过蓝牙和健康手机进行数据通信。

4. 如权利要求 3 所述的健康配件采用改进的间歇工作蓝牙工作模式，可有效降低功耗。

5. 如权利要求 1 所述的健康手机软件，包括健康软件进行数据分析计算，实时展示人体的生理信息，其软件平台采用 android。

6. 如权利要求 5 所述的健康手机软件，屏幕实时显示人体健康数据的区域和时间和进行设定，从 30 秒到 49 小时任意区间。

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一种基于 android 智能健康终端

技术领域

[0001] 本发明涉及一种基于 android 智能健康终端。

背景技术

[0002] 目前智能手机都拥有加速度传感器和重力传感器，能够对运动状态和姿态做出判断。如果和已开发心电采集器结合，可以实现情境心电的功能，能有效地对运动状态和运动量做出评估。

[0003] 家庭健康管理智能终端功具有智能化、可视化和触摸式操作特点，功能完善、操作方便，而且便宜的价格使大面积推广成为可能。健康终端与配套血压计、血糖仪等生命体征采集设备实现自动无线连接(WIFI 或 BT)，强大的智能触摸操控使生命体征采集简单而易于操控，即使是年老体弱的老人也能自如地独立完成各种检测，避免了电脑、平板、手机和机顶盒遥控器等设备维护复杂、操作不便，让即使对多媒体电子设备没有一点概念的使用者依然可以非常方便地操作；通过即时的视频对讲功能与客服人员、健康专家、医生进行“面对面”的交流互动，不但能获得最及时、最直接的医护建议，而且形式亲切，大大消除了医患之间的隔膜、拉近了距离，使得健康管理服务直观而具亲和力，增加服务的吸引力；如果需要还可利用终端上的摄像头实现远程照看功能，对于行动不便、卧床休养或需要看护的病人进行定时的远程看护，如出现意外情况，监护中心可以通过远程监视第一时间了解病人状况，及时安排处理；另外，受看护的老人或病人如在家休养中感到身体严重不适，需要医护人员紧急救援，可以方便地按下智能终端上的“紧急呼叫”按钮，智能终端将在第一时间呼叫联网的急救中心，急救中心可以通过远程查看现场视频、语音对讲及时了解病人状况，并安排急救；在智能终端上随时可以显示健康档案、医嘱、保健指导和各种与健康相关的多种形式的资料，为监护对象提供各种健康指导和健康管理服务，也可以选择与医护人员进行视频对讲，现场感犹如专家医生上门服务一般，大大提升服务质量和感受。

发明内容

[0004] 一种基于 android 智能健康终端包含健康配件和健康手机软件两大部分。健康手机通过健康配件(数据采集终端)获取人体生理参数，采用手机健康软件进行数据分析计算，实时展示人体的生理信息。健康配件包含手持式心电、血氧、脉搏采集器，Mini Holter 单导心电采集器等。

[0005] 主控模块采用基于 ARM 架构的嵌入式系统作为核心开发设计，CPU 采用 Freescale i.MX27 处理器，该微处理器是一种高性能、低功耗的 32 位处理器，其时钟频率高，指令执行周期短，与传统嵌入式系统相比运算更快，更稳定。系统内核具有音视频编解码功能、图像压缩率高、功耗小的优点；

声音采用免提设计，也支持在嘈杂环境中使用耳麦。音频编码采用 G.729 编码，视频编码采用 H.264 编码，传输协议采用 SIP/RTSP。视频编码格式采用 H.264 格式编码， H.264 以压缩比高、码流小、图像质量好等突出优势已经成为当今互联网的主流视频压缩技术，

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H.264 编码以其先进压缩算法、超高压缩比，与以往压缩方式先比，在同等画质下占用存储空间更小、码流更低；采用 H.264 格式编码的视频流传输，保证了视频的流畅度。

[0006] 系统基于 IMS 的核心协议 SIP 实现可视对讲功能，SIP 能够连接使用任何 IP 网络（有线 LAN 和 WAN、公共 Internet 骨干网、移动 2.5G、3G 和 Wi-Fi）和任何 IP 设备（电话、PC、PDA、移动手持设备）的用户，从而使其网络接入方式十分灵活，改进了用户的通信方式。基于 SIP 的应用（如 VOIP、多媒体会议、push-to-talk（按键通话）、定位服务、在线信息和 IM）使用非常方便，它能够将这些功能组合起来，形成各种更大规模的无缝通信服务。使用 SIP，可以创建一个满足多个最终用户需求的灵活应用程序组合。sip 作为以 internet 应用为背景的通讯标准，是将视频通讯大众化，引入千家万户的一个有效并具有现实可行性的手段。

[0007] 具有良好的人机接口，7 寸 LCD 液晶显示界面，所有的操作都通过简单易用的触摸屏来用手指点击即可操作，简单易操作的按键输入功能及报警接口，完成人机交互及报警功能。

附图说明

[0008] 图 1 为发明的结构图。

具体实施方式

[0009] 智能健康终端硬件按照模块化的设计思想设计，以达到最高信价比作为设计要求；智能终端的硬件部分应包括主控制器模块、CMOS 摄像头、麦克与喇叭、蓝牙无线模块、网络通信模块、人机接口模块和报警模块。

[0010] 主控模块采用基于 ARM 架构的嵌入式系统作为核心开发设计，CPU 采用 Freescale i.MX27 处理器，该微处理器是一种高性能、低功耗的 32 位处理器，其时钟频率高，指令执行周期短，与传统嵌入式系统相比运算更快，更稳定。系统内核具有音视频编解码功能、图像压缩率高、功耗小的优点。

[0011] 生理参数采集选用蓝牙作为无线通信方式。蓝牙和 802.11b 无线标准都使用全球通用的 2.4GHz ISM（即工业、科学、医学）频段。蓝牙设计了快速确认和跳频方案以确保链路稳定，使干扰影响变得很小，且比其它系统更稳定。而且，蓝牙用于医疗监护中的安全性已经得到相关国际组织的认可。另外，国内比较成熟的血压计、血糖仪等监护仪器都配有蓝牙通信方式的产品可选，方便了用户的使用。

[0012] 网络接入方式可以选择有线宽带、WIFI 或 3G 等多种形式，针对不同需求客户形成差异化产品。

[0013] 声音采用免提设计，也支持在嘈杂环境中使用耳麦。音频编码采用 G.729 编码，视频编码采用 H.264 编码，传输协议采用 SIP/RTSP。视频编码格式采用 H.264 格式编码，H.264 以压缩比高、码流小、图像质量好等突出优势已经成为当今互联网的主流视频压缩技术，H.264 编码以其先进压缩算法、超高压缩比，与以往压缩方式先比，在同等画质下占用存储空间更小、码流更低；采用 H.264 格式编码的视频流传输，保证了视频的流畅度。

[0014] 系统基于 IMS 的核心协议 SIP 实现可视对讲功能，SIP 能够连接使用任何 IP 网络（有线 LAN 和 WAN、公共 Internet 骨干网、移动 2.5G、3G 和 Wi-Fi）和任何 IP 设备

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(电话、PC、PDA、移动手持设备)的用户,从而使其网络接入方式十分灵活,改进了用户的通信方式。基于 SIP 的应用(如 VOIP、多媒体会议、push-to-talk (按键通话)、定位服务、在线信息和 IM)使用非常方便,它能够将这些功能组合起来,形成各种更大规模的无缝通信服务。使用 SIP,可以创建一个满足多个最终用户需求的灵活应用程序组合。sip 作为以 internet 应用为背景的通讯标准,是将视频通讯大众化,引入千家万户的一个有效并具有现实可行性的手段。

[0015] 本产品具有良好的人机接口,7 寸 LCD 液晶显示界面,所有的操作都通过简单易用的触摸屏来用手指点击即可操作,简单易操作的按键输入功能及报警接口,完成人机交互及报警功能。

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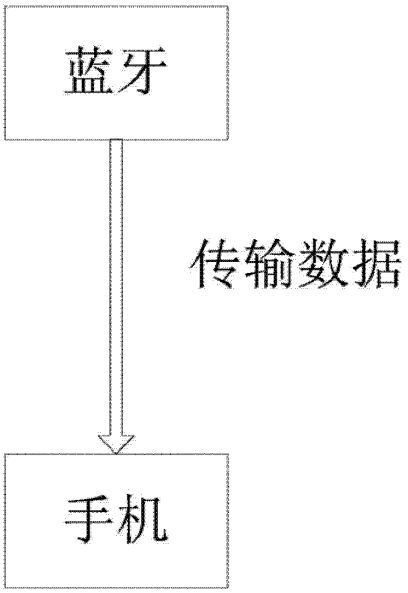


图 1

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Electronic Patent Application Fee Transmittal

Application Number:	14599424
Filing Date:	16-Jan-2015
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Attorney Docket Number:	P23397US3/77770000376103

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	32289989
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty
Filer Authorized By:	Peter Jung-Hyon Yim
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	09-APR-2018
Filing Date:	16-JAN-2015
Time Stamp:	23:59:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	041018INTEFSW00040900
Deposit Account	
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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

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Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	CN_1443427_A.pdf	3939074 2fd2b23dfa27e0d469b57b66c45def80abe946a1	no	21
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Information:					
3	Foreign Reference	CN_1997050_A.pdf	2334715 725c040958df39cbd7d2e6b1af60cc5383779880	no	11
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4	Foreign Reference	CN_103297610_A.pdf	4588104 53bb9ba3706777cdbc0802fd0dffd76653607c70	no	18
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5	Foreign Reference	CN_103581456_A.pdf	1211964 325c09795889990ebe1fe515503d89ae821fe832	no	7
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6	Non Patent Literature	2015267240_AUOA_03_21_2018.pdf	1196226 6f1fadcfd54dfd5307303c2db0f88d5e655c5f47	no	5
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Information:					
7	Non Patent Literature	2015102848503_CNOA_11_28_2017.pdf	3513320 872be9bf9922ad73e03358ac3d110023523d9d17	no	15
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Information:					
8	Fee Worksheet (SB06)	fee-info.pdf	31041 6afcf1c4ff47bc7147c7902c850a8e8583b97e4f	no	2
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			Total Files Size (in bytes):	16935350	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T[5]
	1.	1935339	EP	A1	2008-06-25	Polar Electro Oy		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Extended European Search Report received for European Patent Application No. 18154145.9, mailed on March 02, 2018, 8 pages.	
	2.	International Preliminary Report on Patentability received for PCT Application No. PCT/US2016/037686, mailed on March 01, 2018, 12 pages.	
	3.	Notice of Allowance received for Japanese Patent Application No. 2016-535045, mailed on March 02, 2018, 5 pages (2 pages of English Translation and 3 pages of Official Copy).	☒
	4.	Office Action received for Australian Patent Application No. 2018200428, mailed on March 07, 2018, 4 pages.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (03-15)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
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	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-03-22
Name/Print	Randy Omid	Registration Number	67,439

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

(19) Europäisches Patentamt
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(11) EP 1 935 339 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
25.06.2008 Bulletin 2008/26

(51) Int Cl.:
A61B 5/11 *(2006.01)* *A61B 5/024* *(2006.01)*

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(22) Date of filing: **19.12.2007**

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AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
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AL BA HR MK RS

(30) Priority: **20.12.2006 FI 20065828**

(71) Applicant: **Polar Electro Oy**
90440 Kempele (FI)

(72) Inventors:
- **Laukkanen, Raija**
  02320, Espoo (FI)
- **Kiuru, Eeva**
  90420, Oulu (FI)

(74) Representative: **Antila, Harri Jukka Tapani**
Kolster Oy Ab,
P.O. Box 148,
Iso Roobertinkatu 23
00121 Helsinki (FI)

(54) Portable electronic device, method, and computer software product

(57) The invention relates to a portable electronic device, a method, and a computer software product. The portable electronic device comprises an active time unit (102) for determining a user activity level during a predetermined period of time; and a processing unit (106) for determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

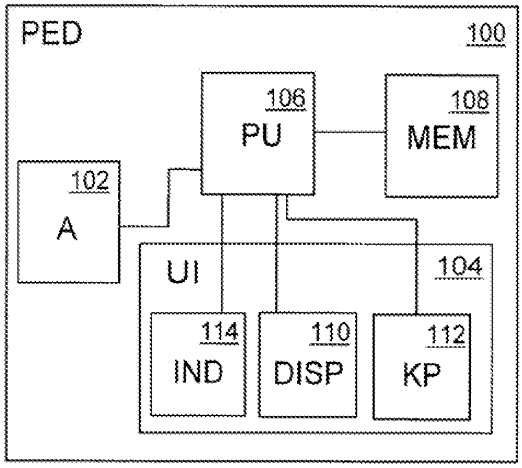


Fig. 1

EP 1 935 339 A1

Printed by Jouve, 75001 PARIS (FR)

Description

FIELD

[0001] The invention relates to a portable electronic device, a method, and a computer software product.

BACKGROUND

[0002] A day may be divided into three main parts: rest (sleep), work, and leisure time. The periods of time spent for leisure and work are mainly determined by external factors. The way each one of us spends his or her leisure time may be determined individually, and this may also be influenced e.g. in an activating manner. Various environmental factors, such as television, DVD, the Internet, and games, greatly add to an inactive manner of spending one's leisure time.

[0003] It is a well known fact that too much physical inactivity, such as sitting and immobility, increase health problems. Inactivity results in poor condition, increased body weight, and metabolic problems which, in turn, increase risks of several different diseases, such as obesity, coronary artery disease, type 2 diabetes, hypertension as well as disorders relating to muscles and bones. In physical inactivity, sitting equals lying, since both requires minimum muscular activity and both thus consume very little energy and present a metabolic need. According to recent research, the most significant difference between slim persons and obese persons is that overweight persons sit on average two hours longer than slim ones. For example, Levine et al., "Interindividual Variation in Posture Allocation: Possible Role in Human Obesity", Science, January 2005, Vol. 307, p. 584 to 586, discloses that controlling the amount of time spent by an individual sitting may have a considerable effect on weight and health management as well as on the individual's desire to achieve a more active lifestyle.

[0004] For instance, the work of a typical office worker contains hardly any physical activity and, further, such a person daily spends sitting: 6 to 7 hours in the office, a total of 1 hour in the car commuting, and 3 hours while watching television. The only activity of a typical workday is e.g. a forty-minute walk before dinner. Thus, a total of time spent sitting per workday is no less than 11 to 12 hours, which considerably exceeds the recommended healthy amount.

[0005] An inactive non-workday (e.g. reading, working on a computer, minor domestic chores, watching television) contains 8 to 9 hours of sitting and only 3 hours of activity. Hence, the time spent inactively exceeds the recommended amounts. An active non-workday (e.g. golfing, shopping) may contain 5 to 6 hours of sitting as well as an equal amount of activity. Consequently, the time spent inactively remains at a recommended level, i.e. below 7 hours.

[0006] The time spent inactively by a typical user may be e.g. 74 hours per week. This amount is well above the recommended weekly maximum inactivity values. All in all, it may be stated that more often than not, the amount of time spent inactively, such as sitting, on workdays should be diminished in order to maintain a slim build and health.

[0007] People do not easily notice the amount of inactivity in their daily life. Therefore, increasing the awareness of the amount of inactivity in an individual's daily life may be even more significant for health than monitoring the activity of the individual. Various devices for monitoring physical condition do not meet these needs.

BRIEF DESCRIPTION

[0008] An object of the invention is to provide a method and an apparatus implementing the method so as to enable the amount of inactivity to be estimated. As a first feature of the invention there is presented a portable electronic device comprising: an active time unit for determining a user activity level during a predetermined period of time; and a processing unit for determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

[0009] As a second feature of the invention there is presented a method comprising: determining a user activity level during a predetermined period of time on the basis of a portable electronic device used by the user; and determining a user inactivity level on the basis of the determined activity level.

[0010] As a third feature of the invention there is presented a computer software product comprising encoded instructions for executing a computer process in a digital processor. The computer process comprises: determining a user activity level during a predetermined period of time on the basis of data produced by a portable electronic device used by the user; and determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

[0011] The invention is based on the invention comprising determining an inactivity level during a predetermined period of time on the basis of the determined activity level.

[0012] Several advantages are achieved by the method and system according to the invention. As an advantage, the invention produces an objective estimation of user inactivity. It becomes possible to monitor a person's inactivity level e.g. on a daily, weekly, and/or monthly basis. Furthermore, it becomes easier to maintain the amount of personal activity within limits advantageous to health.

LIST OF DRAWINGS

[0013] The invention is now described in closer detail in connection with preferred embodiments and with reference to the accompanying drawings, in which

[0014] Figure 1 shows an example of a structure of a portable electronic device;

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[0015] Figure 2 shows a second example of a structure of a portable electronic device;

[0016] Figure 3 shows an example of a motion intensity curve;

[0017] Figure 4 shows an example of a structure of a portable electronic device;

[0018] Figure 5 shows an example of a user interface according to an embodiment;

[0019] Figure 6 shows an example of a method according to an embodiment of the invention; and

[0020] Figure 7 shows a second example of a method according to an embodiment of the invention.

DESCRIPTION OF EMBODIMENTS

[0021] Referring to the example of Figure 1, a portable electronic device (PED) 100 comprises a processing unit (PU) 106 and a memory unit (MEM) 108. The processing unit 106 comprises a digital processor and executes a computer process in accordance with encoded instructions stored in the memory unit 108.

[0022] The processing unit 106 may be implemented using analog circuits, ASICs (Application Specific Integrated Circuit), digital processor, memory, and computer software. The processing unit 106 may constitute a part of the computer of the device 100. The processing unit 106 may execute a computer process in accordance with encoded instructions stored in the memory unit 108.

[0023] The portable electronic device 100 is e.g. a mobile telephone or a pedometer. In an embodiment, the portable electronic device 100 is a wrist device, which may be e.g. a wrist device 202 shown in Figure 2. In addition to the wrist device 202, the device 100 may comprise one or more auxiliary devices 204, 206, such as a motion sensor 206 to be attached to a limb of the user 200 of the portable electronic device and/or a heart rate transmitter 204 indicating electric pulses induced by the heart. Such an auxiliary device 204, 206 may communicate wiredly or wirelessly with the wrist device 202. In this connection, a user 200 of the portable electronic device is called a user 200.

[0024] In an embodiment, the portable electronic device 100 comprises a wrist device 202 and at least one auxiliary device 204, 206. Instead of the wrist, the portable electronic device 100 may be freely placed also in other parts of the body, and e.g. in a pocket, on a piece of clothing, footwear or accessories.

[0025] Still referring to Figure 1, the portable electronic device 100 further comprises an active time unit (A) 102 for determining a user activity level during a predetermined period of time. In an embodiment, the active time unit 102 comprises one or more motion detectors to generate motion data characterizing a local movement of the portable electronic device 100 for determining an activity level.

[0026] In an embodiment, the active time unit 102 is located in a wrist device 202.

[0027] In an embodiment, the active time unit 102 is located in an auxiliary device 204, 206.

[0028] Typically, a local movement of the portable electronic device 100 comprises movements of a limb or another part of the body of the user 200, which includes a motion component associated with the user's 200 stepping. The amplitude of such local movements is typically of the order of magnitude of the amplitude of movements of the user's 200 limbs.

[0029] In an embodiment, the active time unit 102 comprises an acceleration sensor, which measures acceleration associated with the user's 200 movement. The acceleration sensor converts acceleration induced by motion or a gravitational force into an electric signal.

[0030] In an embodiment, the acceleration sensor is based on piezo-resistor technology using a material whose resistance changes when a piezo-resistor is compressed as a result of acceleration of mass. When a constant current is applied through the piezo-resistor, a voltage acting over the piezo-resistor changes according to the compression induced by the acceleration.

[0031] In an embodiment, the acceleration sensor is based on piezo-electric technology, wherein a piezo-electric sensor generates a charge upon accelerating the acceleration sensor. In silicon bridge technology, a silicon chip is etched such that a silicon mass is left on the silicon chip at an end of a silicon beam. When the silicon chip is subjected to acceleration, the silicon mass directs a force to the silicon beam, whereby the resistance of the silicon beam changes.

[0032] The acceleration sensor may also be based on micromachined silicon technology, which is based on using a differential capacitor. The acceleration sensor may also be based on voice coil technology, which is based on the same principle as a microphone. Some examples of suitable motion sensors include: Analog Devices ADXL105, Pewatron HW or VTI Technologies SCA-series.

[0033] The acceleration sensor may also be based on other appropriate technologies, e.g. a gyroscope integrated in a silicon chip, a micro vibration switch arranged in a surface-mountable component or a mechanical pendulum.

[0034] Motion data generated by the acceleration sensor may be conveyed to a central processing unit 106 or a memory unit 108. The motion data may comprise e.g. acceleration data and/or motion pulse data associated with the user's 200 movements.

[0035] The active time unit 102 may also be implemented by other appropriate technologies, e.g. a gyroscope integrated in a silicon chip or a micro vibration switch arranged in a surface-mountable component.

[0036] The active time unit 102 may comprise a preprocessing unit for processing primary motion data, such as acceleration data and/or vibration data. The processing may comprise converting the primary motion data into secondary motion data, such as changing acceleration data associated with the movements generated by the user into motion pulse data. The processing may also

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comprise filtering the primary and/or secondary motion data.

[0037] The portable electronic device 100 may further comprise a user interface (UI) 104, which typically includes a display unit (DISP) 110 and a display controller. The display unit 110 may include e.g. LCD (Liquid Crystal Display) components. The display unit 110 may, graphically and/or digitally, display to the user 200 e.g. an instantaneous activity level and inactivity level during a predetermined period of time.

[0038] The user interface 104 may also comprise a keypad (KP) 112 to enable the user 200 to enter commands into the device 100. The user interface 102 may also include an indicator 114 to enable the device to impart voice signals, vibration-based signals and/or light-based signals.

[0039] In an embodiment, the wrist device 202 is a heart rate monitor, in which case the heart rate monitor may comprise a receiver for receiving a signal transmitted from a heart rate measurement unit. The heart rate measurement unit may be a belt-like construction to be mounted on the user's chest, comprising means for carrying out electrocardiography (ECG) and transmitting ECG data to the wrist device 202.

[0040] In an embodiment, the active time unit 102 determines a user activity level during a predetermined period of time, and the processing unit 106 determines a user inactivity level during a predetermined period of time on the basis of the activity level determined in the active time unit 102.

[0041] In an embodiment, the active time unit 102 is configured to add up periods of time during which an instantaneous motion intensity value meets predetermined activity conditions.

[0042] In an embodiment, the active time unit 102 comprises at least one activity sensor for measuring a user activity level, and the processing unit 106 is configured to use the measured activity level in determining an inactivity level.

[0043] In an embodiment, at least one activity sensor is configured to measure muscular activity of a user, in which case the processing unit 106 may determine an inactivity level during a particular period of time on the basis of the measured muscular activity.

[0044] In an embodiment, at least one activity sensor is configured to measure heart rate of a user, in which case the processing unit 106 may determine an inactivity level during a particular period of time on the basis of the measured heart rate pulses. For instance, an inactivity level during a particular period of time may be determined on the basis of variations in a personal heart rate.

[0045] In an embodiment, the active time unit 102 comprises at least one acceleration sensor for measuring acceleration from movement of the device when the user is moving, and the processing unit 106 is configured to use the measured acceleration in determining an inactivity level.

[0046] Thus, measurement results describing the movement, muscular activity, and/or heart rate of the user or combinations thereof may be used in determining the inactivity level.

[0047] In an embodiment, the processing unit 106 is configured to detect reaching at least one predetermined threshold value in the determined inactivity level. In an embodiment, the predetermined threshold value is an optimal inactivity level during a predetermined period of time. In an embodiment, the determined threshold value is a maximum inactivity level during a predetermined period of time. The optimal inactivity level is e.g. an optimal level of inactivity allowed during a day which is not advisable to be exceeded. The maximum inactivity level is e.g. a maximum level of inactivity allowed during some hours or during a day, exceeding which is to be avoided.

[0048] In an embodiment, the indicator 110, 114 indicates the determined inactivity level. In an embodiment, the indicator 110, 114 is configured to indicate reaching at least one predetermined threshold level in the inactivity level. The indicator may indicate e.g. reaching/exceeding the optimal inactivity level and/or reaching/exceeding the maximum inactivity level.

[0049] Referring to the example of Figure 3, let us examine a motion intensity curve 310 showing a time dependency of an instantaneous motion intensity value of the user 200. A horizontal axis 302 shows time expressed in a time unit, such as minute, while a vertical axis 304 shows a motion intensity value expressed in a motion intensity unit, such as pulse/minute (p/min).

[0050] The motion intensity value characterizes the amount of movement of the user 200 in a time unit. In an embodiment, the motion intensity value characterizes the number of motion pulses per minute or another appropriate time unit. The activity level may be determined e.g. on the basis of the number of motion pulses.

[0051] An instantaneous motion intensity value is a motion intensity value calculated for a point of time. An instantaneous motion intensity value at a point of time may be determined e.g. by calculating motion pulses accumulated during a measurement time period, such as a minute, and dividing the number of motion pulses by the measurement time period. A point of time to be associated with the determined instantaneous motion intensity value may be e.g. a starting time or an end time of a measurement time period or a point of time halfway the measurement time period.

[0052] An active time accumulation is an accumulating time accumulation which includes, added up, periods of time during which the instantaneous motion intensity value meets predetermined activity criteria. In the example of Figure 3, a predetermined activity criterion is e.g. a motion intensity level 314 designated in dotted line, time periods meeting the activity criteria then being T4, T6, T7, T8, T9, and T10. Thus, in determining the activity level, the user's very slight movement, for example, is not necessarily counted as activity.

[0053] In an embodiment, the activity level is determined on the basis of an active time accumulation cal-

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culated for a previously known period of time which, in the example of the figure, may be a period of time between a starting time 306 and an end time 308. In such a case, the active time accumulation for the particular period of time is T4+T6+T7+T8+T9+T10 when the predetermined activity criterion is the motion intensity level 314. The periods or time may be implemented such that the periods overlap with one another. For instance, let us examine 60-second time periods at intervals of e.g. ten seconds. Then, to the 60-second time period are added at intervals of ten seconds instantaneous motion intensity values for the most recent ten seconds while simultaneously omitting motion intensity values for the least recent ten seconds.

[0054] The starting time 306 may be 12 o'clock at night or a point of time 24 hours preceding real time. The end time 308 may be 12 o'clock at night without, however, limiting the disclosed solution to the presented embodiment.

[0055] When the active time determination is in operation, the end time 308 may be a point of time in real time. In such a case, the active time accumulation indicates an active time accumulation accumulated from the starting time 306 to the point of time in real time.

[0056] In an embodiment, the inactivity level is determined from an inactive time accumulation which includes, added up, periods of time during which the instantaneous motion intensity value meets predetermined inactivity criteria. A predetermined inactivity criterion is e.g. a predetermined motion intensity level which determines an upper limit of the instantaneous motion intensity value. The inactive time accumulation may be shown to the user by means of the display unit 110.

[0057] In the example of Figure 3, the predetermined inactivity criterion is e.g. a motion intensity level 314 designated in dotted line, time periods meeting the inactivity criteria then being T1, T2, T3, T5, T11, T12, and T13. The inactive time accumulation for the period of time between the starting time 306 and the end time 308 is thus T1 +T2+T3+T5+T11 +T12+T13.

[0058] In an embodiment, the portable electronic device 100 divides the instantaneous motion intensity values into at least two activity categories based on predetermined threshold values and the active time accumulation is determined activity-category-specifically. The example of Figure 3 shows activity categories A, B, and C. Activity category C comprises motion intensity values residing between the motion intensity levels 312 and 314, activity category B comprises motion intensity values residing between the motion intensity levels 314 and 316, and activity category A comprises motion intensity values residing above the motion intensity level 316.

[0059] Activity category D comprises motion intensity values residing below the motion intensity level 312, and activity category D may also be defined as an inactivity category.

[0060] The motion intensity levels 312, 314, and 316 may be 2 p/min, 30 p/min, and 50 p/min, in the given order. Thus, activity category D may be defined as rest, activity category C may be defined as an extremely light activity category, activity category B may be defined as a light activity category, and activity category A may be defined as a moderate/heavy activity category.

[0061] In the shown example, the category-specific active time accumulations are as follows:

Intensity category A: T7+T9
Intensity category B: T4+T6+T8+T10

[0062] In this case, the inactive time accumulation is T1+T2+T3+T5+T11+T12+T13.

[0063] Referring to the example of Figure 4, let us examine a portable electronic device (PED) 400 comprising a motion detector (MD) 402, a motion intensity determinator (MID) 404, and an active time calculator (ATC) 406.

[0064] The motion detector 402 generates motion data 418 characterizing a local movement of the portable electronic device 400 and feeds the motion data 418 to the motion intensity determinator 404. The motion intensity determinator 404 determines instantaneous motion intensity values 420 from the motion data 418.

[0065] In an embodiment, the motion intensity determinator 404 filters motion data 422 on the basis of predetermined time characteristics. The motion intensity determinator 404 may accept motion pulses meeting the predetermined criteria and use the accepted motion pulses for determining motion intensity values.

[0066] In an embodiment, in determining a motion intensity value, the motion intensity determinator 404 uses motion pulses whose length of time intervals therebetween resides within predetermined limits. In such a case, the determination of the motion intensity values concentrates on motion frequencies typical of a human body, typically being 1 to 2 pulses per second. The filtering may be implemented by rejecting successive motion pulses whose time interval is below a predetermined lower limit or whose time interval is above a predetermined upper limit.

[0067] The predetermined upper and lower limits may depend on the location of the motion detector 402 on the user's body. In the case of a motion detector 402 attached to an upper limb, the predetermined lower limit may be e.g. 0.4 seconds. The predetermined upper limit may be e.g. 2.0 seconds.

[0068] The motion intensity determinator 404 may be implemented by means of a computer process to be executed in the central processing unit 106, the computer process being encoded in encoded instructions to be stored in the memory unit 108.

[0069] In an embodiment, the motion intensity determinator 404 feeds the instantaneous motion intensity values 420 to the active time calculator 406. The motion intensity determinator 404 may also feed a point of time associated with each instantaneous motion intensity to the active time calculator. The active time calculator 406 compares the motion intensity values with the predeter-

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mined motion intensity level 314 and calculates the active time accumulation and possibly the inactive time accumulation on the basis of the comparison. Inactive time accumulation data may be incorporated in active time accumulation data 424.

[0070] In an embodiment, the portable electronic device 400 comprises a classifier (CL) 412 which receives the motion intensity values 420 from the motion intensity determinator 404 and carries out a comparison between the motion intensity values 420 and the motion intensity levels 312, 314, 316. On account of the comparison, the classifier 412 divides the instantaneous motion intensity values into intensity classes.

[0071] The active time calculator 406 may be implemented by means of a computer process to be executed in the central processing unit 106, the computer process being encoded in encoded instructions to be stored in the memory unit 108. The classifier 412 may be implemented by means of a computer process to be executed in the central processing unit 106, the computer process being encoded in encoded instructions to be stored in the memory unit 108. The inactive time accumulation may be shown to the user 200 by means of the display unit 110.

[0072] In an embodiment, the portable electronic device 400 comprises an indicator (ATI) 408 for indicating the inactive time accumulation and/or active time accumulation preceding the period of time between the starting time 306 and the end time 308 to the user. The inactive and active time accumulations of previous, e.g. day-specific, time periods may be stored in the memory unit 108 and shown to the user 200 by means of the display unit 110 graphically or digitally. This enables the user 200 to monitor his or her performance history and compare e.g. the inactive time accumulation of the ongoing time period with previous values.

[0073] In an embodiment, the portable electric device 400 comprises an intensity indicator (II) 410 for indicating the point of time of the most recent motion intensity value meeting the activity criteria to the user 200. Referring to Figure 3, let us assume that the real time moment is a point of time 318, and the activity criterion is determined by the motion intensity level 314. In such a case, the most recent point of time of the motion intensity value meeting the activity criteria with respect to the point of time 318 is a point of time 320. The central processing unit 106 may feed the most recent point of time of the motion intensity value meeting the activity criteria to the memory unit 108 to be stored therein. The display unit 110 may indicate the memory space of the memory unit 108 such that the contents of the memory are shown on the display unit 110. By detecting the most recent point of time of the motion intensity value meeting the activity criteria the user 200 may conclude e.g. the length of ongoing inactive time 322. The display unit may e.g. show the text "inactive since T1:T2", wherein T1:T2 is the point of time at which the activity criterion was met last.

[0074] In an embodiment, the portable electric device 400 may generate a performance instruction on the basis of an inactive time accumulation.

[0075] The active time calculator 406 feeds active time accumulation data 424 to a performance instruction generator 414, which may compare the active time accumulation with reference values. The reference values may form ranges which are associated with performance instructions. A performance instruction may include an instruction REST, WALK, and LIGHT EXERCISE. For instance, if the accumulation for the present day or previous 24 hours in activity categories A and B is less than 30 minutes, the user may be given a performance instruction to increase his or her activity e.g. by exercising lightly or moderately. If the accumulation in activity category A is less than 30 minutes e.g. during the previous three days or during the previous 72 hours, moderate/heavy exercise may be determined as a performance instruction. The performance instruction may also be determined on the basis of a plurality of day-specific active time accumulations. The performance instruction generator 414 may be implemented by means of a computer process to be executed in the central processing unit 106, the computer process being encoded in encoded instructions to be stored in the memory unit 108.

[0076] In an embodiment, the device 400 may comprise a game application (GAPPL) 416 whose operation depends on one or more parameters proportional to an active time accumulation. In an embodiment, the device 400 may comprise a motion detector controller 436 which receives inactive time accumulation data along with the active time accumulation data 424 and compares the inactive time accumulation with a predetermined threshold value. If the threshold value is reached, the motion detector controller 436, through a mode shift command 438, shifts the motion detector 402 to a measurement mode wherein motion data is generated discontinuously at predetermined time intervals.

[0077] Figure 5 shows an example of a user interface 500 of an electronic device. In this example, a user inactivity level is indicated to the user in the form of a graphical representation.

[0078] In the example of Figure 5, the user inactivity level is indicated by means of a SitControl function. The inactivity level is determined e.g. on the basis of inactive time spent by the user sitting and in a non-active manner. The amount of accumulated inactive time as well as certain predetermined threshold values are indicated to the user visually and digitally to enable the accumulated inactive time to be compared with the threshold values visually. Furthermore, the device may indicate reaching each threshold value separately e.g. by means of audible signals, vibration, or visually.

[0079] In Figure 5, ovals 502, 504, 506, 508, 510, 512, 514, 516, 518 located on top of one another each describe an hour's time. Black ovals 502, 504, 506, 508, 510, 512, 514 illustrate one-hour time periods accumulated as a result of an activity, e.g. sitting, within the limits of an inactivity level. The graphic representation may in-

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clude any symbols, figures, and graphs or combinations thereof other than those shown in the exemplary representation of Figure 5. In the example of Figure 5, a SitLean threshold value 524, which, in this example, is the optimal amount of inactivity per day, has been reached. According to some research, the SitLean threshold value 524 is approximately seven hours. Remaining below this optimal threshold value 524 supports a slim and healthy build and lifestyle. The example of Figure 5 also shows a Sit-Max threshold value 526, which is the maximum allowable time to be spent inactively in order to maintain or achieve a slim build. According to research, this maximum time is approximately nine hours per day. According to research, slim persons do not constantly exceed this amount.

[0080] It is also possible to determine other threshold values 520, 522, meeting which triggers various functions. For instance, reaching a particular threshold value 520, 522 may cause the device to alert the user to approach of critical threshold values 524, 526 or to the fact that the user has been inactive for a predetermined period of time.

[0081] When the user is able to concretely and visually monitor the time he or she has spent inactively, the user's awareness of his or her inactivity level and the time spent inactively increases. This may in a practical manner guide the user towards a more active lifestyle and decrease the time spent e.g. sitting.

[0082] In an embodiment, the following categories may be employed when estimating an inactivity level: over 10 hours (extremely high inactivity level), 7 to 10 hours (too high an inactivity level), 5 to 7 hours (high inactivity level), 2 to 5 hours (appropriate inactivity level), and less than 2 hours (inactivity presents no problem).

[0083] In an embodiment, the inactivity level, such as the amount of sitting, may also be monitored on a weekly basis by determining e.g. 49 hours as the allowed maximum inactive time.

[0084] Referring to Figures 6 and 7, let us examine computer processes according to some embodiments of the invention, shown by means of process steps. Such process steps may also be interpreted as method steps of a method.

[0085] In 600 of Figure 6, a computer process starts.

[0086] In 602, an activity level during a predetermined period of time is determined.

[0087] In 604, an inactivity level during a predetermined period of time is determined on the basis of the activity level.

[0088] The computer process ends in 606.

[0089] Referring to Figure 7, a method starts in 700.

[0090] In 702, an inactive time accumulation including, added up, periods of time during which an instantaneous activity level meets predetermined inactivity criteria is determined.

[0091] In 704, the inactive time accumulation is compared with a predetermined threshold value.

[0092] In 706, a decision is made as to whether or not the threshold value has been reached.

[0093] If the threshold vales has been reached, in 708 this is indicated by means of a user interface.

[0094] In 710, the method ends.

[0095] The computer process shown in Figures 6 and 7 may be incorporated in a computer software product as encoded instructions which may be executed in a central processing unit 106 of a portable electronic device 100. The encoded instructions may be stored in a memory unit 108 of the portable electronic device 100.

[0096] The encoded instructions may be transferred by means of a distribution device. Such a distribution device is e.g. an electric, magnetic or optical distribution device. The distribution device may be a physical distribution device, such as a memory unit or an optical disk, or a communications signal.

[0097] Although the invention has been described above with reference to the example according to the accompanying drawings, it is apparent that the invention is not restricted thereto but may be modified in many ways within the scope of the appending claims.

Claims

1. A portable electronic device comprising:

   an active time unit for determining a user activity level during a predetermined period of time; and a processing unit for determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

2. A portable electronic device as claimed in claim 1, wherein in order to determine the user activity level, the active time unit is configured to add up periods of time during which an instantaneous motion intensity value meets predetermined activity conditions.

3. A portable electronic device as claimed in claim 1, wherein the active time unit comprises at least one activity sensor for measuring the user activity level, and the processing unit is configured to use the measured activity level in determining the inactivity level.

4. A portable electronic device as claimed in claim 3, wherein at least one activity sensor is configured to measure muscular activity of a user.

5. A portable electronic device as claimed in claim 3, wherein at least one activity sensor is configured to measure heart rate of the user.

6. A portable electronic device as claimed in claim 1, wherein the active time unit comprises at least one acceleration sensor for measuring acceleration from movement of the device when the user is moving.

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and the processing unit is configured to use the measured acceleration in determining the inactivity level.

7. A portable electronic device as claimed in claim 1, wherein the processing unit is configured to detect reaching at least one predetermined threshold value in the determined inactivity level.

8. A portable electronic device as claimed in claim 7, wherein the detected predetermined threshold value is an optimal inactivity level during the predetermined period of time.

9. A portable electronic device as claimed in claim 7, wherein the detected predetermined threshold value is a maximum inactivity level during the predetermined period of time.

10. A portable electronic device as claimed in claim 1, wherein the device further comprises an indicator for indicating the determined inactivity level.

11. A portable electronic device as claimed in claim 10, wherein the indicator is configured to indicate reaching at least one predetermined threshold level in the inactivity level.

12. A portable electronic device as claimed in claim 1, wherein the portable electronic device comprises a wrist device.

13. A method comprising:

determining a user activity level during a predetermined period of time on the basis of a portable electronic device used by the user; and determining a user inactivity level on the basis of the determined activity level; and
determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

14. A method as claimed in claim 13, comprising, in order to determine the user activity level, adding up periods of time during which an instantaneous motion intensity value meets predetermined activity conditions.

15. A method as claimed in claim 13, comprising measuring the user activity level by means of at least one activity sensor, and using the measured activity level in determining the inactivity level.

16. A method as claimed in claim 15, comprising measuring muscular activity of a user by means of at least one activity sensor.

17. A method as claimed in claim 15, comprising measuring heart rate of the user by means of at least one activity sensor.

18. A method as claimed in claim 13, comprising measuring acceleration from movement of the device when the user is moving by means of at least one acceleration sensor, and using the measured acceleration in determining the inactivity level.

19. A method as claimed in claim 13, comprising detecting reaching at least one predetermined threshold value in the determined inactivity level.

20. A method as claimed in claim 19, comprising the detected predetermined threshold value being an optimal inactivity level during the predetermined period of time.

21. A method as claimed in claim 19, comprising the detected predetermined threshold value being a maximum inactivity level during the predetermined period of time.

22. A method as claimed in claim 13, comprising indicating the determined inactivity level.

23. A method as claimed in claim 22, comprising indicating reaching at least one predetermined threshold value in the inactivity level.

24. A computer software product comprising encoded instructions for executing a computer process in a digital processor, wherein the computer process comprises:

determining a user activity level during a predetermined period of time on the basis of data produced by a portable electronic device used by the user; and
determining a user inactivity level during a predetermined period of time on the basis of the determined activity level.

25. A computer software product as claimed in claim 24, wherein the computer process further comprises: adding up periods of time during which an instantaneous motion intensity value meets predetermined activity conditions.

26. A computer software product as claimed in claim 24, wherein the computer process further comprises: measuring the user activity level by means of at least one activity sensor, and using the measured activity level in determining the inactivity level.

27. A computer software product as claimed in claim 24, wherein the computer process further comprises: measuring acceleration from movement of the de-

AliveCor Exhibit 1002
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vice when the user is moving by means of at least one acceleration sensor, and using the measured acceleration in determining the inactivity level.

28. A computer software product as claimed in claim 24, wherein the computer process further comprises: detecting reaching at least one predetermined threshold value in the determined inactivity level.

29. A computer software product as claimed in claim 24, wherein the computer process further comprises: indicating the determined inactivity level.

30. A computer software product as claimed in claim 29, wherein the computer process further comprises: indicating reaching at least one predetermined threshold value in the inactivity level.

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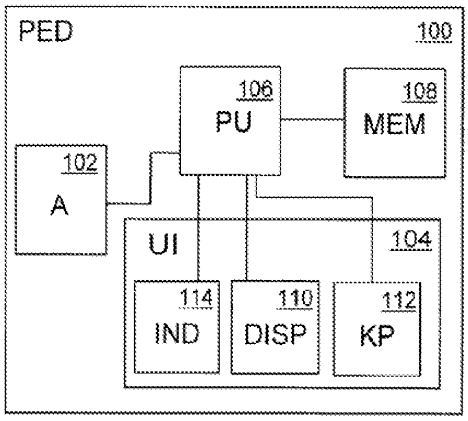


Fig. 1

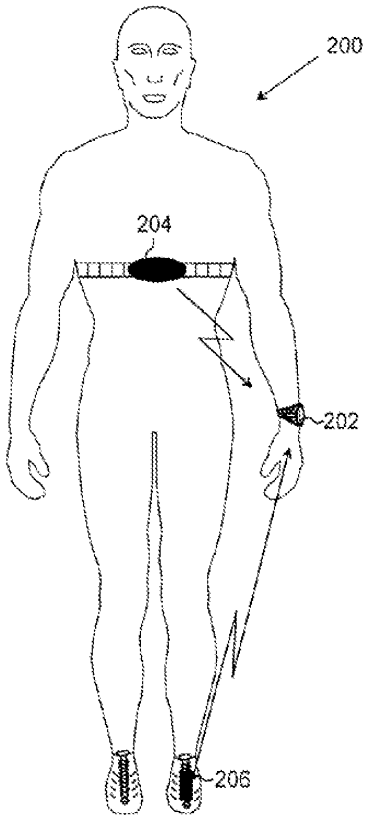


Fig. 2

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AliveCor, Inc. v. Apple Inc.
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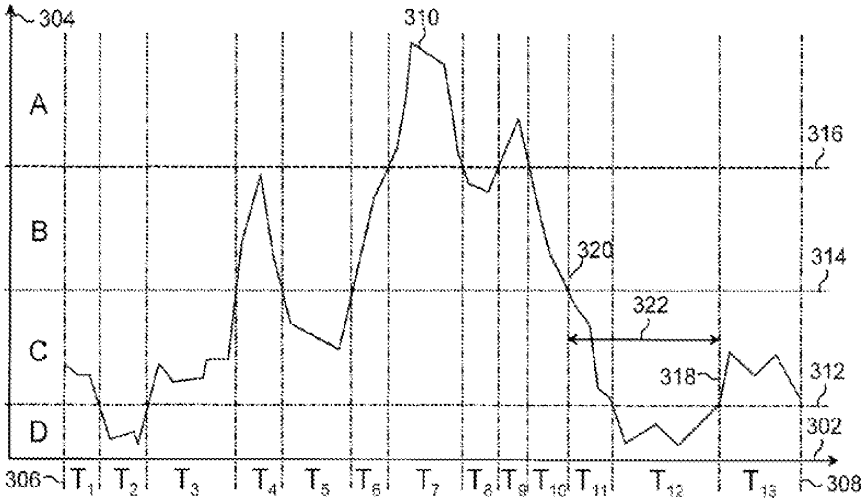


Fig. 3

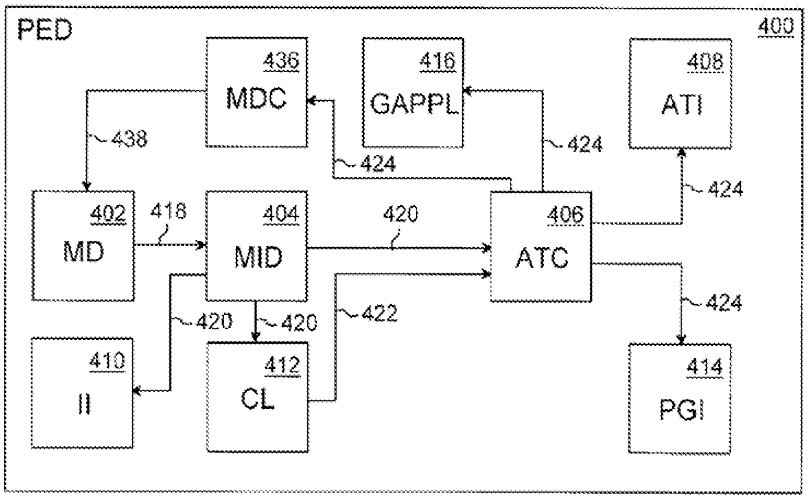


Fig. 4

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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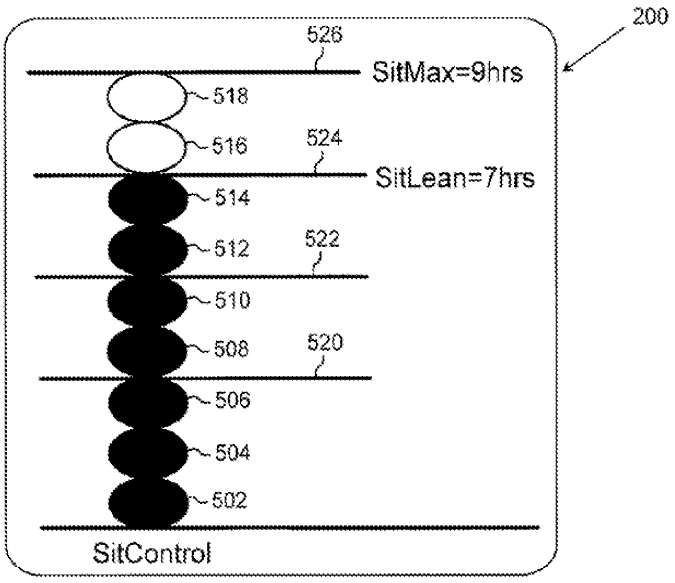


Fig. 5

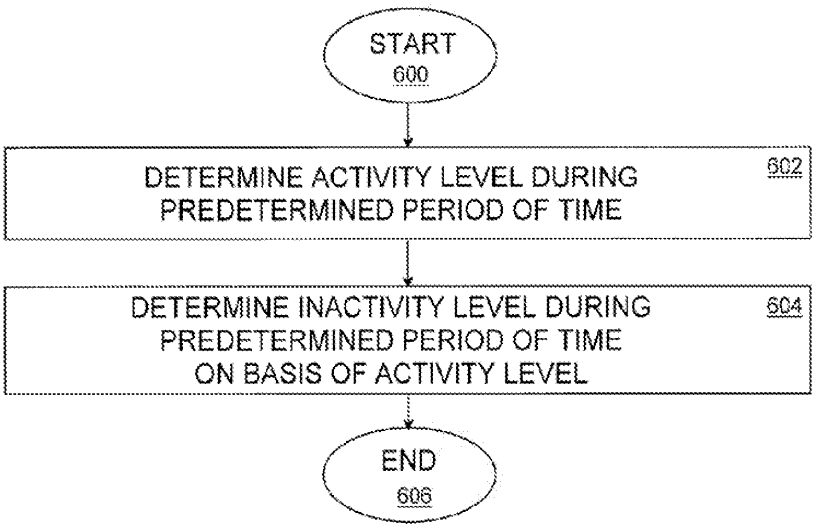


Fig. 6

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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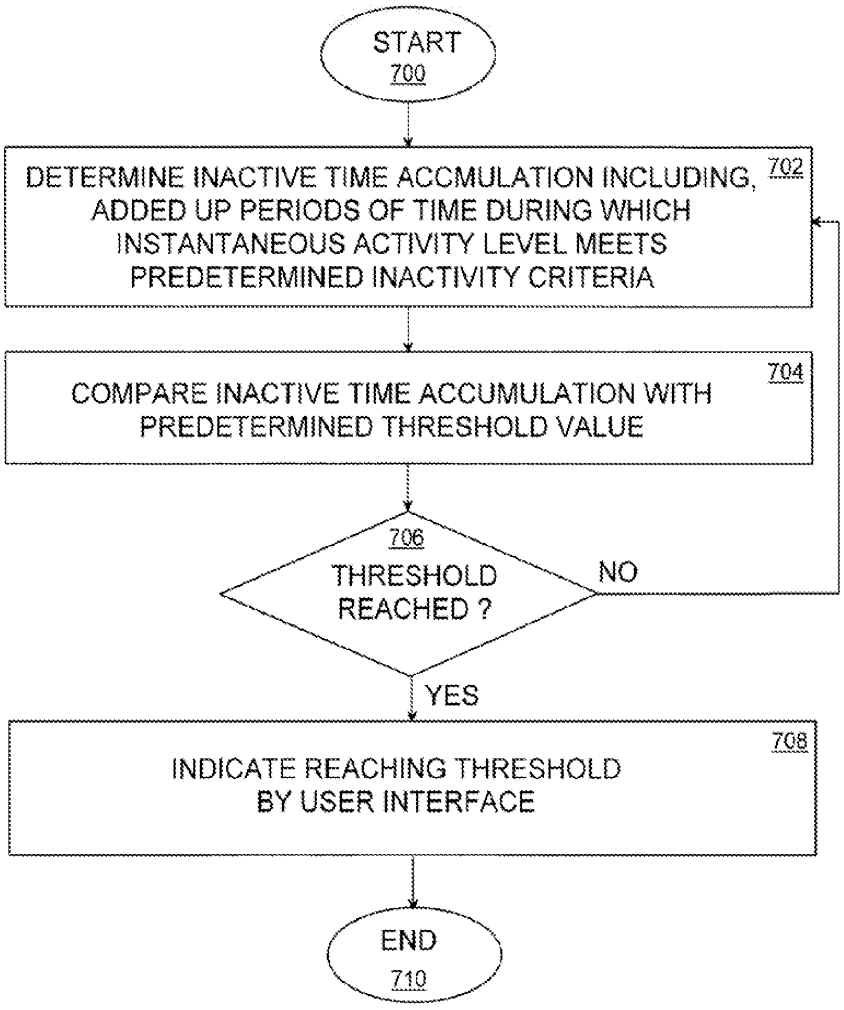


Fig. 7

AliveCor Exhibit 1002
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European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 15 0131

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 02/061705 A (ILIFE SOLUTIONS INC [US]) 8 August 2002 (2002-08-06) * abstract * * page 9, line 8 - line 31 * * page 12, line 1 - page 24, line 32 * * figures 1,2,4-7 *	1,3, 5-11,13, 15, 17-24, 26-30	INV. A61B5/11 ADD. A61B5/024
A		2,4,12, 14,16,25	
X	US 2006/052727 A1 (PALESTRANT LAURENCE [US]) 9 March 2006 (2006-03-09) * abstract * * paragraph [0025] - paragraph [0072] * * figures 1,3,4,7 *	1-3, 7-11, 13-15, 19-26, 28-30	
A		4-6,12, 16-18,27	
X	WO 2005/070289 A (KONINKL PHILIPS ELECTRONICS NV [NL]; RUSSELL JAMES KNOX [US]; LYSTER J) 4 August 2005 (2005-08-04) * abstract * * page 7, line 19 - page 17, line 28 * * figures 1-4 *	1,3-6, 10,12, 13, 15-18, 22,24, 26,27,29	TECHNICAL FIELDS SEARCHED (IPC) A61B
A		2,7-9, 11,14, 19-21, 23,25, 28,30	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 April 2008	Artikis, T

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

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IPR2023-01434, U.S. Patent No. 10,270,898
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 15 0131

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-04-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 02061705 A	08-08-2002	NONE	
US 2006052727 A1	09-03-2006	NONE	
WO 2005070289 A	04-08-2005	CN 1909828 A	07-02-2007
		EP 1708613 A1	11-10-2006
		JP 2007520273 T	26-07-2007

For more details about this annex : see Official Journal of the European Patent Office, No 12/82

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IPR2023-01434, U.S. Patent No. 10,270,898
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REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Non-patent literature cited in the description

- **LEVINE et al.** Interindividual Variation in Posture Allocation: Possible Role in Human Obesity. *Science*, January 2005, vol. 307, 584-586 **[0003]**

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
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PATENT COOPERATION TREATY

ADVANCE E-MAIL

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING TRANSMITTAL OF COPY OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (CHAPTER I OF THE PATENT COOPERATION TREATY)
(PCT Rule 44bis.1(c))

To:

HO, Brian, B.
Dentons US LLP - Apple
P.O. Box 061080
Wacker Drive Station, Willis Tower
Chicago, IL 60606-1080
ETATS-UNIS D'AMERIQUE

Date of mailing *(day/month/year)*	
01 March 2018 (01.03.2018)	
Applicant's or agent's file reference	IMPORTANT NOTICE
P27278WO1/77770000418501	

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2016/037686	15 June 2016 (15.06.2016)	20 August 2015 (20.08.2015)

Applicant
APPLE INC.

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. +41 22 338 82 70

Authorized officer
Athina Nickitas-Etienne

e-mail: pct.team4@wipo.int

Form PCT/IB/326 (January 2004)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

Applicant's or agent's file reference P27278WO1/77770000418501	**FOR FURTHER ACTION**	See item 4 below
International application No. PCT/US2016/037686	International filing date *(day/month/year)* 15 June 2016 (15.06.2016)	Priority date *(day/month/year)* 20 August 2015 (20.08.2015)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant APPLE INC.		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 11 sheets, including this cover sheet.

   In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44*bis*.3(c) and 93*bis*.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44*bis* .2).

	Date of issuance of this report 20 February 2018 (20.02.2018)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Athina Nickitas-Etienne
Facsimile No. +41 22 338 82 70	e-mail: pct.team4@wipo.int

Form PCT/IB/373 (January 2004)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: BRIAN B. HO
MORRISON & FOERSTER LLP
425 MARKET STREET
SAN FRANCISCO, CA 94105-2482

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	09 SEP 2016
Applicant's or agent's file reference 106842137040	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US 16/37686	15 June 2016 (15.06.2016)	20 August 2015 (20.08.2015)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - A63B 71/00 (2016.01)
CPC - A63B 24/0075

Applicant APPLE INC.

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule *43bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 *bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	17 August 2016 (17.08.2016)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (January 2015)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 16/37686

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
   - [X] the international application in the language in which it was filed.
   - [ ] a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. [ ] This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).

3. [ ] With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
   - a. [ ] forming part of the international application as filed:
     - [ ] in the form of an Annex C/ST.25 text file.
     - [ ] on paper or in the form of an image file.
   - b. [ ] furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
   - c. [ ] furnished subsequent to the international filing date for the purposes of international search only:
     - [ ] in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
     - [ ] on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. [ ] In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 16/37686

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	24-25, 39-41, 45, 83-84, 98-100, 104	YES
	Claims	1-23, 26-38, 42-44, 46-82, 85-97, 101-103, 105-108	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-108	NO
Industrial applicability (IA)	Claims	1-108	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-23, 26-38, 42-44, 46-82, 85-97, 101-103, and 105-108 lack novelty under PCT Article 33(2) as being anticipated by US 2011/0003665 A1 to Burton et al. (hereinafter "Burton").

Regarding claim 1, Burton teaches a method (Burton, para. [0187]), comprising: at an electronic device with a display (Burton, para. [0050] and [0063], and Figs. 2 and 18): displaying a user interface screen on the display (Burton, para. [0050] and Fig. 2), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing a workout application (Burton, para. [0050] and [0121], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detecting a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: beginning a workout routine (Burton, para. [0064]).

Regarding claim 2, Burton further teaches comprising: in response to detecting the user input: launching the workout application (Burton, para. [0054]).

Regarding claim 3, Burton further teaches comprising: displaying on the display a second affordance, wherein the second affordance represents a second application, the second application being different from the workout application (Burton, para. [0114] and [0174], and Fig. 119), and wherein the second affordance is displayed as a complication associated with the user interface object (Burton, para. [0195]).

Regarding claim 4, Burton further teaches wherein the second affordance represents a second application selected from the group consisting of a weather application (Burton, para. [0195]), a calendar application, a pedometer application (Burton, para. [0195]), a stopwatch application, and a world clock application.

Regarding claim 5, Burton further teaches wherein the second affordance represents a pedometer application, wherein the second affordance comprises a set of information obtained from the pedometer application, and wherein the set of information is updated in accordance with data from the pedometer application (Burton, para. [0195]).

Regarding claim 6, Burton further teaches comprising: detecting a second user input corresponding to a selection of the second affordance; in response to detecting the second user input: launching the pedometer application (Burton, para. [0064]).

Regarding claim 7, Burton further teaches wherein the set of information comprises one or more indications of distanced traveled, number of steps taken (Burton, para. [0201]), energy expended, or a combination thereof.

Regarding claim 8, Burton further teaches wherein at least a first indication of the one or more indications reflects a unit of measurement (Burton, para. [0118] and Fig. 2).

Regarding claim 9, Burton further teaches wherein at least a first indication of the one or more indications reflects a fraction of a predetermined goal (Burton, para. [0206]).

Regarding claim 10, Burton further teaches wherein the display is a touch-sensitive display (Burton, para. [0054]), and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting a contact on the displayed affordance (Burton, para. [0054]).

Regarding claim 11, Burton further teaches wherein the electronic device comprises an activity sensor (Burton, para. [0045]), and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting an indication of user physical activity that meets an activity criterion based on activity data generated by the activity sensor (Burton, para. [0045]).

Regarding claim 12, Burton further teaches wherein the activity sensor is configured to detect one or more types of physical activity, the one or more types of physical activity comprising walking (Burton, para. [0114]), running (Burton, para. [0045]), going up stairs, or jumping.

(See Continuation Box)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 16/37686

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Box V.2. Citations and explanations:

Regarding claim 13, Burton further teaches wherein the activity criterion comprises one or more of a minimum number of steps taken per unit time, an amount of Calories burned per unit time, or a speed (Burton, para. [0045]).

Regarding claim 14, Burton further teaches wherein the activity criterion comprises an increase in user heart rate (Burton, para. [0045]).

Regarding claim 15, Burton further teaches wherein detecting the user input corresponding to a selection of the affordance further comprises: after detecting the indication of user physical activity that meets the activity criterion: providing a user prompt for confirming a user workout (Burton, para. [0178]); and detecting a user input corresponding to a confirmation of the user workout (Burton, para. [0178]).

Regarding claim 16, Burton further teaches wherein the workout routine is based on one or more workout parameters comprising duration of time, distance, number of steps, heart rate (Burton, para. [0121]), number of Calories burned (Burton, para. [0107]), or a combination thereof.

Regarding claim 17, Burton further teaches comprising: in response to detecting the user input: displaying on the display a value corresponding to the one or more workout parameters (Burton, para. [0107]).

Regarding claim 18, Burton further teaches comprising, after displaying the value corresponding to the first workout parameter: updating the displayed value to reflect user progress with respect to the one or more workout parameters (Burton, para. [0111]).

Regarding claim 19, Burton further teaches wherein the workout routine corresponds to a latest workout routine that is not currently begun (Burton, para. [0132]).

Regarding claim 20, Burton further teaches wherein the workout routine corresponds to a next workout routine according to a list of workout routines (Burton, para. [0114]).

Regarding claim 21, Burton further teaches wherein the workout routine is user-designated (Burton, para. [0114]).

Regarding claim 22, Burton further teaches wherein the workout routine is system-designated (Burton, para. [0114]).

Regarding claim 23, Burton further teaches wherein a visual aspect of the affordance indicates whether the workout routine corresponds to a latest workout routine that is not currently begun (Burton, para. [0132]), corresponds to a next workout routine according to a list of workout routines (Burton, para. [0114]), is user-designated (Burton, para. [0114]), or is system-designated (Burton, para. [0114]).

Regarding claim 26, Burton further teaches comprising: in response to detecting the user input: updating a user avatar (Burton, para. [0246] and [0255]) or user profile picture to indicate a workout (Burton, para. [0255]).

Regarding claim 27, Burton further teaches comprising: in response to detecting the user input: sending a notification indicating a workout to an external device (Burton, para. [0091] and Figs. 9-10 and 16-17).

Regarding claim 28, Burton further teaches wherein the electronic device further comprises a haptic unit (Burton, para. [0171]), and the method further comprises: after beginning the workout routine, ceasing to produce a haptic output in response to an incoming electronic message; detecting a cessation of the workout routine; and in response to detecting the cessation: producing a haptic output in response to a second incoming electronic message received after detecting the cessation (Burton, para. [0171]).

Regarding claim 29, Burton further teaches comprising: in response to detecting the cessation: producing a haptic output corresponding to the first incoming electronic message (Burton, para. [0171]).

Regarding claim 30, Burton further teaches wherein the electronic device further comprises an activity sensor (Burton, para. [0045]), and wherein detecting the cessation is based on a cessation of user physical activity that meets an activity criterion based on data generated by the activity sensor (Burton, para. [0171]).

Regarding claim 31, Burton further teaches wherein detecting the cessation is based on a user input indicating a cessation of the workout routine (Burton, para. [0171]).

Regarding claim 32, Burton further teaches wherein the electronic device further comprises a haptic unit, and the method further comprises: after beginning the workout routine, producing an enhanced haptic output in response to an incoming electronic message (Burton, para. [0171]).

Regarding claim 33, Burton further teaches wherein the enhanced haptic output comprises a more intense haptic output as compared to a haptic output produced before beginning the workout routine (Burton, para. [0171]).

Regarding claim 34, Burton further teaches wherein the enhanced haptic output comprises a first haptic output and a second haptic output, wherein the second haptic output is produced after the first haptic output and is distinct from the second haptic output (Burton, para. [0171]).

(See Next Continuation Box)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US 16/37686

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Box V.2. Citations and explanations:

Regarding claim 35, Burton further teaches a method (Burton, para. [0187]), comprising: at an electronic device with a display (Burton, para. [0050] and [0063], and Figs. 2 and 18): displaying a user interface screen on the display (Burton, para. [0050] and Fig. 2), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing an application that includes one or more weather-related data (Burton, para. [0050], [0121], [0235], and [0279], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detecting a user input corresponding to a selection of the affordance (Burton, para. [0054]); in response to detecting the user input: launching the application (Burton, para. [0064]); and displaying one or more workout recommendations based on weather information (Burton, para. [0050], [0121], [0235], and [0279]).

Regarding claim 36, Burton further teaches comprising: obtaining, via wireless communication, the weather information (Burton, para. [0279]).

Regarding claim 37, Burton further teaches comprising: updating the displayed affordance to indicate a weather condition based on the obtained weather information (Burton, para. [0279]).

Regarding claim 38, Burton further teaches wherein the display is a touch-sensitive display (Burton, para. [0054]), and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting a contact on the displayed affordance (Burton, para. [0054]).

Regarding claim 42, Burton further teaches wherein the one or more workout recommendations comprise a recommended time of day based on the weather information (Burton, para. [0235]).

Regarding claim 43, Burton further teaches wherein the weather information comprises information on one or more of temperature (Burton, para. [0200]), sunlight, precipitation, humidity, or wind (Burton, para. [0200]).

Regarding claim 44, Burton further teaches wherein the weather information comprises current weather information (Burton, para. [0235] and [0279]).

Regarding claim 46, Burton further teaches comprising: displaying on the display an indication of time since a latest workout routine that is not currently begun (Burton, para. [0107]).

Regarding claim 47, Burton further teaches comprising: displaying on the display an indication of time until a next workout routine according to a list of workout routines (Burton, para. [0064]).

Regarding claim 48, Burton further teaches comprising: displaying on the display one or more preparation recommendations based on the time until the next workout routine (Burton, para. [0272]).

Regarding claim 49, Burton further teaches wherein the electronic device comprises a biometric sensor (Burton, para. [0045]), and the method further comprises: displaying on the display an indication of user heart rate based on biometric data generated by the biometric sensor (Burton, para. [0045]).

Regarding claim 50, Burton further teaches a non-transitory computer-readable storage medium comprising one or more programs for execution by one or more processors (Burton, para. [0104]) of a first device with a display (Burton, para. [0050] and [0063], and Figs. 2 and 18), the one or more programs including instructions which, when executed by the one or more processors, cause the first device to: display a user interface screen on the display (Burton, para. [0050] and Fig. 2), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing a workout application (Burton, para. [0050] and [0121], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detect a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: begin a workout routine (Burton, para. [0064]).

Regarding claim 51, Burton further teaches a non-transitory computer-readable storage medium comprising one or more programs for execution by one or more processors (Burton, para. [0104]) of a first device with a display (Burton, para. [0050] and [0063], and Figs. 2 and 18), the one or more programs including instructions which, when executed by the one or more processors, cause the first device to: display a user interface screen on the display (Burton, para. [0050] and Fig. 2), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing an application that includes one or more weather-related data (Burton, para. [0050], [0121], [0235], and [0279]), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detect a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: launch the application; and display one or more workout recommendations based on weather information (Burton, para. [0050], [0121], [0235], and [0279]).

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Regarding claim 52, Burton further teaches a device (Burton, para. [0050] and [0063], and Figs. 2 and 18) comprising: a display (Burton, para. [0050] and [0121], and Figs. 2 and 86c); one or more processors (Burton, para. [0104]); a memory (Burton, para. [0104]); and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions (Burton, para. [0104]) for: displaying a user interface screen on the display (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing a workout application (Burton, para. [0050] and [0121], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detecting a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: beginning a workout routine (Burton, para. [0064]).

Regarding claim 53, Burton further teaches a device (Burton, para. [0050] and [0063], and Figs. 2 and 18) comprising: a display (Burton, para. [0050] and [0121], and Figs. 2 and 86c); one or more processors (Burton, para. [0104]); a memory (Burton, para. [0104]); and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions (Burton, para. [0104]) for: displaying a user interface screen on the display (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing an application that includes one or more weather-related data (Burton, para. [0050], [0121], [0235], and [0279]), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detecting a user input corresponding to a selection of the affordance (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and in response to detecting the user input: launching the application (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and displaying one or more workout recommendations based on weather information (Burton, para. [0050], [0121], [0235], and [0279]).

Regarding claim 54, Burton further teaches a device (Burton, para. [0050] and [0063], and Figs. 2 and 18) comprising: means for displaying a user interface screen on a display (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing a workout application (Burton, para. [0050] and [0121], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); means for detecting a user input corresponding to a selection of the affordance (Burton, para. [0054]); and means responsive to detecting the user input for beginning a workout routine (Burton, para. [0063]).

Regarding claim 55, Burton further teaches a device (Burton, para. [0050] and [0063], and Figs. 2 and 18) comprising: means for displaying a user interface screen on a display (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day(Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing an application that includes one or more weather-related data (Burton, para. [0050], [0121], [0235], and [0279]), wherein the affordance is displayed as a complication associated with the user interface object(Burton, para. [0050] and [0121], and Figs. 2 and 86c), means for detecting a user input corresponding to a selection of the affordance (Burton, para. [0054]); and means responsive to detecting the user input for: launching the application; and displaying one or more workout recommendations based on weather information (Burton, para. [0050], [0121], [0235], and [0279]).

Regarding claim 56, Burton further teaches a non-transitory computer-readable storage medium comprising one or more programs for execution by one or more processors (Burton, para. [0104]) of a first device with a display (Burton, para. [0050] and [0063], and Figs. 2 and 18), the one or more programs including instructions which, when executed by the one or more processors (Burton, para. [0104]), cause the first device to perform the method (Burton, para. [0187]) of claim 1 (also see statement for claim 1).

Regarding claim 57, Burton further teaches a system (Burton, para. [0050] and [0063], and Figs. 2 and 18) comprising: the non-transitory computer readable storage medium (Burton, para. [0104]) of claim 56; and one or more processors configured to execute the instructions of the non-transitory computer readable storage medium (Burton, para. [0104]).

Regarding claim 58, Burton further teaches a device comprising a display (Burton, para. [0050] and [0063], and Figs. 2 and 18), one or more processors (Burton, para. [0104]), a memory (Burton, para. [0104]), and one or more programs (Burton, para. [0104]), wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including instructions for performing the method (Burton, para. [0187]) of claim 1 (also see statement for claim 1).

Regarding claim 59, Burton further teaches a device comprising a display (Burton, para. [0050] and [0063], and Figs. 2 and 18) and means for performing the method (Burton, para. [0187]) of claim 1 (also see statement for claim 1).

Regarding claim 60, Burton further teaches an electronic device (Burton, para. [0050] and [0063], and Figs. 2 and 18), comprising: a display unit (Burton, para. [0050] and [0063], and Figs. 2 and 18); and a processing unit coupled to the display unit (Burton, para. [0050] and [0063], and Figs. 2 and 18), the processing unit configured to: enable display, on the display unit, of a user interface screen (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing a workout application (Burton, para. [0050] and [0121], and Figs. 2 and 86c), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detect a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: begin a workout routine (Burton, para. [0064]).

Regarding claim 61, Burton further teaches wherein, in response to detecting the user input, the processing unit is further configured to: launch the workout application (Burton, para. [0064]).

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Regarding claim 62, Burton further teaches wherein the processing unit is further configured to: enable display, on the display unit, of a second affordance, wherein the second affordance represents a second application, the second application being different from the workout application (Burton, para. [0114] and [0174], and Fig. 119), and wherein the second affordance is displayed as a complication associated with the user interface object (Burton, para. [0195]).

Regarding claim 63, Burton further teaches wherein the second affordance represents a second application selected from the group consisting of a weather application (Burton, para. [0195]), a calendar application, a pedometer application (Burton, para. [0195]), a stopwatch application, and a world clock application.

Regarding claim 64, Burton further teaches wherein the second affordance represents a pedometer application (Burton, para. [0195]), wherein the second affordance comprises a set of information obtained from the pedometer application, and wherein the set of information is updated in accordance with data from the pedometer application (Burton, para. [0064]).

Regarding claim 65, Burton further teaches wherein the processing unit is further configured to: detect a second user input corresponding to a selection of the second affordance; and in response to detecting the second user input: launch the pedometer application (Burton, para. [0064]).

Regarding claim 66, Burton further teaches wherein the set of information comprises one or more indications of distanced traveled, number of steps taken (Burton, para. [0201]), energy expended, or a combination thereof.

Regarding claim 67, Burton further teaches wherein at least a first indication of the one or more indications reflects a unit of measurement (Burton, para. [0118] and Fig. 2).

Regarding claim 68, Burton further teaches wherein at least a first indication of the one or more indications reflects a fraction of a predetermined goal (Burton, para. [0206]).

Regarding claim 69, Burton further teaches wherein the display unit is a touch-sensitive display unit (Burton, para. [0045]), and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting a contact on the displayed affordance (Burton, para. [0045]).

Regarding claim 70, Burton further teaches wherein the electronic device further comprises an activity sensing unit (Burton, para. [0178]), wherein the processing unit is coupled to the activity sensing unit, and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting an indication of user physical activity that meets an activity criterion based on activity data generated by the activity sensing unit (Burton, para. [0178]).

Regarding claim 71, Burton further teaches wherein the activity sensor is configured to detect one or more types of physical activity, the one or more types of physical activity comprising walking (Burton, para. [0114]), running (Burton, para. [0045]), going up stairs, or jumping.

Regarding claim 72, Burton further teaches wherein the activity criterion comprises one or more of a minimum number of steps taken per unit time, an amount of Calories burned per unit time, or a speed (Burton, para. [0045]).

Regarding claim 73, Burton further teaches wherein the activity criterion comprises an increase in user heart rate (Burton, para. [0045]).

Regarding claim 74, Burton further teaches wherein detecting the user input corresponding to a selection of the affordance further comprises: after detecting the indication of user physical activity that meets the activity criterion: providing a user prompt for confirming a user workout (Burton, para. [0178]); and detecting a user input corresponding to a confirmation of the user workout (Burton, para. [0178]).

Regarding claim 75, Burton further teaches wherein the workout routine is based on one or more workout parameters comprising duration of time, distance, number of steps (Burton, para. [0121]), heart rate, number of Calories burned (Burton, para. [0107]), or a combination thereof.

Regarding claim 76, Burton further teaches wherein, in response to detecting the user input, the processing unit is further configured to: enable display, on the display unit, of a value corresponding to the one or more workout parameters (Burton, para. [0107]).

Regarding claim 77, Burton further teaches wherein, after enabling display, on the display unit, of the value corresponding to the first workout parameter, the processing unit is further configured to: enable update, on the display unit, of the displayed value to reflect user progress with respect to the one or more workout parameters (Burton, para. [0111]).

Regarding claim 78, Burton further teaches wherein the workout routine corresponds to a latest workout routine that is not currently begun (Burton, para. [0132]).

Regarding claim 79, Burton further teaches wherein the workout routine corresponds to a next workout routine according to a list of workout routines (Burton, para. [0114]).

Regarding claim 80, Burton further teaches wherein the workout routine is user-designated (Burton, para. [0114]).

Regarding claim 81, Burton further teaches wherein the workout routine is system-designated (Burton, para. [0114]).

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Regarding claim 82, Burton further teaches wherein a visual aspect of the affordance indicates whether the workout routine corresponds to a latest workout routine that is not currently begun (Burton, para. [0132]), corresponds to a next workout routine according to a list of workout routines (Burton, para. [0114]), is user-designated (Burton, para. [0114]), or is system-designated (Burton, para. [0114]).

Regarding claim 85, Burton further teaches wherein, in response to detecting the user input, the processing unit is further configured to: update a user avatar (Burton, para. [0246] and [0255]) or user profile picture (Burton, para. [0255]) to indicate a workout.

Regarding claim 86, Burton further teaches wherein the electronic device further comprises a notifications unit (Burton, para. [0063] and [0091], and Fig. 18), wherein the processing unit is coupled to the notifications unit, and wherein, in response to detecting the user input, the processing unit is further configured to: enable sending, by the notifications unit, a notification indicating a workout to an external device (Burton, para. [0091] and Figs. 9-10 and 16-17).

Regarding claim 87, Burton further teaches wherein the electronic device further comprises a haptic unit (Burton, para. [0171]), wherein the processing unit is coupled to the haptic unit, and wherein the processing unit is further configured to: after beginning the workout routine, cease to produce a haptic output via the haptic unit in response to an incoming electronic message (Burton, para. [0171]); detect a cessation of the workout routine (Burton, para. [0171]); and in response to detecting the cessation: produce, via the haptic unit, a haptic output in response to a second incoming electronic message received after detecting the cessation (Burton, para. [0171]).

Regarding claim 88, Burton further teaches wherein, in response to detecting the cessation, the processing unit is further configured to: produce, via the haptic unit, a haptic output corresponding to the first incoming electronic message (Burton, para. [0171]).

Regarding claim 89, Burton further teaches wherein the electronic device further comprises an activity sensing unit (Burton, para. [0045]), wherein the processing unit is coupled to the activity sensing unit, and wherein detecting the cessation is based on a cessation of user physical activity that meets an activity criterion based on data generated by the activity sensing unit (Burton, para. [0171]).

Regarding claim 90, Burton further teaches wherein detecting the cessation is based on a user input indicating a cessation of the workout routine (Burton, para. [0171]).

Regarding claim 91, Burton further teaches wherein the electronic device further comprises a haptic unit (Burton, para. [0171]), wherein the processing unit is coupled to the haptic unit, and wherein the processing unit is further configured to: after beginning the workout routine, produce, via the haptic unit, an enhanced haptic output in response to an incoming electronic message (Burton, para. [0171]).

Regarding claim 92, Burton further teaches wherein the enhanced haptic output comprises a more intense haptic output as compared to a haptic output produced via the haptic unit before beginning the workout routine (Burton, para. [0171]).

Regarding claim 93, Burton further teaches wherein the enhanced haptic output comprises a first haptic output and a second haptic output, wherein the second haptic output is produced via the haptic unit after the first haptic output and is distinct from the second haptic output (Burton, para. [0171]).

Regarding claim 94, Burton further teaches an electronic device (Burton, para. [0050] and [0063], and Figs. 2 and 18), comprising: a display unit (Burton, para. [0050] and [0063], and Figs. 2 and 18); and a processing unit coupled to the display unit (Burton, para. [0063] and Fig. 18), the processing unit configured to: enable display, on the display unit, of a user interface screen (Burton, para. [0050] and [0121], and Figs. 2 and 86c), the user interface screen including: a user interface object indicating a time of day (Burton, para. [0050] and [0121], and Figs. 2 and 86c); and an affordance representing an application that includes one or more weather-related data (Burton, para. [0050], [0121], [0235], and [0279]), wherein the affordance is displayed as a complication associated with the user interface object (Burton, para. [0050] and [0121], and Figs. 2 and 86c); detect a user input corresponding to a selection of the affordance (Burton, para. [0054]); and in response to detecting the user input: launch the application (Burton, para. [0064]); and enable display, on the display unit, of one or more workout recommendations based on weather information (Burton, para. [0050], [0121], [0235], and [0279]).

Regarding claim 95, Burton further teaches wherein the electronic device further comprises a wireless communications unit (Burton, para. [0279]), wherein the processing unit is coupled to the wireless communications unit, and wherein the processing unit is further configured to: obtain, via the wireless communications unit, the weather information (Burton, para. [0279]).

Regarding claim 96, Burton further teaches wherein the processing unit is further configured to: enable update, on the display unit, of the displayed affordance to indicate a weather condition based on the obtained weather information (Burton, para. [0235] and [0279]).

Regarding claim 97, Burton further teaches wherein the display unit is a touch-sensitive display unit (Burton, para. [0045]), and wherein detecting the user input corresponding to a selection of the affordance comprises: detecting a contact on the displayed affordance (Burton, para. [0045]).

Regarding claim 101, Burton further teaches wherein the one or more workout recommendations comprise a recommended time of day based on the weather information (Burton, para. [0235]).

Regarding claim 102, Burton further teaches wherein the weather information comprises information on one or more of temperature (Burton, para. [0200]), sunlight, precipitation, humidity, or wind (Burton, para. [0200]).

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Regarding claim 103, Burton further teaches wherein the weather information comprises current weather information (Burton, para. [0235] and [0279]).

Regarding claim 105, Burton further teaches wherein the processing unit is further configured to: enable display, on the display unit, of an indication of time since a latest workout routine that is not currently begun (Burton, para. [0107]).

Regarding claim 106, Burton further teaches wherein the processing unit is further configured to: enable display, on the display unit, of an indication of time until a next workout routine according to a list of workout routines (Burton, para. [0064]).

Regarding claim 107, Burton further teaches wherein the processing unit is further configured to: enable display, on the display unit, of one or more preparation recommendations based on the time until the next workout routine (Burton, para. [0272]).

Regarding claim 108, Burton further teaches wherein the electronic device further comprises an activity sensing unit, wherein the processing unit is coupled to the activity sensing unit (Burton, para. [0045]), wherein the activity sensing unit is a biometric sensing unit (Burton, para. [0045]), and wherein the processing unit is further configured to: enable display, on the display unit, of an indication of user heart rate based on biometric data generated by the biometric sensing unit (Burton, para. [0045]).

Claims 24-25 and 83-84 lack an inventive step under PCT Article 33(3) as being obvious over Burton in view of US 2014/0344723 A1 to Malik et al. (hereinafter "Malik").

Regarding claims 24 and 83, Burton teaches the method and device of claims 1 and 60, respectively, but does not explicitly teach in response to detecting the user input: entering a do not disturb (DND) mode of the electronic device, as in claims 24 and 83, respectively. However, Malik does teach in response to detecting the user input: entering a do not disturb (DND) mode of the electronic device (Malik, para. [0132]). It would have been obvious to one skilled in the art to combine the DND mode as taught by Malik with the method and device as taught by Burton to provide in response to detecting the user input: entering a do not disturb (DND) mode of the electronic device, because using the DND mode in Malik with the method and device in Burton extends the Burton method and device to implement a do not disturb mode. Burton and Malik are directed to monitoring user activities (Burton, para. [0044], Malik, para. [0038]).

Regarding claims 25 and 84, Burton teaches the method and device of claims 1 and 60, respectively, but does not explicitly teach in response to detecting the user input: entering an auto-reply mode of the electronic device, as in claims 25 and 84, respectively. However, Malik does teach in response to detecting the user input: entering an auto-reply mode of the electronic device (Malik, para. [0201]). It would have been obvious to one skilled in the art to combine the availability of auto-reply functionality as taught by Malik with the method and device as taught by Burton to provide in response to detecting the user input: entering an auto-reply mode of the electronic device, because using the availability of auto-reply functionality in Malik with the method and device in Burton extends the Burton method and device to implement an auto-reply mode. Burton and Malik are directed to monitoring user activities (Burton, para. [0044], Malik, para. [0038]).

Claims 39, 45, 98, and 104 lack an inventive step under PCT Article 33(3) as being obvious over Burton in view of US 2014/0245161 A1 to Yuen et al. (hereinafter "Yuen").

Regarding claims 39 and 98, Burton teaches the method and device of claims 35 and 94, respectively, but does not explicitly teach wherein the one or more workout recommendations comprise recommended apparel based on the weather information, as in claims 39 and 98, respectively. However, Yuen does teach wherein the one or more workout recommendations comprise recommended apparel based on the weather information (Yuen, para. [0148]). It would have been obvious to one skilled in the art to combine the clothing or accessory recommendations based on the current or predicted weather as taught by Yuen with the method and device as taught by Burton to provide wherein the one or more workout recommendations comprise recommended apparel based on the weather information, because using the clothing or accessory recommendations based on the current or predicted weather in Yuen with the method and device in Burton extends the Burton method and device to implement clothing or accessory recommendations based on the current or predicted weather. Burton and Yuen are directed to monitoring user activities (Burton, para. [0044], Yuen, para. [0068]).

Regarding claims 45 and 104, Burton teaches the method and device of claims 35 and 94, respectively, but does not explicitly teach wherein the weather information comprises forecasted weather information, as in claims 45 and 104, respectively. However, Yuen does teach wherein the weather information comprises forecasted weather information (Yuen, para. [0148]; para [0068]). It would have been obvious to one skilled in the art to combine the predicted weather as taught by Yuen with the method and device as taught by Burton to provide wherein the weather information comprises forecasted weather information, because using the predicted weather in Yuen with the method and device in Burton extends the Burton method and device to implement predicted weather as weather information. Burton and Yuen are directed to monitoring user activities (Burton, para. [0044], Yuen, para. [0068]).

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Claims 40-41 and 99-100 lack an inventive step under PCT Article 33(3) as being obvious over Burton in view of Yuen, further in view of US 2014/0282153 A1 to Christiansen et al. (hereinafter "Christiansen").

Regarding claims 40 and 99, Burton in view of Yuen teaches the method and device of claims 39 and 98, respectively, but does not explicitly teach wherein the recommended apparel comprises branded apparel, as in claims 40 and 99, respectively. However, Christiansen does teach wherein the recommended apparel comprises branded apparel (Christiansen, para. [0229] and [0274]-[0278]). It would have been obvious to one skilled in the art to combine the recommendations of branded items such as clothing as taught by Christiansen with the method and device as taught by Burton in conjunction with Yuen to provide wherein the recommended apparel comprises branded apparel, because using the recommendations of branded items such as clothing in Christiansen with the method and device in Burton in conjunction with Yuen extends the Burton method and device to implement recommendations of branded items such as clothing. Burton, Yuen, and Christiansen are directed to monitoring user activities (Burton, para. [0044], Yuen, para. [0068], Christiansen, para. [0160]).

Regarding claims 41 and 100, Burton in view of Yuen teaches the method and device of claims 39 and 98, respectively, but does not explicitly teach wherein the recommended apparel comprises apparel from a user purchase history, as in claims 41 and 100, respectively. However, Christiansen does teach wherein the recommended apparel comprises apparel from a user purchase history (Christiansen, para. [0229] and [0276]-[0278]). It would have been obvious to one skilled in the art to combine the user purchase history of items such as clothing as taught by Christiansen with the method and device as taught by Burton in conjunction with Yuen to provide wherein the recommended apparel comprises apparel from a user purchase history, because using the user purchase history of items such as clothing in Christiansen with the method and device in Burton in conjunction with Yuen extends the Burton method and device to implement user purchase history of items such as clothing. Burton, Yuen, and Christiansen are directed to monitoring user activities (Burton, para. [0044], Yuen, para. [0068], Christiansen, para. [0160]).

Claims 1-108 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Peter Jung-Hyon Yim/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	32122962
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
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Receipt Date:	22-MAR-2018
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Application Type:	Utility under 35 USC 111(a)

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The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	119541 4f0f2a608c8af18fa61711d3e4130f481efe8f20	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	EP_1935339_A1.pdf	2915771 39ca121415e9f9b8ab24d1ab2a5225eaa59e559f	no	16
Warnings:					
Information:					
3	Non Patent Literature	181541459_EESR_03_02_2018.pdf	1257565 9db89eb6694904ec42393de84b087d3e2f1728a9	no	8
Warnings:					
Information:					
4	Non Patent Literature	PCTUS2016037686_IPRP_03_01_2018.pdf	2883219 8df82c3d7d633b75a618a9a8c4f843b9b488c6ae	no	12
Warnings:					
Information:					
5	Non Patent Literature	2016535045_JPNOA_03_02_2018.pdf	1018700 7d60ecf888cf64ed7f82816c201bb9896b0a63ce	no	5
Warnings:					
Information:					
6	Non Patent Literature	2018200428_AUOA_03_07_2018.pdf	429856 e3cdc609b9eec2c4501dbe21e2f4164c62042297	no	4
Warnings:					

Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	30928 c9ad9c2d4c27fb317bfafe2eefc258a659832e9d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	8655580		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T[5]

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Notice of Allowance received for U.S. Patent Application No. 14/839,922, mailed on January 26, 2018, 2 pages.	
	2.	Office Action received for Danish Patent Application No. PA201770191, mailed on January 25, 2018, 3 pages.	
	3.	Summons to attend oral proceedings received for European Patent Application No. 13811085.3, mailed on January 26, 2018, 14 pages.	

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-02-22
Name/Print	Randy Omid	Registration Number	67,439

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Patent Application Fee Transmittal					
Application Number:	14599424				
Filing Date:	16-Jan-2015				
Title of Invention:	WELLNESS AGGREGATOR				
First Named Inventor/Applicant Name:	Christopher D. Soli				
Filer:	Randy Omid/Swarnava Chakraborty				
Attorney Docket Number:	P23397US3/77770000376103				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	31854682
Application Number:	14599424
International Application Number:	
Confirmation Number:	3136
Title of Invention:	WELLNESS AGGREGATOR
First Named Inventor/Applicant Name:	Christopher D. Soli
Customer Number:	150004
Filer:	Randy Omid/Swarnava Chakraborty
Filer Authorized By:	Randy Omid
Attorney Docket Number:	P23397US3/77770000376103
Receipt Date:	22-FEB-2018
Filing Date:	16-JAN-2015
Time Stamp:	08:45:06
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$240
RAM confirmation Number	022218INTEFSW08462500
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	P23397US3_IDS.pdf	118240 07d9071de39b557e01e148d6a24f20e6dd56767c	no	3
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	14839922_NOA_01_26_2018.pdf	80053 13243c580d30710e1cada35308c4bad3c905bbc2	no	2
Warnings:					
Information:					
3	Non Patent Literature	PA201770191_DKOA_01_25_2018.pdf	1025956 d6eaed5f232b72c9186b526c9d7519cb2d013e83	no	3
Warnings:					
Information:					
4	Non Patent Literature	138110853_SAOP_01_26_2018.pdf	2066637 9b82668a2a9963b4fea90c6f094ab92d96d84f22	no	14
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30830 9b11076c7d42d7cc58ac3438353896b542d047c9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3321716		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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New International Application Filed with the USPTO as a Receiving Office

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	6603477	B1	2003-08-05	Tittle, Douglas L.	
	2.	9557881	B1	2017-01-31	Jain et al.	

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	20100305965	A1	2010-12-02	Benjamin et al.	
	2.	20130054150	A1	2013-02-28	Sacks et al.	
	3.	20130217979	A1	2013-08-22	Blackadar et al.	
	4.	20150205930	A1	2015-07-23	Shaanan et al.	
	5.	20150334546	A1	2015-11-19	Diamond, Steven	
	6.	20150374310	A1	2015-12-31	Lee, Yong Jin	
	7.	20160256741	A1	2016-09-08	Holma et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, where Relevant Passages or Relevant Figures Appear	T[5]
	1.	10-2013-0135282	KR	A	2013-12-10	Yota Devices IPR Ltd.	English Abstract Submitted	
	2.	2014/207294	WO	A1	2014-12-31	Polar Electro OY		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1.	Non-Final Office Action received for U.S. Patent Application No. 14/599,425, mailed on January 11, 2018, 42 pages.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

	2.	Non-Final Office Action received for U.S. Patent Application No. 14/732,773, mailed on January 19, 2018, 45 pages.	
	3.	Notice of Allowance received for U.S. Patent Application No. 14/839,916, mailed on January 10, 2018, 19 pages.	
	4.	Office Action received for Korean Patent Application No. 10-2016-7014577, mailed on December 26, 2017, 14 pages (6 pages of English Translation and 8 pages of Official Copy).	☒
	5.	"Utilization of Galaxy S4- S Health, ChatOn and Samsung Hub", Available at: http://seeit.kr/1263, June 12, 2013, 25 pages (Official Copy only) (see attached 37 CFR § 1.98(a) (3)).	
	6.	JENBSJOURNEY, "Wondering About a Fitbit?",Available at: https://jenbsjourney.blogspot.kr/2013/08/wondering-about-fitbit.html, August 6, 2013, 12 pages.	

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.
[4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14/599,424
	Filing Date	2015-01-16
	First Named Inventor	Christopher D. SOLI
	Art Unit	3686
	Examiner Name	E. A. Lam
	Attorney Docket Number	P23397US3/77770000376103

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Randy Omid/	Date (YYYY-MM-DD)	2018-02-02
Name/Print	Randy Omid	Registration Number	67,439

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Atty. Docket No. P23397US3/77770000376103
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Christopher D. SOLI
Application No.: 14/599,424
Filing Date: January 16, 2015
For: WELLNESS AGGREGATOR

Confirmation No.: 3136
Art Unit: 3686
Examiner: E. A. Lam

INFORMATION DISCLOSURE STATEMENT

Via: USPTO Electronic Filing System (EFS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

With regard to the above-referenced application, the items of information listed on the enclosed Form PTO/SB/08 are brought to the attention of the Examiner.

In accordance with 37 CFR § 1.98(a) (3), a concise explanation of the relevance of each non-English language document is as follows:

An English-language abstract or machine translation has been provided for all Non-English language documents when available. Neither an English translation nor equivalent English-language publication is readily available for Non-Patent Literature Document "Cite No. 5" on form PTO/SB/08. The Non-Patent Literature Document was cited by the Korean Patent Office in related Patent Application No. 10-2016-7014577 on December 26, 2017.

No representation is made that a reference listed on the accompanying Form PTO/SB/08 is "prior art" within the meaning of 35 USC §102 and §103, and Applicants reserve the right, pursuant to 37 CFR §1.131 for example, to establish that the reference(s) are not "prior art."

The information contained in the Information Disclosure Statement under 37 CFR §1.97 and §1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; or (iii) the information, protocols, results and the like reported by third parties are accurate or enabling.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
721 of 2716

Consideration of the items listed is respectfully requested. Pursuant to the provisions of MPEP 609, it is requested that the Examiner return a copy of Form PTO/SB/08 submitted herewith, marked as being considered and made of record, to the undersigned with the next official communication.

Respectfully submitted,

Dated: ____February 02, 2018_____

____/Randy Omid/_____

Randy Omid

Reg. No. 67,439

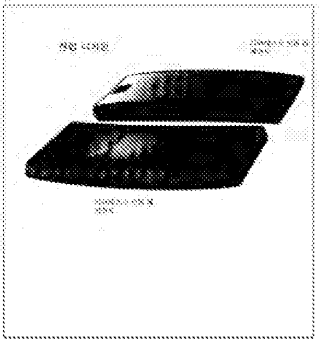
DENTONS US LLP
1999 Harrison Street
Suite 1300
Oakland, CA 94612
United States
P +1 415 882 5000

106349328

이용자 인터페이스를 갖는 모바일 디바이스

MOBILE DEVICE WITH USER INTERFACE

(51) Int. CL	G06F 1/16(2006.01.01) G06F 3/048(2017.01.01)
(52) CPC ※	G06F 1/1626(2013.01) G06F 1/165(2013.01) H04M 1/72544(2013.01) H04M 1/72552(2013.01) H04M 2250/12(2013.01) H04M 2250/16(2013.01)
(21) Application No.(Date)	1020137017608 (2011.12.12)
(71) Applicant	YOTA DEVICES IPR LTD
Translation submission Date	(2013.07.08)
(11) Registration No.(Date)	
(65) Unex. Pub. No.(Date)	1020130135282 (2013.12.10)
(11) Publication No.(Date)	
(86) Int'l Application No.(Date)	PCT/RU2011/000979(2011.12.12)
(87) Int'l Unex. Pub. No.(Date)	WO2012078079(2012.06.14)
(30) Priority Info. (Country / No. / Date)	GB(영국) | 1020999.7 | 2010.12.10 GB(영국) | 1101078.2 | 2011.01.21 GB(영국) | 1112458.3 | 2011.07.20 GB(영국) | 1117060.6 | 2011.10.03
Legal Status	Rejected
Examination Status	Decision to refuse (Reexamination)
Trial Info	
Kind/Right of Org. Application	International Application /
Right of Org. Application No.(Date)	
Related Application No.	1020167004111
Request for an examination(Date)	N
Number of examination claims	32



※ This following Abstract Information is not including formula and image information. If you want to know these information, Check the Full Text Information Please.

The I form factor Mobile display including front and behind main surfaces are provided and the front main surface comprise here, the device is the computer the normally output first display screen is provided.

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
723 of 2716

(19) 대한민국특허청(KR)
(12) 공개특허공보(A)

(11) 공개번호 10-2013-0135282
(43) 공개일자 2013년12월10일

(51) 국제특허분류(Int. Cl.)
G06F 1/16 (2006.01) *G06F 3/048* (2006.01)
(21) 출원번호 10-2013-7017808
(22) 출원일자(국제) 2011년12월12일
심사청구일자 없음
(85) 번역문제출일자 2013년07월08일
(86) 국제출원번호 PCT/IB2011/055979
(87) 국제공개번호 WO 2012/078079
국제공개일자 2012년06월14일
(30) 우선권주장
1020690.7 2010년12월10일 영국(GB)
(뒷면에 계속)

(71) 출원인
요타 디바이시스 아이피알 리미티드
영국 버진아일랜드 토르라 로드 타운 메인 스트리트 177
(72) 발명자
카르마넨코, 세르게이
러시아 188600 상트-페테르부르크 23-길 150 파라 쉬드나야
버크넨코, 이고르
우크라이나 61600 카르코프 아파트먼트 213 로바디 에비뉴 56
(뒷면에 계속)
(74) 대리인
장훈

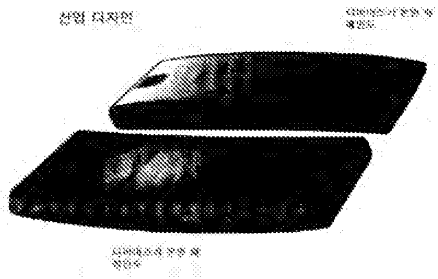
전체 청구항 수 : 총 194 항

(54) 발명의 명칭 이용자 인터페이스를 갖는 모바일 디바이스

(57) 요 약

앞쪽 및 뒤쪽 주 면들을 포함하는 하 종 핵터 모바일 디스플레이가 제공되며, 상기 앞쪽 주 면은 정상 동작 제 1 디스플레이 스크린을 제공하도록 배열되고 상기 뒤쪽 주 면은 적 적어 제 2 디스플레이 스크린을 제공하도록 배열되고, 여기에서 상기 디바이스는 컴퓨터를 포함한다.

대 표 도



(72) 발명자
코치프, 베라
러시아 197373 상트-페테르부르크 플랫 96 36 랜딩2 코멘단트스키 프로스펙트
고릴로프스키, 드미트리 알렉세예비치
러시아 194017 상트-페테르부르크 6-1-36 드레스덴스카야

(30) 우선권주장
1101078.2 2011년01월21일 영국(GB)
1112458.2 2011년07월20일 영국(GB)
1117000.8 2011년10월03일 영국(GB)

AliveCor Exhibit 1002
AliveCor, Inc. v. Apple Inc.
IPR2023-01434, U.S. Patent No. 10,270,898
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특허청구의 범위

청구항 1

앞쪽 및 뒤쪽 주 면들을 포함하는 바 폼 팩터 모바일 디스플레이 디바이스(Bar form factor display device)에 있어서,

상기 앞쪽 주 면은 정상 전력 제 1 디스플레이 스크린을 보여주도록 배열되고 상기 뒤쪽 주 면은 저 전력 제 2 디스플레이 스크린을 보여주도록 배열되고, 상기 디바이스는 컴퓨터를 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 2

제 1 항에 있어서,

상기 제 2 디스플레이 스크린은 그레이스케일 패널(Grayscale panel)인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 3

제 1 항에 있어서,

상기 제 2 디스플레이 스크린은 양-안정 디스플레이 스크린인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 4

제 3 항에 있어서,

상기 양-안정 디스플레이 스크린은 양-안정 능동 매트릭스 및 고-해상도 디스플레이 스크린인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 5

제 3 항 또는 제 4 항에 있어서,

상기 양-안정 디스플레이 스크린은 전자-잉크(E-Ink) 양-안정 디스플레이 스크린인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 6

제 3 항 또는 제 4 항에 있어서,

상기 제 2 디스플레이 스크린은 전자 종이 디스플레이인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 7

제 1 항 내지 제 6 항 중 어느 한 항에 있어서,

상기 디바이스는 센서들을 포함하고 상기 디바이스는 상기 제 1 디스플레이 스크린이 오프일 때 상기 센서들로부터의 입력을 프로세싱하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 8

제 7 항에 있어서,

상기 디바이스는 특정 이벤트에 응답하여, 상기 제 1 디스플레이 스크린이 오프일 때 상기 디바이스에서의 센서들로부터의 입력을 프로세싱하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 9

제 8 항에 있어서,

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상기 특정 이벤트는 상기 제 2 디스플레이 스크린 상에 디스플레이되는 동작인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 10

제 7 항 내지 제 9 항 중 어느 한 항에 있어서,

하나 이상의 센서들은 이용자가 어떤 스크린과 상호작용하는지를 검출하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 11

제 7 항 내지 제 10 항 중 어느 한 항에 있어서,

상기 디바이스는 이용자로부터 입력된 압력을 수신하도록 동작가능한 상기 디바이스의 반대 측면들 상에 압력 센서들을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 12

제 7 항 내지 제 11 항 중 어느 한 항에 있어서,

상기 디바이스는 이용자로부터의 입력을 수신하도록 동작가능한 상기 디바이스 상에 용량 버튼들을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 13

제 7 항 내지 제 12 항 중 어느 한 항에 있어서,

상기 디바이스는 가속도계 센서 및 자이로스코프 센서를 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 14

제 1 항 내지 제 13 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이 스크린은 터치 스크린인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 15

제 14 항에 있어서,

상기 제 1 디스플레이는 다중 터치 입력을 수신하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 16

제 1 항 내지 제 15 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이 스크린은 터치 스크린인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 17

제 16 항에 있어서,

상기 제 2 디스플레이는 다중 터치 입력을 수신하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 18

제 1 항 내지 제 17 항 중 어느 한 항에 있어서,

상기 컴퓨터는 안드로이드 운영 시스템을 이용하여 프로그래밍되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 19

제 18 항에 있어서,

상기 디바이스는 상기 안드로이드 운영 시스템에서 하나의 스크린 디바이스로서 동작하는, 바 폼 팩터 모바일

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디스플레이 디바이스.

청구항 20

제 1 항 내지 제 19 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이 스크린 출력은 제 1 애플리케이션에 의해 생성되고 상기 제 2 디스플레이 스크린 출력은 상기 제 1 애플리케이션과 상이한 제 2 애플리케이션에 의해 생성되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 21

제 1 항 내지 제 20 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이는 상기 제 2 디스플레이 스크린에 대응하는 홈 스크린 창(home screen pane)을 디스플레이하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 22

제 20 항에 있어서,

상기 제 2 애플리케이션은 특정 애플리케이션들과 통신하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 23

제 20 항에 있어서,

단지 특정된 애플리케이션들만이 상기 제 2 애플리케이션과 통신하도록 허용되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 24

제 1 항 내지 제 23 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이는 복수의 위젯들을 디스플레이하도록 동작가능하고, 상기 위젯들 중 적어도 두 개는 상이한 업데이트 빈도들을 갖는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 25

제 24 항에 있어서,

적어도 두 개의 위젯들의 상기 업데이트는 동기화되고, 동기화는 디바이스 전력 이용량에서 에너지 절감을 위해 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 26

제 24 항에 있어서,

모든 위젯들의 상기 업데이트가 동기화되고, 동기화는 디바이스 전력 이용량에서 에너지 절감을 위해 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 27

제 25 항 또는 제 26 항에 있어서,

상기 업데이트는 상기 제 2 스크린의 스크린 업데이트인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 28

제 24 항 내지 제 27 항 중 어느 한 항에 있어서,

상기 디바이스는 또한 상기 제 2 스크린 상에서의 위젯들의 상기 스크린 업데이트가 동기화되지 않는 모드에서 동작하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

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청구항 29

제 24 항 내지 제 28 항 중 어느 한 항에 있어서,

상기 디바이스는 또한 상기 제 2 스크린의 풀 스크린 리프레쉬를 수행하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 30

제 21 항에 있어서,

상기 제 2 디스플레이는 구성되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 31

제 30 항에 있어서,

상기 제 2 디스플레이 구성은 상기 제 1 디스플레이을 통해 변경되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 32

제 30 항에 있어서,

상기 제 2 디스플레이의 구성의 변경을 개시하기 위한 디바이스 스크린 제어는 상기 디바이스 상에서의 다른 폼 팩터과 매뉴 계층에서 동일한 레벨에 있는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 33

제 32 항에 있어서,

상기 제 2 디스플레이 구성의 변경을 개시하기 위한 상기 디바이스 스크린 제어는 다른 스크린들을 통해 스와이핑(swiping)함으로써 액세스가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 34

제 32 항 또는 제 33 항에 있어서,

상기 제 2 디스플레이 구성의 변경을 개시하기 위한 상기 디바이스 스크린 제어는 스크린 와이드 2 손가락 스와이프에 의해 액세스가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 35

제 21 항에 있어서,

제 1 방향에서의 2 손가락 스와이프는 상기 제 2 디스플레이 구성의 변경을 개시하기 위한 상기 스크린 제어를 제공하며, 상기 제 1 방향과 반대 방향에서의 2 손가락 스와이프는 이전에 디스플레이된 홈 제어를 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 36

제 1 항 내지 제 35 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이는 복수의 홈 화면을 디스플레이하도록 동작가능하고, 핫팟 아이콘은 각각의 홈 화면 상에 디스플레이되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 37

제 36 항에 있어서,

상기 핫팟 아이콘이 이용자에 의해 선택될 때, 상기 아이콘은 각각의 홈 화면 옷장을 개방하도록 확장되는, 바 폼 팩터 모바일 디스플레이 디바이스.

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청구항 38

제 37 항에 있어서,

각각의 홈 페이지에 핫 깃을 제공하는 상기 확장된 아이콘은 대응하는 홈 스크린 핫 깃 상에서의 손가락 터치에 응답하여 홈 스크린의 프리뷰를 제공하도록 동작가능한, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 39

제 38 항에 있어서,

상기 디바이스는 상기 대응하는 홈 스크린 핫 깃으로부터의 손가락의 페이퍼키에 응답하여 홈 스크린을 디스플레이하도록 동작가능한, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 40

제 1 항 내지 제 30 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이는 이용자가 상기 제 1 디스플레이와 상호작용할 때 단지 월페이퍼만을 디스플레이하는, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 41

제 40 항에 있어서,

상기 월페이퍼는 안드로이드 라이브 월페이퍼(Android live wallpaper)인, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 42

제 31 항 내지 제 35 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이 상에 디스플레이된 상기 제 2 디스플레이 구성 스크린은 상기 제 2 디스플레이 스크린의 복제를 포함하는, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 43

제 42 항에 있어서,

상기 제 2 디스플레이 스크린의 일부는 위젯들을 디스플레이하도록 동작가능하지 않은, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 44

제 42 항에 있어서,

상기 복제는 위젯들을 디스플레이하도록 동작가능하지 않은 상기 제 2 디스플레이 스크린의 부분들을 제외시키는, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 45

제 31 항 내지 제 35 항, 또는 제 42 항 내지 제 44 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이 구성 스크린은 옵션 메뉴의 일부를 디스플레이하도록 구성가능한, 바 폰 렉터 모바일 디스플레이 디바이스.

청구항 46

제 45 항에 있어서,

옵션 메뉴의 상기 일부가 디스플레이될 때, 상기 옵션 메뉴의 일부는 위젯들에 대한 온/오프 스위치를 포함하는, 바 폰 렉터 모바일 디스플레이 디바이스.

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청구항 47

제 46 항에 있어서,

상기 옵션 메뉴의 일부는 상기 옵션 메뉴의 디스플레이된 부분 밖에서 상기 스크린 상에서의 이용자 입력에 응답하여 접근되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 48

제 45 항 내지 제 47 항 중 어느 한 항에 있어서,

상기 옵션 메뉴의 디스플레이된 부분은 위젯들을 추가하고, 상기 제 2 스크린 레이아웃을 구성하고 상기 제 2 스크린 설정들을 변경하기 위한 옵션들을 제공하는 선택가능한 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 49

제 46 항에 있어서,

위젯들은 위젯들에 대한 상기 온/오프 스위치의 설정에 응답하여 상기 제 2 스크린 상에 디스플레이되거나 디스플레이되지 않도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 50

제 49 항에 있어서,

보다 많은 정보, 설정들 및/또는 프로그램들을 갖는 대신에, 간단히 두 개의 모드들: 상기 제 2 스크린 상에 위젯들을 도시하지 않는 모드 또는 도시하는 모드가 존재하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 51

제 49 항 또는 제 50 항에 있어서,

위젯들이 턴 오프되면, 상기 위젯들은 상기 구성 스크린 상에 레이딩된 것으로서 도시되고, 상기 위젯들은 상기 제 2 스크린 상에서 커스터마이징 않은, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 52

제 49 항 내지 제 51 항 중 어느 한 항에 있어서,

위젯들에 대한 상기 온/오프 스위치는 또한 상기 제 1 스크린 이용자 인터페이스에서의 멀리 다른 위치에서 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 53

제 52 항에 있어서,

위젯들에 대한 상기 온/오프 스위치는 또한 디바이스 무음 모드(device silent mode)를 턴 온 또는 턴 오프할 때 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 54

제 52 항에 있어서,

위젯들에 대한 상기 온/오프 스위치는 또한 디바이스 설정으로서 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 55

제 1 항 내지 제 54 항 중 어느 한 항에 있어서,

상기 제 2 스크린은 알람 클록이 상기 디바이스 상에 설정되었다는 것에 응답하여 알람 클록 표시기를 디스플레이하고, 상기 제 2 스크린은 알람 클록이 상기 디바이스 상에 설정되었다는 것에 응답하여 상기 알람 클록 표시

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거를 디스플레이하지 않도록 구성가능하지 않은, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 56

제 1 항 내지 제 55 항 중 어느 한 항에 있어서,

상기 제 2 스크린은 상기 배터리가 미리 규정된 레벨에 도달한 것에 응답하여 임계 배터리 표시기를 디스플레이하고, 상기 제 2 스크린은 상기 배터리가 미리 규정된 레벨에 도달한 것에 응답하여 상기 임계 배터리 표시기를 디스플레이하지 않도록 구성가능하지 않은, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 57

제 1 항 내지 제 56 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이는 복수의 위젯들을 디스플레이하도록 동작가능하고, 상기 제 2 디스플레이는 그리드 요소들을 포함하는 그리드로 분할되고, 각각의 위젯은 그리드 요소들을 이용하여 배정되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 58

제 57 항에 있어서,

그리드 요소들은 상기 제 2 디스플레이의 픽셀들보다 낮은 면 밀도를 갖는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 59

제 58 항에 있어서,

상기 그리드는 m×n 그리드이고, 2≤m≤20, 및 2≤n≤20인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 60

제 59 항에 있어서,

상기 그리드는 4x8 그리드인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 61

제 57 항 또는 제 60 항에 있어서,

각각의 위젯들은 1≤p≤20, 및 1≤q≤20, 및 p≤m 및 q≤n의 범위에서 그리드 요소 크기(pxq)를 갖는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 62

제 60 항에 있어서,

위젯들은 상기 그리드 요소들의 1x1, 1x2, 1x4, 2x2, 2x4, 3x4, 또는 4x4의 크기를 가질 수 있는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 63

제 31 항 내지 제 35 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이 구성은 상기 제 1 디스플레이 상에서 제 2 디스플레이 구성 스크린을 통해 변경되도록 동작가능하고, 상기 구성 스크린은 상기 제 2 디스플레이에 대한 위젯들을 추가 또는 편집하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 64

제 63 항에 있어서,

상기 제 2 디스플레이에 대한 위젯들을 추가하거나 편집하는 것은 디스플레이된 콘텐트 없이 상기 구성 스크린

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의 일부를 길게 누름으로써 개시가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 65

제 62 항에 있어서,

상기 제 2 디스플레이에 대한 위젯들을 추가하거나 편집하는 것은 선택가능한 메뉴 아이템을 선택함으로써 개시가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 66

제 64 항 또는 제 65 항에 있어서,

상기 제 2 디스플레이에 대한 위젯들을 추가하거나 편집하는 것의 개시 후, 위젯 편집 메뉴가 제공되고, 상기 위젯 편집 메뉴는 확장가능하거나 접힐가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 67

제 66 항에 있어서,

아이콘은 상기 확장되고 상기 접힌 위젯 편집 메뉴 사이에서 스위칭하기 위해 제공되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 68

제 66 항에 있어서,

이용자는 이용자가 메뉴 아이템을 선택한 후 단지 상기 확장되고 상기 접힌 위젯 편집 메뉴 사이에서만 스위칭할 수 있는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 69

제 66 항 내지 제 68 항 중 어느 한 항에 있어서,

메뉴 아이템이 탭핑될 때, 그것은 확장되고, 그렇지 않고 이미 확장되었다면, 상기 위젯에 대한 제 1 이용가능한 레이아웃 대안이 디스플레이되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 70

제 62 항에 있어서,

상기 디바이스는 이용자 손가락 스와이프를 수신하도록 동작가능하고, 스와이프 왼쪽 또는 오른쪽은 상기 위젯에 대한 추가 레이아웃 대안들을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 71

제 62 항에 있어서,

상기 디바이스는 이용자 손가락 입력을 수신하도록 동작가능하고, 방향 화살표 상에서의 손가락 탭은 상기 위젯에 대한 추가 레이아웃 대안들을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 72

제 62 항 내지 제 71 항 중 어느 한 항에 있어서,

헤더가 확장된 아이템 상에서 눌리지면, 상기 아이템은 접혀지는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 73

제 63 항 내지 제 72 항 중 어느 한 항에 있어서,

위젯을 선택하고 상기 위젯을 상기 제 2 스크린 상에 놓기 위해, 상기 이용자가 상기 위젯을 탭핑하는, 바 폼 팩터 모바일 디스플레이 디바이스.

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청구항 74

제 63 항 내지 제 73 항 중 어느 한 항에 있어서,

이용자가 현재 확장된 아이템이 아닌 상기 메뉴 리스트에서 새로운 아이템을 탭핑하면, 상기 현재 확장된 아이템은 해제되고 상기 새로운 아이템은 확장되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 75

제 63 항 내지 제 74 항 중 어느 한 항에 있어서,

상기 이용자가 위젯을 추가하도록 선택하고, 상기 추가적인 위젯을 위한 상기 제 2 스크린 상에서의 충분한 공간이 없을 때, 상기 이용자는 재이당된 레이아웃 프리뷰가 디스플레이되고 손실된 공간의 양이 표시되는 상이한 스크린으로 안내되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 76

제 75 항에 있어서,

충분한 공간이 없음을 이용자에게 알리기 위한 다이얼로그가 제공되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 77

제 75 항 또는 제 76 항에 있어서,

위젯의 상기 레이아웃을 변경하거나 위젯을 제거함으로써 상기 요구된 공간을 자유롭게 하도록 스크린으로 가기 위한 옵션이 제공되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 78

제 75 항 또는 제 76 항에 있어서,

상기 제 2 스크린은 상기 선택된 위젯들에 대한 충분한 공간을 제공하기 위해 자동으로 구성되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 79

제 63 항 내지 제 73 항 중 어느 한 항에 있어서,

상기 이용자가 위젯을 추가하도록 선택하고, 상기 추가적인 위젯을 위한 상기 제 2 스크린 상에서의 충분한 공간이 없을 때, 상기 추가적인 위젯을 위한 공간을 자유롭게 하기 위한 옵션이 제공되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 80

제 63 항 내지 제 79 항 중 어느 한 항에 있어서,

상기 이용자가 위젯을 추가하도록 선택할 때, 상기 제 2 스크린 상에서의 상기 공간을 나타내는 그리드가 제공되고, 상기 디바이스는 상기 그리드 상에서의 상기 위젯을 이동시키고 상기 그리드 상에 상기 위젯을 배치하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 81

제 80 항에 있어서,

상기 위젯 레이아웃은 편집되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 82

제 81 항에 있어서,

상기 위젯 레이아웃은 상기 스크린 상에서의 좌상표들을 탭핑함으로써 편집되도록 동작가능한, 바 폼 팩터 모바

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일 디스플레이 디바이스.

청구항 83

제 82 항 내지 제 82 항 중 어느 한 항에 있어서,

이용자가 오브젝트를 드래그하지 않을 때, 원료 버튼이 상기 스크린 상에 나타나는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 84

제 63 항 내지 제 83 항 중 어느 한 항에 있어서,

상기 위젯들은 상기 공간이 점유되었음을 표시하기 위해 레이딩되게 도시된 상기 제 2 스크린 상에 위치된 위젯들이 아닌 임의의 이러한 위젯은 상기 위젯을 탭핑함으로써 선택가능하고; 상기 이용자는 이러한 위젯을 주위로 움직이고 상기 위젯의 레이아웃을 변경할 수 있는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 85

제 63 항 내지 제 84 항 중 어느 한 항에 있어서,

빈 그리드 요소를 탭핑하는 것은 상기 이용자를 상기 추가된 위젯 스크린으로 안내하고 상기 이용자는 거기서부터 또 다른 위젯을 추가할 수 있는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 86

제 63 항 내지 제 85 항 중 어느 한 항에 있어서,

이러 선택된 위젯이 편집 모드에서 탭핑될 때, 상기 위젯에 대한 상기 설정들이 개방되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 87

제 86 항에 있어서,

설정 아이콘은 상기 아이콘의 설정들이 액세스가능하다는 것을 표시하기 위해 상기 위젯의 최상부 상에 제공되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 88

제 86 항 또는 제 87 항에 있어서,

상기 위젯의 설정을 모두는 상기 이용자가 상기 설정들을 만들자마자 저장되고 하드웨어로 또는 소프트웨어로 상기 안드로이드 백로거가-키를 누르는 것은 상기 이용자를 상기 위젯 레이아웃 편집 스크린으로 다시 안내하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 89

제 1 항 내지 제 88 항 중 어느 한 항에 있어서,

상기 제 2 디스플레이는 복수의 위젯들을 디스플레이하도록 동작가능하고, 상기 위젯들은 선택가능한 프라이버시 레벨과 연관되고, 상기 위젯들의 레이아웃은 상기 선택가능한 프라이버시 레벨에 관련되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 90

제 89 항에 있어서,

상기 선택가능한 프라이버시 레벨은 상기 제 2 스크린 상에 도시된 경보에 대한 이용자 선택가능한 프라이버시 레벨인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 91

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제 89 항 또는 제 90 항에 있어서,

상기 위젯들의 이용가능한 레이아웃들은 위젯들의 레이아웃 모드들을 포함하고, 상이한 레이아웃 모드들은 상이한 양들의 정보를 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 92

제 89 항 또는 제 90 항에 있어서,

상기 위젯들의 이용가능한 레이아웃들은 위젯들의 레이아웃 모드들을 포함하고, 상이한 레이아웃 모드들은 상이하게 해상된 동일한 정보를 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 93

제 89 항 내지 제 92 항 중 어느 한 항에 있어서,

제 1 선택가능한 프라이버시 레벨은 사적 정보가 상기 제 2 스크린 상에서 상세히 제공됨을 규정하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 94

제 93 항에 있어서,

사적 정보 제무사항들은 손실된 호들에 대한 호출자의 전체 이름, 및 새로운 텍스트-가변 메시지들에 대한 발송자의 이름 및 메시지의 일부를 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 95

제 89 항 내지 제 94 항 중 어느 한 항에 있어서,

제 2 선택가능한 프라이버시 레벨은 제한된 사적 정보가 상기 제 2 스크린 상에 제공됨을 규정하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 96

제 95 항에 있어서,

제한된 사적 정보는 손실된 호들의 수 및 판독되지 않은 메시지들의 수를 포함하지만, 발송자들의 이름들 및 메시지 콘텐트는 디스플레이되지 않는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 97

제 89 항 내지 제 96 항 중 어느 한 항에 있어서,

제 3 선택가능한 프라이버시 레벨을 단지 헬레어퍼런이 상기 제 2 스크린 상에 도시됨을 규정하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 98

제 93 항 또는 제 94 항에 있어서,

디바이스가 이용자에 의해 잠금 해제될 때, 상기 이용자는 상기 제 1 선택가능한 프라이버시 레벨을 선택 해제하기 위한 상기 옵션을 제공받는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 99

제 21 항에 있어서,

상기 제 2 스크린 헬레어퍼는 상기 폼 스크린 상으로부터 액세스가능한 메뉴로부터 선택가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 100

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제 99 항에 있어서,

상기 메뉴가 상기 홈 스크린 창 상에 디스플레이되지 않는다면, 상기 메뉴는 메뉴 키의 누름에 응답하여 디스플레이되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 101

제 99 항 또는 제 100 항에 있어서,

상기 메뉴는 선택가능한 월페이퍼를 제공하도록 동작가능한 아이콘을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 102

제 101 항에 있어서,

선택가능한 월페이퍼를 제공하도록 동작가능한 상기 아이콘의 선택은 새로운 사진 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 103

제 102 항에 있어서,

상기 새로운 사진 옵션은 상기 새로운 사진을 찍고 조정하고 크롭하고 그 후 월페이퍼로서 상기 새로운 사진을 선택하기 위한 카메라 애플리케이션으로 상기 이용자를 안내하도록 선택가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 104

제 101 항 내지 제 103 항 중 어느 한 항에 있어서,

선택가능한 월페이퍼를 제공하도록 동작가능한 상기 아이콘의 선택은 월페이퍼 갤러리 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 105

제 104 항에 있어서,

상기 월페이퍼 갤러리 옵션은 월페이퍼를 선택하기 위해 상기 이용자를 상기 월페이퍼 갤러리로 안내하도록 선택가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 106

제 101 항 내지 제 105 항 중 어느 한 항에 있어서,

선택가능한 월페이퍼를 제공하도록 동작가능한 상기 아이콘의 선택은 갤러리 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 107

제 106 항에 있어서,

상기 월페이퍼 갤러리 옵션은 상기 이용자가 이미지를 선택, 크롭, 및 조정할 수 있는 월페 갤러리 애플리케이션으로 상기 이용자를 안내하도록 선택가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 108

제 99 항 내지 제 107 항 중 어느 한 항에 있어서,

상기 제 2 스크린은 상기 월페이퍼의 밝기 및 위젯들의 밝기를 조정하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 109

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제 108 항에 있어서,

상기 윈도우의 넓이 및 상기 위젯들의 넓이는 독립적으로 조정가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 110

제 108 항에 있어서,

상기 윈도우의 넓이 및 상기 위젯들의 넓이는 서로에 관하여 조정가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 111

제 102 항에 있어서,

상기 새로운 사진 응용은 디바이스 카메라 이미지로부터 도출된 패턴으로 어루어진 윈도우들을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 112

제 111 항에 있어서,

상기 패턴은 카메라 이미지의 타일링(tiling)로 어루어지는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 113

제 1 항 내지 제 112 항 중 어느 한 항에 있어서,

이용자가 상기 제 1 스크린과 상호작용할 때, 상기 제 2 스크린은 단지 윈도우들만을 디스플레이하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 114

제 1 항 내지 제 112 항 중 어느 한 항에 있어서,

이용자가 상기 제 1 스크린과 상호작용할 때, 상기 제 2 스크린은 어떤 사적 정보도 디스플레이하지 않는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 115

제 1 항 내지 제 112 항 중 어느 한 항에 있어서,

이용자가 디바이스 기능을 동작시킬 때, 상기 디바이스 기능에 대응하는 이미지가 상기 제 2 스크린 상에 도시되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 116

제 115 항에 있어서,

상기 디바이스 기능이 카메라 기능일 때, 상기 제 2 스크린은 카메라의 이미지를 디스플레이하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 117

제 115 항 또는 제 116 항에 있어서,

상기 디바이스 기능이 전화 기능일 때, 상기 제 2 스크린은 전화의 이미지를 디스플레이하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 118

제 115 항 내지 제 117 항 중 어느 한 항에 있어서,

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상기 디바이스 기능이 음악 재생 기능일 때, 상기 제 2 스크린은 음악-관련 이미지를 디스플레이하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 119

제 1 항 내지 제 118 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 디바이스의 이용자 조작에 응답하여 비활성화된 제 1 스크린 및 활성화된 제 2 스크린을 제공하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 120

제 119 항에 있어서,

이용자 조작은 상기 디바이스를 돌리는 것 및 상기 디바이스를 상기 앞쪽 스크린을 아래로 향하게 하여 편평한 표면 상에 배치하는 것을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 121

제 119 항 또는 제 120 항에 있어서,

이용자 조작은 상기 디바이스의 측면들을 쥐 쥐는 것을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 122

제 119 항 내지 제 121 항 중 어느 한 항에 있어서,

이용자 조작은 상기 디바이스의 측면 버튼을 누르는 것을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 123

제 119 항 내지 제 123 항 중 어느 한 항에 있어서,

이용자 조작은 디바이스 회전을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 124

제 1 항 내지 제 133 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 디바이스의 타임아웃 제한에 응답하여 비활성화된 제 1 스크린 및 활성화된 제 2 스크린을 제공하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 125

제 1 항 내지 제 124 항 중 어느 한 항에 있어서,

상기 디바이스는 디바이스 회전을 포함하는 이용자 조작에 응답하여 호에 응답하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 126

제 1 항 내지 제 125 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 디바이스 상에서의 또는 상기 제 2 스크린 상에서의 이중 탭에 응답하여 상기 제 2 스크린 상에서의 위젯들의 디스플레이에 대한 상이한 프라이버시 레벨들 사이에서 순환하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 127

제 126 항에 있어서,

사적 정보가 상기 제 2 스크린 상에 상세히 제공됨을 규정하는 제 1 선택가능한 프라이버시 레벨이 선택된다면, 상기 이중 탭제스는 상기 제 1, 제 2 프라이버시 레벨과 제 3 프라이버시 레벨 사이에서 순환하고, 상기 제 2 프라이버시 레벨은 제한된 사적 정보가 상기 제 2 스크린 상에 제공됨을 규정하고, 상기 제 3 프라이버시 레벨은

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단지 플레이리스트의 상기 제 2 스크린 상에 도시됨을 규정하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 128

제 126 항에 있어서,

사적 정보가 상기 제 2 스크린 상에 상세히 제공됨을 규정하는 제 1 선택가능한 프라이버시 레벨이 선택되면, 상기 이중 탭은 제 2 프라이버시 레벨과 제 3 프라이버시 레벨 사이에서 토글링하고, 상기 제 2 프라이버시 레벨은 제한된 사적 정보가 상기 제 2 스크린 상에 제공됨을 규정하고, 상기 제 3 프라이버시 레벨은 단지 플레이리스트만이 상기 제 2 스크린 상에 도시됨을 규정하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 129

제 1 항 내지 제 128 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 제 2 스크린 상에 통지들을 제공하기 위해 선택가능한 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 130

제 129 항에 있어서,

통지는 수신된 이메일, 수신된 SMS, 수신된 MMS, 수신된 페이스북 메시지 중 하나 이상을 포함하는 것을 포함하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 131

제 129 항 또는 제 130 항에 있어서,

통지는 미리 규정된 시간 동안 디스플레이되고, 그 후 상기 스크린은 이전 상태로 리턴하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 132

제 129 항 내지 제 131 항 중 어느 한 항에 있어서,

통지가 상기 제 2 스크린 상에 디스플레이될 때, 상기 통지는 제 2 스크린 콘텐트를 대신하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 133

제 129 항 내지 제 132 항 중 어느 한 항에 있어서,

통지가 디스플레이될 때, 상기 디바이스는 상기 디바이스 상에서의 이용자의 이중 탭에 응답하여 상기 통지의 디스플레이된 콘텐트를 확장하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 134

제 129 항 내지 제 132 항 중 어느 한 항에 있어서,

통지가 디스플레이될 때, 상기 디바이스 상에서의 이용자의 이중 탭에 응답하여 상기 제 1 스크린을 통해 PIN 코드를 수신하도록 동작가능하고, 상기 디바이스는 또한 정확한 PIN 코드에 응답하여 상기 통지의 디스플레이된 콘텐트를 확장하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 135

제 133 항 또는 제 134 항에 있어서,

상기 제 2 스크린 상에서의 상기 통지의 확장에 이어서, 상기 통지에 대응하는 메시지가 상기 디바이스가 전용되는 것에 응답하여 상기 제 1 스크린 상에 디스플레이되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 136

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제 135 항에 있어서,

상기 메시지의 제 1 스크린 상에서의 상기 디스플레이에 이어서, 상기 디바이스는 상기 이용자가 상기 메시지의 즉시 상호작용하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 137

제 129 항 내지 제 132 항 중 어느 한 항에 있어서,

통지가 디스플레이될 때, 상기 디바이스는 상기 통지를 묵살하고 상기 제 2 스크린을 이전 상태로 리턴시키도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 138

제 137 항에 있어서,

상기 디바이스가 돌아 올려지고 상기 디바이스의 이전 상태로 리턴되는 것에 응답하여 상기 디바이스는 상기 통지를 묵살하고 상기 제 2 스크린을 이전 상태로 리턴시키도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 139

제 137 항에 있어서,

상기 디바이스는 상기 디바이스가 하나의 측면 상에서 돌아 올려지고 그 후 상기 디바이스를 상기 디바이스의 이전 위치로 리턴하게 하는 것에 응답하여 상기 통지를 묵살하고 상기 제 2 스크린을 이전 상태로 리턴시키도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 140

제 139 항 내지 제 139 항 중 어느 한 항에 있어서,

어떤 통지도 상기 제 2 스크린 상에서 디스플레이되지 않을 때, 상기 디바이스는 상기 디바이스 상에서의 3개의 탭들에 응답하여 가장 최근에 디스플레이된 통지를 상기 제 2 스크린 상에 디스플레이하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 141

제 140 항에 있어서,

상기 제 2 스크린 상에서의 가장 최근에 디스플레이된 통지의 디스플레이에 이어, 상기 통지에 대응하는 메시지는 상기 디바이스가 필요되는 것에 응답하여 상기 제 1 스크린 상에 디스플레이되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 142

제 1 항 내지 제 141 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 제 2 스크린 상에서 통지를 제공하기 위해 선택가능한 옵션을 제공하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 143

제 142 항에 있어서,

상기 디바이스로의 인입 음성 호는 경해 제 2 스크린 상에 알려지는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 144

제 142 항 또는 제 143 항에 있어서,

상기 앞쪽 스크린은 인입 음성 호에 응답하여 턴 온되는, 바 폼 팩터 모바일 디스플레이 디바이스.

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청구항 145

제 142 항 내지 제 144 항 중 어느 한 항에 있어서,

인입 호와 관련하여 어떤 상호작용도 상기 디바이스가 상기 제 2 스크린으로부터 상기 제 1 스크린으로 전환될 때까지 허용되지 않는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 146

제 142 항 내지 제 145 항 중 어느 한 항에 있어서,

상기 앞쪽 스크린과의 상호작용은 상기 디바이스가 전환되는 것에 응답하여 지원되고, 상기 제 1 스크린은 위쪽을 향하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 147

제 146 항에 있어서,

상기 앞쪽 스크린과의 상기 상호작용은 상기 디바이스로의 상기 인입 음성 호 이전에 상기 앞쪽 스크린이 잠기거나 잠금 해제되는지에 관계없이 지원되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 148

제 142 항 내지 제 147 항 중 어느 한 항에 있어서,

이용자는 상기 이용자가 호에 응답하도록 스와이핑할 수 있는 스크린을 제공받는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 149

제 148 항에 있어서,

상기 디바이스는 상기 스크린 아래로의 이용자 스와이프에 응답하여 상기 호에 응답하도록 동작가능하고, 상기 디바이스는 상기 스크린 위로의 이용자 스와이프에 응답하여 상기 호를 거절하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 150

제 142 항 내지 제 147 항 중 어느 한 항에 있어서,

상기 이용자는 인입 호의 상기 제 2 스크린 상에서의 통지 후 상기 이용자가 소프트웨어 메뉴 버튼 또는 하드웨어 메뉴 버튼을 누르는 것에 응답하여 상기 옵션들("응소거", "거절" 및 "SMS 전송")을 제공받는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 151

제 150 항에 있어서,

상기 디바이스는 상기 옵션들("거절" 또는 "SMS 전송") 중 하나의 선택에 응답하여 PIN 코드의 입력을 요구하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 152

제 150 항에 있어서,

상기 디바이스는 상기 옵션("거절")의 선택에 응답하여 미리 규정된 시간 동안 상기 스크린의 오버레이를 디스플레이하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 153

제 152 항에 있어서,

상기 디바이스는 상기 옵션("거절")의 선택에 응답하여 메시지를 상기 거절된 호출자로 전송하도록 동작가능한,

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바 폴 렉터 모바일 디스플레이 디바이스.

청구항 154

제 152 항에 있어서,

상기 디바이스는 상기 스크린의 오버레이되지 않은 부분 상에서의 이용자 탭에 응답하여 상기 스크린의 오버레이된 부분을 제거하도록 동작가능한, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 155

제 142 항 내지 제 154 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 디바이스로의 인입 음성 호가 상기 제 2 스크린 상에 알리지는 것에 응답하여 음소거 지시를 수신하도록 동작가능한, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 156

제 155 항에 있어서,

상기 음소거 지시는 상기 디바이스를 들어올리고 상기 디바이스의 이전 위치로 리턴시키는 것을 포함하는, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 157

제 155 항에 있어서,

상기 음소거 지시는 상기 디바이스가 하나의 측면에서 들어 올려지고 상기 디바이스를 상기 디바이스의 이전 위치로 리턴하게 하는 것을 포함하는, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 158

제 1 항 내지 제 157 항 중 어느 한 항에 있어서,

상기 디바이스는 상기 디바이스 상에서 구동하고 있는 애플리케이션, 또는 상기 디바이스에서 발생한 이벤트에 응답하여 적어 그래픽스 오버레이를 상기 제 2 스크린 상에 디스플레이하도록 동작가능한, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 159

제 158 항에 있어서,

상기 그래픽스 오버레이는 전화 심볼을 포함하고 상기 이벤트는 활성 음성 호인, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 160

제 159 항에 있어서,

어떤 정보도 상기 전화 심볼 외에 상기 제 2 디스플레이 상에서 도시되지 않는, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 161

제 158 항 내지 제 160 항 중 어느 한 항에 있어서,

상기 그래픽스 오버레이는 카메라 스킨을 포함하고 상기 애플리케이션은 카메라 애플리케이션인, 바 폴 렉터 모바일 디스플레이 디바이스.

청구항 162

제 161 항에 있어서,

상기 카메라 스킨은 이용자 선택가능한, 바 폴 렉터 모바일 디스플레이 디바이스.

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청구항 163

제 158 항 내지 제 162 항 중 어느 한 항에 있어서,

상기 그래픽스 오버레이는 음악-관련 스킨을 포함하고 상기 애플리케이션은 미디어 플레이어인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 164

제 163 항에 있어서,

상기 스킨은 재생된 상기 미디어에 의존하여, 이용자 선택가능하거나 미리 결정되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 165

제 156 항 내지 제 161 항 중 어느 한 항에 있어서,

상기 디바이스에서 발생하는 상기 이벤트는 적 전력 레벨이고, 상기 그래픽스 오버레이는 적 전력 레벨을 표시하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 166

제 1 항 내지 제 165 항 중 어느 한 항에 있어서,

상기 제 2 스크린은 윈도우를 디스플레이하도록 동작가능하고, 디스플레이를 위한 상기 윈도우를 제공하는 애플리케이션은 이용자 개입 없이 상기 디스플레이된 윈도우를 변경하도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 167

제 166 항에 있어서,

디스플레이를 위한 상기 윈도우를 제공하는 상기 애플리케이션은 활성화 이벤트들에 응답하여 상기 디스플레이된 윈도우를 변경하는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 168

제 167 항에 있어서,

활성화 이벤트는, 디바이스 위치, 시간, 캘린더 이벤트들, 날씨, 위치와 조합하는 날씨 중 하나 이상인, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 169

제 166 항 내지 제 168 항 중 어느 한 항에 있어서,

상기 윈도우는 낮은 레이트로 변경되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 170

제 166 항에 있어서,

상기 윈도우는 매우 느리게 변경되는, 바 폼 팩터 모바일 디스플레이 디바이스.

청구항 171

제 1 항 내지 제 170 항 중 어느 한 항에 있어서,

상기 제 1 스크린은 터치 스크린이고, 상기 제 1 스크린은 손가락이 상기 스크린의 최상부 또는 최하부 중 하나에서 시작하고 상기 스크린의 중심을 향해 이동하는 터치 제스처에 의해 잠금 해제되도록 동작가능한, 바 폼 팩터 모바일 디스플레이 디바이스.

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청구항 172

제 171 항에 있어서,

상기 손가락은 상기 잠금 해제를 완료하기 위해 상기 스크린 위 또는 아래로 미리 규정된 거리를 통과해야 하는, 바 type 액티 모바일 디스플레이 디바이스.

청구항 173

제 171 항 또는 제 172 항에 있어서,

상기 거리는 상기 스크린 아래로 한 정도인, 바 type 액티 모바일 디스플레이 디바이스.

청구항 174

제 171 항에 있어서,

상기 손가락은 상기 잠금 해제를 완료하기 위해 임계 속도를 달성해야 하는, 바 type 액티 모바일 디스플레이 디바이스.

청구항 175

제 171 항 내지 제 174 항 중 어느 한 항에 있어서,

상기 손가락은 상기 스크린의 최상부에서 시작하는, 바 type 액티 모바일 디스플레이 디바이스.

청구항 176

제 171 항 내지 제 175 항 중 어느 한 항에 있어서,

상태 에능 제스처로부터 잠금 해제 제스처를 분리하기 위해 최상부 경원용량 영역과 상기 스크린 에지 사이에 비활성 영역이 존재하는, 바 type 액티 모바일 디스플레이 디바이스.

청구항 177

제 1 항 내지 제 176 항 중 어느 한 항에 있어서,

상기 제 1 스크린은 터치 스크린이고, 상기 제 1 스크린은 손가락이 상기 스크린의 최상부 또는 최하부 중 하나에서 시작하고 상기 스크린의 중심을 향해 이동하는 터치 제스처에 의해 활기도록 동작가능한, 바 type 액티 모바일 디스플레이 디바이스.

청구항 178

제 177 항에 있어서,

상기 잠금 제스처를 위한 상기 손가락의 방향은 대응하는 잠금 해제 제스처를 위한 상기 손가락의 방향에 반대인, 바 type 액티 모바일 디스플레이 디바이스.

청구항 179

제 177 항 또는 제 178 항에 있어서,

상기 손가락은 상기 잠금을 완료하기 위해 상기 스크린 위 또는 아래로 미리 규정된 거리를 통과해야 하는, 바 type 액티 모바일 디스플레이 디바이스.

청구항 180

제 177 항 내지 제 179 항 중 어느 한 항에 있어서,

상기 잠금을 위한 상기 거리는 상기 스크린 아래로 한 정도인, 바 type 액티 모바일 디스플레이 디바이스.

청구항 181

제 177 항 또는 제 178 항에 있어서,

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상기 손가락은 상기 활공을 완료하기 위해 임계 속도를 달성해야 하는, 하 품 액티 모바일 디스플레이 디바이스.

청구항 182

제 177 항 내지 제 181 항 중 어느 한 항에 있어서,

상기 활공을 위해, 상기 손가락은 상기 스크린의 외하부에서 시작하는, 하 품 액티 모바일 디스플레이 디바이스.

청구항 183

제 1 항 내지 제 182 항 중 어느 한 항에 있어서,

상기 디바이스는 슬레이트 디바이스인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 184

제 1 항 내지 제 182 항 중 어느 한 항에 있어서,

상기 디바이스는 바 또는 캔디바 디바이스인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 185

제 1 항 내지 제 182 항 중 어느 한 항에 있어서,

상기 디바이스는 슬레이트-형 형태인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 186

제 1 항 내지 제 185 항 중 어느 한 항에 있어서,

상기 제 1 디스플레이 스크린은 액정 디스플레이 스크린인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 187

제 1 항 내지 제 186 항 중 어느 한 항에 있어서,

상기 디바이스는 휴대용인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 188

제 1 항 내지 제 187 항 중 어느 한 항에 있어서,

상기 디바이스는 모바일 전화, 휴대용 디지털 보조기, 랩탑, 디지털 오디오 플레이어(예를 들면, 아이팟), 또는 태블릿 컴퓨터(예를 들면, 아이패드)인, 하 품 액티 모바일 디스플레이 디바이스.

청구항 189

제 1 항 내지 제 188 항 중 어느 한 항에 있어서,

상기 디바이스는 가상 키보드를 포함하는, 하 품 액티 모바일 디스플레이 디바이스.

청구항 190

제 1 항 내지 제 189 항 중 어느 한 항에 있어서,

상기 디바이스는 오목한 전면 및 볼록한 후면을 포함하는, 하 품 액티 모바일 디스플레이 디바이스.

청구항 191

제 1 항 내지 제 190 항 중 어느 한 항의 디바이스를 동작시키는 방법에 있어서,

상기 디바이스가 이용자 입력을 수신하는 단계를 포함하는, 디바이스를 동작시키는 방법.

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청구항 192

제 1 항 내지 제 190 항 중 어느 한 항의 디바이스를 동작시키는 방법에 있어서,

상기 디바이스가 상기 디바이스 상에 디스플레이되는 것을 변경하는 단계를 포함하는, 디바이스를 동작시키는 방법.

청구항 193

디바이스가 상기 디바이스로의 이용자 입력을 수신하게 하기 위해 제 1 항 내지 제 190 항 중 어느 한 항의 디바이스 상에서 구동될 때 동작가능한, 컴퓨터 프로그램 제품.

청구항 194

제 1 항 내지 제 190 항 중 어느 한 항의 디바이스 상에서 구동될 때, 디바이스 상에서 디스플레이되는 것을 변경하도록 동작가능한, 컴퓨터 프로그램 제품.

명 세 서

기 술 분 야

[0001] 본 발명의 분야는 제 1 디스플레이 스크린 및 제 2 디스플레이 스크린을 포함하는 모바일 디스플레이 디바이스들, 이러한 디바이스들의 이용자 인터페이스 양태들, 이러한 디바이스들을 동작시키는 방법들, 및 이러한 디바이스들 상에서 구동하도록 동작가능한 컴퓨터 프로그램 제품들에 관한 것이다.

배 경 기 술

[0002] 바 폼 팩터 디스플레이 디바이스들(Bar form factor display devices), 예를 들면, 아이폰™(iPhone™) 및 아이패드™(iPad™)와 같은 슬레이트 디바이스들이 알려져 있다. 그러나, 이들 디바이스들은 단지 단일 디스플레이 스크린만을 포함한다. 바 폼 팩터 디바이스는 슬레이트 디바이스일 수 있다.

[0003] 관련 기술의 논의

[0004] US20080211751A1에서, 종래 기술인 도 68에 도시된 바와 같이, 내부 및 외부 디스플레이를 가진 모바일 전자 디바이스(100), 예를 들면, 플립형 셀 모바일 전화를 위해 제공되는 디스플레이 적층(300)이 개시되고 있다. 상기 디스플레이 적층은 광-안정 광학적 상태들을 가진 쉐라이트 유닛(114) 및 외부 디스플레이 디바이스(110)를 포함한다. 상기 외부 디스플레이 디바이스(110)는 상기 쉐라이트 유닛(114)과 접촉하여 위치되고, 그것에 광학적으로 결합된다. 상기 디스플레이 적층은 또한 상기 외부 디스플레이 디바이스(110)와 접촉하여 위치되고, 그것에 광학적으로 결합되는 내부 디스플레이 디바이스(106)를 포함한다.

[0005] US20080211751A1에 이용된 상기 용어들("내부 디스플레이" 및 "외부 디스플레이")은 여기에 개시된 디바이스가, 하나의 디스플레이가 이용자에 영구적으로 가시적인 반면(상기 "외부 디스플레이"), 다른 디스플레이가 이용자에게 가시적이거나 가시적이지 않을 수 있도록(상기 "내부 디스플레이") 힌지 부품을 포함하여 제품에 형성된다. 종래 기술인 도 67은 US20080211751A1에 개시된다. US20080211751A1에서, 상기 모바일 전자 디바이스(100)는 제 1 하우징 부재(102) 및 제 2 하우징 부재(104)를 포함한다는 것이 개시된다. 상기 제 1 하우징 부재(102) 및 상기 제 2 하우징 부재(104)는 금속, 플라스틱, 유리, 및/또는 그것의 혼합물들과 같은 재료들로 이루어질 수 있다. 상기 제 1 하우징 부재(102) 및 상기 제 2 하우징 부재(104)는 서로 힌지식으로 연결되고 개방 및 폐쇄 위치들에서 구성가능하다. 즉, 상기 제 1 하우징 부재(102) 및 상기 제 2 하우징 부재(104)는, 개방 위치에서 구성될 때, 상기 둘 사이에서의 각도가 대략 180° 이하이고, 폐쇄 위치에 구성될 때 최소 각도가 대략 0° 또는 그로다 약간 크도록 힌지들 갖고 서로 접속된다. 상기 제 1 하우징 부재(102)는 또한 외부 디스플레이 어퍼쳐(aperture)(101) 및 내부 디스플레이 어퍼쳐(103)를 포함하고, 그를 통해 외부 디스플레이 디바이스(110) 및 내부 디스플레이 디바이스(106)를 각각 볼 수 있다. 상기 디스플레이 자체는 상기 제 1 하우징 부재(102)에 의해 감싸지는 3개의 주요한 디바이스들을 포함한다. 종래 기술인 도 67의 횡단면도에서, 상기 3개의 디바이스들은 상기 내부 디스플레이 디바이스(106), 상기 외부 디스플레이 디바이스(110), 및 쉐라이트 디바이스(108)를 가진 "적층" 구성으로 도시된다.

[0006] US20080211751A1으로부터 취해진 종래 기술인 도 68은 폐쇄 구성으로 여기에 개시된 힌지식 모바일 전화를 도시

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한다. 폐쇄 구성에서, 내부 디스플레이 표면은 색을 돋보, 상기 디바이스가 어성의 핸드백 내부에 있고 그것이 거울, 화장품 케이스 및 아니 홍더의 표면 상의 금속 요소들과 같은 다양한 아이템들과 접촉할 때 방생할 수 있는 스크래칭으로부터 보호된다. 상기 폐쇄 구성은 종래 기술인 도 67의 개방 구성보다 더 조밀하고; 상기 조밀도는, 그것의 가장 큰 일련 크기가 개방 구성에 대하여 감소되기 때문에, 상기 디바이스가 예를 들면, 어성의 핸드백 내에서 운반될 때 유용하다. 상기 인터페이스 구성요소들은 인지식 전화 내부에 유지되고, 이것은 상기 디바이스가 폐쇄될 때보다 상기 디바이스가 개방될 때 더 큰 표면 면적을 제공한다. 키패드 거등 및 내부 디스플레이와 같은 인터페이스 구성요소들은 디바이스가 폐쇄될 때 보호되고, 폐쇄될 때 그것이 덜 접거나 넓어, 상기 디바이스를 가지고 다니기에 더 쉽게 만든다. 인지식 전화가 폐쇄 구성에 있을 때, 상기 제 2 디스플레이는 상기 제 1 디스플레이가 폐쇄 구성에서 가시적이기 않을 수 있기 때문에 디스플레이 목적등을 위해 이용될 수 있다.

[0007] 종래 기술인 도 67 및 도 68의 디바이스는 그것이 인지에 의해 접속된 두 개의 부분들로 이루어지기 때문에 바 폼 팩터 디바이스가 아니다.

발명의 내용

해결하려는 과제

[0008] 본 발명은 제 1 디스플레이 스크린 및 제 2 디스플레이 스크린을 포함하는 모바일 디스플레이 디바이스들, 이러한 디바이스들의 이용자 인터페이스 양태들, 이러한 디바이스들을 동작시키는 방법들, 및 이러한 디바이스들 상에서 구동하도록 동작가능한 컴퓨터 프로그램 제품들에 관한 것이다

과제의 해결 수단

[0009] 본 발명의 제 1 양태에 따르면, 앞쪽 및 뒤쪽 주 면들을 포함하는 바 폼 팩터 모바일 디스플레이 디바이스가 제공되며, 상기 앞쪽 주 면은 정상 동작 시 제 1 디스플레이 스크린을 보여주도록 배열되고 상기 뒤쪽 주 면은 적 적 제 2 디스플레이 스크린을 보여주도록 배열되고, 상기 디바이스는 컴퓨터를 포함한다.

[0010] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 제 2 디스플레이 스크린이 그레이스케일 패널(Grayscale panel)인 것일 수 있다.

[0011] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 제 2 디스플레이 스크린이 광-안정 디스플레이 스크린인 것일 수 있다.

[0012] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 광-안정 디스플레이 스크린이 광-안정 능동 매트릭스 및 고-해상도 디스플레이 스크린인 것일 수 있다.

[0013] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 광-안정 디스플레이 스크린이 전자-잉크(E-Ink) 광안정 디스플레이 스크린인 것일 수 있다.

[0014] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 제 2 디스플레이 스크린이 반사 종이 디스플레이인 것일 수 있다.

[0015] 상기 바 폼 팩터 모바일 디스플레이 디바이스는 상기 디바이스가 센서들을 포함하고, 상기 디바이스가 상기 제 1 디스플레이 스크린이 오프일 때 상기 센서들로부터의 입력을 프로세싱하도록 동작가능한 것일 수 있다.

[0016] 상기 디바이스는 특정 이벤트에 응답하여, 상기 제 1 디스플레이 스크린이 오프일 때 상기 디바이스에서의 센서들로부터의 입력을 프로세싱하도록 동작가능할 수 있다.

[0017] 상기 디바이스는 상기 특정 이벤트가 상기 제 2 디스플레이 스크린 상에서 디스플레이되는 통지인 것일 수 있다.

[0018] 상기 디바이스는 하나 이상의 센서들이, 이용자가 어떤 스크린과 상호작용하는지를 검지하도록 동작가능한 것일 수 있다.

[0019] 상기 디바이스는 이용자로부터 입력된 입력을 수신하도록 동작가능한 상기 디바이스의 단대 측을 상에서의 입력 센서들을 포함할 수 있다.

[0020] 상기 디바이스는 이용자로부터의 입력을 수신하도록 동작가능한 상기 디바이스 사에서의 볼륨 버튼들을 포함할

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수 있다.

[0021] 상기 디바이스는 가속도계 센서 및 자이로스코프 센서를 포함할 수 있다.

[0022] 상기 디바이스는 상기 제 1 디스플레이 스크린이 터치 스크린인 것일 수 있다.

[0023] 상기 디바이스는 상기 제 1 디스플레이가 다중 터치 입력을 수신하도록 동작가능한 것일 수 있다.

[0024] 상기 디바이스는 상기 제 2 디스플레이 스크린이 터치 스크린인 것일 수 있다.

[0025] 상기 디바이스는 상기 제 2 디스플레이가 다중 터치 입력을 수신하도록 동작가능한 것일 수 있다.

[0026] 상기 디바이스는 상기 컴퓨터가 안드로이드 운영 시스템으로 프로그래밍되는 것일 수 있다.

[0027] 상기 디바이스는 상기 안드로이드 운영 시스템에서 하나의 스크린 디바이스로서 동작하는 것일 수 있다.

[0028] 상기 디바이스는 상기 제 1 디스플레이 스크린 출력이 제 1 애플리케이션에 의해 생성되고 상기 제 2 디스플레이 스크린 출력이 상기 제 1 애플리케이션과 상이한 제 2 애플리케이션에 의해 생성되는 것일 수 있다.

[0029] 상기 디바이스는 상기 제 1 디스플레이가 상기 제 2 디스플레이 스크린에 대응하는 홈 스크린 창(home screen pane)을 디스플레이하도록 동작가능한 것일 수 있다.

[0030] 상기 디바이스는 상기 제 2 애플리케이션이 특정된 애플리케이션들과 통신하도록 동작가능한 것일 수 있다.

[0031] 상기 디바이스는 단지 특정된 애플리케이션들이 상기 제 2 애플리케이션과 통신하도록 허용되는 것일 수 있다.

[0032] 상기 디바이스는 상기 제 2 디스플레이 구성이 복수의 위젯들을 디스플레이하도록 동작가능한 것일 수 있으며, 상기 위젯들 중 적어도 두 개는 상이한 업데이트 빈도들을 가진다.

[0033] 상기 디바이스는 적어도 두 개의 위젯들의 업데이트가 동기화되는 것일 수 있으며, 동기화는 디바이스 전력 이용량에서의 에너지 절감을 위해 제공된다.

[0034] 상기 디바이스는 모든 위젯들의 업데이트가 동기화되는 것일 수 있으며, 동기화는 디바이스 전력 이용량에서의 에너지 절감을 위해 제공된다.

[0035] 상기 디바이스는 상기 업데이트가 상기 제 2 스크린의 스크린 업데이트인 것일 수 있다.

[0036] 상기 디바이스는 또한 상기 제 2 스크린 상에서의 위젯들의 상기 스크린 업데이트가 동기화되지 않는 모드에서 동작하도록 동작가능할 수 있다.

[0037] 상기 디바이스는 또한 상기 제 2 스크린의 홈 스크린 리프레쉬를 수행하도록 동작가능할 수 있다.

[0038] 상기 디바이스는 상기 제 3 디스플레이가 구성되도록 동작가능한 것일 수 있다.

[0039] 상기 디바이스는 상기 제 2 디스플레이가 상기 제 1 디스플레이를 통해 변경되도록 동작가능한 것일 수 있다.

[0040] 상기 디바이스는 상기 제 2 디스플레이의 상기 구성의 변경을 개시하기 위한 디바이스 스크린 레이저가 상기 디바이스 상에서 다른 홈 창들과 메뉴 계층에서 동일한 레벨에 있는 것일 수 있다.

[0041] 상기 디바이스는 상기 제 2 디스플레이 구성의 상기 변경을 개시하기 위한 상기 디바이스 스크린 레이저가 다른 스크린들을 통해 스와이핑(swiping)함으로써 액세스가능한 것일 수 있다.

[0042] 상기 디바이스는 상기 제 2 디스플레이 구성의 상기 변경을 개시하기 위한 상기 디바이스 스크린 레이저가 스크린 와이드 두 개의 손가락 스와이프에 의해 액세스가능한 것일 수 있다

[0043] 상기 디바이스는 제 1 방향에서의 두 개의 손가락 스와이프가 상기 제 2 디스플레이 구성의 변경을 개시하기 위해 상기 스크린 레이저를 획득하며, 상기 제 1 방향에 반대 방향으로 두 개의 손가락 스와이프가 이전에 디스플레이된 홈 레이저를 획득하는 것일 수 있다.

[0044] 상기 디바이스는 상기 제 1 디스플레이가 복수의 홈 창들을 디스플레이하도록 동작가능한 것일 수 있으며, 숏컷 아이콘은 각각의 홈 창 상에 디스플레이된다.

[0045] 상기 디바이스는 상기 숏컷 아이콘이 이용자에 의해 선택될 때, 상기 아이콘은 각각의 홈 창에 숏컷을 제공하도록 확장되는 것일 수 있다.

[0046] 상기 디바이스는 각각의 홈 레이저에 숏 컷을 제공하는 상기 확장된 아이콘이 대응하는 홈 스크린 숏 컷 상에서

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