

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.
Petitioners,

v.

MULLEN INDUSTRIES LLC,
Patent Owner.

Case No. IPR2025-00368
Patent No. 11,246,024

DECLARATION OF DAVID H. WILLIAMS

Google Exhibit 1003 Google v Mullen IPR2025-00368

TABLE OF CONTENTS (CONDENSED)

I.	PERSONAL AND PROFESSIONAL BACKGROUND	1
II.	MATERIALS REVIEWED AND CONSIDERED	11
III.	MY UNDERSTANDING OF PATENT LAW	13
	A. Anticipation	15
	B. Obviousness.....	16
IV.	PERSON OF ORDINARY SKILL IN THE ART (“POSA”).....	18
V.	THE ’024 PATENT	21
	A. Specification Embodiments.....	21
	B. Prosecution History of the ’024 Patent.....	23
	C. The Challenged Claims	23
VI.	CLAIM INTERPRETATION	24
VII.	PRIOR-ART REFERENCES	24
	A. Background on Motivation to Combine and Reasonable Expectation of Success in Combining Prior Art	25
	B. Sheha (EX1005)	30
	C. Randall (EX1007).....	42
	D. Froeberg (EX1051).....	45
	E. Smith (EX1023).....	45
	F. Degnbol (EX1035)	46
	G. Wollrab (EX1014)	46
	H. Bechtolsheim (EX1075)	47
	I. Boling (EX1074)	47
	J. De-Vries (EX1013).....	48
	K. Obradovich (EX1043)	48
VIII.	THE CHALLENGED CLAIMS ARE UNPATENTABLE IN LIGHT OF THE PRIOR ART.....	49
	A. Ground 1: Claims 1-8, 18, and 20 would have been obvious over Sheha (alone and with Froeberg).....	50
	1. Discussion of Sheha (EX1005)	50

2. Mapping of Sheha (alone and with Froeberg) to claims 1-8, 18, and 20	53
a. Claim 1	53
b. Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.....	86
c. Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.....	87
d. Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.....	93
e. Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.	94
f. Claim 6: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.....	98
g. Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.....	99
h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.....	100
i. Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	100

j. Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	101
B. Ground 2: Claims 23, 24-29, 39, 41, 44 would have been obvious over Sheha in view of Smith	101
1. Discussion of Smith (EX1023)	101
2. Discussion of the Sheha-Smith Combination	103
3. Mapping of Sheha-Smith to Claims 23, 24-29, 39, 41, and 44.....	104
a. Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	104
b. Claim 24.....	107
c. Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.	123
d. Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.	124
e. Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.....	124
f. Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.....	125
g. Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said	

specific period of time from said one of said plurality of wireless telephones.	125
h. Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	126
i. Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	126
j. Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	127
C. Ground 3: Claims 9-17, 19, 21-22, 30-38, 40, 42-43 would have been obvious over Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim	127
1. Discussion of Degnbol (EX1035).....	128
2. Discussion of Wollrab (EX1014).....	129
3. Discussion of Obradovich (EX1043).....	130
4. Discussion of Boling (EX1074).....	131
5. Discussion of Bechtolsheim (EX1075).....	132
6. Discussion of Combinations of Sheha, Sheha-Froeberg, and Sheha-Smith with Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim	133
7. Mapping of Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim to Claims 9-17, 19, 21-22, 30-38, 40, and 42-43.	138
a. Claims 9 & 30	138
Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.	138
Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said	

first wireless telephone based on said location information for said one of said plurality of wireless telephones.....	138
b. Claims 10 & 31	140
Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.	140
Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.	140
c. Claims 11 & 32	141
Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.....	141
Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone.	141
d. Claims 12 & 33	142
Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.	142
Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.	142
e. Claims 13 & 34	143
Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.....	143

Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones	143
f. Claims 14 & 35	145
Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.....	145
Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.	145
g. Claims 15 & 36	148
Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.....	148
Claim 36: The system of claim 24, wherein said remote system is further capable of providing said location information to another device utilized by said user of said first wireless device after said user utilizes said another device to input said login and said password into a website.....	148
h. Claims 16 & 37	153
Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	153
Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	153
i. Claims 17 & 38	154

Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	154
Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	154
j. Claims 19 & 40	155
Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	155
Claim 40: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	155
k. Claims 21 & 42	156
Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	156
Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	156
l. Claims 22 & 43	158
Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	158
Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to	

at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	158
D. Grounds 4-5: Claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44 would have been obvious over Randall (alone or with Froeberg)	160
1. Discussion of Randall (EX1007-EX1008).....	160
2. Mapping of Randall (alone and with Froeberg) to claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44	164
a. Claim 1	164
b. Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.....	176
c. Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.....	177
d. Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.....	178
e. Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.	179
f. Claim 6: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.....	185
g. Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.....	186
h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.....	186

i.	Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.	187
j.	Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	188
k.	Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	189
l.	Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	190
m.	Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	192
n.	Claim 24.....	193
o.	Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.	210
p.	Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.	211
q.	Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.....	212

r.	Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.....	212
s.	Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones.	213
t.	Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	213
u.	Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	214
v.	Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	215
E.	Ground 6: Claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43 would have been obvious over Randall in Combinations with Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim	215
1.	Discussion of De-Vries (EX1013)	216
2.	Discussion of Combinations of Randall/Randall-Froeberg with De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim	217
3.	Mapping of Combinations of Randall, Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim to claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43	220
a.	Claims 9 & 30	220
	Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.	220

Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.....	220
b. Claims 10 & 31	222
Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.	222
Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.	222
c. Claims 11 & 32	223
Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.....	223
Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone	223
d. Claims 12 & 33	224
Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.	224
Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.	224
e. Claims 13-14 & 34-35.....	226

Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.....	226
Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.....	226
Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones.	226
Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.	226
f. Claims 16 & 37	227
Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	227
Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	227
g. Claims 17 & 38	228
Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	228
Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	228
h. Claims 21 and 42.....	229

Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	229
Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	229
i. Claims 22 and 43.....	230
Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	230
Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	230
IX. APPENDIX: CLAIM LISTING	232

TABLE OF CONTENTS (FULL)

I.	PERSONAL AND PROFESSIONAL BACKGROUND	1
II.	MATERIALS REVIEWED AND CONSIDERED	11
III.	MY UNDERSTANDING OF PATENT LAW	13
	A. Anticipation	15
	B. Obviousness.....	16
IV.	PERSON OF ORDINARY SKILL IN THE ART (“POSA”).....	18
V.	THE ’024 PATENT	21
	A. Specification Embodiments.....	21
	B. Prosecution History of the ’024 Patent.....	23
	C. The Challenged Claims	23
VI.	CLAIM INTERPRETATION	24
VII.	PRIOR-ART REFERENCES	24
	A. Background on Motivation to Combine and Reasonable Expectation of Success in Combining Prior Art	25
	B. Sheha (EX1005)	30
	C. Randall (EX1007).....	42
	D. Froeberg (EX1051).....	45
	E. Smith (EX1023).....	45
	F. Degnbol (EX1035)	46
	G. Wollrab (EX1014)	46
	H. Bechtolsheim (EX1075)	47
	I. Boling (EX1074)	47
	J. De-Vries (EX1013).....	48
	K. Obradovich (EX1043)	48
VIII.	THE CHALLENGED CLAIMS ARE UNPATENTABLE IN LIGHT OF THE PRIOR ART.....	49
	A. <u>Ground 1</u> : Claims 1-8, 18, and 20 would have been obvious over Sheha (alone and with Froeberg).....	50

1. Discussion of Sheha (EX1005)	50
2. Mapping of Sheha (alone and with Froeberg) to claims 1-8, 18, and 20	53
a. Claim 1	53
i. Preamble [1PRE]: A system comprising:	53
ii. Element [1A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:	54
iii. Element [1B]: obtaining a location of a first wireless telephone;	55
iv. Element [1C]: changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;	56
v. Element [1D]: transmitting said location to at least one of said users of said list of users over said communications network;	74
vi. Element [1E]: determining a second location associated with one of said plurality of wireless telephones; and	75
vii. Element [1F]: providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location.	76
b. Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.	86
c. Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.	87

d. Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.....	93
e. Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.	94
f. Claim 6: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.....	98
g. Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.....	99
h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.	100
i. Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	100
j. Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	101
B. <u>Ground 2</u> : Claims 23, 24-29, 39, 41, 44 would have been obvious over Sheha in view of Smith	101
1. Discussion of Smith (EX1023)	101
2. Discussion of the Sheha-Smith Combination	103
3. Mapping of Sheha-Smith to Claims 23, 24-29, 39, 41, and 44.....	104
a. Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone;	

and downloading said phone book to a new wireless telephone of said user.....	104
b. Claim 24.....	107
i. Preamble [24PRE]: A system comprising:.....	107
ii. Element [24A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:	108
iii. Element [24B]: receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;	108
iv. Element [24C]: receiving from said first wireless telephone information indicative of a login and a password;	112
v. Element [24D]: determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, ...	113
vi. Element [24E]: wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password and.....	114
vii. Element [24F]: determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone;.....	114
viii. Element [24G]: determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated with said selected one of said	

plurality of users for obtaining a location of said first wireless telephone; and.....	121
ix. Element [24H]: transmitting over said communications network said location information to said first wireless telephone.....	122
c. Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.	123
d. Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.	124
e. Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.....	124
f. Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.....	125
g. Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones.	125
h. Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	126
i. Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	126

j. Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	127
C. <u>Ground 3</u> : Claims 9-17, 19, 21-22, 30-38, 40, 42-43 would have been obvious over Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim	127
1. Discussion of Degnbol (EX1035)	128
2. Discussion of Wollrab (EX1014).....	129
3. Discussion of Obradovich (EX1043).....	130
4. Discussion of Boling (EX1074)	131
5. Discussion of Bechtolsheim (EX1075).....	132
6. Discussion of Combinations of Sheha, Sheha-Froeberg, and Sheha-Smith with Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim	133
7. Mapping of Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim to Claims 9-17, 19, 21-22, 30-38, 40, and 42-43.	138
a. Claims 9 & 30	138
Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.	138
Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.....	138
b. Claims 10 & 31	140
Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.	140
Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.	140

c. Claims 11 & 32	141
Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.....	141
Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone.	141
d. Claims 12 & 33	142
Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.	142
Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.	142
e. Claims 13 & 34	143
Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.....	143
Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones	143
f. Claims 14 & 35	145
Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location	

from said history of locations when said first wireless telephone is turned off.....	145
Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.	145
g. Claims 15 & 36	148
Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.....	148
Claim 36: The system of claim 24, wherein said remote system is further capable of providing said location information to another device utilized by said user of said first wireless device after said user utilizes said another device to input said login and said password into a website.....	148
h. Claims 16 & 37	153
Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	153
Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	153
i. Claims 17 & 38	154
Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	154
Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	154

j.	Claims 19 & 40	155
	Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	155
	Claim 40: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	155
k.	Claims 21 & 42	156
	Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	156
	Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	156
l.	Claims 22 & 43	158
	Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	158
	Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	158
D.	<u>Grounds 4-5: Claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44 would have been obvious over Randall (alone or with Froeberg)</u>	160
	1. Discussion of Randall (EX1007-EX1008).....	160
	2. Mapping of Randall (alone and with Froeberg) to claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44	164
	a. Claim 1	164

i.	Preamble: [1PRE] A system comprising:	164
ii.	Element [1A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:	164
iii.	Element [1B]: obtaining a location of a first wireless telephone;	165
iv.	Element [1C]: changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;	168
v.	Element [1D]: transmitting said location to at least one of said users of said list of users over said communications network;	171
vi.	Element [1E]: determining a second location associated with one of said plurality of wireless telephones; and	172
vii.	Element [1F]: providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location.	173
b.	Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.	176
c.	Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.	177
d.	Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.	178
e.	Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said	

first wireless telephone and at least one of said plurality of wireless telephones.	179
f. Claim 6: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.....	185
g. Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.....	186
h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.	186
i. Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.	187
j. Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....	188
k. Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.....	189
l. Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.	190
m. Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.....	192

n. Claim 24.....	193
i. Preamble [24PRE]: A system comprising:.....	193
ii. Element [24A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:	193
iii. Element [24B]: receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;	194
iv. Element [24C]: receiving from said first wireless telephone information indicative of a login and a password;	199
v. Element [24D]: determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users, ...	204
vi. Element [24E]: wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password	206
vii. Element [24F]: and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone;.....	207
viii. Element [24G]: determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining a location of said first wireless telephone; and.....	208

- ix. Element [24H]: transmitting over said communications network said location information to said first wireless telephone.....210
- o. Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones. 210
- p. Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users. 211
- q. Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time. 212
- r. Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.....212
- s. Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones. 213
- t. Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.....213
- u. Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car. 214
- v. Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone;

and downloading said phone book to a new wireless telephone of said user.....	215
E. <u>Ground 6</u> : Claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43 would have been obvious over Randall in Combinations with Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim	215
1. Discussion of De-Vries (EX1013)	216
2. Discussion of Combinations of Randall/Randall-Froeberg with De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim	217
3. Mapping of Combinations of Randall, Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim to claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43	220
a. Claims 9 & 30	220
Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.	220
Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.....	220
b. Claims 10 & 31	222
Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.	222
Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.	222
c. Claims 11 & 32	223
Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.....	223

Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone	223
d. Claims 12 & 33	224
Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.	224
Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.	224
e. Claims 13-14 & 34-35.....	226
Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.....	226
Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.....	226
Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones.	226
Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.	226
f. Claims 16 & 37	227

Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	227
Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.....	227
g. Claims 17 & 38	228
Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	228
Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.	228
h. Claims 21 and 42.....	229
Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	229
Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.....	229
i. Claims 22 and 43.....	230
Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	230
Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to	

	at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.	230
IX.	APPENDIX: CLAIM LISTING	232

I, David H. Williams, declare:

[0001] I have been retained by Wolf, Greenfield & Sacks, P.C., counsel for Petitioner Google LLC, to assess claims 1-44 (the “challenged claims”) of U.S. Patent No. 11,246,024 (“the ’024 patent”) (EX1001). I am being compensated for my time at my standard rate of \$485.00 per hour, plus actual expenses. My compensation is not dependent in any way upon any outcome in the *inter partes* review of the ’024 patent.

I. PERSONAL AND PROFESSIONAL BACKGROUND

[0002] I have over thirty years of industry experience in the field of location-based services (LBS), including experience designing, implementing, and managing numerous LBS applications for mobile social networking, family tracking, local search, and mobile research management. I have extensive expertise in all aspects of LBS delivery across the wireless location ecosystem, including enabling network, map data, geospatial platform, chipset, data management, device, and location determination infrastructure and integration providers.

[0003] I have summarized in this section my educational background, work experience, and some of my other relevant qualifications. My curriculum vitae, which I understand has been designated EX1004, further describes my background and experience.

[0004] I earned a Bachelor of Science in Electrical Engineering degree (BSEE), with an emphasis on digital system design, from Purdue University in 1983. In 1987, I earned a Master of Business Administration degree (MBA), with a focus on information systems management, from The University of Texas at Austin.

[0005] From 1983 to 1985, I worked at Hughes Aircraft Company as an electrical engineer, where I focused on microcomputer and digital system design on the F-15 fighter radar system, including interfacing with systems for fighter location determination (absolute and relative to ground and sea locations), as well as fighter target identification, acquisition, and targeting.

[0006] After completing my MBA, I worked for Deloitte Consulting (originally Touche Ross) as a Senior Manager from 1987 to 1991. At Deloitte, I provided consulting services for technology-intensive companies in developing and implementing business and product strategies.

[0007] From 1991 to 1993, I worked as a Senior Associate in the Information Technology Practice of Booz Allen & Hamilton, providing consulting services for communications industry and information technology-intensive companies.

[0008] From 1993 to 2002, I worked at Accenture as an Associate Partner in the Communications and High-Technology Strategy and Information

and Technology Strategy groups. At Accenture, I led the development of business, technology, and product strategies for numerous communications and technology-centric companies looking to enter new markets. I specialized in new product design, development, and implementation, as well as network infrastructure design needs to support next generation, high bandwidth-consuming digital media content and associated infrastructure.

[0009] As an example of my work with Accenture, as an Associate Partner in their Communications and High-Technology Strategy group, from 1998 to 2000 I led the development of Nextel's (now part of Sprint/T-Mobile) Location-Based Services (LBS) product strategy, identifying future location-based products and specifying their requirements for Nextel's entry into the LBS market. This effort also included leading the development of the Information Technology and Network architectures that would be needed to support the LBS Product Strategy. Many of these LBS products were multi-user products that required the sharing of location information among multiple users.

[0010] In 2002, I founded E911-LBS Consulting, which was later renamed E911-LBS Forensics Engineering ("E911-LBS"), of which I am President. Services provided by E911-LBS span the entire wireless value chain, particularly with respect to technology and business strategic planning and product design, development, implementation, and ongoing management and operations.

In the name “E911-LBS,” “E911” refers to “enhanced 911,” which is a system for emergency dialing in which the caller’s location is automatically determined and provided to the emergency dispatcher. “LBS” refers to location-based services.

[0011] I have worked on a wide variety of matters as a consultant through E911-LBS. For example, in the mid-2000s I led the development of the site map and primary content for the NAVTEQ (now HERE) Network for Developers (N4D) LBS web ecosystem. Specifically, I was responsible for designing and managing the site map and overall content, identifying key contributors and materials, and utilizing a variety of fragmented information to develop broad and deep technical, digital media and business content to assist various expertise levels of application developers and business management to become intimately familiar with map data, Geographical Information System (GIS) platforms, and LBS applications and underlying technologies and to provide the information and guidance to successfully develop and launch their LBS applications, including tools enabling multi-user applications involving sharing of location information. Also, in the mid-2000s I provided E911 consulting expertise in support of new spectrum regulatory approval and technical implementation issues for a startup carrier, and managed the design, collection, and analysis of E911 infrastructure deployment of the western region of a major wireless carrier.

[0012] Additionally, from 2007 to 2010 I worked for AT&T Mobility, first in a consulting role as a Consumer LBS Product Realization Manager, then as a Senior Product Manager – Enterprise LBS. At AT&T Mobility, my work included design, troubleshooting, and implementation of AT&T location-related network, application, user interface, digital media and content delivery, and privacy infrastructure and associated issues such as accuracy and privacy. I also managed products including telematics, fleet/vehicle management, asset/freight management, and mobile resource management GPS/LBS apps on a variety of platforms such as Telenav, and played a key role in design of company-wide location services product and implementation roadmap. Many of these applications involved the sharing of location information among multiple users, such as the AT&T FamilyMap application enabling location sharing among family members.

[0013] I have written a number of books on wireless location including: The Definitive Guide to IoT Sensors and IoT Use Cases (In Development), The Definitive Guide to GPS, RFID, Wi-Fi, and Other Wireless Location-Based Services (2005/2009 versions, new version in development), The Definitive Guide to Wireless E911 (2004 and 2005 versions), and (co-authored) The Definitive Guide to Mobile Positioning and Location Management.

[0014] I am the inventor or a co-inventor of ten issued U.S. patents and numerous pending applications. These include:

[0015] “Method and apparatus for providing mobile social networking privacy.” (U.S. Patent Number 8,613,109, Issued December 17, 2013).

[0016] “Systems and methods of using wireless location, context, and/or one or more communication networks for monitoring for, preempting, and/or mitigating pre-identified behavior.” (U.S. Patent Number 10,477,342, Issued November 12, 2019).

[0017] “Systems and methods for monitoring for and preempting pre-identified restriction violation-related behavior(s) of persons under restriction.” (U.S. Patent Number 10,497,242, Issued December 3, 2019).

[0018] “Systems and methods for providing location-based security and/or privacy for restricting user access.” (U.S. Patent Number 10,555,112, Issued February 4, 2020).

[0019] “Systems and methods for developing, monitoring, and enforcing agreements, understandings, and/or contracts.” (U.S. Patent Number 10,853,897, Issued December 1, 2020).

[0020] “Systems and methods for monitoring for and preempting pre-identified restriction violation-related behavior(s) of persons under restriction.” (U.S. Patent Number 10,861,307, Issued December 8, 2020).

[0021] “Systems and methods for monitoring for and lowering the risk of addiction-related or restriction violation-related behavior(s).” (U.S. Patent Number 11,388,546, Issued July 12, 2022).

[0022] “Systems and methods for monitoring for and preempting the risk of a future occurrence of a quarantine violation.” (U.S. Patent Number 11,412,353, Issued August 9, 2022).

[0023] “Dynamic and adaptive systems and methods for rewarding and/or disincentivizing behaviors” (U.S. Patent Number 11,636,941, Issued April 25, 2023).

[0024] “Systems and Methods for Conducting/Defending Digital Warfare or Conflict” (U.S. Patent Number 12,096,308, Issued September 17, 2024).

[0025] As demonstrated above and (discussed further below), I have at least two years of experience with wireless networks and devices, such as cell phones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation. In fact, as demonstrated by the examples below, as of 2002, I had over eight years of industry experience with wireless networks and devices, such as cell phones and PDAs, as well as wireless positioning technologies, such as GPS or triangulation. I have a further 22 years of industry experience with wireless networks and devices, such as cell phones and

PDA's, as well as wireless positioning technologies, such as GPS or triangulation, from 2002 to the present. For example:

[0026] 1983-1985 – Designed the analog-to-digital converter as part of the digitalization of the F-15 radar. Design included interfacing to location determination and navigation systems associated with navigating the F-15 fighter, providing absolute and relative location using triangulation and other technologies using wireless networks to ground, air, and sea-based entities and associated systems and device, as well as provide the F-15 with the ability to identify (and locate), acquire (and track), and target weapon systems at hostile targets.

[0027] 1993-1998 – Worked extensively with communications carriers such as (then) Bell Atlantic, AT&T, and GTE to develop new communications strategies, products and services and underlying Information Technology and networking requirements. Efforts included forecasting and specifying strategies and requirements for the transition of communications networks from predominately wireline to wireless, and its implications on end-user devices including cell phones and PDA's.

[0028] 1995-2001 – Was responsible for the development of Accenture's wireless location practice to capitalize on opportunities from The 1996 Telecommunications Act. I led development of business, technology, and product strategies for numerous communications and technology-centric companies

looking to enter new markets. I specialized in new wireless and wireline product design, development, and implementation as well as Information Technology and wireless network design for various established and start-up companies, including specifying requirements for end user devices such as cell phones and PDAs.

[0029] 1998-2000 – For example, I led the development of Nextel’s (now part of Sprint/T-Mobile) Location-Based Services (LBS) product strategy, identifying future location-based products and specifying their requirements for Nextel’s entry into the LBS market. This effort also included leading the development of the Information Technology and wireless network architectures that would be needed to support the LBS Product Strategy, as well as specifying wireless device/cell phone design requirements to support the LBS product strategy.

[0030] 2003-2004 – As President of E911-LBS, I led the development of part of AT&T Wireless’s E911 infrastructure, including the development of systems, processes, and reporting infrastructure to manage and track the deployment of time difference of arrival-based location determination technologies. I managed the testing and Federal Communications Commission reporting of network location inaccuracies, with a particular focus on detecting and troubleshooting out-of-norm technology deployment and inaccurate location conditions.

[0031] 2004-2006 - Worked with NAVTEQ (now called HERE)—the leading provider of map data and services essential to creating LBS applications—to develop the company’s web developer website content and tools. Specifically, I designed and managed the site map and overall content, including the development of comprehensive technical and business web content for all NAVTEQ map product and service lines. Through the developer site, application developers and business managers became intimately familiar with map data, Geographical Information System (GIS) platforms, and location-based services to successfully develop and launch their LBS applications.

[0032] 2007-2010 – Led design finalization and implementation of several of AT&T’s first generation of location-based services, as well as design of underlying location enabler network. Became the only non-employee inventor on U.S. Patent Number 8,613,109, Method and Apparatus for Mobile Social Networking Privacy (issued December 17, 2013).

[0033] 2010-Present – Worked on patent and related cases involving over 200 patents involving wireless networks, wireless positioning technologies such as GPS and triangulation, and end user devices such as cell phones, PDAs, and other mobile devices.

[0034] 2015-Present – Worked on over 50 criminal and civil forensics cases involving wireless networks, wireless positioning technologies such as GPS

and triangulation, and end user devices such as cell phones, PDAs, and other mobile devices.

[0035] The above-summarized experience is also set forth in my curriculum vitae, a copy of which is provided as EX1004 and which further describes my detailed qualifications and professional experience.

II. MATERIALS REVIEWED AND CONSIDERED

[0036] My findings, as explained below, are based on my years of education, research, experience, and background in the field of wireless networks and devices, such as cell phones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation, as well as my investigation and study of relevant materials for this declaration. When developing the opinions set forth in this declaration, I assumed the perspective of a person having ordinary skill in the art (“POSA”), as set forth in Section IV below. In forming my opinions, I have studied and considered the materials identified in the list below.

Exhibit	Description
1001	U.S. Patent No. 11,246,024 (“the ’024 patent”)
1002	Prosecution History of U.S. Patent No. 11,246,024
1005	U.S. Patent No. 7,333,820 (“Sheha”)
1006	U.S. Provisional Patent Application No. 60/305,975 (“Sheha-Prov.”)
1007	U.S. Patent Application Publication No. 2004/0024846 (“Randall”)

Exhibit	Description
1008	International Patent Application Publication No. WO 02/17075 (“Randall-WIPO”)
1012	U.S. Patent No. 7,013,148 (“Ganesh”)
1013	U.S. Patent No. 6,968,179 (“De-Vries”)
1014	U.S. Patent No. 6,920,328 (“Wollrab”)
1015	U.S. Patent No. 6,714,791 (“Friedman”)
1018	U.S. Patent No. 6,716,101 (“Meadows”)
1019	U.S. Patent No. 7,366,522 (“Thomas”)
1022	International Patent Application Publication No. WO 01/91486 (“Darling”)
1023	U.S. Patent No. 6,084,951 (“Smith”)
1024	U.S. Patent No. 6,714,793 (“Carey”)
1025	U.S. Patent No. 6,415,224 (“Wako”)
1027	Korean Patent Application Publication No. 10-2001-0091381 (“Han”)
1029	U.S. Patent No. 6,456,854 (“Chern”)
1030	U.S. Patent No. 6,754,665 (“Futagami”)
1035	International Patent Application Publication No. WO 00/22860 (“Degnbol”)
1039	Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions in <i>Mullen Industries LLC v. Samsung Electronics Co., Ltd. et al.</i> , Case No. 2:24-cv-00049 (E.D. Tex.) (May 15, 2024)
1041	U.S. Patent Application Publication No. 2003/0074209 (“Tobin”)
1043	U.S. Patent No. 6,133,853 (“Obradovich”)
1044	U.S. Patent No. 6,269,369 (“Robertson”)
1045	U.S. Patent Application Publication No. 2002/0169539 (“Menard”)
1046	U.S. Patent No. 7,681,034 (“Lee”)
1051	U.S. Patent No. 6,674,849 (“Froeberg”)
1054	U.S. Patent No. 6,867,733 (“Sandhu”)
1055	U.S. Patent No. 6,532,418 (“Chun”)

Exhibit	Description
1056	U.S. Patent No. 6,049,718 (“Stewart”)
1057	U.S. Patent No. 6,609,005 (“Chern-005”)
1067	U.S. Patent No. 6,127,945 (“Mura-Smith”)
1068	U.S. Patent No. 6,633,813 (“Deworetzki”)
1069	U.S. Patent No. 7,143,443 (“Song”)
1070	U.S. Patent No. 6,107,944 (“Behr”)
1071	U.S. Patent No. 7,203,752 (“Rice”)
1074	U.S. Patent No. 6,285,867 (“Boling”)
1075	U.S. Patent No. 6,208,934 (“Bechtolsheim”)
1076	U.S. Patent Application Publication No. 2003/0040272 (“Lelievre”)
1077	U.S. Patent No. 5,048,117 (“Aisaka”)
1078	U.S. Patent No. 5,212,811 (“Kuge”)

III. MY UNDERSTANDING OF PATENT LAW

[0037] In developing my opinions, I discussed various relevant legal principles with Petitioner Google’s attorneys. Though I do not purport to have prior knowledge of such principles, I understood them when they were explained to me and have relied upon such legal principles, as explained to me, in the course of forming the opinions set forth in this declaration. My understanding in this respect is as follows:

[0038] I understand that “*inter partes* review” (IPR) is a proceeding before the United States Patent & Trademark Office for evaluating the patentability of an issued patent’s claims based on prior-art patents and printed publications.

[0039] I understand that, in an IPR proceeding, including in this proceeding, the petitioner has the burden of proving that the challenged claims of the challenged patent are unpatentable by a preponderance of the evidence. I understand that “preponderance of the evidence” means that a fact or conclusion is more likely true than not true.

[0040] I understand that, in IPR proceedings, claim terms in a patent are given their ordinary and customary meaning as understood by a person of ordinary skill in the art (“POSA”) in the context of the entire patent and the prosecution history pertaining to the patent. If the specification provides a special definition for a claim term that differs from the meaning the term would otherwise possess, the specification’s special definition controls. If a claim element is expressed as a “means” for performing a specified function, I understand that it covers the corresponding structure described in the specification and equivalents of the described structure. I have applied these standards in preparing the opinions in this declaration.

[0041] I understand that determining whether a particular patent or printed publication constitutes prior art to a challenged patent claim can require determining the effective filing date (also known as the priority date) to which the challenged claim is entitled. I understand that for a patent claim to be entitled to the benefit of the filing date of an earlier application to which the patent claims

priority, the earlier application must have described the claimed invention in sufficient detail to convey with reasonable clarity to the POSA that the inventor had possession of the claimed invention as of the earlier application's filing date. I understand that a disclosure that merely renders the claimed invention obvious is not sufficient written description for the claim to be entitled to the benefit of the filing date of the application containing that disclosure.

[0042] I understand that for an invention claimed in a patent to be patentable, it must be, among other things, new (novel—*i.e.*, not anticipated) and not obvious from the prior art. My understanding of these two legal standards is set forth below.

A. Anticipation

[0043] I understand that, for a patent claim to be “anticipated” by the prior art (and therefore not novel), each and every limitation of the claim must be found, expressly or inherently, in a single prior-art reference. I understand that a claim limitation is disclosed for the purpose of anticipation if a POSA would have understood the reference to disclose the limitation based on inferences that a POSA would reasonably be expected to draw from the explicit teachings in the reference when read in light of the POSA's knowledge and experience.

[0044] I understand that a claim limitation is inherent in a prior art reference if that limitation is necessarily present when practicing the teachings of

the reference, regardless of whether a person of ordinary skill recognized the presence of that limitation in the prior art.

B. Obviousness

[0045] I understand that a patent claim may be unpatentable if it would have been obvious in view of a single prior-art reference (e.g., in combination with the POSA's background knowledge) or a combination of prior-art references.

[0046] I understand that a patent claim is obvious if the differences between the subject matter of the claim and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the relevant field at the time the invention was made. Specifically, I understand that the obviousness question involves a consideration of:

- the scope and content of the prior art;
- the differences between the prior art and the claims at issue;
- the knowledge of a person of ordinary skill in the pertinent art; and
- if present, objective factors indicative of non-obviousness, sometimes referred to as “secondary considerations.” To my knowledge, the Patent Owner has not asserted any such secondary considerations with respect to the patent challenged in this proceeding.

[0047] I understand that in order for a claimed invention to be considered obvious, a POSA must have had a reason for combining teachings from multiple prior-art references (or for altering a single prior-art reference, in the case of obviousness in view of a single reference) in the fashion proposed.

[0048] I further understand that in determining whether a prior-art reference's teachings would have been combined with teachings from other prior art or with other information within the knowledge of a POSA, the following are examples of approaches and rationales that may be considered:

- combining prior-art elements according to known methods to yield predictable results;
- simple substitution of one known element for another to obtain predictable results;
- use of a known technique to improve similar devices in the same way;
- applying a known technique to a known device ready for improvement to yield predictable results;
- applying a technique or approach that would have been "obvious to try," *i.e.*, choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

- known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior-art reference or to combine prior-art reference teachings to arrive at the claimed invention. I understand that this teaching, suggestion or motivation may come from a prior-art reference or from the knowledge or common sense of one of ordinary skill in the art.

[0049] I understand that for a single reference or a combination of references to render the claimed invention obvious, a POSA must have had a reasonable expectation of success in arriving at the claimed invention (e.g., by altering or combining the teachings of the applied references).

IV. PERSON OF ORDINARY SKILL IN THE ART (“POSA”)

[0050] I have been informed and understand that for purposes of assessing whether a prior-art reference discloses every element of a patent claim (thus “anticipating” the claim) and/or whether prior-art references would have

rendered the claim obvious, the patent and the prior-art references must be assessed from the perspective of a person having ordinary skill in the art (“POSA”) to which the patent is related, based on the understanding of that person at the time of the patent claim’s priority date. I have been informed and understand that a POSA is presumed to be aware of all pertinent prior art and the conventional wisdom in the art, and is a person of ordinary creativity. I have applied this standard throughout my declaration.

[0051] The ’024 patent involves technology in the field of location-based services—including specifically “systems and methods for determining a device’s location” and “[m]ore particularly,...systems and methods for remotely determining a device’s location.” EX1001, 1:17-20. I have been asked to provide my opinions as to the state of the art in this field by March 2002. I use this timeframe because the face of the ’024 patent indicates an earliest claimed priority date of March 25, 2002. Whenever I offer an opinion in this declaration about the knowledge of a POSA, the manner in which a POSA would have understood the claims of the ’024 patent or its description, the manner in which a POSA would have understood the prior art, or what a POSA would have been led to do based on the prior art, I am referencing the early-2002 timeframe, even if I do not say so specifically in each case.

[0052] I understand that the Patent Owner may attempt to prove that the alleged invention recited in the challenged claims was conceived at some time prior to the earliest claimed priority date on the face of the patent. At the time of this declaration, I am unaware of the Patent Owner having alleged any earlier conception date or produced any evidence to establish any earlier conception date.

[0053] In my opinion, a person of ordinary skill in the art in the early-2002 timeframe (“POSA”) would have had a bachelor’s degree in computer science, computer engineering, electrical engineering, or a similar degree, with one or two years of experience with wireless networks and devices, such as cellphones and personal digital assistants (“PDAs”), as well as wireless positioning technologies, such as GPS or triangulation. More education could compensate for less practical experience, and vice versa. This person would have been capable of understanding and applying the teachings of the challenged patent and the prior-art references discussed in this declaration.

[0054] By 2002, I held a Bachelor of Science in Electrical Engineering, and I had well more than two years of experience with wireless networks and devices, including cellphones and PDAs, as well as with wireless positioning technologies, including GPS and triangulation. Therefore, I was a person of more than ordinary skill in the art during the relevant timeframe. However, I worked with many people who fit the characteristics of the POSA, and I am familiar with

their level of skill. When developing the opinions set forth in this declaration, I assumed the perspective of a person having ordinary skill in the art, as set forth above.

V. THE '024 PATENT

[0055] The '024 patent is titled “Systems and Methods for Locating Cellular Phones and Security Measures for the Same.” Its Abstract says it provides “[m]ore particularly, systems and methods for providing the location of a requested user’s cellular phone from a requesting user’s device (e.g., a second cellular phone) based on access rights defined by the requested user.”

A. Specification Embodiments

[0056] Generally, the '024 patent discusses techniques for sharing and determining a wireless device’s location, such as via the Global Positioning System (“GPS”). EX1001, 1:16-28. The patent alleges that “GPS systems have been integrated into cellular phones” but “only minimally utilized,” so the patent purports to provide functionality to allow one cellphone user to “locate the position of” another user’s cellphone. EX1001, 1:28-43.

[0057] Cellphones in the '024 patent can share their locations with a remote system, from which other users can obtain them. EX1001, 5:4-31. A user can also restrict access to their location by identifying authorized users or groups,

thus specifying which other users may obtain their location information. EX1001, 3:22-31.

[0058] FIG. 2's example method to obtain another user's location (below) includes receiving a location request, determining whether the requesting user is authorized, and, if so, providing the location to the requestor.

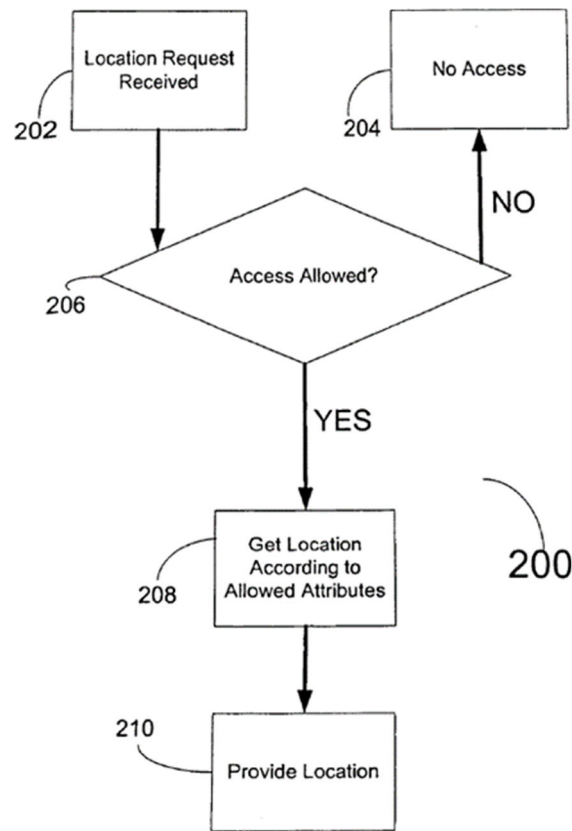


FIG. 2
EX1001, FIG. 2

[0059] Received location information may be displayed on a display screen with a map, as shown in Figure 6's example below. EX1001, 7:31-8:5. The display can include directional information, such as compass information and an

arrow showing which way the target user's location is relative to the requesting user. EX1001, 7:39-50.

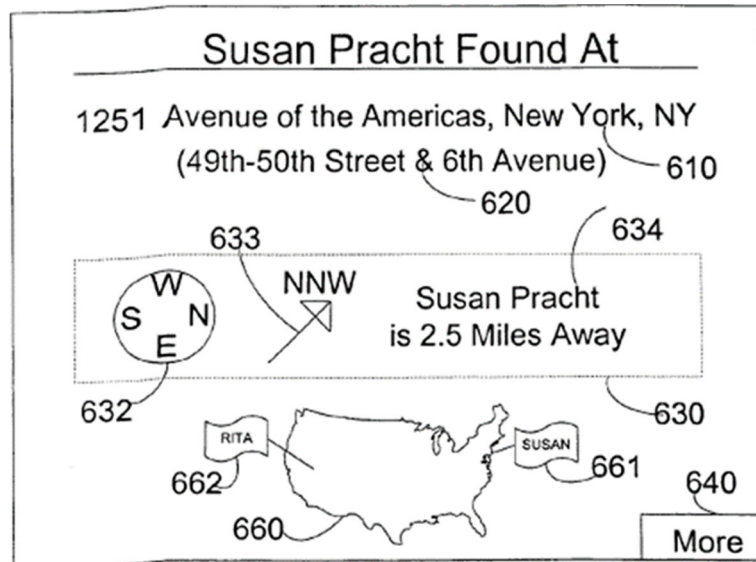


FIG. 6
EX1001, FIG. 6

B. Prosecution History of the '024 Patent

[0060] The '024 patent's prosecution spanned nearly fifteen years. The applicant finally canceled all pending claims and added new independent claims to mirror claims in other related patents. EX1002, 628-44. The Examiner then allowed the claims because they are "system claims modeled after allowed method claims in Applicant's other patents." EX1002, 1416 (reasons for allowance).

C. The Challenged Claims

[0061] The '024 patent's independent claims 1 and 24 are "system" claims that adapt recitations from method claim 1 of related U.S. Patent No.

8,374,575 and method claim 1 of related U.S. Patent No. 9,204,283, respectively, for which I previously submitted declarations. These claims are challenged below under similar grounds as in Petitioners' IPR challenging U.S. Patent No. 8,374,575 (which I understand has been assigned IPR2025-00124) and Petitioners' IPR challenging U.S. Patent No. 9,204,283 (which I understand has been assigned IPR2025-00019), respectively.

[0062] As I discuss further below in §VIII, each of the dependent claims recites further functionality that was routine and conventional before the '024 patent.

VI. CLAIM INTERPRETATION

[0063] In accordance with the standards for interpreting patent claim terms that I discussed above in Section III, I have interpreted the terms in the claims in accordance with their ordinary and customary meaning as understood by a POSA in the context of the patent (including the descriptions in the specification) and its prosecution history.

VII. PRIOR-ART REFERENCES

[0064] I briefly introduce in this Section below various prior-art references discussed in this declaration.

A. Background on Motivation to Combine and Reasonable Expectation of Success in Combining Prior Art

[0065] The '024 patent purports to have provided a variety of innovations, such as “locat[ing] the position of a different user’s cellular phone (e.g., a requested user) based upon requestor-assigned access rights[,]” EX1001, 1:37-43, and more broadly, “provid[ing] systems and methods which better utilize the information about a device’s location.” EX1001, 1:31-33.

[0066] It is my opinion that not only were the purported inventions known to POSAs prior to 2002, the 1990s federal mandate to update wireless devices and carrier network location-based technologies and services spurred innovation in this field years before the patents were filed.

[0067] It is my understanding, and was the understanding of a POSA, that the 1996 Telecommunications Act, and in particular FCC orders (the “911 Mandate”) that came from it dramatically changed the telecommunications industry in the United States, particularly for the wireless industry in general and even more so the development and deployment of wireless location technologies and associated location-based services (“LBS”). The Act and 911 Mandate required action on every part of the wireless ecosystem: devices, carriers, end users, application providers, equipment makers and service providers, providing much of the groundwork for subsequent location-related services in the United States, including transportation/transit applications.

[0068] The 911 Mandate was rooted in part in the inability of 911 dispatchers to locate mobile phone callers, which set off a subsequent FCC order process that resulted in a mandate by the FCC requiring wireless carriers to be able to locate cell phones for 911 emergency purposes. Federal Communications Commission. “Third Report and Order.” October 6, 1999. <https://transition.fcc.gov/Bureaus/Wireless/Orders/1999/fcc99245.pdf> (last checked 09-030-2024). The original mandate had a target of 5 years for completion (by December 2001, later revised to the end of 2005), with a variety of interim milestone targets to be met. The mandate required that carriers be able to determine and deliver to Public Safety Answering Points (PSAPs, e.g., 911 dispatchers) the location of a cell phone within a specific range of accuracy.¹

[0069] Thus, well before Mr. Mullen purportedly invented the ideas described in the challenged patents, the U.S. E911 mandate requiring the locating devices and sharing that location with other systems (and in turn other users) had been in existence for several years and much of the wireless industry (particularly wireless carriers and their suppliers) had been actively working for years to meet the original mandate milestones, to avoid multi-million dollar fines, and to enable

¹ For handset-based solutions: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls; For network-based solutions: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls. See https://transition.fcc.gov/pshs/services/911-services/enhanced911/archives/factsheet_requirements_012001.pdf at p.3 (last checked 09-30-2024).

applications that could monetize the extensive (many millions of dollars) infrastructure investments that the mandate necessitated.

[0070] Further, a variety of location information sharing innovations were occurring by that time, stimulated by the coming ubiquity of cell phone location capabilities and further buoyed by the elimination in May 2000 of the GPS system's "Selective Availability," which had deliberately distorted GPS signals so they would be inaccurate up to 100 meters.² As the White House's press release said at the time:³

GPS IS A CRITICAL TECHNOLOGY FOR INDIVIDUALS AND BUSINESSES AROUND THE GLOBE. GPS is a dual-use system, providing highly accurate positioning and timing data for both military and civilian users. There are more than 4 million GPS users world wide, and the market for GPS applications is expected to double in the next three years, from \$8 billion to over \$16 billion. Some of these applications include: air, road, rail, and marine navigation, precision agriculture and mining, oil exploration, environmental research and management, telecommunications, electronic data transfer, construction, recreation and emergency response.

https://clintonwhitehouse4.archives.gov/WH/New/html/20000501_2.html.⁴

² Specifically, up to 100 meters vertically, and up to 50 meters horizontally.

³ That Selective Availability would likely be discontinued was known as early as the 1996 Telecommunications Act.

See <https://ieeexplore.ieee.org/document/838346> (last checked 09-30-2024).

⁴ I have added all emphasis in this declaration unless I have specified otherwise.

[0071] These new applications and enhancement of existing applications looked to capitalize on the additional capabilities and associated benefits that having location as part of the data set/app functionality would provide. These include improving efficiencies and costs of mobile resources deployment and utilization, new revenue potential from new and more tailored apps, personalizing/customizing functionality based on location, improved convenience, improved privacy and security, providing real-time status based on/including current location, collecting historical location for after-the-fact analysis and forward-looking projections of location-related resources, in enabling more custom data presentation based on/utilizing a user's (device) location, enabling new use cases, and enhancing particular use case(s) and overall application customer experience.

[0072] For example, a Google Patent search for “location services” and “sharing” prior to March 25, 2002 yields over 136,000 results.⁵ Over 129,000 of those results⁶ appear for between May 1, 2000 and March 25, 2002, indicating at least in part the widespread recognition of the benefits from the improved accuracy resulting from removal of Selective Availability, the utility/benefits of sharing

⁵ <https://patents.google.com/?q=location+services&q=sharing&before=priority:20020325> (last checked 9/17/2024).

⁶ <https://patents.google.com/?q=location+services&q=sharing&q=cost+reduction,improve+efficiencies&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

location information, and more generally the growing awareness of the potential for location-based services around the turn of the century. Further, over 95,000 results remain when further filtered by adding “cost reduction” or “improved efficiencies.”⁷ Similarly, a search for “location services” and “sharing” and “new revenue” yielded over 15,000 results.⁸ Replacing the search of “new revenue” with “improved user interface” yielded over 84,000 results,⁹ and “navigation” instead of “new revenue” yielded over 25,000 results.¹⁰ Thus, by the time of the patent priority date, the potential benefits of location services involving the sharing of information like location were well known, including services involving navigation and better user interface capabilities. In addition, a POSA would also recognize the multitude of technology capabilities and varied user interface challenges associated with location-related technology and data, and seek out ways to improve a user’s ability to utilize and interact with such (often large amounts of) location data via meaningful and efficient mechanisms.

⁷ <https://patents.google.com/?q=location+services&q=sharing&q=cost+reduction,improve+efficiencies&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

⁸ <https://patents.google.com/?q=location+services&q=sharing&q=new+revenue&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

⁹ <https://patents.google.com/?q=location+services&q=sharing&q=improved+user+interface&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

¹⁰ <https://patents.google.com/?q=location+services&q=sharing&q=navigation&before=priority:20020325&after=priority:20000501> (last checked 9/17/2024).

[0073] It is my opinion, and was the understanding of a POSA, that the LBS field rapidly grew in the late 1990s and early 2000s as the wireless industry strived to satisfy the U.S. E911 mandate and innovators recognized the potential of LBS, particularly with Selective Availability removed. Further, it is my opinion that the general advances in the LBS field would have motivated a POSA to combine the asserted references as I describe in more detail below.

B. Sheha (EX1005)

[0074] Sheha is titled “System and Method for Providing Routing, Mapping, and Relative Position Information to Users of a Communication Network.” Sheha “is directed to a system and method for providing real-time position information of one party to another party” such that “a party may locate the position of another party” and “retrieve routing instructions or maps for traveling to or from each other.” Sheha, Abstract.

[0075] According to the face of the document, Sheha (EX1005) is a United States patent issued on February 19, 2008 as Patent No. 7,333,820 from an application filed on July 11, 2002 as Application No. 10/194,518. That application claimed priority to a provisional application filed on July 17, 2001 as Provisional Application No. 60/305,975. I have been informed that EX1006 is a copy of the Sheha provisional application as available from the website of the United States Patent and Trademark Office.

[0076] By comparing EX1005 to EX1006, I have observed that the written description and figures of Sheha (the non-provisional publication) (EX1005) are substantively identical to those of the Sheha provisional application (EX1006).

[0077] Based on comparing claim 1 of Sheha (EX1005) to the written description in the Sheha provisional application (EX1006), it is also my opinion that the Sheha provisional application provides written description support for claim 1 of Sheha, as shown in the table below:

Table 1: Claim Chart comparing Claim 1 of Sheha (EX1005) to Sheha’s Provisional Application (EX1006)

Sheha (EX1005) Claim 1 Limitation	Sheha’s Provisional Application Support in EX1006
1. A method of providing position information of a caller using a telecommunication network, said method comprising the steps of:	“It is another object of the present invention to provide a method for...the purpose of determining position information associated with the telephone number by searching a networked database.” 4:6-10.¹¹ <i>See also</i> 4:11-18; 4:21-25 (“the position information to a caller is displayed”); 11:3-27 (caller uses a “telephone network,” which is “<i>a telecommunication network</i>”); 12:30-32 (supported telecommunication

¹¹ Citations are to the native page numbering of the provisional application’s specification within EX1006, rather than to the PDF page numbers of EX1006. For example, 4:6-10 occurs at lines 6-10 of native page 4 of the specification, which is on page 8 of the PDF of EX1006.

	networks include “CDMA, TDMA, or GSM”).
receiving caller information, said caller information being associated with a telecommunication event that is initiated by the caller, said caller information including at least one of a caller identification information and the phone number information of the caller;	“The act of dialing the telephone number to another remote landline telephone [<i>a telecommunication event</i>]”, such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices.” 6:13-17. “In one embodiment the display unit on the destination telephone 8 [<i>i.e.</i>, the device receiving the caller information] can display the caller’s name [<i>caller identification information</i>], telephone number, address, and can provide a map illustration of varying resolutions configured by the user through the telephone network 2.” 11:28-31. “The ODAS 3 is preferably notified that a telephone call is being established by the telephone network 2 [<i>‘a telecommunication event that is initiated by the caller’</i>]. Included in this notification is the telephone number and user identification information for both the originating and destination telephone numbers.” 13:9-13. “After the system has verified that the destination telephone number user is signed-on, the ODAS 3 sends a notification to the device 6 that the user is signed-on.” 13:29-31.

	“In this embodiment, the notification appears on the user’s display device 6 just prior or during the ringing or notification that the telephone has an incoming telephone call. In one embodiment, the display 24 of the user’s device shows that he or she is signed-on and can have numerous miscellaneous window(s) 25 open at the time the Map Caller-ID notification is activated. The Map Caller-ID notification window 26 typically contains only the originating user identification and telephone number, but may also contain map information of varying resolution.” 14:6-13.
accessing caller privacy information, said caller privacy information identifying a caller user group consisting of a plurality of group members pre-defined by said caller, each group member of the caller user group being a user of the telecommunication network;	“In this case, users who are initiating or receiving the telephone calls [<i>‘users of the telecommunication network’</i>] have their local telephone numbers stored into a database that resides on a secure network.” 6:21-23. “In another embodiment, the destination remote mobile device receiving the telephone call obtains the position information from the calling local mobile device, based on permission settings of the calling local mobile device [<i>‘caller privacy information’</i>], for the performance of various operations, such as mapping and calculating driving directions.” 7:19-23. “In another embodiment, each device has privacy settings that allow the device to prevent or limit other calling devices from obtaining

	position information [‘<i>caller privacy information</i>’].” 8:14-16. “In another embodiment, users can define a group of specific users that have access to this information [‘<i>identifying a caller user group consisting of a plurality of group members pre-defined by said caller</i>’]. This is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information [‘<i>identifying a caller user group consisting of a plurality of group members pre-defined by said caller</i>’].” 18:30-19:1.
receiving receiver information, said receiver information being associated with said telecommunication event initiated by the caller, said receiver information including a unique identification information of the receiver;	“This invention relates to location and navigational systems and to the determination of local and remote position information in ad-hoc landline and wireless systems, including the utilization of unique identification addresses, such as telephone numbers or Internet Protocol (IP) addresses [‘<i>unique identification information</i>’], for such purposes as providing real-time location information, maps, routing, and direction finding.” 1:6-11. “It is yet another object of the present invention to provide a method for entering a unique identification token [‘<i>unique identification information</i>’], such as an e-mail address, that can be used on a networked server system utilizing authentication and authorization procedures, in order to determine position information and to

	pass that information between a plurality of unique users or applications on various devices.” 4:11-16. “The act of dialing the telephone number to another remote landline telephone [‘a telecommunication event’], such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices.” 6:13-17. “In order to determine the position information of a remote landline or wireless device in order to obtain driving directions to that device or other related information about that device, in one embodiment, a user can initiate a position request by entering a unique identification token, such as an e-mail address.” 8:1-5. “Therefore, in this embodiment, when a telephone 8 dials a destination standard telephone 5 [‘said telecommunication event initiated by the caller’], the destination telephone number is sent over the dedicated landline connection 9b to the telephone network 2 [‘unique identification information’]. The ODAS 3 is sent both the originating and destination telephone numbers via the telephone network connection 10. In another embodiment, accompanying information, such as user identification information associated with each telephone
--	---

	number is also sent to the ODAS 3.” 13:1-7. “The ODAS 3 receives both the originating and destination telephone numbers, users’ account information, and position information for both mobile devices 18b and 18c [‘receiving receiver information, said receiver information being associated with said telecommunication event initiated by the caller, said receiver information including a unique identification information of the receiver’]” 17:29-31.
verifying whether the receiver is a member of the caller user group;	“A mobile or landline device can also request position information of another mobile or landline device by only specifying a telephone number, without having to initiate a telephone call. For a landline-to-landline position request, the specified telephone number is correlated to its position information using telephone information from a known database or sets of databases. In one embodiment, the online database that contains this information only includes users that do not have unlisted telephone numbers. In another embodiment, users can define a group of specific users that have access to this information. This is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information. When a mobile device's position information is requested, the system, based on privacy settings,

	responds with the appropriate position information to the requesting user's device. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device.” 18:23-19:6.
retrieving a caller position information, said caller position information indicating a location of the caller; and	“It is another object of the present invention to provide a method for...the purpose of determining position information associated with the telephone number [<i>‘retrieving a call position information ... indicating a location of the caller’</i>] by searching a networked database.” 4:6-10. “It is yet another object of the invention to provide an alternative form of Caller-ID (Map Caller-ID) to a local computing telephone device for display of the caller’s position information This position information transfer is done utilizing authentication and authorization procedures or telephone-to-position information correlation procedures for caller identification.” 4:19-28. <i>See also</i> 5:5-11 (“acquire local or remote position information through the methods described above”); 6:13-17 (“The act of dialing the telephone number to another remote landline telephone, such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices.”); 7:19-23 (“In another

	embodiment, the destination remote mobile device receiving the telephone call obtains the position information from the calling local mobile device [<i>retrieving a call position information ... indicating a location of the caller</i>], based on permission settings of the calling local mobile device, for the performance of various operations, such as mapping and calculating driving directions.”); 11:21-24 (“Map Caller-ID includes additional position information fields of various formats, and can include map information at varying resolutions of both the originating and destination telephone number’s locations.”); 14:21-25 (“In one embodiment, this new information window 30 is a detailed Map Caller-ID information window of varying resolution displaying the originating position information, such as a map location 33 of the caller, and the user’s location position information, such as a map location 34 of the destination telephone number.”); 18:15-22 (“The mobile devices 18b and 18c continually send their updated position information to the ODAS 3, when the position information has changed significantly as compared to the positioning error probability and as determined by the positioning technology or network configuration. The ODAS 3 periodically updates each mobile device with the other’s position information, thus providing real-time driving directions and route information. In another embodiment, the position information transfer can be
--	--

	sent in a peer-to-peer configuration, thus circumventing the ODAS 3.”)
transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group,	“The mobile devices 18b and 18c continually send their updated position information to the ODAS 3, when the position information has changed significantly as compared to the positioning error probability and as determined by the positioning technology or network configuration. The ODAS 3 periodically updates each mobile device with the other’s position information [<i>“transmitting to the receiver the caller position information”</i>], thus providing real-time driving directions and route information. In another embodiment, the position information transfer can be sent in a peer-to-peer configuration, thus circumventing the ODAS 3.” 18:15-22. “A mobile or landline device can also request position information of another mobile or landline device by only specifying a telephone number, without having to initiate a telephone call. For a landline-to-landline position request, the specified telephone number is correlated to its position information using telephone information from a known database or sets of databases. In one embodiment, the online database that contains this information only includes users that do not have unlisted telephone numbers. In another embodiment, users can define a group of specific users that have access to this information [<i>“receiver is verified to be a member of the caller user</i>

	group’]. This is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information [<i>‘receiver is verified to be a member of the caller user group’</i>]. When a mobile device's position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user's device [<i>“transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group”</i>]. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device.” 18:23-19:6.
wherein the transmission of the caller position information is associated with the telecommunication event and occurs after the telecommunication event is initiated.	“The act of dialing the telephone number to another remote landline telephone [<i>‘a telecommunication event’</i>], such as a residential telephone, triggers the transfer of position information, such as in the form of a map, to either one or both of the local and/or remote telephone devices [<i>i.e., ‘the transmission of the caller position information is associated with the telecommunication event and occurs after the telecommunication event is initiated’ because the transfer is triggered by the telecommunication event</i>].” 6:13-17. “In another embodiment, users can define a group of specific users that have access to this information. This

	is also accomplished by utilizing a group database and authorization and authentication protocols to identify users that are permitted to access this information. When a mobile device's position information is requested [i.e., 'after the telecommunication event is initiated'], the system, based on privacy settings, responds with the appropriate position information to the requesting user's device [<i>'transmitting to the receiver the caller position information if the receiver is verified to be a member of the caller user group'</i>]. In another embodiment, using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of a landline device." 18:30-19:6.
--	---

[0078] Because Sheha's disclosure is substantively identical to that of its provisional application, and because the provisional application's disclosure provides written-description support for at least one of Sheha's claims (e.g., Sheha's claim 1 as I demonstrated above), I have been informed by counsel that Sheha qualifies as prior art to the '024 patent based on the filing date of Sheha's provisional application.

[0079] As discussed in Sections VIII.A-C below, in my opinion a POSA would have understood that Sheha, in combination with other references,

renders obvious claims 1-44 of the '024 patent. *See also infra* §VIII.A.1 (additional discussion of Sheha).

C. Randall (EX1007)

[0080] Randall is titled “Method of Enabling a Wireless Information Device to Access Data Services.” Randall relates to “enabling a wireless information device to access data from several data services providers...using an extensible framework which handles data passing to and from several applications resident on the device, the framework being shared by each of the applications resident on the device and also being shared by each of the data services providers.” Randall, Abstract. “As an example,...a user might choose to subscribe to a service which allowed others to track his or her location” and “show the position of the user” on “digital maps.” Randall, [0021].

[0081] According to the face of the document, Randall (EX1007) is a published U.S. patent application, published on February 5, 2004 as Publication No. 2004/0024846 from an international patent application that was filed on August 22, 2001 as PCT (WIPO) Application No. PCT/GB01/03788 and entered the U.S. national stage as U.S. Application No. 10/362,109. I have been informed by counsel that Randall qualifies as prior art to the '024 patent based on Randall's international filing date. I have also compared the WIPO publication of Randall (EX1008) to the U.S. publication of Randall (EX1007) and I have observed that

they are substantively identical. In Table 2 below, I have listed the paragraphs in the U.S. publication of Randall that appear on each page of the WIPO publication of Randall. Thus, although in this declaration I cite to the U.S. publication of Randall (EX1007) for ease of reference, each citation to the U.S. publication has a substantively identical citation in the WIPO publication of Randall at the corresponding page shown in the following table:

**Table 2: Comparison of PCT Application No. PCT/GB01/03788 (EX1008)
and U.S. Publication No. 2004/0024846 (EX1007)**

Randall PCT	Randall US		
Pg. 1	[0001 - 0004]	Pg. 43	[0303 - 0312]
Pg. 2	[0005 - 0007]	Pg. 44	[0313 - 0336]
Pg. 3	[0008 - 0009]	Pg. 45	[0337 - 0354]
Pg. 4	[0009 - 0012]	Pg. 46	[0354 - 0354]
Pg. 5	[0012 - 0015]	Pg. 47	[0355 - 0362]
Pg. 6	[0015 - 0020]	Pg. 48	[0362 - 0367]
Pg. 7	[0020 - 0022]	Pg. 49	[0368 - 0377]
Pg. 8	[0022 - 0026]	Pg. 50	[0377 - 0384]
Pg. 9	[0027 - 0032]	Pg. 51	[0385 - 0394]
Pg. 10	[0033 - 0046]	Pg. 52	[0395 - 0400]
Pg. 11	[0046 - 0050]	Pg. 53	[0401 - 0409]
Pg. 12	[0051 - 0054]	Pg. 54	[0409 - 0417]
Pg. 13	[0055 - 0059]	Pg. 55	[0418 - 0420]
Pg. 14	[0060 - 0063]	Pg. 56	[0420 - 0426]
Pg. 15	[0063 - 0067]	Pg. 57	[0427 - 0434]
Pg. 16	[0067 - 0069]	Pg. 58	[0435 - 0443]
Pg. 17	[0069 - 0073]	Pg. 59	[0443 - 0450]
Pg. 18	[0073 - 0074]	Pg. 60	[0451 - 0457]
Pg. 19	[0075 - 0081]	Pg. 61	[0458 - 0468]
Pg. 20	[0081 - 0086]	Pg. 62	[0468 - 0472]
Pg. 21	[0087 - 0097]	Pg. 63	[0473 - 0481]
Pg. 22	[0098 - 0107]	Pg. 64	[0482 - 0486]
Pg. 23	[0108 - 0115]	Pg. 65	[0487 - 0495]
Pg. 24	[0116 - 0127]	Pg. 66	[0495 - 0499]
Pg. 25	[0127 - 0130]	Pg. 67	[0499 - 0500]
Pg. 26	[0130 - 0139]	Pg. 68	[0501 - Table 1]
Pg. 27	[0140 - 0147]	Pg. 69	[Table 1 - 506]
Pg. 28	[0147 - 0153]	Pg. 70	[0507 - 0509]
Pg. 29	[0153 - 0162]	Pg. 71	[0510 - Table 2]
Pg. 30	[0163 - 0171]	Pg. 72	[0512 - 0514]
Pg. 31	[0172 - 0181]	Pg. 73	[0515 -Table 4]
Pg. 32	[0181 - 0190]	Pg. 74	[Table 4]
Pg. 33	[0191 - 0196]	Pg. 75	[Table 4]
Pg. 34	[0197 - 0209]	Pg. 76	[Table 4]
Pg. 35	[0210 - 0224]	Pg. 77	[Table 4]
Pg. 36	[0225 - 0239]	Pg. 78	[Table 4]
Pg. 37	[0240 - 0249]	Pg. 79	[Table 4]
Pg. 38	[0250 - 0257]	Pg. 80	[Table 4]
Pg. 39	[0257 - 0261]	Pg. 81	Appendix 1
Pg. 40	[0262 - 0279]	Pg. 82	Appendix 1
Pg. 41	[0280 - 0292]	Pg. 83	Appendix 1
Pg. 42	[0293 - 0303]	Pg. 84	Appendix 1
		Pg. 85	Appendix 1
		Pg. 86	Appendix 1

[0082] As discussed in Sections VIII.D-E below, in my opinion a POSA would have understood that Randall, alone or in combination with other references, renders obvious claims 1-44 of the '024 patent. *See also infra* §VIII.D.1 (additional discussion of Randall).

D. Froeberg (EX1051)

[0083] Froeberg is titled “Telephone providing directions to a location.” Froeberg relates to “providing a map and driving directions to a user of a user telephone for a remote location associated with a remote telephone number.” Froeberg, Abstract. Froeberg discloses a system with a “server” that can “reverse geocode[]” location data “to a local street network address segment” to “create[] a route and driving directions” that are displayed “to the user of the user telephone.” Froeberg, 4:4-26. According to the face of the document, Froeberg is a United States patent issued on January 6, 2004 as Patent No. 6,674,849 from an application filed on July 28, 2000 as Application No. 09/627,547. I have been informed by counsel that Froeberg qualifies as prior art to the '024 patent based on Froeberg’s issuance date.

E. Smith (EX1023)

[0084] Smith is titled “Iconized Name List” and relates to “a directory with graphical icons representing characteristics of the entries for a communication device.” Smith, Abstract. According to the face of the document, Smith (EX1023)

is a United States patent issued on July 4, 2000 as Patent No. 6,084,951 from an application filed on April 23, 1997 as Application No. 08/842,036. I have been informed by counsel that Smith qualifies as prior art to the '024 patent based on both Smith's issue date and its filing date. *See also infra* §VIII.B.1 (additional discussion of Smith).

F. Degnbol (EX1035)

[0085] Degnbol is titled “A method and a system for transmitting data between units” and relates to “automatic notification of a user ‘A’ of the entry of pre-selected user ‘B’ into a pre-determined area (or proximity to a particular location).” Degnbol, 1:8-10. According to the face of the document, Degnbol (EX1035) is an international patent application published on April 20, 2000 as International Publication No. WO 00/22860 from an international patent application filed on October 12, 1999 as Application No. PCT/DK99/00548. I have been informed by counsel that Degnbol qualifies as prior art to the '024 patent based on Degnbol's publication date. *See also infra* §VIII.C.1 (additional discussion of Degnbol).

G. Wollrab (EX1014)

[0086] Wollrab is titled “Family calendar notification and tracking” and relates to “an electronic system and method for managing location, calendar, and event information.” Wollrab, Abstract. According to the face of the

document, Wollrab is a United States patent issued on July 19, 2005 as Patent No. 6,920,328 from an application filed on August 30, 2001 as Application No. 09/942,901. I have been informed by counsel that Wollrab qualifies as prior art to the '024 patent based on Wollrab's filing date. *See also infra* §VIII.C.2 (additional discussion of Wollrab).

H. Bechtolsheim (EX1075)

[0087] Bechtolsheim is titled “Method and system for providing walking instructions with route guidance in a navigation program” and relates to “improved navigation programming that provides information about walking to a final destination in combination with information about driving toward the final destination.” Bechtolsheim, 1:6-10. According to the face of the document, Bechtolsheim (EX1075) is a United States patent issued on March 27, 2001 as Patent No. 6,208,934 from an application filed on January 19, 1999 as Application No. 09/234,154. I have been informed by counsel that Bechtolsheim qualifies as prior art to the '024 patent based on Bechtolsheim's filing date. *See also infra* §VIII.C.5 (additional discussion of Bechtolsheim).

I. Boling (EX1074)

[0088] Boling is titled “Combination emergency phone and personal audio device” and relates to providing the location of a device that combines “a single-button emergency cellular telephone with a personal audio device.” Boling,

1:12-15, 4:34-39. According to the face of the document, Boling (EX1074) is a United States patent issued on September 4, 2001 as Patent No. 6,285,867 from an application filed on November 3, 1998 as Application No. 09/185,191. I have been informed by counsel that Boling qualifies as prior art to the '024 patent based on Boling's filing date. *See also infra* §VIII.C.4 (additional discussion of Boling).

J. De-Vries (EX1013)

[0089] De-Vries is titled "Place specific buddy list services" and relates to "communications and messaging systems and services, and more particularly to such systems and services to facilitate communication based on location and inter-relationships of people." De-Vries, 1:5-8. According to the face of the document, De-Vries is a United States patent issued on November 22, 2005 as Patent No. 6,968,179 from an application filed on July 27, 2000 as Application No. 09/626,170. I have been informed by counsel that De-Vries qualifies as prior art to the '0248 patent based on De-Vries's filing date. *See also infra* §VIII.E.1 (additional discussion of De-Vries).

K. Obradovich (EX1043)

[0090] Obradovich is titled "Personal communication and positioning system" and relates to "communicating and retrieving position and position related data." Obradovich, 1:16-17. According to the face of the document, Obradovich (EX1043) is a United States patent issued on October 17, 2000 as Patent No.

6,133,853 from an application filed on July 30, 1998 as Application No.

09/126,936. I have been informed by counsel that Obradovich qualifies as prior art to the '024 patent based on Obradovich's issuance date. *See also infra* §VIII.C.3 (additional discussion of Obradovich).

VIII. THE CHALLENGED CLAIMS ARE UNPATENTABLE IN LIGHT OF THE PRIOR ART

[0091] I have been asked to provide my opinion concerning whether claims 1-44 of the '024 patent would have been obvious to a POSA in light of the prior-art references discussed below. For the reasons explained below, it is my opinion that each of claims 1-44 would have been obvious to a POSA. The following table summarizes the Grounds I discuss in the sections below (independent claims have been indicated in **bold** in the table below):

Ground Number and Reference(s)		Claims	Basis
1	Sheha (EX1005), Froeberg (EX1051)	1 -8, 18, 20	Obviousness
2	Sheha, Smith (EX1023)	23, 24 -29, 39, 41, 44	Obviousness
3	Sheha, Froeberg, Smith, Degnbol (EX1035), Wollrab (EX1014), Obradovich (EX1043), Boling (EX1074), Bechtolsheim (EX1075)	9-17, 19, 21-22, 30-38, 40, 42-43	Obviousness
4	Randall (EX1007-EX1008), Froeberg	1 -8, 15, 18-20, 23	Obviousness
5	Randall	24 -29, 36, 39-41, 44	Obviousness
6	Randall, Froeberg, De-Vries (EX1013), Degnbol, Wollrab, Obradovich, Bechtolsheim	9-14, 16-17, 21-22, 30-35, 37-38, 42-43	Obviousness

A. Ground 1: Claims 1-8, 18, and 20 would have been obvious over Sheha (alone and with Froeberg)

[0092] As explained in this section below, in my opinion claims 1-8, 18 and 20 of the '024 patent would have been obvious over Sheha (EX1005) (with or without Froeberg (EX1051)).

1. Discussion of Sheha (EX1005)

[0093] Generally, Sheha teaches systems and methods to provide real-time location information (e.g., GPS co-ordinates, routing, maps) of a target user's device (e.g., landline, cell phone, PDA, etc.) to an authorized requesting user via conventional telecommunications systems (e.g., telephone network, mobile communications network, computer network, GPS, etc.). Sheha, Abstract, 1:35-45, 2:60-64, 10:66-11:9. Location information can be exchanged in response to a telephone call being made, but location information can also be shared without a call. Sheha, 11:55-58.

[0094] Sheha describes telephone devices – both landline and mobile devices, such as cellphones or PDAs – that share location information with other authorized landline and mobile devices to enable functionality such as mapping, routing, and direction finding. Sheha, 2:60-4:18, 10:66-11:9, 11:55-65. Sheha discloses that the mobile devices may determine their positions, such as by using an integrated GPS receiver or network-assisted position information, and may

provide their positions to an online database and application server (“ODAS”) which stores the positions remotely. Sheha, 10:5-16, 10:66-11:51, 7:19-23.

[0095] Sheha further discloses that a first user (that I refer to as a “target user”) may authorize other users and groups of users to receive the location of the first user’s device. Sheha, 11:51-12:7. For example, the mobile devices may specify groups of authorized users to the ODAS identifying who may obtain their respective location information. Sheha, 11:55-12:1.

[0096] Sheha describes that the remote server (ODAS) periodically updates the requesting user with the target user’s device location information based on the target user’s associated privacy settings and what Sheha describes as authorization and authentication protocols. Sheha, 11:49-12:7. Sheha describes that the location information may include a map illustrating the location of one or both of the target and requesting users’ mobile devices, route information, driving directions, and heading information that may be displayed to the requesting user. Sheha, 9:23-39.

[0097] For example, using Sheha’s system, a mobile device may request the location of a target mobile device through a phone call (what I call the mobile-to-mobile “call embodiment”) or “without having to initiate a telephone call” (what I call the “no-call embodiment”) by “only specifying a telephone number.” Sheha, 11:10-54, 11:55-58; *see also id.*, 12:1-7. If authorized, the

requesting device receives the position from the ODAS, including displaying a map illustrating the location of one or both mobile devices and navigational information. Sheha, 9:23-39. Figure 3 (which I have annotated below) illustrates an exemplary mobile-to-mobile system, showing connections between two mobile devices 18b-18c, such as cell phones or PDAs, and the ODAS, via a wireless network 22. Sheha, 10:66-11:35, FIG. 3.

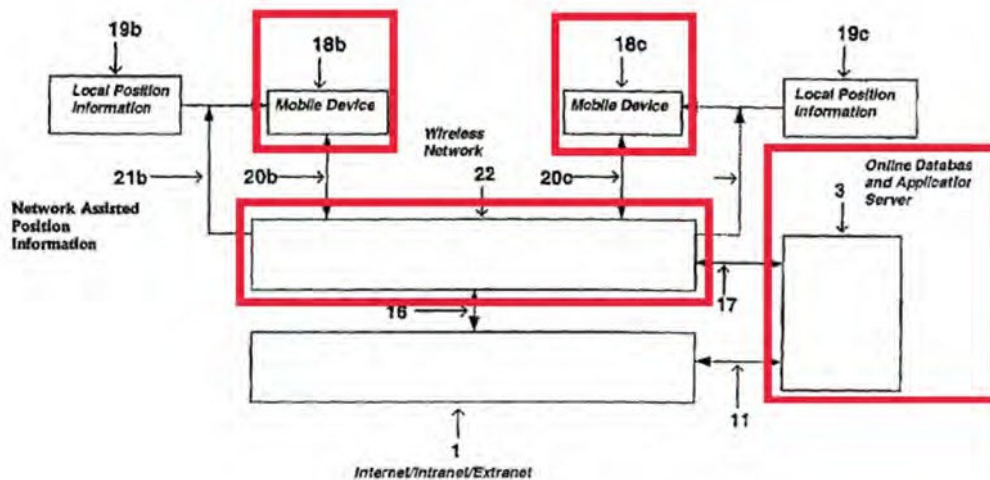


FIG. 3
Sheha, FIG. 3 (annotated)

[0098] Sheha's Figure 5 (below) illustrates a map displaying directions between the user's current location 34 and the target user's location 33, which can be displayed on mobile devices. Sheha, 4:52-58, 9:23-39.

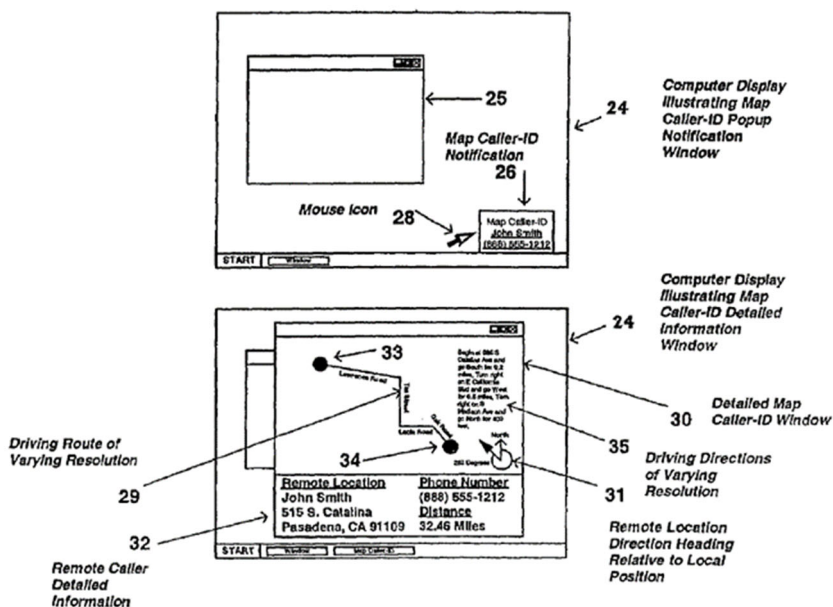


FIG. 5

Sheha, FIG. 5

2. Mapping of Sheha (alone and with Froeberg) to claims 1-8, 18, and 20

a. Claim 1

i. Preamble [1PRE]: A system comprising:

[0099] Claim 1's preamble simply recites "A system comprising." I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as the Sheha discloses the preamble. Sheha discloses a "**system** and method for providing real-time position information of one party to another party." Sheha, Abstract. Sheha further discloses **systems** enabling users of telephone devices (landline or wireless) to provide access

information, such as a username and password, to determine and share their own location with other telephone devices, and to request the locations of other telephone devices. Sheha, Abstract, 8:40-50. As I will discuss below, it is my opinion that Sheha (alone and in view of Froeberg) meets all the limitations of claim 1.

ii. Element [1A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:

[0100] Sheha's system includes an "online database and application *server* (ODAS)," which is a *remote system capable of communicating with* wireless telephones. Sheha, 7:20-23, FIGs. 1-3. For example, Figure 3 (annotated below) shows a mobile-to-mobile type of a configuration of the Sheha system: it includes two mobile devices (annotated red below), which are identified as mobile devices 18b and 18c (which may be *wireless telephones*), and Sheha's Online Database and Application Server, or the "ODAS" 3 (annotated blue below), which is *capable of communicating with* and located remotely from the mobile devices via a wireless network (annotated green below), labeled as wireless network 22, with which the mobile devices 18b-18c communicate via their respective wireless connections 20b-20c. Sheha, 4:43-46 ("mobile" device can be "*wireless telephone*"), 10:66-11:51 (describing communication in FIG. 3).

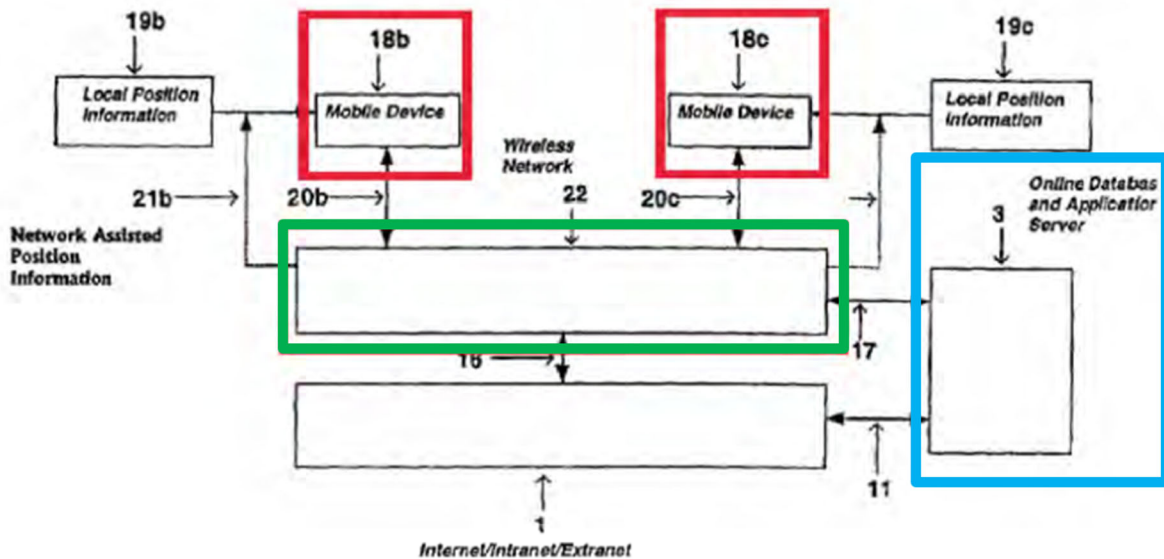


FIG. 3

Sheha, FIG. 3 (annotated)

[0101] Thus, it is my opinion that the Sheha meets Element [1A].

iii. Element [1B]: obtaining a location of a first wireless telephone;

[0102] Each Sheha mobile device's (*wireless telephone's*) *location* can be determined (*obtained*) by the device determining its own position and supplying it to the ODAS, where it is stored. Sheha, 10:5-16, 11:3-51, FIG. 3. Thus, Sheha's remote system (ODAS) *obtains a location of a first wireless telephone*.

[0103] Thus, it is my opinion that the Sheha meets Element [1B].

- iv. **Element [1C]: changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;**

[0104] Sheha discloses that each device may have privacy settings, including privacy configuration specifications stored at the server and changed *at the direction of the first wireless telephone*, that “allow the device to prevent or limit other calling devices from obtaining position information.” Sheha, 5:38-46, 11:63-12:7. Via these privacy settings—also called “permission settings” (Sheha, 5:3-20)—the *first wireless telephone* can specify “**allowance** of position information transfers...only with the device owner’s permission.” Sheha, 5:21-46, 4:59-66, 10:17-26. The *first wireless telephone*’s privacy/permissions settings information can include “a group database and authorization and authentication protocols” by which the device’s user “can define a group of specific users that have access to” the device’s location information. Sheha, 11:55-12:7, 4:59-5:20; *see also id.*, 13:65-14:2, 14:54-61, 19:9-13. The ODAS (*remote server*) uses this privacy information to determine whether the *first wireless telephone* has authorized a particular user to obtain its location information. Sheha, 3:22-28, 5:21-46, 8:42-53; *see also id.*, 3:4-14, 4:8-18, 9:59-10:4.

[0105] I understand from counsel that in a prior IPR involving the ’024 patent that Mullen argued that Sheha’s privacy settings are installed on, or

otherwise associated with, a device, and those settings filter requests for position information regardless of the identity of the requestor. However, I understand that Mullen did not make those arguments about the permissions specified in Sheha’s “group database,” but instead argued that the group database is only in a “landline” version of the “no telephone call” embodiment and is not used in a mobile-device embodiment, which Mullen treats as disparate embodiments. In my opinion, Mullen was incorrect.

[0106] Sheha does not describe the device-local privacy filters and requester-specific group database of permissions as features of mutually exclusive embodiments, but rather as complementary privacy/permission specification options available in any embodiment. For example, Sheha describes “utilizing a group database and authorization and authentication protocols to identify users that are permitted to access” position information in the context of having just discussed a “landline-to-landline position request” (11:55-12:1), and then expressly teaches another (mobile) embodiment in which “using the authorization and authentication protocols a user can request the position of a mobile device, similarly to requesting the position of [the] landline device” (12:4-7), as well as using “privacy settings” (12:1-4). POSAs would have understood, therefore, that complementary privacy/permission specification options all can coexist within an

embodiment.¹² This is further corroborated by Sheha’s claims, in which independent claim 47 recites “determining whether the first user is a member of the authorized user *group*” as part of “accessing *privacy* information” for the location of a “communication device,” while in dependent claim 53 the communication device can be a “mobile telephone.” Sheha, 18:65-19:46 (*see* 19:9-15, 19:44-45).

[0107] Sheha thus discloses and at minimum renders obvious that a mobile-to-mobile embodiment may employ both device-local privacy filters and a remote group database specifying which users are authorized for access. Sheha, 4:59-5:20, 11:55-12:7. When both are employed, POSAs would have understood that a requesting user is only given access to (provided) a *first wireless telephone’s* location if the requesting user has permission in the *first wireless telephone’s* group database and to the extent the *first wireless telephone’s* local privacy settings allow location sharing. Sheha, 4:59-5:20, 11:55-12:7. Sheha thus discloses that the mobile-to-mobile no-call embodiment can use the same “privacy settings” and

¹² Sheha variously and interchangeably refers to privacy/permission specification options as “privacy settings,” “permission settings,” “privacy configuration,” “position transfer permissions,” etc. Sheha, 4:35-42, 4:59-5:46 (discussing “privacy settings” interchangeably with “permission settings” as applicable to mobile or landline, call or no-call embodiments), 10:17-26, 10:44-11:9.

“authorization and authentication protocols...similarly to” the landline embodiments. Sheha, 12:4-7, 4:59-5:20. At minimum, Sheha’s various disclosures convey the capabilities of Sheha’s remote server.

[0108] Alternatively, even if Sheha did not explicitly disclose using the group database permissions in mobile-to-mobile embodiments, doing so would have been an obvious variation because allowing a mobile user to specify a group of one or more other mobile users who have permission to access the user’s location (or to provide access permission on an individual-user basis) was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s.

[0109] My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed below.

[0110] For example, Sandhu (EX1054) describes “[a] method and system whereby two mobile units can locate each other.” Sandhu, Abstract. A user who registers with Sandhu’s system “can access the location of all other users who are registered with the system.” Sandhu, 5:35-50. A user can also “limit the data exchange to a sub-group of users, such as friends, coworkers, and family” by “defining a distribution group in the user profile.” Sandhu, 5:35-50. Sandhu therefore corroborates that it was within a POSA’s background knowledge to use a

group database in a mobile embodiment and that a POSA would have had a reasonable expectation of success doing so in Sheha.

[0111] Sandhu also discloses sending an “announcement to all the users in the distribution group,” where the “announcement[] sent can contain a location stamp indicating the current location of the sender.” Sandhu, 7:23-41. Transmitting Sandhu’s announcements does not require initiating a phone call with any of the intended recipients. Thus, Sandhu also corroborates that it was within a POSA’s background knowledge to exchange location information between mobile devices without initiating a phone call and that a POSA would have had a reasonable expectation of success doing so in Sheha.

[0112] As another example Darling (EX1022) discloses “mobile devices” “storing the[ir] location information at [a] server” that “transmit[s] the stored location information [of a first user] to the second user.” Darling, 2:1-15. Darling further discloses that a user’s position “may be determined by GPS or by triangulation, by the user’s mobile telephone” and having a “server store[] permission information indicating whether the location information for the first user is available to the second user” based on “checking the permission information prior to the transmitting step. Each user may specify that location information is available only to specified users or groups or categories of users.” Darling, 2:47-3:5; *see also* Darling, 32:39-33:32 (disclosing “Location

Profile” information that includes defining “People who have access to My Location Details”).

[0113] By way of another example, Randall (EX1007) describes a user of a mobile device that can track the location of other mobile devices. Randall, Table 4, p. 24 (“People tracking” application, “New buddy finder” application, “Old buddy finder” application). Randall’s system allows a user to assign access rights to individuals or groups. Randall, [0070] (“Access rights can be associated with individual entities, and can also be associated with groups of entities.”). Randall describes using a database for storage of such access rights. Randall, [0052] (“In ADS, a user can also specify the remote database access rights given to different people or groups: an arbitrary group of entities may be stored as an attribute which gives access permissions to data in the database.”); *see also* Randall, [0136], [0144]-[0148]. Further, Randall describes that users sharing their location can occur outside of a phone call. Randall, Table 4, p. 24 (“People tracking” application in which a user tracks the location of a user by polling a server). Randall therefore also corroborates that it was within a POSA’s background knowledge to use a group database in a mobile embodiment and to exchange location information between mobile devices without initiating a phone call and that a POSA would have had a reasonable expectation of success doing so in Sheha.

[0114] Thus, in Sheha, the *first wireless telephone*’s “user[] can define a group of specific users...that are permitted to access” the *first wireless telephone*’s “position information” (Sheha, 11:63-12:7)—i.e., *a list of users that are allowed to access said location*. Each identified user in the group (*list*) can be *representative of one of a plurality of wireless telephones*, because Sheha references controlling access to position information by “users” and “calling devices” interchangeably, because Sheha describes “defin[ing] a group of specific users that have access to [position] information” in the context of “[a] **mobile** or landline device...request[ing] position information of another mobile or landline device.” Sheha, 5:38-46, 11:55-12:7. Defining such a list where *each user is representative of one of a plurality of wireless telephones* was also obvious as a well-known beneficial option with reasonable expectation of success as I discussed above, with the corroboration I discussed in the paragraphs above from Sandu (EX1054), Darling (EX1022), and Randall (EX1007).

[0115] In the ’024 patent, a “user profile” can be part of “a login feature,” in which the profile is an “identifier” that is “logged into” via a user’s “device[]” “[i]n order for [the] user[] to be identified.” EX1001, 9:53-65; Similarly, in Sheha’s system, “every telephone account user has a username and password for the ODAS” to identify “that a particular user is signed-on to the system on a particular device,” and the ODAS consults “users’ account

information” when servicing position sharing requests. Sheha, 8:38-53, 11:10-35. Thus, there is *a profile associated with* each user and their device (including the *first wireless telephone*) that the ODAS consults in determining what settings the user has specified regarding location sharing.

[0116] Sheha teaches embodiments where the “authorization and authentication protocols” which involve maintaining (and therefore *changing*, as I discuss below) the *list of users* in the “group database” (Sheha, 11:63-12:7) are implemented by the ODAS (*remote system*). See Sheha, 3:4-13 (“networked server system utilizing authentication and authorization procedures”), 4:8-18 (“online database and/or networked authentication and authorization connection server”), 7:22-23 (“online *database* and application server (ODAS)”), 8:42-53 (“ODAS 3 us[es] authentication and authorization protocols” to “verify the level of authority each user is granted” (as specified in the group database)), 9:61-10:4. Because the *first wireless telephone*’s “user[] can define a group of specific users that have access to” that user’s device’s position information (i.e., define authorized user(s)) as part of that user’s specified location-sharing settings (Sheha, 11:55-12:7), POSAs would have understood that this *list of users* is for the *profile associated with said first wireless telephone*.

[0117] Alternatively, implementing the *first wireless telephone*’s list of authorized users *for a profile associated with said first wireless telephone* and

managing and *changing* it by the *remote system* would have been obvious because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha's.

[0118] My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0119] Sandhu (EX1054) describes a user setting up a user profile in a service provider (Sandhu, 5:9-34, 5:66-6:21), to limit location data access to a sub-group of users by "defining a distribution group in the user profile." Sandhu, 5:35-51, *see also* 5:52-65. Sandhu describes that the "[s]ervice provider 8 may be a computer or a server linked to data network 4." Sandhu, 6:22-50, 6:44-62 ("user profile database" may be stored in various formats).

[0120] Randall (EX1007) describes interactions between mobile devices and a database at a server. Randall, [0029]-[0030] ("An application resident on the device queries and receives data from the remote, extensible database."). Randall also describes that a database hosted by a server can be used for determining whether a requesting user has access rights. Randall, [0046] ("internet servers hosting extensible databases"), [0047] ("[t]he database can define which entities can read different fields; Alice can therefore give Bob rights to read only certain fields in her database."), [0052] ("[t]he ADS system includes additional access control mechanisms, such as checking the identity of the calling

device at the server”). Randall discloses that the “ADS System [] includes an entire contacts database, referred to as a ‘Universe,’” which “is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]; *see also* Randall, [0512]. For example, if Alice has an i-Group “business 1,” “someone in the business 1 group might see the Table 3 information in their contacts application,” which shows information about Alice that is available to contacts in “business 1.” Randall, [0512]-[0513]. “The user interface” of a wireless device will include some way to indicate “the freshness of the data (whether it has recently been updated from the i-Server).” Randall, [0514]. A POSA would understand that other users would have their own group database designated in their own “Universe” that is utilized from Randall’s i-Server.

[0121] Friedman (EX1015) describes a server monitoring a location of a user. Friedman, 12:60-13:21. Friedman also describes that a user can store their access right preferences (e.g., who can access their location) on the server. Friedman, 13:10-21 (“User A’s preferences with respect to location tracking may be stored in User A’s configuration profile 1012 on the portal server 110...”).

[0122] Darling (EX1022) discloses that “[p]referably the server stores permission information indicating whether the location information for the first user is available to the second user.” Darling, 3:1-5.

[0123] Because Sheha discloses that a wireless telephone user can “define” a list of users who are allowed to access their location and can “choose not to reveal its local position to the destination remote mobile device for privacy purposes at anytime and can conversely enable position transfer permissions at anytime,” POSAs would have understood that the list may be changed *at the direction of said first wireless telephone*. Sheha, 5:9-20; 11:63-12:7. A POSA would understand that the nature of a database to facilitate changes to data relationships, and such that the defined groups in Sheha are capable of being changed. And Sheha’s disclosures demonstrate that a user can use their telephone to change settings for the system. *See* Sheha, 5:11-14.

[0124] Alternatively, it would have been obvious to provide functionality allowing for *changing* the list of users *at the direction of said first wireless telephone*, because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s, and it would have been apparent to POSAs from Sheha’s above teachings and POSAs’ background knowledge that users commonly desire and expect the ability to change who can access their location rather than being limited to the same list forever. My

testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed below.

[0125] Randall (EX1007) describes allowing a user to control access to their location. Randall, [0509] (“[S]ensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see.”). Randall describes a “method[] of making contacts into members of a particular i-Group” in which, “whenever Alice wishes to, she can change the level of access of a current contact—perhaps promoting Bob from ‘business’ to ‘friend.’” Randall, [0509]. This means Alice is adding Bob to the list of users who have access to her location (e.g., if the “business” list of users does not have access and the “friends” list do have access, such that moving Bob from “business” to “friends” adds Bob to the list of users that have access to Alice’s location). Additionally, “Alice’s device will report this to the server,” which teaches that Alice’s change with respect to Bob’s promotion from “business” to “friends” is made at the direction of Alice’s telephone (i.e., *at the direction of a first wireless telephone*) to the i-server. Randall, [0509]; *see also* Randall, [0060] (“[I]f Alice updates her contact information on her device, that device informs Alice’s server”), [0495] (“Alice’s phone”). Randall therefore corroborates that it was within a POSA’s background knowledge to change a list of users who have access to a user’s location *at the*

direction of said first wireless telephone and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha's.

[0126] Degnbol (EX1035) discloses a system for transmitting data between wireless communication units and determining "the position of one or more units" using conventional positioning techniques, "such as triangulation methods, GPS," etc. Degnbol, 5:7-11. Degnbol teaches that a user's "location and/or movements" can be shared with other user(s) of the user's "Buddy List." Degnbol, 9:32-33. "The Buddy List may be altered by the user at will, adding or deleting buddies and setting various preferences. This can be done in several ways; e.g. directly from the handset of the user[']s cellular phone, using a web-based interface, or by calling an operator at a call-center." Degnbol, 9:34-10:3; *see also* 11:16-26 (describing a user John adding Jane to his Buddy List). Degnbol therefore corroborates that it was within a POSA's background knowledge to change a list of users (add and/or delete users) who have access to a user's location *at the direction of said first wireless telephone* and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha's.

[0127] Robertson (EX1044) describes a "network-computer-based personal contact manage system...wherein users of networked clients maintain and update a set of user information which is stored in a relational database on a

networked server.” Robertson, Abstract. As shown in Robertson’s FIG. 9 (excerpted below), Robertson provides for a “pseudo GUI 600” that “allow[s] a first user” to “specif[y] a second user whom the first user would like to **add** to his personal address book” and “specify permissions” for the second user. Robertson, 8:11-16, 8:25-27. Robertson describes that the pseudo GUI 600 can be displayed on “computer 370” (Robertson, 6:45) or on a mobile device (“the client is a personal information manager (PIM), such as the U.S. Robotics Palm Pilot”). Robertson, 4:56-58. Robertson therefore corroborates that it was within a POSA’s background knowledge to change a list of users who have access to a user’s location *at the direction of said first wireless telephone* and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

PSEUDO PERMISSION FORM

600-2
Click on the boxes next to the Permission Levels that you would like to grant to your new contact

600-4
John Doe

600-7 ☒ *600-6* Crossing Paths Notification Permission

600-9 ☐ *600-8* Personal Information

☒ *600-10* Work Information

☒ *600-12* Birthday Notification

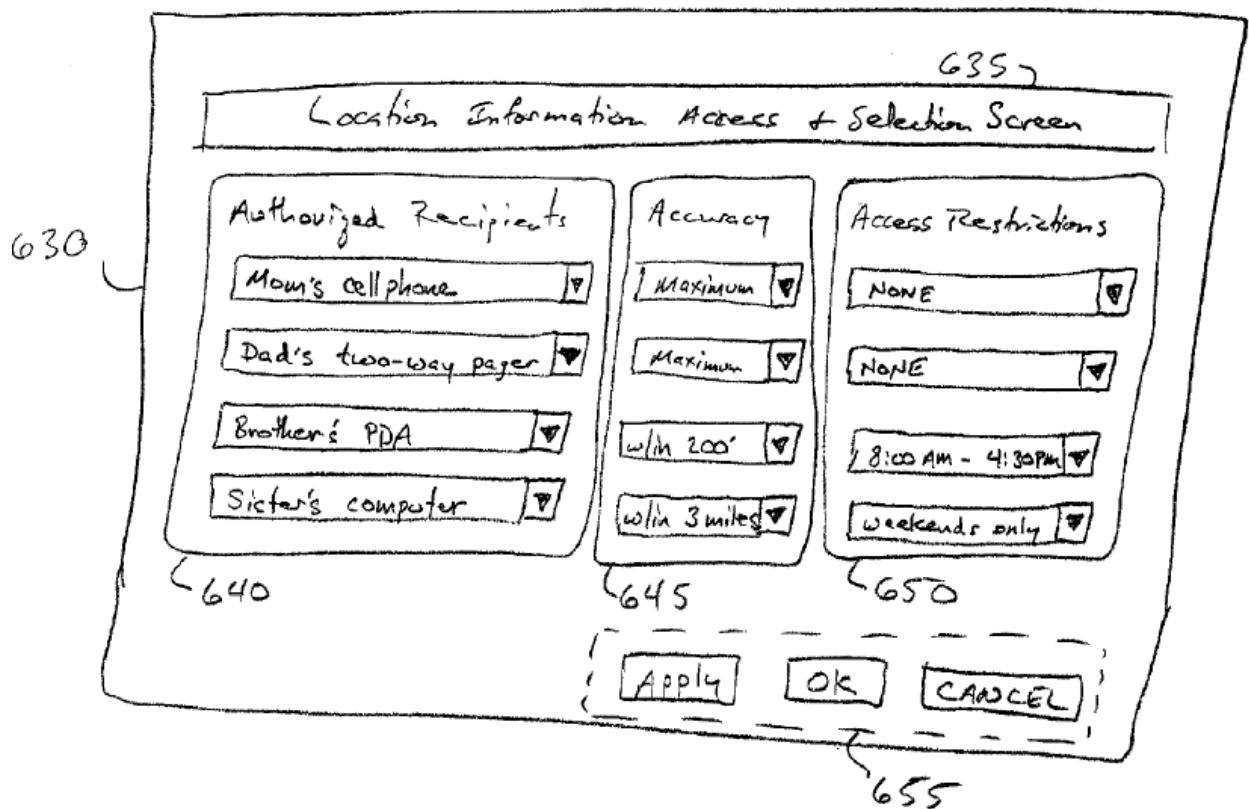
☒ *600-14* Friend of Friends Information

600-16

Robertson, FIG. 9 (excerpt)

[0128] Menard (EX1045) describes “[m]anagement of location information communicated using wireless devices and communication networks.” Menard, Abstract. Menard’s system includes “networked communications” between devices, which can be mobile devices. Menard, [0045] (“system 10 including...first device 100”), [0046] (“mobile device 100A”). Menard describes generating a screen using software executing on a computer in which “[f]ields within portion 640 allow user selection of authorized

recipients of the location information for the...mobile device” and “[f]ields within portion 650 allow...specify[ing] restrictions on access to the location information.” Menard, [0067]; *see also* Menard, [0068] (“[T]he location of mobile device 100 is only released with authorization of the user of mobile device 100. Authorization may be granted implicitly in a request or directly.”). Thus, Menard teaches adding or removing authorized persons (e.g., “Mom’s cell phone”, “Dad’s two-way pager”, “Brother’s PDA”, “Sister’s computer” as shown in FIG. 10 (excerpted below)) from accessing the user’s location information. Menard therefore corroborates that it was within a POSA’s background knowledge to change a list of users who have access to a user’s location *at the direction of* a device (i.e., *said first wireless telephone*) and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.



Menard, FIG. 10 (excerpt)

[0129] Lee (EX1046) describes “[t]echniques for securing electronic data” (Lee, Abstract), which can be effectuated using “an exemplary graphic user interface (GUI) 275 that can be used to establish or create access rules.” Lee, 16:1-25, FIG. 2D (copied below). “In some cases, the access rules may be extensible by a user with appropriate access privilege” (Lee, 7:48-49) and the user may use a “[c]lient device, computer, or machine.” Lee, 7:50-52. Lee describes that the GUI 275 “include[s] users who may have the need to access the data in that designated place.” Lee, 16:8-12. “As shown in FIG. 2D, a selected group of users can be selected to **add** into an access list 276” (Lee, 16:13-15) and the “[a]ctions 277 can

be set using the GUI 275.” Lee, 16:16-17. Lee therefore corroborates that it was within a POSA’s background knowledge to change a list of users who have access to data *at the direction of* a device (i.e., *said first wireless telephone*) and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

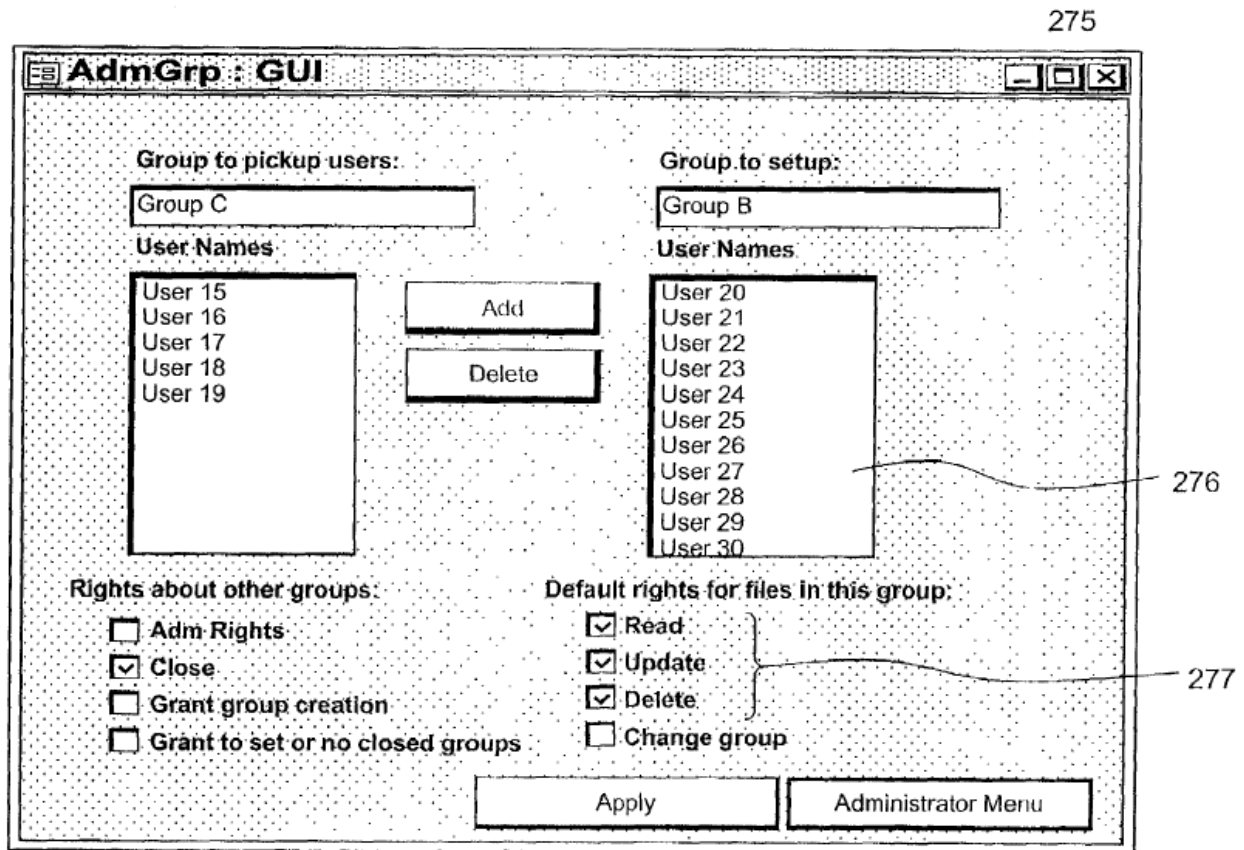


Fig. 2D

Lee, FIG. 2D

[0130] Darling (EX1022) discloses functionality for a mobile device where “[e]ach user may specify that location information is available only to specified users or groups or categories of users.” Darling, 3:3-5, 22:23-40

(“‘People who have access to My Personal Details’, List of individuals who have access to the Personal Details”), 23:3-13 (“Full list of Contacts who have access to other profiles”; “‘Add’ Button. Where a ‘Named User’...will be added into the ‘People who have access to My Personal Details’”), 33:16-32 (“‘People who have access to My Location Details’, List of individuals who have access to the Location Details”), 33:4-34:3 (describing “Add” and “Remove” buttons to add/remove from the list of people who have access to the user’s location and a “Counter of the number of people...who have allowed you to access one or more of their profiles” and “‘People who have access to My Personal Details’ ... granting them access to the user’s person details”).

[0131] Thus, it is my opinion that Sheha meets Element [1C].

v. Element [1D]: transmitting said location to at least one of said users of said list of users over said communications network;

[0132] Sheha discloses that “[w]hen a mobile device’s position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user’s device.” Sheha, 12:1-7; *see also id.*, 4:59-5:46. In Sheha, “the **wireless network** [*communications network*] sends [*transmits*] the position information [*said location*], obtained from the ODAS [*remote system*],” which “periodically updates each mobile device with the other’s position information.” Sheha, 11:36-51. Therefore, Sheha discloses the

ODAS *transmitting said location* to the requesting user *over said communications network* if that requesting user is among *said list of users* that are authorized users allowed to access the *first wireless telephone's* location, as I discussed above (§VIII.A.2.a.iv, Element [1C]).

[0133] Thus, it is my opinion that Sheha meets Element [1D].

vi. Element [1E]: determining a second location associated with one of said plurality of wireless telephones; and

[0134] As I discussed above (§VIII.A.2.a.iii, Element [1B]), in Sheha's system, two *wireless telephones* (e.g., mobile devices 18b-18c) can share their locations with each other via the ODAS. Sheha, 4:13-18, FIG. 3, 10:66-11:54; *see* 11:20-23 ("The ODAS 3 receives both...users' account information, and position information for both mobile devices"), 11:49-50 ("The ODAS 3 periodically updates each mobile device with the other's position information"). Thus, the ODAS determines *a second location* (e.g., of device 18c) in addition to the *location of a first wireless telephone* (e.g., 18b). As I discussed above (§VIII.A.2.a.iv, Element [1C]), where a *first wireless telephone's* (e.g., 18b's) user has "define[d] a group" of specific authorized users that have access to this information (Sheha, 11:63-12:7), this two-way location sharing will occur only if device 18c's user is one of the specified users in that group—i.e., 18c is *one of said*

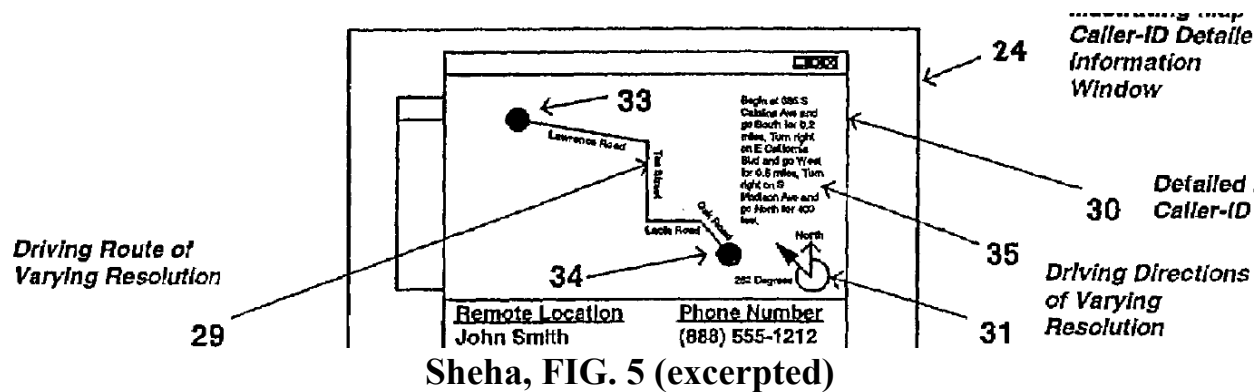
plurality of wireless telephones. Thus, Sheha's remote system determines a second location associated with one of said plurality of wireless telephones.

[0135] Thus, it is my opinion that Sheha meets Element [1E].

vii. Element [1F]: providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location.

[0136] Sheha discloses using a remote mobile device's location "to obtain driving *directions* to that device," such that if both wireless telephones grant access to their respective position information, this "can be used for real-time driving directions or collaboration purposes." Sheha, 5:21-34. "The ODAS 3 periodically updates each mobile device with the other's position information, thus *providing* real-time driving *directions* and route information." Sheha, 11:49-51. Sheha thus teaches the remote system *providing directional information* that is *representative of directions between* the two devices' locations *to said one of said plurality of wireless telephones.*

[0137] This functionality is illustrated in Sheha's FIG. 5 (annotated below), which shows a "Map Caller-ID" screen with *directional information representative of directions* ("driving route 29" and "driving directions 35") between *said second location* (location 34 of the device displaying the map) and *said location* (location 33 of the *first wireless telephone*). Sheha, 9:23-34.



[0138] POSAs would understand “*directional information*” is a broad term. The ’024 patent proposes many possible examples of “directional information”—one is “a map” of “the requested, the requesting user’s location or both;” another is simply information allowing display of an “arrow...to indicate where the requested user’s location is relative to” the requesting user’s location. EX1001, 8:6-21, 7:57-61. Thus, POSAs would have understood the position information Sheha’s ODAS provides to be *directional information*.

[0139] I understand from counsel that in a prior IPR concerning the related U.S. Patent No. 8,374,575 that Mullen proposed construing “*directions*” as “instructions indicating how to navigate from one location to another location.” Sheha’s “driving directions and route information” that “[t]he ODAS...provid[es]” (Sheha, 11:49-51, FIG. 5) meet that construction.

[0140] Element [1F] only requires “*providing directional information*” to the wireless telephone, not sending directions to the wireless telephone. Rather than reciting that the provided “*directional information*” is or includes directions,

[1F] was deliberately phrased more broadly to only require the “*directional information*” to be “*representative of directions*.” The ’024 patent’s specification never uses the phrase “representative of,” and thus sets forth no description limiting how provided “*directional information*” can be “*representative of directions*.” The ’024 patent’s specification also contains no limiting definition of the word “*providing*.” Sheha teaches that by updating “each mobile device with the other’s position information,” the ODAS is “thus ***providing*** real-time driving ***directions*** and route information.” Sheha, 11:49-51. POSAs would have understood that by providing position information to the wireless telephone for the express purpose of generating directions to that position, Sheha’s ODAS is “*providing directional information...representative of directions*.” Sheha, 11:49-51.

[0141] Alternatively, generating *directions* between the two mobile devices’ locations at the ODAS and transmitting the *directions* from the ODAS to one or both mobile devices would have been an obvious implementation of Sheha’s system to, e.g., reduce storage and/or processing requirements at the mobile device, in view of POSAs’ background knowledge (discussed below) of the well-known design choice and reasonable expectation of success to do so.

[0142] For example, Froeberg (EX1051), like Sheha, relates to “a cellular telephone providing a map and driving directions for a remote location

associated with a remote telephone number.” Froeberg, 1:6-10; *see also* Froeberg, Abstract (similar), 1:40-65 (similar). Like Sheha’s mobile devices, Froeberg’s “user telephone 12 may include a geodetic location device 26, such as a global positioning system (GPS) receiver,” that “provides the local location as a geodetic location such as latitude and longitude.” Froeberg, 3:46-52; *see also* Froeberg, 3:30-4:3 (describing the server converting “the remote telephone number to an associated remote street address” and “geocod[ing] the remote street address to a remote street network segment.”). Froeberg teaches that in such a system (like Sheha’s), “the server” can “reverse geocode[] the geodetic location to a local street network address segment,” “create[] a route and driving directions between the local street network segment” (i.e., the user telephone’s location) “and the remote street network segment” (i.e., the remote telephone’s location), and “transmit[] the driving directions...to the user telephone” to “display[] the driving directions to the user of the user telephone.” Froeberg, 4:4-26. POSAs would have been motivated to implement Sheha’s ODAS to generate the claimed *directions* for transmission to one or both mobile devices in view of, e.g., Froeberg’s teachings that doing so allows storage and/or processing requirements for generating *directions* to be implemented server-side, thus reducing such requirements locally at the mobile device. Froeberg teaches to implement driving directions functionality via a server-side “reverse street segment geocoder” with “a database of geodetic

coordinates and street network segments” and a server-side “route generator” (Froeberg, FIG. 5, 7:5-22), that then need not be implemented locally at the user telephone (Froeberg, FIG. 4, 4:27-6:20). Instead, the “user telephone” only needs to implement functionality to “decode[] the driving directions object [from the server] into driving directions” and “display[] the driving directions.” Froeberg, 4:23-26. POSAs would have reasonably expected success because Froeberg teaches how this may be successfully implemented in a system like Sheha’s with a server serving client wireless telephones.

[0143] Froeberg further discloses that the user telephone can be “a cellular telephone” with a display and an “object decoder.” Froeberg, 5:6-19, FIG. 4. The object decoder “decodes a software object received...from the server,” which “can be a map object [e.g., an HTML or WML document] having information for a map area about the remote location or a driving directions object having” “driving directions to the remote location.” Froeberg, 5:19-27. The received documents “include map data and display semantics,” for which the “object decoder” includes program code for “rendering” the data. Froeberg, 5:28-39. The device can also receive a “Java class map object [that] includes both map data and program code” that “enables [the] user to interact with the map, for example to click on a street, zoom in, zoom out, and enable/disable display of various street classes, labels, and points of interest” and to “display[] the location

of the user telephone [] on the map.” Froeberg, 5:40-54. The Java object decoder can also “cache[] enough map data to show location continuously as the user telephone [] moves on the map within a local area without further map data from the server.” Froeberg, 5:55-59. “In the case of a map object,” the telephone’s display provides “a visual presentation of the map area with an indication of the position of the remote location” and “[i]n the case of the driving directions the display []” provides “a list of instructions on the visual display or through the speaker or issues highlighted lines and directions on the visual display.” Froeberg, 6:15-20.

[0144] POSAs would have been motivated and reasonably expected success from these teachings to implement Sheha’s ODAS to generate the claimed directions for transmission to one or both mobile devices to, e.g., reduce storage and/or processing requirements at the mobile device. I refer to the resulting combination as Sheha-Froeberg.

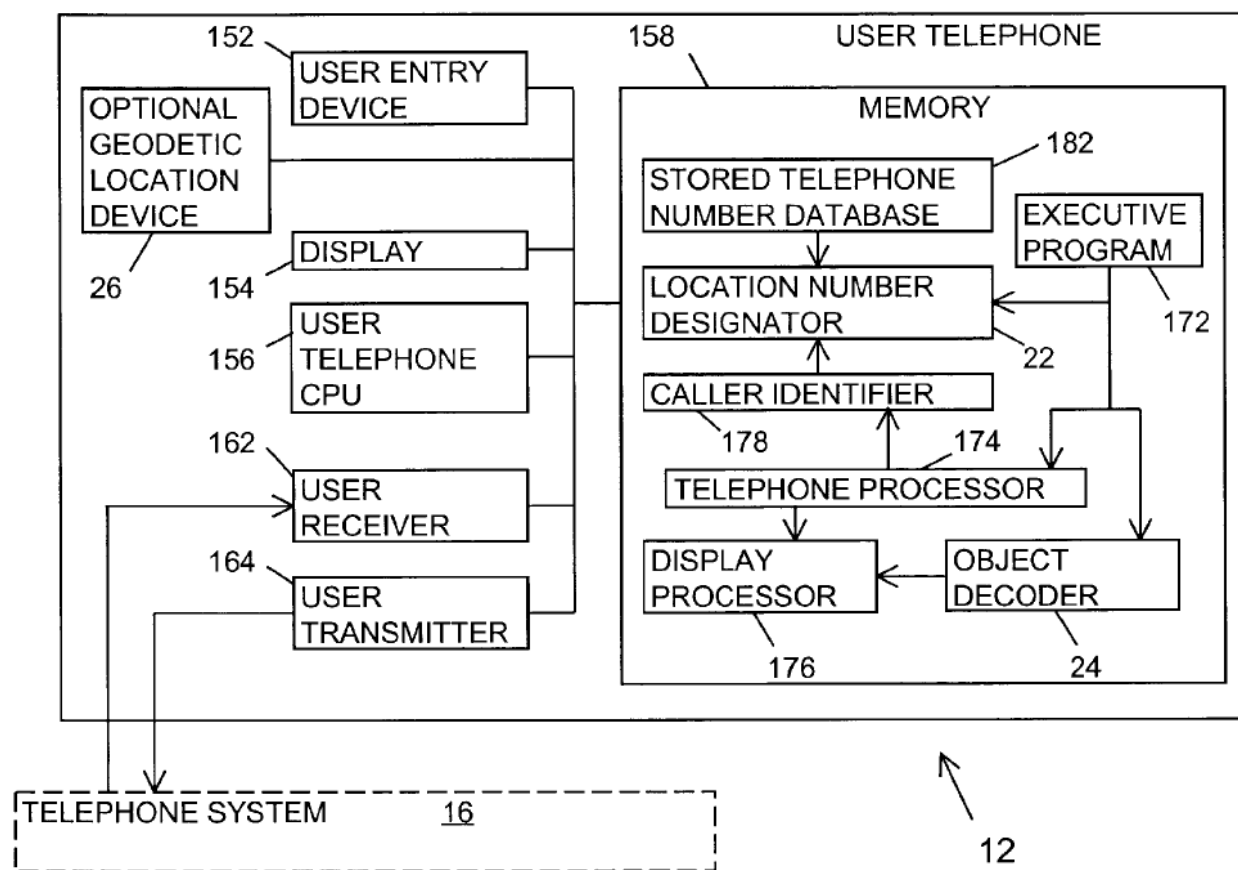


Fig. 4
Froeberg, FIG. 4

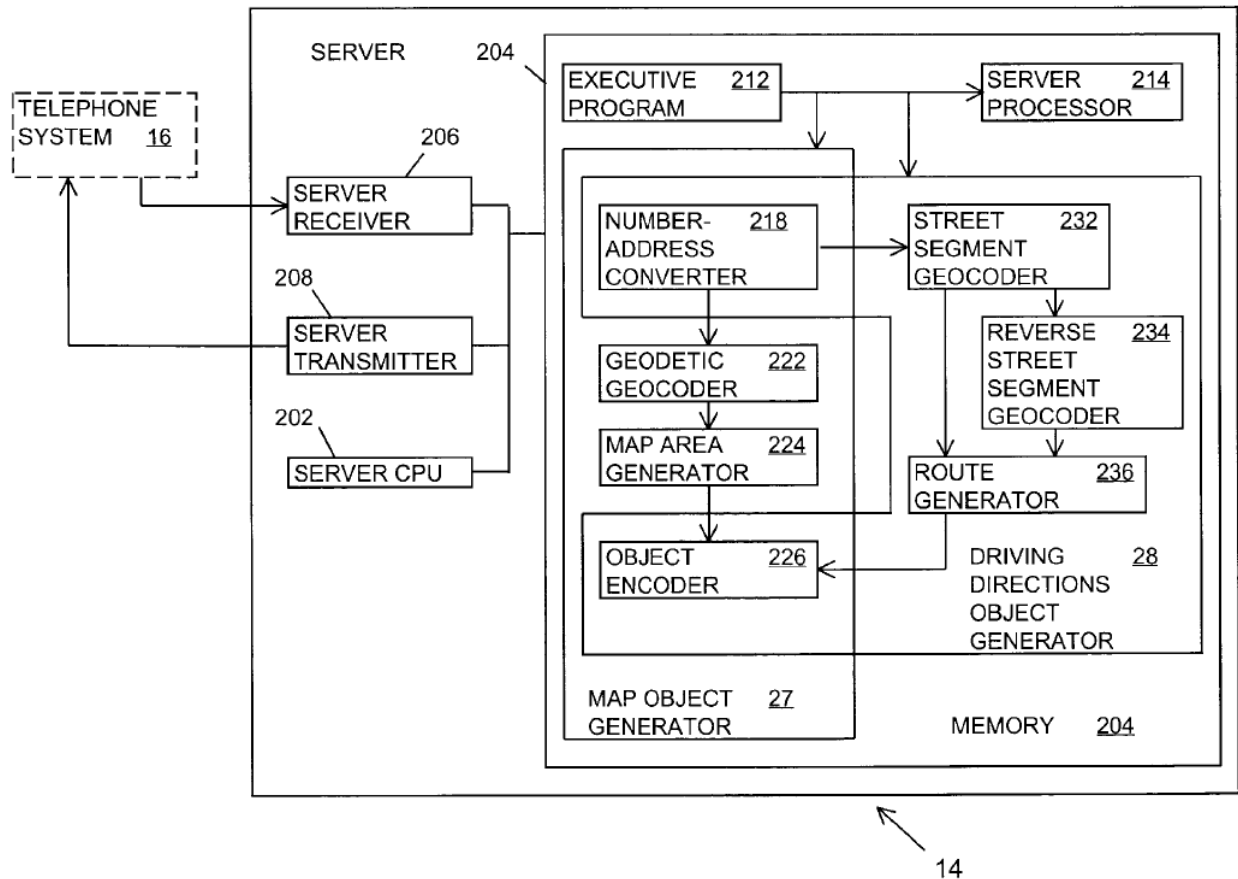


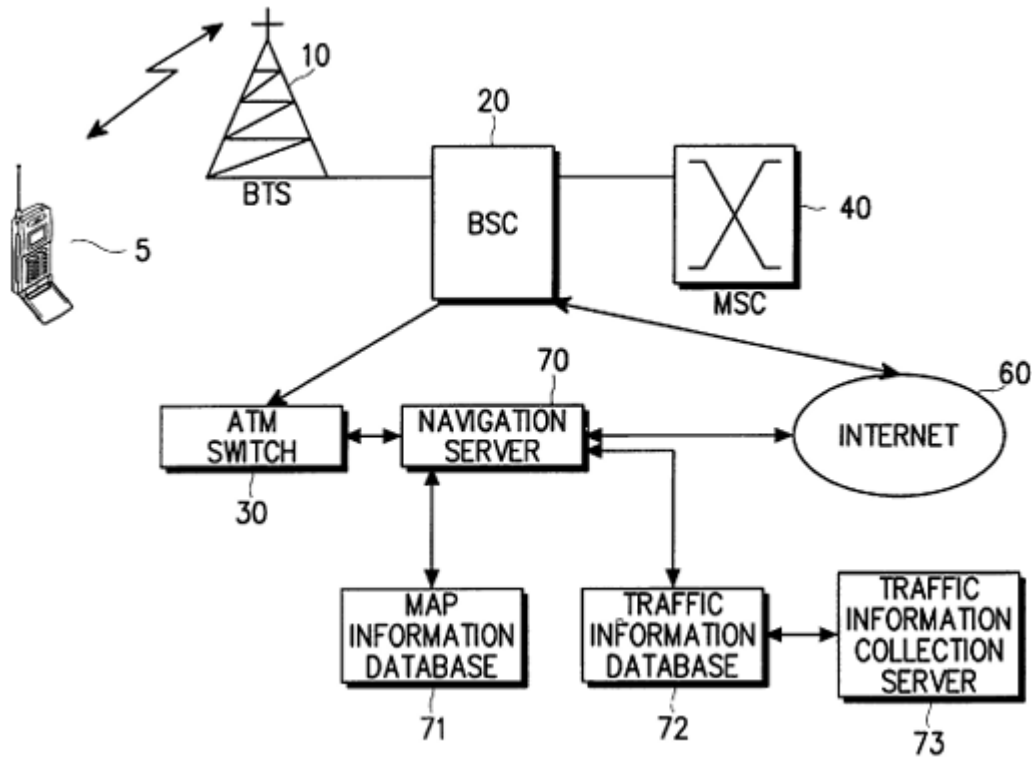
Fig. 5

Froeberg, FIG. 5

[0145] My testimony regarding POSAs' background knowledge of the well-known design choice and reasonable expectation of success in generating the *directions* between the two mobile devices' locations at the ODAS (server) and transmitting the *directions* from the ODAS to one or both mobile devices is further corroborated by several references, as discussed below.

[0146] Chun (EX1055) describes "a vehicle navigation system or network, and a vehicle navigation apparatus in a mobile telecommunication system, which provides accurate information about road conditions along a

traveling route.” Chun, 2:3-7. Chun describes “[w]hen the vehicle navigation service is requested from an [asynchronous transfer mode] switch, the navigation server receives information about the current location and destination of a vehicle, road condition information, [and] map information and transmits route information to the navigation apparatus.” Chun, 2:28-34; *see also* 4:30-51 (“When a navigation service is requested by mobile phone 5...the navigation server 70 updates the route information and provides traffic information to mobile phone 5.”), FIG. 4 (excerpted below). It would have been obvious to POSAs that a destination of a vehicle, which includes a user’s mobile device, could be another mobile device at a different location from the vehicle. Chun further describes “[t]he navigation server 70 determines the shortest route based on information about the current vehicle location, the destination received from the user, the map data and road condition data” and “the navigation server 70 transmits the route information together with the map data to the mobile terminal.” Chun, 7:40-8:4. ` therefore corroborates that it was within a POSA’s background knowledge to generate *directions* between two mobile devices’ locations at a server and transmit the *directions* from the server to one or both mobile devices and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.



Chun, FIG. 4 (excerpted)

[0147] Stewart (EX1056) describes a “portable telephone” that includes a “position locator” to “determine the location of the portable telephone”. Stewart, Abstract. Stewart describes that the portable telephone forwards its location to the “centralized base station 17” (Stewart, 7:43-52) and the centralized base station 17 can “use the location information and map database 24 to determine a street address.” Stewart, 8:20-23. The centralized base station can use “the geographic location of portable telephone 28 and the previously determined geographic location of calling first telephone 10...to calculate the distance between called portable telephone 28 and calling first telephone 10” and the distance can be “based on the shortest road route using map database

24.” Stewart, 8:12-32. “Any or all of these items of information can be forwarded...to the calling first telephone 10.” Stewart, 8:32-37. POSAS would have understood that “[a]ny or all of these items of information” would include location information, such as a street address and distance to or from the street address using a map database (i.e., *directions*). POSAs would have understood that the street address of a destination could be a location of another portable telephone. Stewart therefore corroborates that it was within a POSA’s background knowledge to generate *directions* between two mobile devices’ locations at a server and transmit the *directions* from the server to one or both mobile devices and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

[0148] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Element [1F].

b. Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.

[0149] As I discussed above (§VIII.A.2.a.iv, Element [1C]), it would have been immediately apparent to POSAs that “defin[ing] a group of specific users that have access to” the user’s location (Sheha, 11:63-12:7) includes adding users to the group list, and that one way to “enable position transfer permissions at

anytime” (Sheha, 5:9-20) for another user is by *adding* that *user to said list of users* in the group who have access to the position information.

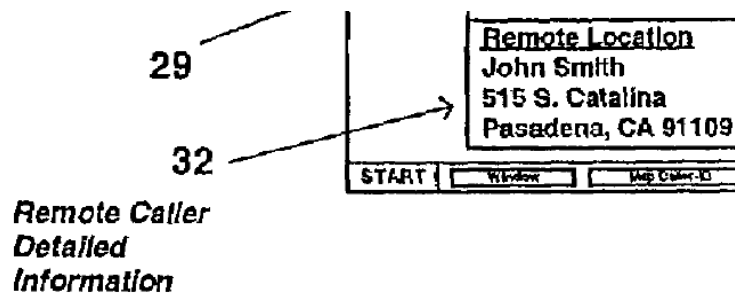
[0150] Alternatively, as I also discussed above (§VIII.A.2.iv, Element [1C]), it would have been obvious in view of POSAs’ background knowledge to provide functionality allowing for *changing* the list of users. It would have been obvious to allow such *changing* to include *adding an additional user* because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. As I discussed above (§VIII.A.2.a.iv, Element [1C]), my opinion in that regard is corroborated by the several prior art references that I discussed above. *See* § VIII.A.2.a.iv (Element [1C]) (where I cite corroborating evidence in support of my opinion, such as EX1007 (“Randall”), [0509]; EX1022 (“Darling”), 23:3-13, 33:43-34:3; EX1035 (“Degnbol”), 9:34-10:3, 11:16-26; EX1044 (“Robertson”), FIG. 9, 8:11-14; EX1046 (“Lee”), FIG. 2D, 16:1-25)).

[0151] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 2.

- c. **Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.**

[0152] As I discussed above (§VIII.A.2.a.vii, Element [1F]), Sheha discloses displaying a Map Caller-ID as in Figure 5 (excerpted below), which

includes directional information *transmitted* to a mobile device. The Map Caller-ID “may include local **address** position information.” Sheha, 7:27-31; *see also id.*, 2:43-48, 11:34-36, 14:42-46 (claim 7: “caller position information includes...address information”). Map Caller-ID information is *transmitted* by the ODAS to the requesting mobile-device user. Sheha, 11:44-51. Sheha’s Figure 5 (which is excerpted below) illustrates *the address of said location* having been *transmitted to* and being displayed to *said at least one of said users of said list of users*.



Sheha, FIG. 5 (excerpted)

[0153] In my opinion, POSAs would have found that *transmitting the address* of a mobile device’s *location* from the server to another mobile device was also obvious as a well-known beneficial option with reasonable expectation of success in a system like Sheha’s.

[0154] Froeberg (EX1051) describes “providing...driving directions to a user of a user telephone for a remote location associated with a remote telephone number.” Froeberg, Abstract; *see also* 1:40-65 (similar). Froeberg describes the user telephone can be a “cellular telephone” (Froeberg, 2:29-33) and that the

“server 14 transmits the driving directions object through the telephone system 16 to the user telephone 12.” Froeberg, 4:21-26; *see also* Froeberg, 3:30-4:20, 7:5-46 (describing the server converting “location-determination information” from the user telephone 12 into driving directions that can be transmitted from the server to the user telephone 12). Froeberg describes that the “user telephone 12 decodes the driving directions object into driving directions” and “displays the driving directions to the user of the user telephone 12.” Froeberg, 4:23-26. POSAs would have understood that the driving directions transmitted from the server to the user telephone would have included an address such that the user telephone can display driving directions to a destination (i.e., an address). Froeberg therefore corroborates that it was within a POSA’s background knowledge to *transmit the address* of a mobile device’s location from a server to another mobile device and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

[0155] My testimony regarding POSAs’ background knowledge in this regard is further corroborated by several additional references, as discussed below.

[0156] Stewart (EX1056) describes a “portable telephone” that includes a “position locator” to “determine the location of the portable telephone.” Stewart, Abstract. Stewart describes that the portable telephone forwards its location to the “centralized base station 17” (Stewart, 7:43-52) and the

centralized base station 17 can “use the location information and map database 24 to determine a street address.” Stewart, 8:20-23. The centralized base station can use “the geographic location of portable telephone 28 and the previously determined geographic location of calling first telephone 10...to calculate the distance between called portable telephone 28 and calling first telephone 10” and the distance can be “based on the shortest road route using map database 24.” Stewart, 8:12-32. “Any or all of these items of information can be forwarded...to the calling first telephone 10.” Stewart, 8:32-37. POSAs would have understood that “[a]ny or all of these items of information” would include location information, such as a street address and distance to or from the street address using a map database (i.e., *directions*). POSAs would have understood that the street address of a destination could be a location of another portable telephone. Stewart therefore corroborates that it was within a POSA’s background knowledge to *transmit the address* of a mobile device’s location from a server to another mobile device and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s / Sheha-Froeberg’s.

[0157] Sandhu (EX1054) describes a mobile unit (Sandhu, 4:18) that derives location data from GPS code sequences and “convert[s] the location data (e.g., latitude, longitude, and maybe altitude) into [a] street address.” Sandhu, 4:34-39. Sandhu describes “sending the location data [(i.e., a street address)] to

service provider 8.” Sandhu, 4:40-5:8. Sandhu describes the service provider “retriev[ing] the current location of the target user from [a] location database and transmit[ting] it to the sender in a response package.” Sandhu, 7:42-67; *see also* Sandhu, 6:22-43. POSAs would have understood that the “current location of the target user” could include an address of the target user since the mobile unit (i.e., the mobile unit of the target user) transmits location data, such as a street address, to the service provider and the service provider sends the location data it receives from the mobile unit to another mobile unit (i.e., the mobile unit of a requesting user). Sandhu therefore corroborates that it was within a POSA’s background knowledge to *transmit the address* of a mobile device’s location from a server to another mobile device and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s / Sheha-Froeberg’s.

[0158] In another example, Chern-005 (EX1057) describes “a method for presenting the current street address of a wireless communications device on a display of the device.” Chern-005, 3:7-9. Chern-005 describes that “[t]he current latitude and longitude of the device is acquired and sent to a Web server. The Web server reverse geocodes the latitude and longitude to generate the street address of the device, and sends the street address from the server to the device for display.” Chern-005, 3:10-14. Chern-005 therefore corroborates that it was within a POSA’s background knowledge to *transmit the address* of a mobile device’s

location from a server to a mobile device (i.e., the mobile device that transmitted the address, a different mobile device) and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha's / Sheha-Froeberg's.

[0159] In yet another example, Meadows (EX1018) describes “monitoring the geographical location of a subscriber’s mobile cellular telephone, and for providing the location information to an authorized user through the world wide web.” Meadows, Abstract. Meadows describes a “network-based location system” that translates a “code” into an “address, which may include information such as a street name, street intersection, county, or township.” Meadows, 4:61-5:12. Meadows can store this information in a table in a “graphical location database.” Meadows, 5:13-5:19, FIG. 3. This information (i.e., an address) can be displayed on a “graphical user interface using...a computer system having an Internet connection to the world wide web.” Meadows, 5:30-57 (“In this map, as can be seen, Deborah is located on P Street, Marcie is located on Howard Street, Brian is located on Philadelphia Avenue, and Adam is located on Q Street.”). Meadows therefore corroborates that it was within a POSA’s background knowledge to *transmit the address* of a mobile device’s location from a server to a device (i.e., a computing system) and that a POSA would have had a

reasonable expectation of success doing so in a system like Sheha's / Sheha-Froeberg's.

CODE	DEVICE NUMBER	USER NAME	LOC. ADDR.	LOCATION NAME	TIME	DIRECTION	SPEED
1582	(301) 663-9580	DEBORAH	1225 P STREET	SAFEWAY SUPERMARKET	2:30 PM	----	----
1983	(301) 982-9503	BRETT	I-95	-----	2:33 PM	NORTH	67 MPH
2092	(301) 666-9292	BETH	WALNUT ST.	RITE-AID PHARMACY	2:30 PM	----	----
1582	(410) 222-3344	MARCIA	HOWARD ST.	----	2:32 PM	----	----
2933	(215) 947-5555	NANCY	I-66	----	2:34 PM	EAST	55 MPH
1582	(301) 663-9301	BRIAN	PHILA AVE.	----	2:32 PM	N.E.	64 MPH
2290	(301) 444-3926	ADAM	1333 N ST.	WALMART	2:35 PM	----	----
3955	(301) 999-9826	ALLISON	10 PHILA AVE.	MICRO GRAPHIC STORE	2:33 PM	----	----
1983	(410) 555-3355	ASLAN	I-94	----	2:31	S.E.	72 MPH
1983	(301) 487-7265	DAVID	56 COVE ST.	SIMS BAR			
1582	(301) 494-5220	ADAM	Q ST.	BILLY'S BAR	2:32	----	----

FIG. 3
Meadows, FIG. 3

[0160] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 3.

- d. **Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.**

[0161] Sheha discloses that two moving mobile devices continuously send their updated positions to the ODAS. Sheha, 11:37-51. After device 18b's initial *location* (which I discussed above (§VIII.A.2.a.iii, Element [1B]) and device 18c's initial *second location* (which I discussed above (§VIII.A.2.a.vi, Element [1E])) are determined, the ODAS *determines a third location associated with one of*

said plurality of wireless telephones when a subsequent update indicates a new position for device 18c.

[0162] Additionally, device 18b’s “user[] can define a group of specific *users* that have access to” 18b’s location (Sheha, 11:63-12:7), in which, for example, both device 18c and another device (“18d,” perhaps) may be among *said plurality of wireless telephones* whose users (plural) are in the group. In my opinion, POSAs would have understood that Sheha’s description of two-way location sharing between devices 18b and 18c (Sheha, 10:66-11:54) is a representative example that can also be performed between, e.g., device 18b and another user having device 18d, wherein the ODAS determines *a third location associated with* wireless telephone 18d.

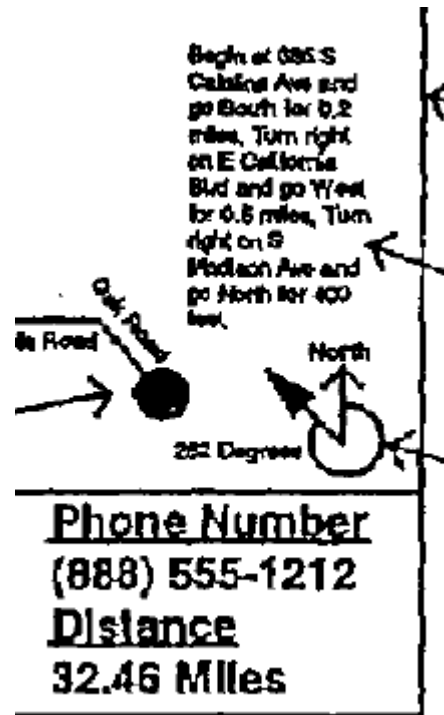
[0163] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 4.

- e. **Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.**

[0164] Sheha discloses “provid[ing]...line-of-sight (LOS) *distance*, and curved earth LOS *distance* measurements[] between the local and remote positions” of the two *wireless telephones*. Sheha, 3:29-34. These distances, and “[a]dditionally...driving direction *distance* information” between the two *wireless*

telephones can be *determined* for display in the Map Caller-ID. Sheha, 9:23-39, FIG.

5.



Sheha, FIG. 5 (excerpted)

[0165] As I discussed above (§VIII.A.2.a.vii, Element [1F]), it would have been obvious for Sheha's route and driving-directions information to be *determined* at the *remote system* for providing to the *wireless telephones*, and POSAs would have found it obvious for this to include the *remote system determining the distance between the wireless telephones*.

[0166] Determining the distance to the destination server-side and providing it to the mobile device was well-known background knowledge with

reasonable expectation of success. My opinion regarding POSAs' background knowledge is corroborated by the following prior art references.

[0167] Stewart (EX1056) describes a “portable telephone” that includes a “position locator” to “determine the location of the portable telephone”. Stewart, Abstract. Stewart describes that the portable telephone forwards its location to the “centralized base station 17” (Stewart, 7:43-52) and the centralized base station 17 can “use the location information and map database 24 to determine a street address.” Stewart, 8:20-23. The centralized base station can use “the geographic location of portable telephone 28 and the previously determined geographic location of calling first telephone 10...to calculate the distance between called portable telephone 28 and calling first telephone 10” and the distance can be “based on the shortest road route using map database 24.” Stewart, 8:12-47.

[0168] Tobin (EX1041) describes a “graphical user interface for use with user device 105.” Tobin, [0028], FIG. 1C (below). Tobin’s “user device is equipped with a service vendor locator program, which determines and displays a plurality of service vendor locations on a map.” Tobin, [0018]. Tobin’s “user device 105 is coupled to a position determining system (PDS) 101 and may also be coupled to a remote server 124 that hosts an information database 118 containing service vendor data 115.” Tobin, [0019]. “The user device 105 includes a display screen 125, such as a standard display or a touch sensitive screen, either color or

gray-scale.” Tobin, [0019]. One embodiment of Tobin’s user device “is equipped with a GPS signal processor necessary to determine the current spatial position of user device 105.” Tobin, [0020]. However, “[w]here processing speeds and power consumption are concerns, wireless communication channels 6 and 7 may be used to relay the GPS signals received by user device 105 to the remote server 124 for processing.” Tobin, [0020]. In that case, “*the position coordinates of user device 105 are calculated at the remote server 124* and transmitted to user device 105, where they are integrated visually and/or audibly with a map system and display.” Tobin, [0020].

[0169] Tobin further describes “the distance and time information particular to each service vendor is shown in a small data box adjacent to the service vendor logo. For example, data box 123 displays the real-time time and distance information for service vendor 137, which is a Texaco™ station. The time information displays the estimated remaining travel time, calculated by dividing the approximate distance separating the Texaco™ station from user device 105 by the speed of user device 105. The distance information displays the approximate distance in miles or kilometers separating user device 105 from the service vendor 137. Similar data boxes are provided for other service vendors 127 and 129.” Tobin, [0028], FIG. 1C.

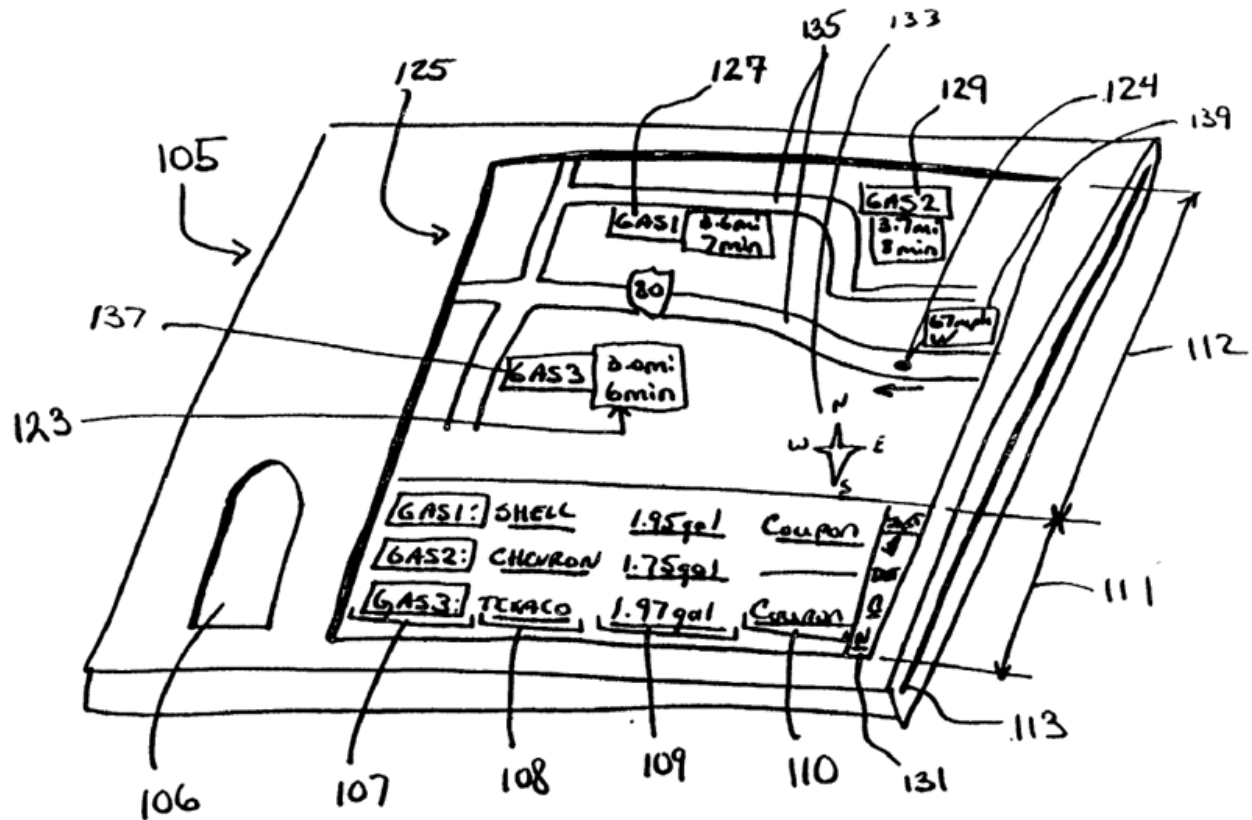


FIG. 1c
Tobin, FIG. 1C

[0170] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim

5.

- f. **Claim 6:** The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.

[0171] Sheha's remote system is capable of storing access rights as I discussed above (§VIII.A.2.a.iv, Element [1C]).

[0172] Sheha teaches that these *access rights* can allow “specific users [to] have access” to the *first wireless telephone’s location* “without...a telephone call” (Sheha, 11:55-12:7), which POSAs would have understood allows access *for an indefinite period of time*, because the authorized *one of said list of users* may access the location at any time, untethered to any call. Sheha also discloses a wireless telephone instructing the *remote system to allow access* to its location until “terminate[d]” by “manual intervention” or for “as long as [a] call is active,” which are both *indefinite periods of time* because their length is not known *a priori*. Sheha, 5:15-46.

[0173] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 6.

- g. **Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.**

[0174] Sheha’s mobile device’s “privacy settings” that the ODAS “quer[ies]” and *stores* (as I discussed above (§VIII.A.2.a.iv, Element [1C]) can “determine[] the *period* of the position transfer” which “can be set for...a *predetermined length of time*.” Sheha, 4:59-66, 5:9-14, 3:10-13.

[0175] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 7.

- h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.**

[0176] As I discussed above (§VIII.A.2.g, claim 7), Sheha’s *remote system receives an indication of said specific period of time from said first wireless telephone* by “query[ing]” its “privacy settings.” Sheha, 4:59-66, 5:9-14, 5:40-46, 3:10-13.

[0177] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 8.

- i. Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.**

[0178] Sheha’s ODAS (*remote system*) *stores and transmits to said first wireless telephone a location of a personal computer*. Sheha, 19:29-31 (“transmitting to the communication device of the second user the position information of the communication device of the first user”), 19:41-43 (“the communication device of the first user is...a *personal computer*”), 4:26-42 (landline telephone whose location is transmitted is at the location of an “adjacent...*personal computer*” used for display, so the telephone’s location is location of personal computer), 10:44-47 (same information transmitted in “landline-to-mobile example”).

[0179] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 18.

- j. **Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.**

[0180] Sheha describes each “mobile device receiv[ing]” the “other’s position information” from the ODAS (*remote system*), where a mobile device can be in “a motor vehicle” and connected to “an in-vehicle navigational device.” Sheha, 11:40-52, 4:52-58, 10:27-41, 12:8-41. In this scenario, the location of the mobile device that the ODAS (*remote system*) *stores and transmits to said first wireless telephone is a location of a car.*

[0181] Thus, it is my opinion that Sheha / Sheha-Froeberg meet Claim 20.

B. Ground 2: Claims 23, 24-29, 39, 41, 44 would have been obvious over Sheha in view of Smith

[0182] As I explain in this section below, in my opinion claims 23, 24-29, 39, 41, and 44 of the ’024 patent would have been obvious to a POSA in view of the combined teachings of Sheha (EX1005) and Smith (EX1023).

[0183] Above, I provided a discussion of Sheha (§VIII.A.1).

1. Discussion of Smith (EX1023)

[0184] Smith discloses a system to provide a user interface for a cellphone, including contact-list functionality that can provide a wide variety of

information about a corresponding contact, including location information such as GPS information and electronic business cards (“EBCs”). Smith, 5:15-18, 6:65-7:3, 7:41-49, 10:55-60. An example of this routine and conventional functionality is shown in Figure 15A:

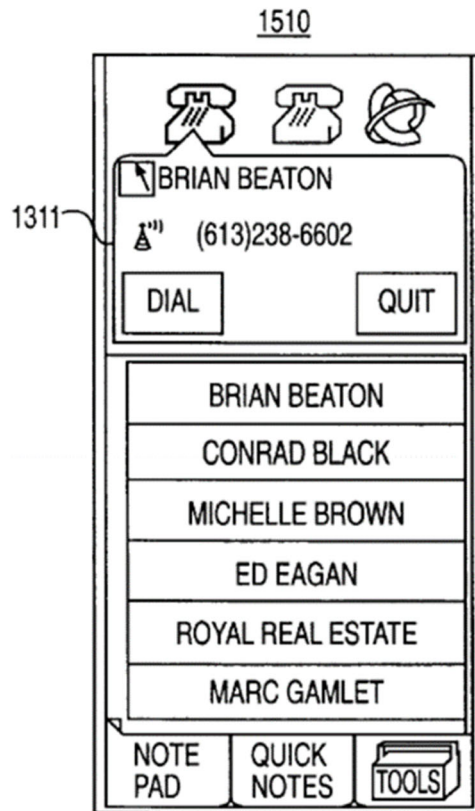


FIG. 15A

Smith, FIG. 15A

[0185] Smith’s contact list view provides an icon providing a location associated with the contact, which may identify the location of a caller, such as GPS information. Smith, 10:61-11:4. Smith allows a user to store detailed information for individual contacts. Smith, 6:53-7:3. In addition, the user

interface provides for a location icon; “[t]he location icon provides visual assistance to the receiver in quickly determining the location or the type of device of the caller.” Smith, 10:61-63. “[T]he user may be presented with more precise GPS information about the caller’s location by touching the location icon.” Smith, 11:2-4.

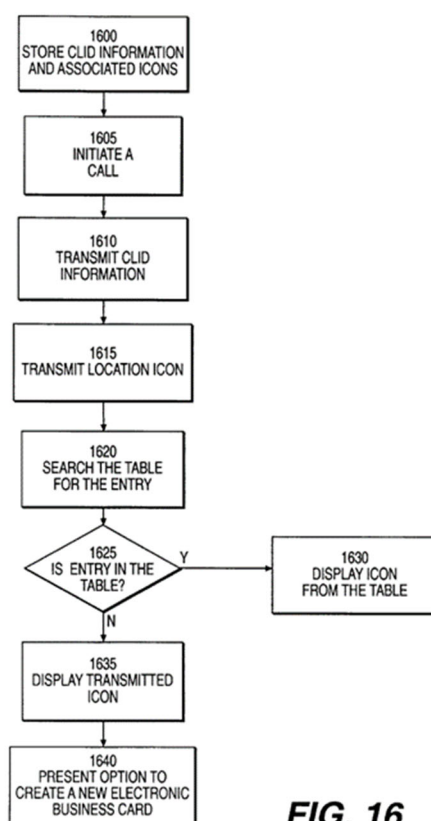


FIG. 16

Smith, FIG. 16

2. Discussion of the Sheha-Smith Combination

[0186] In my opinion, POSAs would have understood that Sheha’s wireless telephones would typically have included conventional functionality as discussed in Smith, including contact lists and manual input devices such as

buttons to allow a user to interact with the device and contact-list functionality.

Because such functionalities were routine and conventional, it is my opinion that POSAs would have had a reasonable expectation of success in incorporating such functionality from Smith into Sheha's wireless devices because POSAs knew such functionalities were routine and conventional in wireless devices.

3. Mapping of Sheha-Smith to Claims 23, 24-29, 39, 41, and 44

- a. Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.**

[0187] Smith teaches that a user's contact list can contain EBC (Electronic Business Card) fields for each contact, including CLID (Calling Line Identification) information. Smith, 6:53-7:3, 1:32-34, 8:25-31. The CLID and EBC information can be "stored at a central server...from which third party users may *download* the EBCs." Smith, 11:24-29, 6:46-52, 8:19-25. Based on these teachings, POSAs would have been motivated and reasonably expected success to implement Sheha-Smith (with or without Froeberg) (*supra* §VIII.B.2) to allow the *wireless telephone user to download from the remote system a phone book corresponding to the user*—i.e., EBCs/CLIDs of contacts of interest to create the user's contact list on the *wireless telephone*.

[0188] In my opinion, it would have been obvious to POSAs based on their background knowledge that one scenario in which *a user* would want to *download* their *phone book* is when they have *a new wireless telephone* to which they want to import their existing contacts. My opinion in this regard is corroborated by the following prior art references.

[0189] In Randall (EX1007), each wireless telephone device can have “a directory application” that “contains a user’s contacts list.” Randall, [0009]. A user’s “contacts database”—called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. The Universe contacts database is both “stored on the i-server” and “cached on” the user’s “wireless information device[.]” Randall, p. 23 Table 4 (“Auto-entering address book”). The wireless device has “local copies of the master information held on the central server(s)” including “contact numbers.” Randall, [0062]-[0063]. Each user has an “Identity,” which is “constitutes a whole gamut of information some of which is created by the user and some of which may be assigned to them as a result of their actions.” Randall, [0127]. The “identity data” includes “all typical contact information including name, contact numbers and addresses etc.” Randall, [0128]. “Once an Identity has been created this data persists and *is made available to any new devices that a user adds to their retinue.*” Randall, [0129].

[0190] Song (EX1069) teaches techniques for use with “personal devices includ[ing] wireless telephones,” where a user may have more than one device and a device may be shared among different users. Song, 4:66-67, Abstract, 2:22-36, 5:9-19. The same “owner” can be the “primary user” of multiple devices. Song, 5:10, 8:13-14. A “server...provid[es] an authentication and authorization function for the personal device(s).” Song, 7:4-7. The server stores data “for each owner,” including “owner data 30 and at least one device record 32 for at least one personal device 14,” forming “a list of personal devices 14 commonly owned by that owner.” Song, 8:9-22. “The owner data 30...includes an owner identity 34 and...user name, password or any other personal information.” Song, 8:30-37. The device record can also include “a user name” of another “user anticipated to operate the personal device” (i.e., to share it). Song, 9:30-40.

[0191] “When the...personal device 150 is activated, the...user is prompted to provide login information” which “is transmitted to the...server 162 to identify the user” so the “user may launch an application with the...personal device.” Song, 13:32-41. Additionally, “the device record 32 is cached in the personal device 14 for situations where the registry server 16 is not available. In these situations, the personal device 14 may use the locally stored information for authorization and verification related activities.” Song, 11:48-52.

[0192] Song describes various use cases for “migration of an application” “from the first personal device 150 (source device) to the fourth personal device 156 (target device).” Song, 14:31-16:55. “[A]pplication-relation information” is transmitted to the new “fourth personal device.” Song, 14:63-15:10. POSAs would understand that conventional application-related information for cell phones are address-book data. *See also* Song, 5:29-36 (describing example applications as “an application...to provide the functions available from the cell phone,” as well as “interactive messaging, an Internet browser, email service...or any other functionality included with the personal device”).

[0193] Thus, it is my opinion that Sheha-Smith meets Claim 23.

b. Claim 24

i. Preamble [24PRE]: A system comprising:

[0194] Like claim 1, claim 24’s preamble only recites “A system comprising.” *See supra* §VIII.A.2.a.i. Thus, Sheha meets [24PRE] for the same reason Sheha meets [1PRE] (*see supra* §VIII.A.2.a.i). As I will discuss below, it is my opinion that Sheha-Smith (alone and in view of Froeberg) meets all the limitations of claim 24.

- ii. **Element [24A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:**

[0195] Element [24A] recites the same limitation as Element [1A].

Thus, Sheha meets [24A] for the same reason Sheha meets [1A] (*see supra* §VIII.A.2.a.ii).

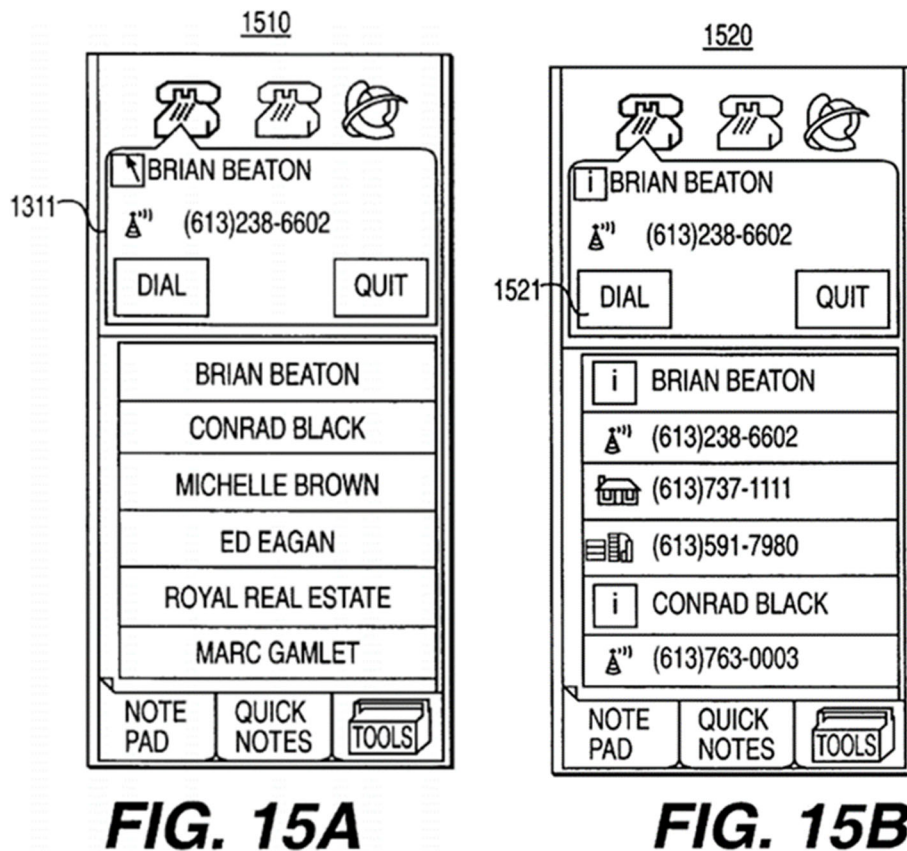
- iii. **Element [24B]: receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;**

[0196] In Sheha’s system, “a plurality of unique users” are “on various devices,” which can be “wireless” “telephone” devices. Sheha, 3:8-10, 4:3-7. Each mobile device has its associated “users’ account information.” Sheha, 11:20-23, 8:25-53, 11:20-23. Thus, *each one of a plurality of users is associated to a different one of a plurality of wireless telephones*, as I also discussed above (§VIII.A.2.a.iv, Element [1C]).

[0197] Sheha discloses that a mobile-device user (e.g., 18b) can request and obtain the location of another mobile device (e.g., 18c) by “dial[ing] or input[ting]” the other mobile device’s “telephone number,” which the ODAS “receives” via the “wireless network.” Sheha, 10:66-11:51, 11:55-12:7. Thus,

Sheha's remote system [ODAS] receives from a first wireless telephone over said communications network a selection of one of the plurality of users.

[0198] It was well-known to POSAs to allow a wireless telephone user to select one of a plurality of users by viewing and performing this selection using a displayed list of contacts on the wireless device. Smith shows an example of this conventional functionality in Figures 15A-15B (below). Smith, 5:15-18, 9:42-55.



[0199] Sheha discloses that its wireless devices allow numeric and alphanumeric input. Sheha, 2:64-3:3. In addition, Smith discloses that a user may manually scroll through a contact list to identify a specific person to contact. Smith, 9:42-61, 10:67-11:3, FIG. 14. In my opinion, it would have been obvious

to include in Sheha's *first wireless telephone* this standard feature of *manually selecting* a user *from a display* of a contact list to allow a user to easily retrieve and select a contact of interest (e.g., to request the contact's location information) from among multiple saved contacts. *See supra* §VIII.B.2.

[0200] Manually selecting another user from a displayed contacts list was also well-known in POSAs' background knowledge as a suitable option with reasonable expectation of success for selecting a contact of interest, including to access their location. My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0201] Han (EX1027) describes "a position tracking service system and method using wireless communication and Internet." Han, [0002]. Han discloses a display screen from which a user "selects the target for which he intends to receive position tracking service via the registration window output on the screen of the computer." Han, [0033]. Therefore, Han corroborates that a user manually selecting to receive position information of a target that is selected from a list of targets was within a POSAs' background knowledge as a suitable option for selecting a contact of interest, including to access their location and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith combination.

[0202] Meadows (EX1018) describes a monitoring system that “monitor[s] the geographical location of individuals within a geographical region from a remote location.” Meadows, 2:29-32. As shown in Meadows’s FIG. 4A (reproduced below), Meadows describes that a user is “presented with a list of names of persons” and from that list the user can manually “select[] which of the individuals to monitor” for their location information. Meadows, 5:30-47. Therefore, Meadows also corroborates that a user manually selecting individuals to receive location information for from a displayed contacts list in a graphical user interface was within a POSAs’ background knowledge as a suitable option for selecting a contact of interest, including to access their location and that a POSA would have had a reasonable expectation of success doing so in the Sheha-Smith combination.

WELCOME TO THE WORLD WIDE WATCHER

ACCESS CODE: 1582

		<u>STATUS</u>
1. DEBORAH	(301) 663-9580	ACTIVE
2. MARCIA	(410) 222-3344	ACTIVE
3. BRIAN	(301) 663-9301	ACTIVE
4. ADAM	(301) 494-5000	ACTIVE

PLEASE SELECT INDIVIDUALS TO MONITOR

①
②
③
④
ALL

FIG. 4a

Meadows, FIG. 4a

[0203] Thus, Sheha-Smith meets Element [24B].

iv. **Element [24C]: receiving from said first wireless telephone information indicative of a login and a password;**

[0204] Sheha discloses that “every telephone account user has a username” (i.e., *a login*) “and ***password*** for the ODAS 3” that the ODAS *receives from the wireless telephone* and uses to verify that users are signed on to access various available services using authorization and authentication protocols. Sheha, 7:22-23, 8:25-53 (“user identification information” *indicative of* “username and

password” is “sent to the ODAS” from the telephone), 11:20-23 (ODAS “*receives*...users’ account information...for both mobile devices” in mobile-to-mobile embodiment as in landline-to-landline embodiment), 11:55-12:7.

[0205] Thus, Sheha-Smith meets Element [24C].

v. **Element [24D]: determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,**

[0206] Sheha states that “[w]hen a mobile device’s position information is requested, the system, based on privacy settings, responds with the appropriate position information to the requesting user’s device.” Sheha, 12:1-7. For example, Sheha discloses that permissions can be established by the mobile devices’ privacy information including “a group database and authorization and authentication protocols” by which a user “can define a group of specific users that have access to” the user’s location information. Sheha, 11:55-12:7, 4:59-5:20; *see also* 13:65-14:2, 14:54-61, 19:9-13; *see supra* §VIII.A.2.a.iv (Element [1C]: discussing Sheha’s permissions disclosures). The ODAS uses this privacy information to determine whether the target device has authorized the requesting device to obtain its location information. Sheha, 3:4-14, 3:22-28, 4:8-18, 5:21-46, 8:42-53, 9:59-10:4.

[0207] Thus, Sheha-Smith meets Element [24D].

vi. Element [24E]: wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password and

[0208] As I discussed above (§VIII.B.3.b.iv, Element [24C]), Sheha discloses that users provide username and password as part of Sheha’s authorization and authentication protocols to confirm their identity and that “using the authorization and authentication protocols a user can request the position of a mobile device.” Sheha, 8:40-53, 12:1-7; *see also supra* §VIII.B.3.b.v (Element [24D]). “[E]very telephone account user has a username and password” from which the ODAS determines which “particular user is signed-on to the system” and whether the “user is genuine.” Sheha, 8:40-53. Thus, the *determination includes identifying said user...using said information indicative of said login and password.*

[0209] Thus, Sheha-Smith meets Element [24E].

vii. Element [24F]: determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone;

[0210] As I discussed above (§VIII.A.2.a.iv, Element [1C]; §VIII.B.3.b.v, Element [24D]), Sheha’s “users can define a group of specific users that have access to” the location of the user who defined the group; this is “accomplished by utilizing a group database and authorization and authentication

protocols to identify users that are permitted to access this information.” Sheha, 11:63-12:1. “When a mobile device’s position information is requested, the system” can use these “authorization and authentication protocols” to determine whether to “respond[] with the appropriate position information to the requesting user’s device.” Sheha, 12:1-7; *see also* Sheha, 3:4-14, 3:22-25, 4:8-18, 4:58-5:46. Sheha also discloses that the “authentication and authorization protocols” use the username and password to “verify the level of authority [that particular] user is granted, such as for differentiating services provided by the ODAS.” Sheha, 8:40-50. That includes the ODAS *determining whether* that user has permission to obtain the location of a requested device. Sheha, 5:21-46, 8:40-50, 11:63-12:7.

[0211] Claim 24 does not require the “*access rights*” provided to the “*user of said first wireless telephone*” to be exclusive to that device, and does not exclude the “*access rights for said location information*” from being provided to other devices as well. The ’024 patent itself explicitly states that “a user may organize his/her user list into groups and assign access rights to [a] group,” just as Sheha does. EX1001, 13:9-12, 3:22-24.

[0212] Alternatively, even if claim 24 did require providing access rights to an individual user, Sheha renders this obvious because POSAs knew that “defin[ing] a group” (Sheha, 11:63-65) can include defining a group having only one member, even if other defined groups have multiple members. My opinion in

that regard is corroborated by Darling (EX1022), which discloses location-tracking functionality for a mobile device, where users may define access rights to a group, where the “[a] user defined group can be a single person” (and other groups can have multiple users). Darling, 41:20-42:2.

[0213] Alternatively, allowing a user to specify access rights for individuals in addition to groups would have been an obvious variation because doing so was well-known as a beneficial option with reasonable expectation of success in a system like Sheha’s. My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0214] For example, Randall (EX1007) describes “a user can also specify the remote database access rights given to different people or groups” (Randall, [0052]) and “can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070]; *see also* Randall, [0136] (“Visible to specific people (or groups)”), [0144]-[0146] (“The user must be able to switch location information on for a person or group of people... Creating Buddy Lists[:] Some users will be prepared to allow specific people access to more of their data than others. These specific people or groups of people with greater visibility are referred to as Buddies.”). Randall therefore corroborates that it was within a POSA’s background knowledge to specify access rights for individuals in

addition to groups and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha-Smith's where mobile device users are accessing each other's locations.

[0215] Friedman (EX1015) describes location-based instant messaging in which a user can specify a subset of users in a buddy list that can access the user's positional data. Friedman, 12:60-13:21. POSAs would have understood that a subset of users can include a single user. Friedman corroborates that understanding by describing an example for assigning access rights for a single user: "User A may specify that 'User B' should only receive a measurement of the distance between User A and User B." Friedman, 13:5-7. Friedman therefore also corroborates that it was within a POSA's background knowledge to specify access rights for individuals in addition to groups and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha-Smith's.

[0216] Darling describes "enabl[ing] a user to determine the location of another user...by means of mobile devices." Darling, 2:10-15. Darling describes that "the server stores permission information indicating whether the location information for the first user is available to the second user and the method preferably includes checking the permission information prior to the transmitting step." Darling, 3:1-15. "Each user may specify that location information...only to specified users or groups or categories of users or that the

information is publicly available.” Darling, 2:47-3:5; *see also* Darling, 32:39-33:32 (“17. Defining Access Right to Profile....18. ‘People who have access to My Location Details’, List of individuals who have access to the Location Details in a scrolling list.”). And, as noted above, Darling discloses that rather than multiple users, “[a] user defined group can be a single person.” Darling, 41:20-42:2.

[0217] As I discussed above (§VIII.A.2.a.iv, Element [1C]), Sheha teaches embodiments where the ODAS implements the “authorization and authentication protocols” and the “group database” described in 11:63-12:7 for *determining whether* the requesting user has *access rights*. *See* Sheha, 3:4-14, 4:8-18, 7:22-23, 8:42-53, 9:61-10:4. Alternatively, implementing the group database and its utilization at the server would have been an obvious variation as I discussed above (§VIII.A.2.a.iv, Element [1C]).

[0218] Alternatively, even if Sheha did not explicitly disclose allowing a user to specify access rights for individuals in addition to groups in mobile-to-mobile embodiments, doing so would have been an obvious variation because allowing a mobile user to specify a group of other mobile users who have permission to access the user’s location (or to provide access permission on an individual-user basis) was well-known as a beneficial option with reasonable expectation of success in a system like Sheha-Smith’s. My opinion in this regard is

corroborated by Friedman, 12:60-13:21 (as discussed above) and the references discussed below.

[0219] For example, Darling (EX1022) describes “enabl[ing] a user to determine the location of another user...by means of mobile devices.” Darling, 2:10-15. Darling describes that “the server stores permission information indicating whether the location information for the first user is available to the second user and the method preferably includes checking the permission information prior to the transmitting step.” Darling, 3:1-15. “Each user may specify that location information...only to specified users or groups or categories of users or that the information is publicly available.” Darling, 2:47-3:5; *see also* Darling, 32:39-33:32 (“17. Defining Access Right to Profile....18. ‘People who have access to My Location Details’, List of individuals who have access to the Location Details in a scrolling list.”). Darling further discloses a feature to “[s]earch for a friend[, which a]llows the user to scroll through the list of people that they are allowed to view locations for....” Darling”), 41:1-15. Thus, Darling demonstrates that it was known to provide for functionality in a mobile device that allows a user to specify a group of other mobile users who have permission to access the user’s location (or to provide access permission on an individual-user basis).

[0220] In another example, Sandhu (EX1054) describes “[a] method and system whereby two mobile units can locate each other.” Sandhu, Abstract. A user who registers with Sandhu’s system “can access the location of all other users who are registered with the system.” Sandhu, 5:35-50. A user can also “limit the data exchange to a sub-group of users, such as friends, coworkers, and family” by “defining a distribution group in the user profile.” Sandhu, 5:35-50. Sandhu therefore corroborates that it was within a POSA’s background knowledge to use group database permissions in mobile-to-mobile embodiments and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

[0221] In yet another example, Randall (EX1007) describes a user of a mobile device that can track the location of other mobile devices. Randall, Table 4, p. 24 (“People tracking” application, “New buddy finder” application, “Old buddy finder” application). Randall’s system allows a user to assign access rights to individuals or groups. Randall, [0070] (“Access rights can be associated with individual entities, and can also be associated with groups of entities.”). Randall describes using a database for storage of such access rights. Randall, [0052] (“In ADS, a user can also specify the remote database access rights given to different people or groups: an arbitrary group of entities may be stored as an attribute which gives access permissions to data in the database.”); *see also* Randall, [0136],

[0144]-[0148]. Further, Randall describes that users sharing their location can occur outside of a phone call. Randall, Table 4, p. 24 (“People tracking” application in which a user tracks the location of a user by polling a server). Randall therefore also corroborates that it was within a POSA’s background knowledge to use a group database in a mobile embodiment and to exchange location information between mobile devices without initiating a phone call and that a POSA would have had a reasonable expectation of success doing so in a system like Sheha’s.

[0222] Thus, Sheha-Smith meets Element [24F].

viii. Element [24G]: determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining a location of said first wireless telephone; and

[0223] Sheha teaches that two *wireless telephones* (e.g., 18b-18c) can both provide each other permission for location access. For example, Sheha discloses a target mobile device (e.g., 18c) whose position is requested can provide permission for a requesting device (e.g., 18b) to access its location information, and the requesting device can also provide permission for the target device to access its location. Sheha, 4:62-5:20, 11:3-8, 13:57-14:38. As I discussed above (§VIII.A.2.a.iv, Element [1C]), any “users can define a group of specific users that have access to this [location] information” as part of configuring privacy

permissions (Sheha, 11:55-12:7). The ODAS *determines whether the first wireless telephone's* (e.g., 18b) *user has assigned these location access rights to the target device* (e.g., 18c; and vice-versa) before providing the *first wireless telephone's* location to the target device, in the manner I discussed above (§VIII.B.3.b.vii, Element [24F]). Sheha, 11:65-12:7, 13:65-14:13.

[0224] Thus, Sheha-Smith meets Element [24G].

ix. Element [24H]: transmitting over said communications network said location information to said first wireless telephone.

[0225] Sheha's ODAS *transmits a target wireless device's location information to the requesting first wireless telephone over wireless network 22*. Sheha, 10:66-12:7, FIG. 3 (annotated below).

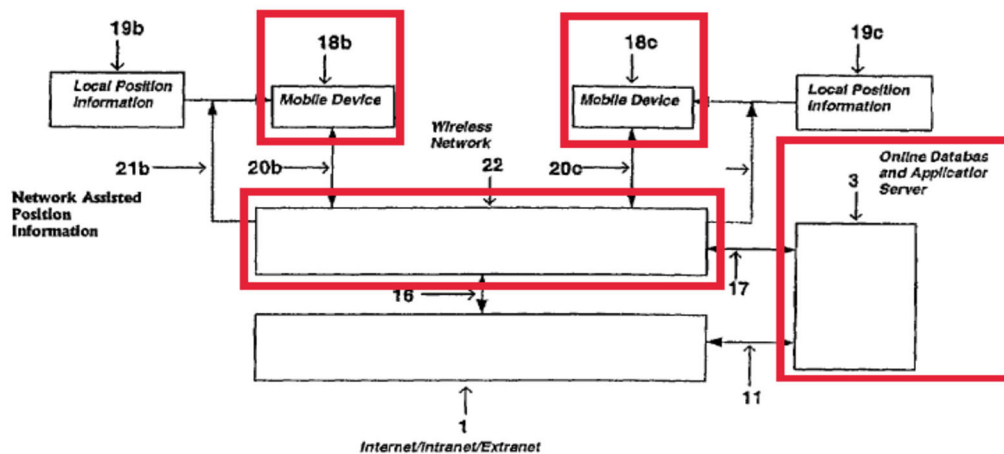


FIG. 3
Sheha, FIG. 3 (annotated)

[0226] Thus, Sheha-Smith meets Element [24H].

- c. **Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.**

[0227] Sheha's mobile device can "terminate" another mobile device's location access "abruptly due to manual intervention," meeting claim 25. Sheha, 5:14-15, 5:34-38.

[0228] Additionally, as I discussed above (§VIII.B.3.b.iii, Element [24B]), it would have been obvious to POSAs to use conventional contact list functionality, such as disclosed in Smith. Smith, 5:15-18, 9:42-55, FIGs. 15A-15B. Smith teaches inputting *a selection* of another user in a contact list to modify that user's contact information, such as to add phone numbers, email addresses, or other information. Smith, 10:7-16, 6:53-61. Sheha allows a user to specify to the *remote system* which users are authorized to obtain location information as I discussed above (§VIII.A.2.a.iv, Element [1C]; §§VIII.B.3.b.v-viii, Elements [24D]-[24G]), and it would have been obvious to do this by selecting users from a contact list like Smith's. Sheha, 4:58-5:20; 11:55-12:7; *see also supra* §VIII.B.2. In my opinion, it would have been obvious to POSAs to allow a user to *modify* which users are able to access its location to provide the user control over their privacy permissions. Sheha, 2:64-3:3, 5:14-38. The contact list is where aggregated information about other users is accessed, which POSAs would have

expected to also include privacy permissions establishing whether a particular user can access location information.

[0229] Thus, Sheha-Smith meets claim 25.

- d. **Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.**

[0230] As I discussed above (§VIII.B.3.b.viii, Element [24G]), Sheha teaches that “both parties have access to each other’s position information.”

Sheha, 5:32-34, 11:49-50. The ODAS *transmits* both the *location* of the requesting party (*first wireless telephone*) to the other party’s *one of said plurality of wireless telephones*, and the other party’s location to the requesting party. Sheha, 5:32-34, 11:49-50 (“ODAS 3 periodically updates each mobile device with the other’s position information”), 14:11-13.

[0231] Thus, Sheha-Smith meets claim 26.

- e. **Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.**

[0232] Claim 27 replicates recitations of claim 6, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users*,” and claim 24’s “*one of said plurality of wireless telephones*” taking

the place of claim 1’s “*first wireless telephone.*” Thus, Sheha-Smith meets the limitations added by claim 27 for the reasons I discussed above that Sheha meets claim 6 (§VIII.A.2.f) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- f. **Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.**

[0233] Claim 27 replicates recitations of claim 7, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 7’s “*first wireless telephone.*” Thus, Sheha-Smith meets the limitations added by claim 28 for the reasons I discussed above that Sheha meets claim 7 (§VIII.A.2.g) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- g. **Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones.**

[0234] Claim 29 replicates recitations of claim 8, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking

the place of claim 1’s “*first wireless telephone.*” Thus, Sheha-Smith meets the limitations added by claim 29 for the reasons I discussed above that Sheha meets claim 8 (§VIII.A.2.h) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- h. Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.**

[0235] Claim 39 replicates recitations of claim 18, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Sheha-Smith meets the limitations added by claim 39 for the reasons I discussed above that Sheha meets claim 18 (§VIII.A.2.i) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- i. Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.**

[0236] Claim 41 replicates recitations of claim 20, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Sheha-Smith meets the

limitations added by claim 41 for the reasons I discussed above that Sheha meets claim 20 (§VIII.A.2.j) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- j. **Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.**

[0237] Claim 44 replicates recitations of claim 23, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Sheha-Smith meets the limitations added by claim 44 for the reasons I discussed above that Sheha-Smith meets claim 23 (§VIII.B.3.a) because any of Sheha’s mobile devices (e.g., 18b-18c) can be the requesting or target device (*see supra* §VIII.B.3.b.viii, Element [24G]).

- C. **Ground 3: Claims 9-17, 19, 21-22, 30-38, 40, 42-43 would have been obvious over Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim**

[0238] As I explain in this section below, in my opinion claims 9-17, 19, 21-22, 30-38, 40, and 42-43 of the ’024 patent would have been obvious to a POSA in view of the combined teachings of Sheha (EX1005), Froeberg (EX1051),

Smith (EX1023), Degnbol (EX1035), Wollrab (EX1014), Obradovich (EX1043), Boling (EX1074), and Bechtolsheim (EX1075).

[0239] Above, I provided a discussion of Sheha (§VIII.A.1), Froeberg (§VII.D), Sheha-Froeberg (§VIII.A.2.a, §VIII.A.2.a.vii), Smith (§VIII.B.1), and Sheha-Smith (§VIII.B.2).

1. Discussion of Degnbol (EX1035)

[0240] Degnbol describes notifying a user when another pre-selected user enters a pre-determined area or into proximity to a particular location.

Degnbol, Abstract.

[0241] Users can establish various alert parameters. For example, a user can establish a distance preference specifying that alerts be generated when a buddy enters a predetermined range. Degnbol, 11:5-11. The “predetermined range” “may be associated with a geographic area, such as a continent, country, district, city, co-ordinate range or a street” or correspond to a distance. Degnbol, 6:6-17.

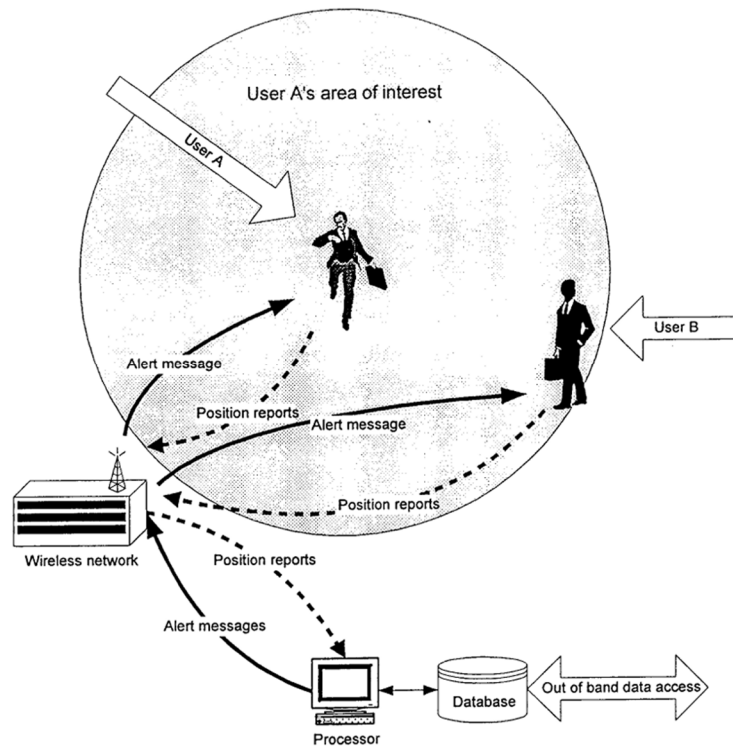


Fig. 1
Degnbol, FIG. 1

2. Discussion of Wollrab (EX1014)

[0242] Wollrab relates to “members of an identified family, work, or other group” tracking each other’s wireless device GPS locations “as coordinates on a graphic map.” Wollrab, 5:50-61, 6:28-31. The tracked device locations are “shown simultaneously relative to one another” as “symbols” on the map on each wireless device. Wollrab, 4:40-58, FIG. 4B (symbols 44-1 through 44-5). Wollrab

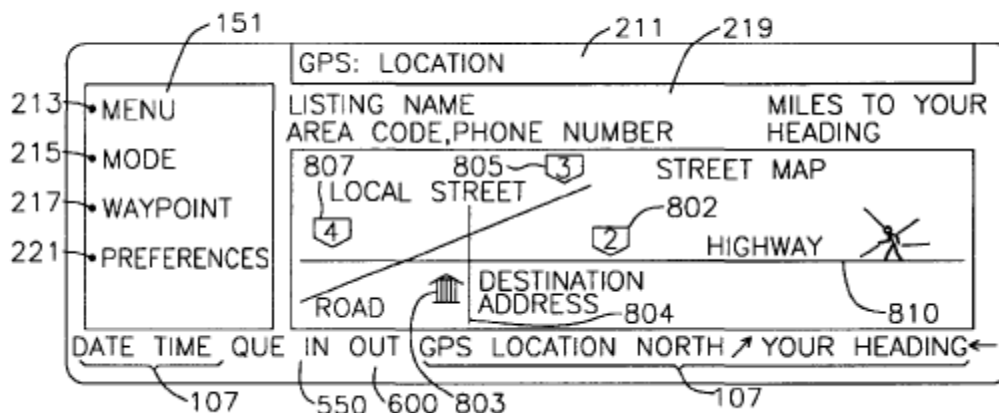
further describes storing and displaying on the graphic map “a historical tracking record of movement for” a tracked device. Wollrab, 3:21-27, 4:54-58.

3. Discussion of Obradovich (EX1043)

[0243] Obradovich discloses a “system for communicating and retrieving position and position related data.” Obradovich, 1:16-17. Among other aspects (*e.g.*, as discussed more below §VIII.C.7.h, §VIII.C.7.1), Obradovich teaches “display” techniques for “maps and location tagged data” on a “personal communication device (PCD).” Obradovich, Abstract. “The PCD is a cellular-phone-sized electronic device, combining the capabilities of a GPS receiver, transceiver, digital beeper, cell phone and projection system into one compact unit.” Obradovich, 2:60-63. Obradovich’s system, like Sheha’s (*supra* §VIII.A.1) “allows users to request detailed information relating to their present location” and location information for destinations and other individuals. Obradovich, 3:45-47, 4:1-5. “The PCD can...provide distances and directions to locations of interest...to the user via the screen of the PCD,” and can also “determine travel times for the...route” and “display” them. Obradovich, 3:17-21, 22:47-54. PCD users “can meet or find each other” by “sending and receiving GPS encoded data.” Obradovich, 4:1-3. The PCD displays a “GPS map” that “indicates the PCD position” as well as navigation information including “destination address,” “heading and north,” “miles to your heading,” etc. Obradovich, 10:30-62, FIG. 8

(below). “[B]oth the user’s and [a] third party’s location can be shown on the same map.” Obradovich, 11:48-12:14.

FIG. 8



Obradovich, FIG. 8

[0244] Obradovich also teaches techniques to control information sent to remote parties, by allowing the user to assign a security level index to requesting individuals and to provide specific restrictions on what information about the user is shared with each security level, including information about the user’s location. Obradovich, 26:20-27:10.

4. Discussion of Boling (EX1074)

[0245] Boling describes a “combination personal audio device and emergency phone” that is “an AM/FM radio” that can transmit its “GPS” location to a “private service” via “cellular communications.” Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64.

5. Discussion of Bechtolsheim (EX1075)

[0246] Bechtolsheim (EX1075) describes “improved navigation programming” that assumes the user will drive part of a route, “park[] his/her vehicle[,]...and walk[] the remaining distance to the final destination.” Bechtolsheim, 1:6-10, 9:30-35, 5:66-6:3, 7:44-47, 11:57-61. The programming computes “the time to travel” each possible “combination driving/walking route” to select the best one. Bechtolsheim, 19:17-36. Additionally, the “program can provide...routes that use public transportation” and compare the “travel time” to that “using a private vehicle.” Bechtolsheim, 21:26-59. The navigation information can be provided “on hand-held computer devices, such as personal digital assistants, telephones,” etc. Bechtolsheim, 20:45-47.

[0247] Bechtolsheim describes “improved navigation programming” that assumes the user will drive part of a route, “park[] his/her vehicle[,]...and walk[] the remaining distance to the final destination.” Bechtolsheim, 1:6-10, 9:30-35, 5:66-6:3, 7:44-47, 11:57-61. The programming can compute “the time to travel” each possible “combination driving/walking route” to select the best one. Bechtolsheim, 19:17-36. The navigation information can be provided “on hand-held computer devices, such as personal digital assistants, telephones,” etc. Bechtolsheim, 20:45-47.

[0248] Bechtolsheim thus teaches to compute the *time to reach* the destination via various routes *according to two types of travel: walking and driving*, since the “user may not necessarily be able to park at the destination location” and will walk there from their parking spot. Bechtolsheim, 1:27-50. Bechtolsheim further teaches that the user may wish to “choose one” of the available combined driving-parking-walking routes from a “displayed list” based on, e.g., “walking distance” (Bechtolsheim, 18:48-19:3), and also that the user can “select[]” whether the user cares more about “time to travel” rather than “distance” (Bechtolsheim, 19:17-36). It would therefore have been obvious to provide the user with travel-time information for a combination driving/walking route to aid the user’s selection. Bechtolsheim teaches to “*provide[]*” the navigation information to the user’s device from “a remote location” where it is computed. Bechtolsheim, 5:16-19.

6. Discussion of Combinations of Sheha, Sheha-Froeberg, and Sheha-Smith with Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim

[0249] *Combination with Degnbol*: POSAs would have been motivated to incorporate various location-based alerts to more effectively share location data in Sheha’s system, which also provides location-related notifications. *See, e.g.*, Sheha, 11:40-51, FIG. 4. In my opinion, POSAs, when considering when to send a location-related notification, would have looked to references such as

Degnbol to identify such triggers. *See, e.g.,* Degnbol, Abstract, 6:6-17, 11:5-11.

In my opinion, POSAs would have reasonably expected success incorporating such alert techniques into Sheha, Sheha-Froeberg, and Sheha-Smith because Sheha’s system already identifies and shares location information and Degnbol illustrates additional examples of when and how to do so, which would easily be applied using Sheha’s hardware with at most minor software modifications.

[0250] *Combination with Wollrab*: POSAs would have been motivated to enhance Sheha/Sheha-Froeberg/Sheha-Smith to incorporate Wollrab’s teachings to store historical location-tracking records to help trace where a device has been and locate a device whose tracking has been lost, such as for a parent locating a child. Wollrab, 3:21-27, 4:40-58. POSAs would have reasonably expected success given that Sheha’s ODAS already receives, stores, and provides updates of a target wireless device’s location as discussed *supra* §VIII.A.1, §VIII.A.2.a.ii.

[0251] My opinion on the POSA’s background knowledge in this regard is corroborated by EX1012 (“Ganesh”), which describes providing a mobile device’s location to an authorized requesting party. Ganesh, Abstract, 1:14-18. Ganesh explains that automatic location techniques had been developed for emergency uses under the Federal Communications Commission’s E-911 requirements, and describes applying these techniques for non-emergency uses,

while preventing unauthorized access to location information. Ganesh, 1:56-2:12, 2:45-60. In Ganesh's system, a mobile device's approximate location can be obtained using call history records to identify cell sites and sectors in communication with the device during a prior call. Ganesh, 1:43-55, 4:29-35, 7:3-20. A more accurate location can be obtained using the automatic location techniques for E-911, such as built-in GPS receivers. Ganesh, 7:32-65.

[0252] For secure location sharing, Ganesh's system determines whether the requestor is authorized to locate the target device. Ganesh, 5:1-6:32. If so, the target device's location is displayed on a map, marked by star 106. Ganesh, 8:6-14, FIG. 7 (below).

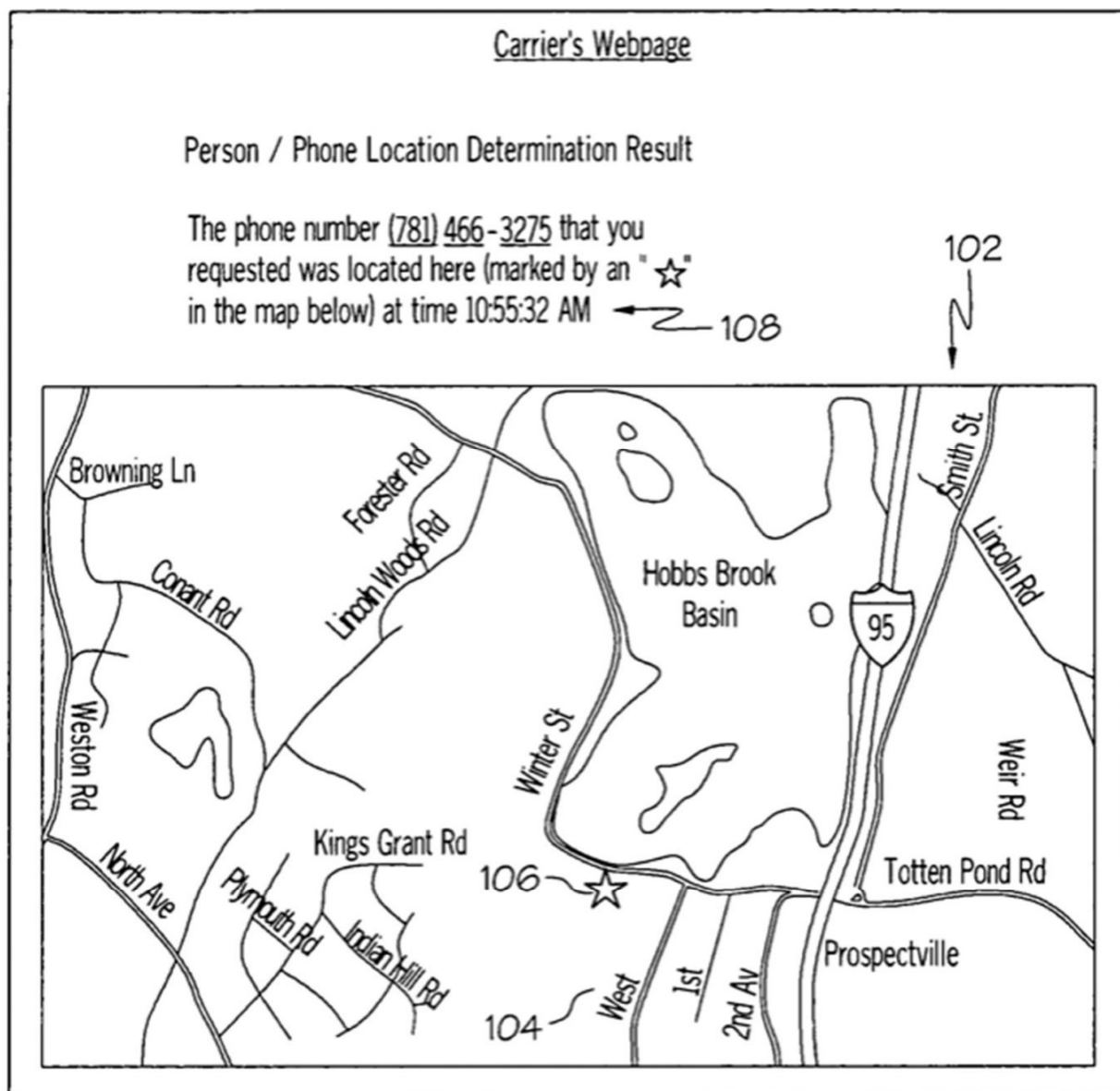


FIG. 7

Ganesh, FIG. 7

[0253] In my opinion, POSAs would have had a reasonable expectation of success incorporating this functionality into the Sheha-based

combinations given that Sheha's ODAS already receives, stores, and provides updates of a target wireless device's location as I discussed above (§VIII.A.1, §VIII.A.2.a, §VIII.B.3.b).

[0254] **Combination with Obradovich**: POSAs would have been motivated and reasonably expected success, based on Obradovich's teachings, to implement Sheha's Internet-connected server (ODAS) in Sheha/Sheha-Froeberg/Sheha-Smith to function as a "home site computer system" into which a user requesting another user's location inputs "an identifier" and "password," and to utilize a user's location to validate credit requests. Obradovich, 26:13-56, 4:62-65, 24:50-25:30.

[0255] **Combination with Boling**: In light of Sheha's teachings to share various mobile devices' locations (Sheha, 12:58-60, 19:41-46, 12:1-7), POSAs would have been motivated and reasonably expected success to share any suitable mobile device's location, such as a location-transmitting radio per Boling, in Sheha/Sheha-Froeberg/Sheha-Smith.

[0256] **Combination with Bechtolsheim**: Bechtolsheim teaches to provide a combination driving-and-walking route to the destination since the "user may not necessarily be able to park at the destination location," and also to provide public-transportation route options that may save the user time. Bechtolsheim, 1:27-50, 21:53-56. POSAs would therefore have been motivated to provide such

routes in Sheha/Sheha-Froeberg/Sheha-Smith, and would have reasonably expected success based on Bechtolsheim's teachings in a similar system providing navigation functionality on mobile devices. Bechtolsheim, 20:45-47.

7. Mapping of Sheha in Combinations with Froeberg, Smith, Degnbol, Wollrab, Obradovich, Boling, Bechtolsheim to Claims 9-17, 19, 21-22, 30-38, 40, and 42-43.

a. Claims 9 & 30

Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.

Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.

[0257] In my opinion, POSAs would have found claim 9 to have been obvious over Sheha-Degnbol/Sheha-Froeberg-Degnbol, and claim 30 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.6) because the “two-way wireless communication devices (e.g., telephones or pagers) [have] the ability to *alert* user ‘A’s’ communication device when a user ‘B’ enters the proximity of user ‘A’.” Degnbol, 18:27-33, 10:17-33. The users are part of a list of users (a Buddy List). Degnbol, 9:32-34. Degnbol teaches that alerts are transmitted by a remote “processor,” which is shown in FIG. 1 (which I have annotated below) as a *remote system* like Sheha’s. Degnbol, FIG. 1, 21:3-6.

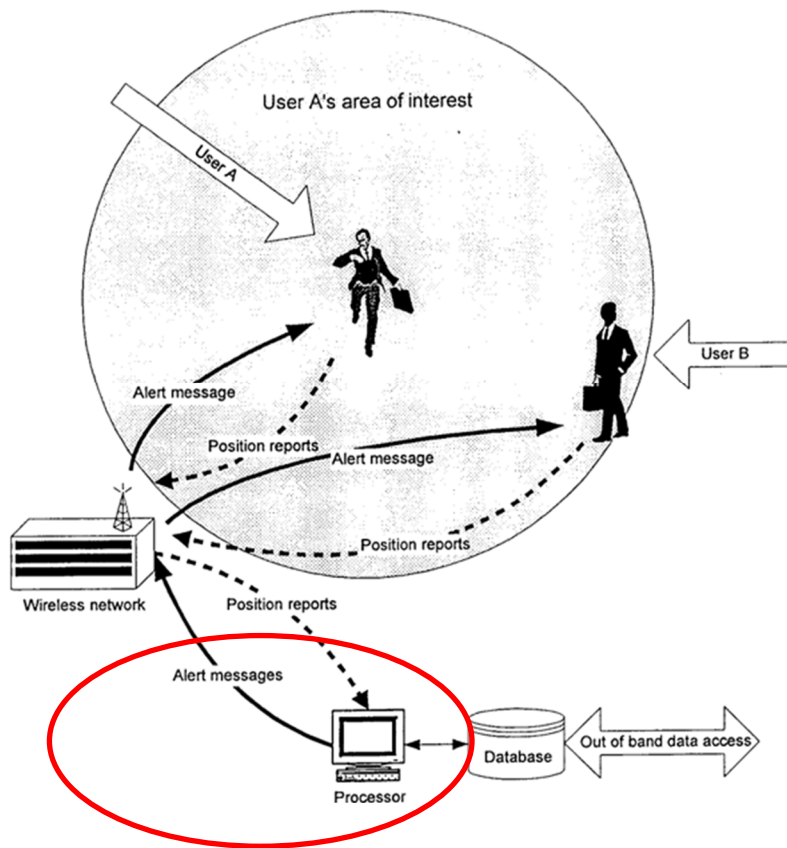


Fig. 1

Degnbol, FIG. 1 (annotated)

[0258] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 9 and Sheha-Smith-Degnbol meets claim 30.

b. Claims 10 & 31

Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.

Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.

[0259] In my opinion, POSAs would have found claim 10 to have been obvious over Sheha-Degnbol/Sheha-Froeberg-Degnbol, and claim 31 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.6). Sheha describes the *remote system receiving a request* to provide data based on a device location (Sheha, 6:15-16), and Degnbol teaches that alerts are provided by the *remote system* as I discussed above (§VIII.C.7.a, claims 9 & 30). Thus, in Sheha-Degnbol/Sheha-Froeberg-Degnbol/Sheha-Smith-Degnbol, these *alerts* are provided by the *remote system* based on *a request received* from the user device. Degnbol, 11:1-14.

[0260] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 10 and Sheha-Smith-Degnbol meets claim 31.

c. **Claims 11 & 32**

Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.

Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone.

[0261] In my opinion, POSAs would have found claim 11 to have been obvious over Sheha-Degnbol/Sheha-Froeberg-Degnbol, and claim 32 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.6), based on Degnbol’s *geographic-area-based alerts*: “user ‘A’ may choose to configure the system so that he...receives alerts,” which “may be associated with a *geographic area*.” Degnbol, 11:5-11, 6:6-8. The user can “set[] various preferences...directly from the...cellular phone,” including to “select[]” a “*geographic area*” to be notified/alerted when another user’s *wireless telephone* “arriv[es] at a given area.” Degnbol, 9:34-10:2, 11:1-3, 6:1-8, 13:19-21.

[0262] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 11 and Sheha-Smith-Degnbol meets claim 32.

d. Claims 12 & 33

Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.

Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.

[0263] In my opinion, POSAs would have found claim 12 to have been obvious over Sheha-Degnbol/Sheha-Froeberg-Degnbol, and claim 33 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.6), based on Degnbol’s teaching to “inform[]” a user at his *wireless telephone* “that he has been the subject of an alert to another user” (i.e., when the other user *locates* his *wireless telephone*, e.g., by being informed that his location is nearby the other user). Degnbol, 21:4-6, 18:27-31.

[0264] It would alternatively have been obvious to transmit an alert whenever another user requests to access the wireless telephone’s location in any way (whether or not as part of an alert), as this was a known useful option, even when the requesting entity already has location access rights. My testimony in this regard is corroborated by Rice (EX1071), which describes providing a user an “option...to receive a notification on their wireless communications device whenever a location request is made by a client application” to access the user’s

location. Rice, 9:26-35. Rice teaches that this is useful even where the requesting entity already has access rights. Rice, 7:40-49, 9:36-51, 12:20-33. Thus, Rice corroborates that transmitting an alert to a first user when a second user requests the first user's location was well known in POSAs' background knowledge.

[0265] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 12 and Sheha-Smith-Degnbol meets claim 33.

e. **Claims 13 & 34**

Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.

Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones

[0266] In my opinion, POSAs would have found claim 13 to have been obvious over Sheha-Wollrab/Sheha-Froeberg-Wollrab, and claim 34 to have been obvious over Sheha-Smith-Wollrab (*supra* §VIII.C.6), based on Wollrab's teaching that "multiple sequential sets of remote sensing location coordinates are *stored*...to create a *historical tracking record* of movement" that "can be retrieved later...for such purposes as tracking member movements or locating a lost member." Wollrab, 3:20-27, 4:54-58, FIG. 4C. Wollrab's wireless devices share their locations with each other via a *remote system* ("[s]atellite device 12"). Wollrab, 4:1-23.

[0267] In Sheha’s system, this functionality is performed by the ODAS (as I discussed above §VIII.A.2.a (claim 1), §VIII.B.3.b (claim 24)). In addition, storing a *history of locations* server-side was also a well-known design option to POSAs. My opinion in this regard is corroborated by the following references.

[0268] For example, Thomas (EX1019) describes “[t]echniques for location tracking, location utilization, and dissemination and management of location information.” Thomas, Abstract. Thomas describes “server-side registration processing [that] allows a viewer (requesting viewer) to request to view the location of a particular mobile communication device,” and the location can be saved in a “location history.” Thomas, 7:34-49. Thomas describes that “[t]he history of movement can be presented to the viewer in textual or graphical formats.” Thomas, 7:47-49. Additionally, Thomas describes that the “server-side location processing” can be “performed by a location monitoring *server*” and that the *server* “receives [] location information” and stores the location in a “location database.” Thomas, 5:58-6:13. Therefore, Thomas corroborates that storing a *history of locations* server-side was also a well-known design option.

[0269] My testimony is also corroborated by Ganesh, which teaches to store a history database with location information remotely on the server-side. Ganesh, 7:3-65, FIG. 1, 4:8-28. For example, in Ganesh’s system, a mobile device’s approximate location can be obtained using call history records to identify

cell sites and sectors in communication with the device during a prior call. Ganesh, 4:29-35, 7:3-20.

[0270] In my opinion, POSAs would have reasonably expected success storing a *history of locations* server-side in Sheha's system because Sheha's *remote system* already receives, stores, and provides updates of a device's location, as I discussed above (§VIII.A.1, §VIII.A.2.a).

[0271] Thus, Sheha-Wollrab and Sheha-Froeberg-Wollrab meet claim 13 and Sheha-Smith-Wollrab meets claim 34.

f. **Claims 14 & 35**

Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.

Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.

[0272] In my opinion, POSAs would have found claim 14 to have been obvious over Sheha-Wollrab/Sheha-Froeberg-Wollrab, and claim 35 to have been obvious over Sheha-Smith-Wollrab (*supra* §VIII.C.6). Wollrab teaches that the remote system transmits to a member device a location from the stored history of

locations “for such purposes as...locating a lost member.” Wollrab, 3:21-27, 4:54-58 (“location 44-5”), FIG. 4C:

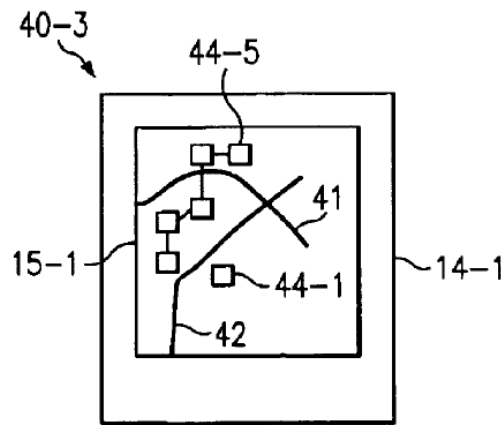


FIG. 4C

Wollrab, FIG. 4C

[0273] From this teaching and a POSA’s background knowledge, POSAs would have understood that in Wollrab’s scenario where the device’s tracking was “lost” following that trajectory, that may often be because the tracked device is *turned off*.

[0274] From this teaching and background knowledge, POSAs would have understood that the most recent historical location 44-5 and/or an extrapolation of the device’s trajectory based on the history is utilized to provide an approximate location of *one of said wireless telephones*, and that in the scenario Wollrab describes where the device’s tracking was “lost” following that trajectory, that may often be because the *wireless telephone* being tracked is *turned OFF*.

Moreover, POSAs would have understood that the fact that historic location data is being used makes it likely that the device is off (or at least suggests and motivates a mechanism for obtaining a location of an turned-off devices), because POSAs would have understood that if the device were turned on POSAs would understand that the system would be more likely to be able to obtain the device's current location without needing the history.

[0275] My opinion regarding POSAs' background knowledge in this regard is corroborated by Ganesh, which discloses providing historical location information from a call log when the target wireless device is turned off. Ganesh, 7:62-65, 6:55-7:20. Ganesh at 7:3-20, for example, corroborates that POSAs knew that using a history to predict the device's location is useful when the device "is not currently registered." And Ganesh at 6:55-56 says the device will be registered when it is "powered on" and in a "coverage area." Thus, POSAs knew that a device that is "not currently registered" (7:3-20) is either not powered on (i.e., it is turned off) and/or not in a coverage area. Ganesh at 7:3-20 explains that the location history is useful to predict that the device's location is "one of coverage areas 26" (i.e., the device is in a coverage area and the system is using the history to decide which coverage area the device is in), which indicates that Ganesh is describing the situation where the device is not registered because it is turned off.

[0276] Thus, Sheha-Wollrab and Sheha-Froeberg-Wollrab meet claim 14 and Sheha-Smith-Wollrab meets claim 35.

g. Claims 15 & 36

Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.

Claim 36: The system of claim 24, wherein said remote system is further capable of providing said location information to another device utilized by said user of said first wireless device after said user utilizes said another device to input said login and said password into a website.

[0277] In my opinion, POSAs would have found claim 15 to have been obvious over Sheha-Obradovich/Sheha-Froeberg-Obradovich, and claim 36 to have been obvious over Sheha-Smith-Obradovich. As I discussed above (§VIII.C.3), Obradovich (EX1043) discloses a “system for communicating and retrieving position and position related data” using “Personal Communication Devices (PCDs).” Obradovich, 1:16-17, 2:18-23. “The PCD is a cellular-phone-sized electronic device, combining the capabilities of a GPS receiver, transceiver, digital beeper, cell phone and projection system into one compact unit,” like Sheha’s mobile devices. Obradovich, 2:60-63. Obradovich’s system, like Sheha’s, “allows users to request detailed information relating to their present location” and

location information for destinations and other individuals. Obradovich, 3:45-47, 4:1-5.

[0278] Sheha's *remote system provides said location after* the requesting user *inputs their login and password* to the ODAS, as I discussed above (§VIII.B.3.b, claim 24). The ODAS is an Internet-connected server (Sheha, FIG. 1), and Obradovich teaches that such an Internet server functions as a "home site computer system" for the target devices, into which the requesting user inputs "an identifier" and "password" to "authenticate the[ir] identity" for accessing the target user's information. Obradovich, 26:13-56. Thus, in my opinion, POSAs would have found it obvious to implement the Sheha, Sheha-Froeberg, and Sheha-Smith systems to accept a user's *login and password as input into a website* via their *device*. Doing so was well-known for accessing other users' location information, which is also why POSAs would have had a reasonable expectation of success doing so in the Sheha-based systems. My opinion on the POSAs' background knowledge in this regard is corroborated by the following references.

[0279] Ganesh describes that the user accesses a "first web page, or a log-in web page." Ganesh, 5:1-3; FIG. 3. The user next accesses a "[c]urrent location request web page 66 includ[ing] a dialing number field 68 provided for the entry of a dialing number 72 of wireless communication device 24." Ganesh, 6:4-7; FIG. 5.

[0280] For secure location sharing, Ganesh requires requesting parties to submit log-in information and identify the target device, after which the system determines whether the requestor is authorized to locate the target device. Ganesh, 5:1-6:32. Ganesh discloses that if the requestor is not an authorized party, they receive a third web page, the “[a]ccess denial web page 86 [that] may contain various possible explanations 88 describing why access to information location was denied” and a query to request location information at a later time. Ganesh, 6:33-54, FIG. 6 (below).

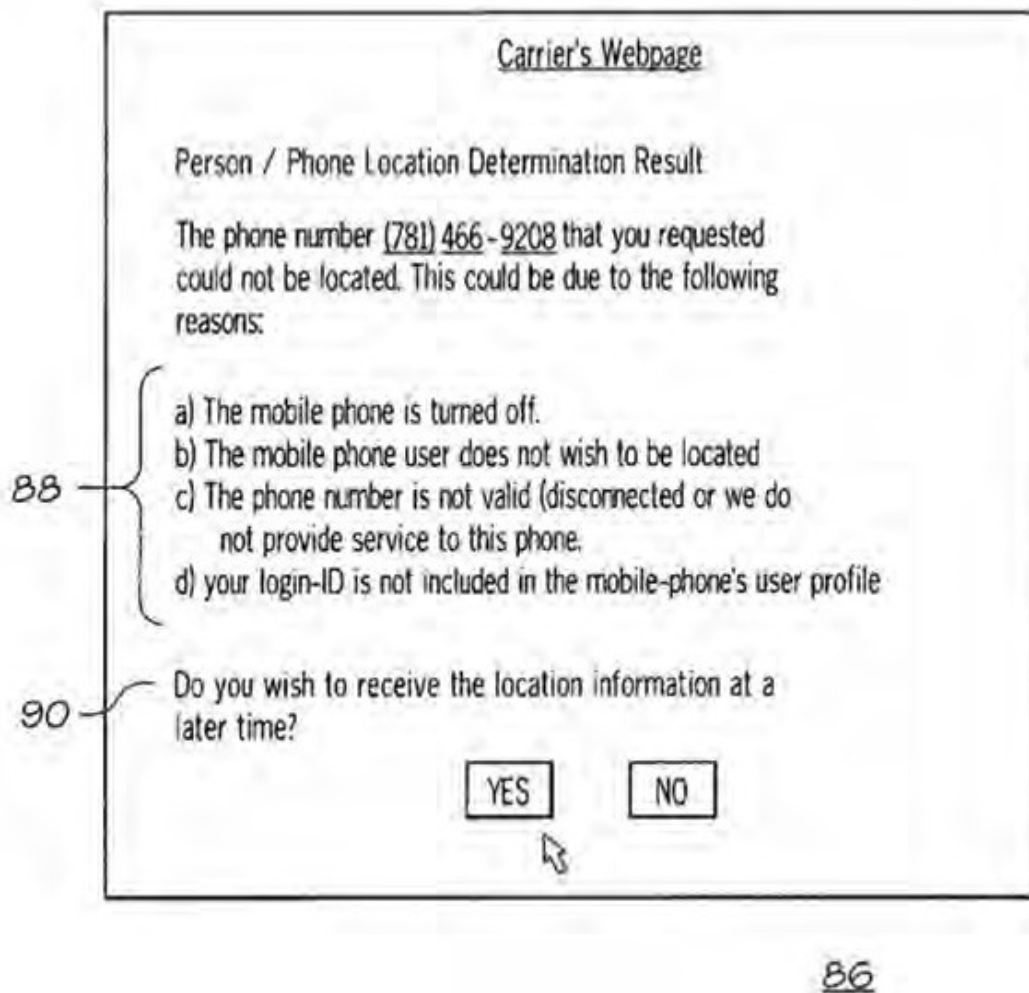


FIG. 6

Ganesh, FIG. 6

[0281] Thomas (EX1019) describes a “location monitoring system” for “location tracking, location utilization, and dissemination and management of location information.” Thomas, 1:15-55 (disclosing that the “present invention relates to computing or communication devices,” which include “wireless communication devices,” such as “mobile phones [and] personal digital assistants

(PDAs)"); *see also id.*, 2:58-3:6. Prior to disseminating location information to a requesting user, the requesting user “must login with an appropriate ***user name and/or password***. This allows restricted access to the location information.” Thomas, 5:49-54, *see also id.*, 6:53-7:49 (describing waiting for a log-in response and then, once received, determining whether it was successful), 7:27-40 (describing providing location information to a requesting user after the log-in response is successful). The location information of mobile devices in the system is thus obtainable by a user if the user is authorized and authenticated via user name and password. Therefore, Thomas corroborates that the entering of a username and password to authenticate a requesting user accessing a location of another user via that user’s mobile device was well-known in POSAs’ background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user’s information (including location).

[0282] Thus, Sheha-Obradovich and Sheha-Froeberg-Obradovich meet claim 15 and Sheha-Smith-Obradovich meets claim 36.

h. Claims 16 & 37

Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.

Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.

[0283] In my opinion, POSAs would have found claim 16 to have been obvious over Sheha-Degnbol and Sheha-Froeberg-Degnbol, and claim 37 to have been obvious over Sheha-Smith-Degnbol (*supra* §VIII.C.6. Degnbol describes “determining the position of” “communication units,” which include “wireless telephone[s],” “personal digital assistants,” and “*wristwatches*.” Degnbol, 4:1-31, 7:1-17, 6:22-23, 27:14-16. In light of Sheha’s teachings that the ODAS *stores and transmits* the *location of* various communication devices like those Degnbol lists (Sheha, 9:50-53), it would have been obvious to POSAs to *store and transmit* any suitable device’s *location*, including *a watch*.

[0284] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 16 and Sheha-Smith-Degnbol meets claim 37.

i. **Claims 17 & 38**

Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

[0285] In my opinion, POSAs would have found claim 17 to have been obvious over Sheha-Degnbol and Sheha-Froeberg-Degnbol, and claim 38 to have been obvious over Sheha-Smith-Degnbol. Degnbol teaches that the *watch* that I discussed above (§VIII.C.7.h, claims 16 & 37)) is “[a] unit in the set” of “***communication*** units” whose “position” is determined by “triangulation methods, GPS,” etc. Degnbol, 4:1-5:11, 6:22-7:30. Sheha teaches that such GPS-enabled (Global ***Positioning System***) mobile communication devices calculate their position and communicate it to the *remote system* (ODAS) *over said communications network*. Sheha, 10:1-16, 11:12-51.

[0286] Thus, Sheha-Degnbol and Sheha-Froeberg-Degnbol meet claim 17 and Sheha-Smith-Degnbol meets claim 38.

j. **Claims 19 & 40**

Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.

Claim 40: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.

[0287] In my opinion, POSAs would have found claim 19 to have been obvious over Sheha-Boling and Sheha-Froeberg/Boling, and claim 40 to have been obvious over Sheha-Smith-Boling (*supra* §VIII.C.6). Boling teaches, and it was background knowledge, that a mobile device having position-reporting capability can be a radio. Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64. My opinion on the POSAs' background knowledge in this regard is corroborated by Lelievre (EX1076), which describes “a location-aware *radio*” that “transmits location information indicating its present location, to a location-based services provider.” Lelievre, Abstract, [0047], FIG. 5. Thus, Lelievre corroborates that it was well known in POSAs' background knowledge that a mobile device having position-reporting capability can be a radio.

[0288] In light of Sheha's teachings of the *remote system storing and transmitting* various mobile devices' *locations* to a requesting mobile device (Sheha, 12:58-60, 19:41-46, 12:1-7), in my opinion POSAs would have been motivated and would have had a reasonable expectation of success to implement

Sheha, Sheha-Froeberg, and Sheha-Smith to *store and transmit* any suitable mobile device's *location*, such as a *radio*, per the teachings of Boling (*supra* §VIII.C.4).

[0289] Thus, Sheha-Boling and Sheha-Froeberg-Boling meet claim 19, and Sheha-Smith-Boling meet claim 40.

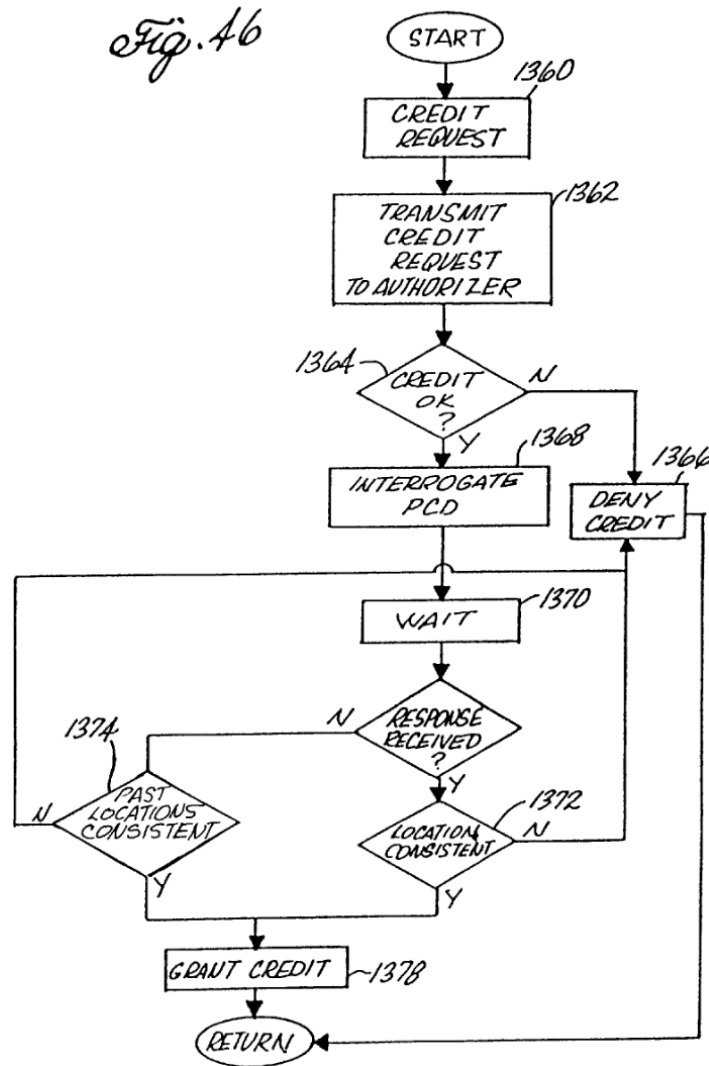
k. Claims 21 & 42

Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.

Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.

[0290] In my opinion, POSAs would have found claim 21 to have been obvious over Sheha-Obradovich and Sheha-Froeberg-Obradovich, and claim 42 to have been obvious over Sheha-Smith-Obradovich (*supra* §VIII.C.6). Obradovich teaches that the PCD's "location information may be used to locate individuals in determining whether to authorize credit requests," by providing the PCD's (*first wireless telephone's*) location to "the credit authorizer" to "determine[] if the PCD location is consistent with" (i.e., validates) its user's "request for credit."

Obradovich, 4:62-65, 24:50-25:30, FIG. 46:



Obradovich, FIG. 46

[0291] In my opinion, POSAs would have been motivated to incorporate the above Obradovich functionality into Sheha, Sheha-Froeberg, and Sheha-Smith to “make use of the location monitoring capability provided by” Sheha’s mobile device and ODAS “in determining the validity of credit requests.” Obradovich, 24:51-54. In my opinion, POSAs would have had a reasonable expectation of success because Obradovich itself teaches a system operating in the

proposed manner, and Sheha's ODAS already makes mobile devices' locations available to other parties. In the combinations with Obradovich, Sheha's ODAS (*remote system*) can *provide said location of said first wireless telephone to a credit card authorization system*.

[0292] Thus, Sheha-Obradovich and Sheha-Froeberg-Obradovich meet claim 21 and Sheha-Smith-Obradovich meets claim 42.

I. Claims 22 & 43

Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

[0293] In my opinion, POSAs would have found claim 22 to have been obvious over Sheha-Bechtolsheim and Sheha-Froeberg-Bechtolsheim, and claim 43 to have been obvious over Sheha-Smith-Bechtolsheim (*supra* §VIII.C.6). Bechtolsheim teaches to compute the *time to reach* the destination via various routes *according to two types of travel: walking and driving*, since the “user may

not necessarily be able to park at the destination location.” Bechtolsheim, 1:27-50. Bechtolsheim further teaches that the user may wish to “choose one” of the available driving-parking-walking routes from a “displayed list” based on, e.g., “walking distance” (Bechtolsheim, 18:48-19:3), and that the user can “select[]” whether the user cares more about “time to travel” than “distance” (Bechtolsheim, 19:17-36). Thus, in my opinion, it would have been obvious to POSAs to provide the user with travel-time information for a combination driving/walking route to another mobile device’s *location* in Sheha/Sheha-Froeberg/Sheha-Smith to aid the user’s selection. Bechtolsheim teaches to “*provide[]*” the navigation information to the user’s device from “a *remote* location” where it is computed. Bechtolsheim, 5:16-19.

[0294] Additionally, Bechtolsheim teaches to “provide...routes that use public transportation” and “compare[]” the “travel time using public transportation” (which POSAs would have understood typically includes *subway*) “to the travel time using a private vehicle” (*driving*). Bechtolsheim, 21:26-59. It would therefore have been obvious to POSAs to provide the user with travel-time information for both *subway* and *driving* routes to allow the user to select one.

[0295] Thus, Sheha-Bechtolsheim and Sheha-Froeberg-Bechtolsheim meet claim 22 and Sheha-Smith-Bechtolsheim meets claim 43.

D. Grounds 4-5: Claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44 would have been obvious over Randall (alone or with Froeberg)

[0296] As explained in this section below, in my opinion claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44 of the '024 patent would have been obvious over Randall (EX1007-EX1008) (with or without Froeberg (EX1051)).

[0297] Above I provided a discussion of Froeberg (§VII.D).

1. Discussion of Randall (EX1007-EX1008)

[0298] Randall is an international (PCT) application filed August 22, 2001, and published in the international stage as EX1008 on February 28, 2002, and then in the U.S. national stage as EX1007. Citations herein are to the U.S. publication (EX1007) paragraph numbers for convenience; the identical description is present in the international publication (EX1008). *See supra* §VII.C (where I provide a mapping of paragraph numbers in EX1007 to page numbers of EX1008).

[0299] Randall relates to “enabling a wireless information device to access data services,” using “an extensible framework which handles data passing to and from several applications resident on the device, the framework being shared by each of the applications.” Randall, [0002], [0006]. The wireless devices can be “radio telephones, smart phones,” etc., which “can access information on” “internet servers hosting extensible databases.” Randall, [0002], [0029].

[0300] Examples of applications on a wireless device that can all access the same server-based database framework and coordinate to provide services include “a directory application (which contains a user’s contacts list...)” and “a location application (which gives a user’s location and includes digital maps).” Randall, [0009], [0012], [0025], [0028] (“applications...share information”), [0029], [0080]-[0081], [0086], [0085]-[0115].

[0301] Randall’s framework is a “‘framework of frameworks’ such that services are tightly integrated in a way that the traditional browser model does not allow.” Randall, [0080]. Specifically, Randall provides a framework that allows for different services to be available from a “centralised location” (Randall, [0080]) such that different applications on the wireless device can work together to provide a service using the same data from the centralized location. Randall, [0025], [0081].

[0302] For example, Randall provides an example of a “Yellow Pages™ data services plug-in” in which different applications on a wireless device can all access data from a “Yellow Pages remote server” to work together to provide a service. Randall, [0009], *see also* Randall, [0089]-[0093] (Randall describing a “Yellow Pages” service provided by a Directory framework application and a Radar framework). Thus, different applications on the wireless device can be “grouped together” to provide a service using the same Yellow

Pages remote server data. Randall, [0025]. In the “Yellow Pages” example, “a search request performed in the directory application (e.g. search: ‘cameras’) could be routed to a Yellow Pages remote server, which responds with the required data, including detailed maps in the location application; special shopping offers are [] pushed into the shopping application; nearby shops/services are shown in the location application.” Randall, [0009]. Accordingly, the Yellow Pages data services plug-in in this example can provide data from the same source to the different applications on the wireless device that work together to provide a service.

[0303] Randall provides another example in which “data sent from a commercial data service provider can automatically populate one or more applications (such as PIM applications) on the wireless information device.” Randall, [0012]. In this example, “sporting fixtures and entertainment listings could be transmitted from a data service provider placed straight into a user’s calendar application” and “[n]ews headlines and weather could be sent straight into a user’s calendar application.” Randall, [0012]. That various data can automatically be provided to different applications on the user’s wireless device “where it is likely to be looked at and found useful” to provide a service. Randall, [0012].

[0304] Regarding location, “[a]s an example,...a user might choose to subscribe to a service which allowed others to track his or her location—location could be a new attribute” stored in the “database” as “information relating to [the] individual.” Randall, [0021]. “The user’s friends or parents etc who wish to track the user[’]s location...could add a ‘map’ application to their own devices, which could show their position on digital maps and also, by using the location attribute of the user’s data object, it could also show the position of the user.” Randall, [0021]. In this example, the “personal information...and location based information” is “handled by contacts...and map type applications” coordinating together to provide the service. Randall, [0021]-[0022], [0025].

[0305] Randall’s system further provides “[a]ccess control...which allows a user to define which entities have read/write access to any given field in a database of information relevant to that entity.” Randall, [0066]. One such field in a user’s database is their device’s “GPS location.” Randall, [0505], Table 1. When a wireless user Bob requests access to such data belonging to a user Alice, “the server recognis[es] Bob’s device” via “ID number” and “PIN” or other password, “and determin[es] the database access rights which Alice has given him.” Randall, [0067]. “Once authenticated, the server passes to Bob’s device the information it requests.” Randall, [0067].

[0306] Thus, Randall discloses that various applications in a wireless device can all work together to provide a service using the same server data to support the various functionalities supported by Randall’s service.

2. Mapping of Randall (alone and with Froeberg) to claims 1-8, 15, 18-20, 23, 24-29, 36, 39-41, and 44

a. Claim 1

i. Preamble: [1PRE] A system comprising:

[0307] Claim 1’s preamble simply recites “A system comprising.” I understand that the preamble is not necessarily limiting. In this case, whether or not it is limiting does not affect my opinion as the Randall discloses the preamble. Randall teaches a “*system*” that allows “wireless applications to access and share information.” Randall, [0028], [0052]-[0053], [0071]. As I will discuss below, it is my opinion that Randall (alone and in view of Froeberg) meets all the limitations of claim 1.

ii. Element [1A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:

[0308] Randall’s system includes an “internet *server*[.]” (“i-*server*”)—a “*server* on the Internet”—which POSAs would have known teaches a *remote system comprising a server*. Randall, [0029], [0046], [0503], [0053], [0030] (“*remote*, extensible database”), FIG. 4 (showing the system’s servers located remotely from the wireless devices).

[0309] Randall’s i-server communicates with “*wireless* information device[s],” which can be “radio *telephones*, smart *phones*,” etc. Randall, [0002]. These *wireless telephones* “*communicate...over*” a “*network*, such as GSM or UMTS, CDMA and WCDMA” (i.e., *communications network*) to “access information on the[] databases” hosted on the “internet servers” Randall, [0002], [0029], [0046], [0049], [0067] (“server passes...information” to “Bob’s device”), [0105], [0509], p. 24 (“People tracking”). Thus, the *remote system is capable of communicating data with the wireless devices over a communication network*.

[0310] Thus, it is my opinion that the Randall meets Element [1A].

iii. Element [1B]: obtaining a location of a first wireless telephone;

[0311] Randall discusses some examples involving Alice and Bob, who are both users of wireless information devices. Randall, [0053], [0491] (“Bob’s...mobile phone”), [0505] (“Alice’s mobile device”). Alice’s device is an exemplary *first wireless telephone*, as is Bob’s, because POSAs would have understood that Randall presents Alice and Bob as arbitrary examples illustrating functionality that is equally available to any wireless information device in Randall’s system). *See, e.g.*, Randall, [0053] (“Consider Alice...and Bob”—language introducing Alice and Bob as generic examples), [0510] (“Bob’s details” are downloaded to “Alice’s...device” just as “Alice’s contact” is provided to

“Bob’s device[.]”), [0144] (“The user” (generic to Alice or Bob) “must be able to switch location information on for a person or group of people”).

[0312] Even if Randall had not explicitly taught this, it would have been an obvious implementation option to allow any wireless device users to subscribe to the same functionality (including contacts functionality and location functionality) in Randall’s system.

[0313] For example, “Alice stores her data on a server on the Internet.” Randall, [0053]. As shown in Table 1 (which I highlighted below), one of the fields in Alice’s “i-Data” (“Identity”) database on the i-server is her device’s “GPS *location*.” Randall, [0503]-[0512], [0116]-[0136] (“Identity” used for sharing “Location information”).

TABLE 1

<u>Alice’s iData</u>			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all

TABLE 1-continued

Alice's iData			
Field/Attribute	Category	Details	i-Groups
Company Name	work	Wireless Information Device gets R Us	all
Company Address	work	1 Science Park Rd, London, N1	all
Company E-mail	work	alice.edwards@Wireless Information Device getsrus.com	business 1
Company switchboard	work	0207 200 2000	all
Company Direct	work	0207 200 2012	business 1
Mobile Phone	work	0840 1234 567	business 1, friends
Home Phone 1	work	0208 341 1234	friends, family
Home Address	work	25 The Gables, Hampstead, London, NW3	family
My photo	photos		friends
Childhood photo	photos		family
Home note	notice	Sorry about dinner ☹	partner
Work note	notice	In a meeting with Tim till 7pm	work 1
My mood now	mood	Very tired	all
Tel Call Subject		"Dinner Tonight"	
Bluetooth	location	Bluetooth pods 1000–1020 . . . Sentinel room 2 . . .	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Randall, Table 1 (highlighted)

[0314] “That *location data can be obtained* via [Alice’s] GPS wireless information device, which transmits location information to the i-server.” Randall, p. 24 (Table 4, “People Tracking”). Thus, Randall teaches the i-server *obtaining a location of (Alice’s) first wireless telephone*.

[0315] Thus, it is my opinion that the Randall meets Element [1B].

- iv. **Element [1C]: changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;**

[0316] In Randall’s system, each user is “authenticat[ed]...when they access their data” using their “WID and password/passphrase.” Randall, [0380]. Alice’s data (“Alice’s i-Data”) is in a “database” on the “i-server” which she can access via her “mobile device to allow her to manage her data.” Randall, [0502]-[0505]. Alice thus has *a profile associated with her first wireless telephone* in the i-server database.

[0317] Randall’s “server recognis[es] Bob’s device and determin[es] the database *access* rights which Alice has given him.” Randall, [0067]. “The database can define which entities can read different fields: Alice can therefore give Bob rights to read only certain fields in her database.” Randall, [0047]. As I discussed above (§VIII.D.2.a.iii, Element [1B]) and shown in Randall’s Table 1, one of the fields in Alice’s “i-Data” database on the i-server is information about her device’s “GPS *location*,” and she can designate that field as being accessible to a particular *list of users*—in the Table 1 example, she has designated “GPS location” as accessible to users whom she has designated as part of the “i-Group” called “partner;” POSAs would have understood that she could similarly designate it to be accessible to a different i-Group, such as “friends” or “family.” Randall,

[0503]-[0512], [0021] (“[t]he user’s friends or parents etc” can be “allowed...to track his or her location”). Such “sensitive information,” as location information “is only available to people in certain i-Groups; allowing Alice to control what data they see.” Randall, [0509], [0136] (“Location information” is “[v]isible to specific people (or groups)”). Such “[a]ccess rights can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070], [0052], [0146] (“users will be prepared to allow specific people access to more of their data than others”). Thus, the users Alice has designated as having access to her GPS location are *a list of users for a profile associated with said first wireless telephone* (Alice’s iData profile on the i-server) *that are allowed to access said location*.

[0318] A user’s “contacts database” on Randall’s i-server—called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given.” Randall, [0511]. “Table 2” is “an example” of “Alice’s Universe, which shows how contacts are assigned to...iGroup[s], thus defining the level of access they get to Alice’s data.” Randall, [0511].

TABLE 2

<u>ALICES UNIVERSE</u>		
NAME	DETAILS	i-GROUP
Aardvark plumbers	Number, email, address etc . . .	contractors
Bently, John	Number, email, address etc . . .	friend
Coppermill Corp	Number, email, address etc . . .	contractors
Davies, Charles	Number, email, address etc . . .	work 1
Entwistle, Peter	Number, email, address etc . . .	partner, friend
Greenfield Ventures	Number, email, address etc . . .	business 1

[0319] Randall teaches that at least some of these users in Alice’s Universe have their own wireless information devices. Randall, [0512] (“people in the list” can “look[] at” the user’s information “using an application on their...wireless information devices”), Appendix 1 p. 25 (user’s “address book” of contacts includes “mobiles you regularly phone”), [0511], Table 2 (showing “Number” of each contact). Thus, Alice can assign wireless-telephone user contacts to assign to the i-Group designated to have access to her GPS location, such that *each user of said list of users is representative of one of a plurality of wireless telephones*.

[0320] Randall teaches that “whenever Alice wishes to, she can **change** the level of access of a current contact—perhaps promoting Bob from ‘business’ to ‘friend’” (or, POSAs would have understood, another i-Group—e.g., “partner”). Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group”—i.e., *changing the list of users* in that i-Group—which

Alice can direct the *remote system* to do via her device (i.e., *at the direction of said first wireless telephone*) to provide permission for Bob's device to access her device's location, making Bob one of the *users* of the *list of users*. Randall, [0509], [0495].

[0321] Thus, it is my opinion that the Randall meets Element [1C].

v. Element [1D]: transmitting said location to at least one of said users of said list of users over said communications network;

[0322] “When one of the people in [Alice's contact] list...looks at Alice's ADS Number, (using an application on their...wireless information device[])”—e.g., when Bob's device requests Alice's location information—“they see a view onto Alice's personal data that is defined by Alice.” Randall, [0512], [0049], [0053], [0067], [0509] (“Bob” is Alice's “contact” and has “access” to Alice's “information”). “When Bob's device sends Alice's ADS Number to the server, then the server recognises Bob's device and allows that device to read Alice's information held on the database which is specified as being accessible to Bob.” Randall, [0049]. “[T]he server recognis[es] Bob's device and determin[es] the database access rights which Alice has given him,” and then “[o]nce authenticated, the server passes to Bob's device the information it requests.” Randall, [0067]. This “enabl[es] authorised people to track the location of the GPS

wireless information device by polling the server” which has been “up-dated with the location of” Alice’s device. Randall, p. 24 (Table 4, “People tracking”).

[0323] Thus, Randall’s *remote system transmits Alice’s location* to a *user of said list of users* (e.g., Bob).

[0324] Thus, it is my opinion that the Randall meets Element [1D].

vi. Element [1E]: determining a second location associated with one of said plurality of wireless telephones; and

[0325] As I discussed above (§VIII.D.2.a.iii, Element [1B]), POSAs would have understood Randall’s example of Alice sharing her location with Bob to be a generic example that is equally applicable to Bob sharing his location with Alice. Randall, [0067] (“Bob also has stored on the server his own personal information”), [0510] (“Bob’s details” are downloaded to “Alice’s...device” just as “Alice’s contact” is provided to “Bob’s device[.]”), [0053] (“Consider Alice...and Bob”—language introducing Alice and Bob as generic examples).. Randall teaches that any “user must be able to switch location information on for a person or group of people..., i.e. being able to select the person and allow access” to make the user’s device’s location “[v]isible to specific people (or groups) for a specific period of time”—e.g., “for the half hour that the group of friends are trying to locate each other in town.” Randall, [0144], [0136], [0143]. Thus, Bob can also “choose to subscribe to [the] service which allowed others to track his...location”

(Randall, [0021]), wherein the *remote system determines a second location associated with Bob's wireless telephone*.

[0326] Thus, it is my opinion that the Randall meets Element [1E].

vii. Element [1F]: providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location.

[0327] Randall provides a “Route finder” service, “similar to GPS tracking in cars, but for mobile phones. You identify where you want to go, the phone knows where you are already. It can therefore give you *step by step instructions* on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout).” Randall, p. 29.

[0328] I understand from counsel that in a prior IPR related to U.S. Patent No. 8,374,575 that Mullen proposed a construction of “*directions*” as “instructions indicating how to navigate from one location to another location.” In my opinion, Randall’s “instructions” discussed above meet Mullen’s construction because the step-by-step instructions indicate how to navigate from one location (e.g., a current location) to another location (“where you want to go”).

[0329] Further, Randall provides a “Rendezvous” service “on your mobile phone to help you meet friends and family in crowded or unfamiliar places. Temporarily you can elect to have your location visible to others—so using your

phones everyone in your group can tell precisely where the others are.” Randall, p. 29. Randall teaches that “[a]t the touch of a button, your phone can display a map of the area you are standing in” (Randall, p. 29) and it can also “show [your] position” and “the position of [another] user” (Randall, [0021]). In my opinion, POSAs would have understood and found it obvious from these Randall disclosures that another user’s position (e.g., Alice’s location) can be “where you [e.g., Bob] want to go” in Randall’s “Route finder,” which can “give you step by step instructions on how to get there” (Randall, p. 29).

[0330] As I discussed above (§VIII.D.1), Randall teaches that applications share information and coordinate to provide services of interest to users. POSAs would have been motivated and reasonably expected success to use, e.g., Alice’s location (which is provided to Bob’s device by the i-server as I discussed above (§VIII.D.2.a.v, Element [1D])) as a “Rendezvous”-type destination in the “Route finder” service on Bob’s device to provide Bob directions to Alice’s location.

[0331] Thus, Randall teaches, or at minimum would have rendered obvious to POSAs, *providing directional information to Bob’s wireless telephone*, representative of directions between Bob’s second location and Alice’s location.

[0332] Thus, it is my opinion that the Randall meets Element [1A].

[0333] To the extent [1F] requires the *remote system* to calculate the *directions* and send them to the *wireless telephone* (which Element [1F] does not require, as I discussed above §VIII.A.2.a.vii), generating the *directions* between Bob's and Alice's locations at the i-server's *remote system* and transmitting the *directions* from the *remote system* to Bob's device would have been an obvious implementation of Randall's system to, e.g., reduce storage and/or processing requirements at the wireless device[s], in view of POSAs' background knowledge of the well-known design choice and reasonable expectation of success to do so. My opinion regarding a POSAs' background knowledge is corroborated by the references I discussed above (§VIII.A.2.a.vii (citing, e.g., corroborating EX1051 ("Froeberg"), Abstract, FIG. 1, 1:40-65, 3:30-4:26, 7:5-46; EX1055 ("Chun"), FIG. 4, 2:28-34, 4:30-51, 7:40-8:4; EX1056 ("Stewart"), 8:12-37)).

[0334] For example, Froeberg (EX1051), like Randall, relates to "a cellular telephone providing a map and driving directions for a remote location associated with a remote telephone number." Froeberg, 1:6-10. Like Randall's wireless devices, Froeberg's user telephone provides its "geodetic location such as latitude and longitude" using GPS. Froeberg, 3:46-52. Froeberg teaches that in such a system (like Randall's), "the server" can "reverse geocode[] the geodetic location," "create[] a route and driving directions," and "transmit[] the driving directions...to the user telephone" to "display[] the driving directions to the user of

the user telephone.” Froeberg, 4:4-26. In my opinion, POSAs would have been motivated to implement Randall’s *remote system* to generate the claimed *directions* for transmission to Bob’s wireless device in view of, e.g., Froeberg’s teachings that doing so allows storage and/or processing requirements for generating *directions* to be implemented server-side, thus reducing such requirements locally at the mobile device. Froeberg teaches to implement driving directions functionality via a server-side “reverse street segment geocoder” with “a database of geodetic coordinates and street network segments” and a server-side “route generator” (Froeberg, FIG. 5, 7:5-22), that then need not be implemented locally at the user telephone (Froeberg, FIG. 4, 4:27-6:20). I will refer to this combination Randall-Froeberg. In my opinion, POSAs would have had a reasonable expectation of success in Randall-Froeberg because Froeberg teaches how this may be successfully implemented in a system like Randall’s with a server serving client wireless telephones.

[0335] Thus, it is my opinion that the Randall-Froeberg meets Element [1F].

b. Claim 2: The system of claim 1, wherein said changing comprises adding an additional user to said list of users.

[0336] As I discussed above (§VIII.D.2.a.iv, Element [1C]), Randall teaches that *said changing comprises* Alice “promoting Bob from” one i-Group to

another to “change [his] level of access.” Randall, [0509]. Adding Bob to the i-Group that has access to Alice’s location information is *adding an additional user to said list of users*. See, e.g., Randall, [0503]-[0512].

[0337] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 2.

- c. **Claim 3: The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.**

[0338] When Bob accesses Alice’s data on the i-server (including her location, as I discussed above (§VIII.D.2.a, claim 1) “using” his “wireless information device[],” he “see[s] a view onto Alice’s personal data” that is a subset of, e.g., Table 1 (i.e., the *remote system transmits* Alice’s data to Bob). Randall, [0512], *compare* Table 3 ([0512]) *with* Table 1 ([0505]). In Table 1, an example “GPS location” is “London W1, Seymour St.,” which is *the address of said location* of Alice’s *first wireless telephone*. Randall, [0505]. That example in the “view” Bob “see[s]” of Alice’s data on the i-server (Randall, [0512]) discloses the *remote system transmitting the address* to Bob.

[0339] Additionally, *transmitting the address* of a wireless device’s *location* from the server to another wireless device user who is accessing that location was obvious functionality to provide, because doing so was well-known as a beneficial option with reasonable expectation of success in a system like

Randall's. Froeberg, Abstract, 1:40-65, 3:30-4:26, 7:5-46. My opinion regarding POSAs' background knowledge in this regard is corroborated by the references I discussed above (§VIII.A.2.c (citing, e.g., corroborating EX1056 ("Stewart"), 8:12-37); EX1054 ("Sandhu"), Abstract, 4:34-5:8, 6:22-50; EX1057 ("Chern-005"), 3:7-14; EX1018 ("Meadows"), 4:61-5:19, FIG. 3)).

[0340] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 3.

d. Claim 4: The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.

[0341] As I discussed above (§VIII.D.2.a.iv, Element [1C]), Alice can set her *list of users* who are allowed to access her location to include any number of users corresponding to *a plurality of wireless telephones*. One example may be Bob; another may be "Peter," who is listed in exemplary Table 2 as part of the "partner" i-Group that has access to Alice's "GPS location" in exemplary Table 1. Randall, [0505] (Table 1), [0511] (Table 2).

[0342] Randall teaches that any wireless-device user's "location data can be obtained via a GPS wireless information device, which transmits location information to the i-server." Randall, p. 24 ("People tracking"). Thus, POSAs would have understood Randall to teach the *remote system determining a third location associated with, e.g., Peter's one of said plurality of wireless telephones*.

[0343] Randall's remote system also determines a third location associated with Bob's one of said plurality of wireless telephones when Bob's device "up-date[s]" the i-server with its new location (i.e., a third location subsequent to the second location that I discussed above (§VIII.D.2.a.vi, Element [1E])) as Bob's device moves. Randall, p. 24 ("People tracking").

[0344] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 4.

- e. **Claim 5: The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.**

[0345] Randall's "Old buddy finder...alerts Bob when a contact happens to be *within a defined proximity*." Randall, p. 24. POSAs would have understood that one of a finite number of known options for determining whether Alice's and Bob's devices are within a defined proximity involves *determining the distance between the two wireless telephones*.

[0346] Additionally, as I discussed above (§VIII.D.2.a.vii, Element [1F]), POSAs would have understood that Alice's location can be "where [Bob] want[s] to go" in Randall's "Route finder," which can "give [Bob] step by step instructions on how to get there (eg. Turn left at the next lights. Carry on 100 metres. Go straight over the roundabout)." Randall, p. 29. POSAs would have understood that once Bob is on the final leg of the route, the system will determine

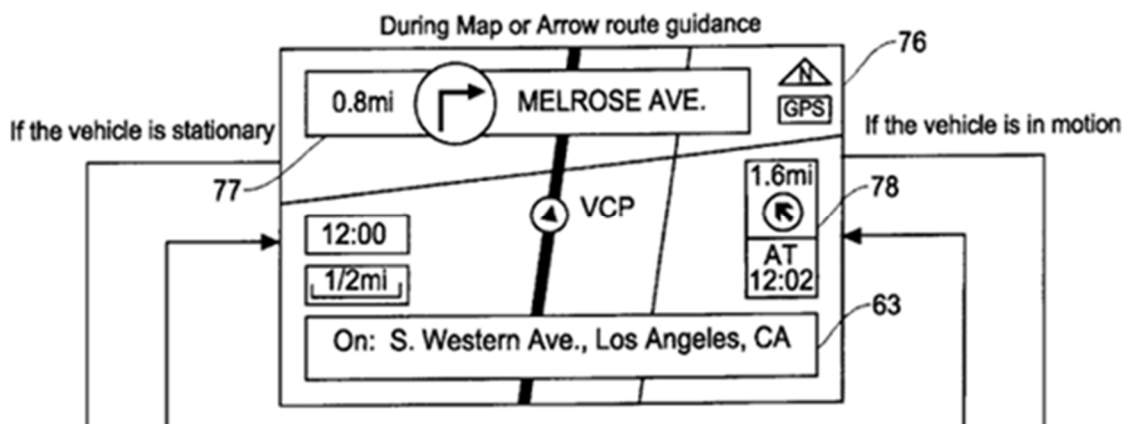
the distance between Alice's and Bob's devices to tell Bob how many more "metres" to "[c]arry on." As I discussed above (§VIII.D.2.a.vii, Element [1F]), it would have been obvious to POSAs for these directions, including the distance determination, to be *determined* at the *remote system* for providing to the *wireless telephones*.

[0347] Alternatively, it would have been obvious to POSAs to implement Randall's "Route finder" to *determine the distance between* Alice's and Bob's *wireless telephones* when Alice's location is "where [Bob] want[s] to go," in view of POSAs' background knowledge that it was conventional for "system[s] similar to GPS tracking in cars" (Randall, p. 29) to determine the distance from the user's device to the desired destination, to aid the user in planning their trip. My opinion regarding POSAs' background knowledge is corroborated by the following references.

[0348] Stewart (EX1056) describes a "portable telephone" that includes a "position locator" to "determine the location of the portable telephone". Stewart, Abstract. Stewart describes that the portable telephone forwards its location to the "centralized base station 17" (Stewart, 7:43-52) and the centralized base station 17 can "use the location information and map database 24 to determine a street address." Stewart, 8:20-23. The centralized base station can use "the geographic location of portable telephone 28 and the previously

determined geographic location of calling first telephone 10...to calculate the distance between called portable telephone 28 and calling first telephone 10” and the distance can be “based on the shortest road route using map database 24.” Stewart, 8:12-37.

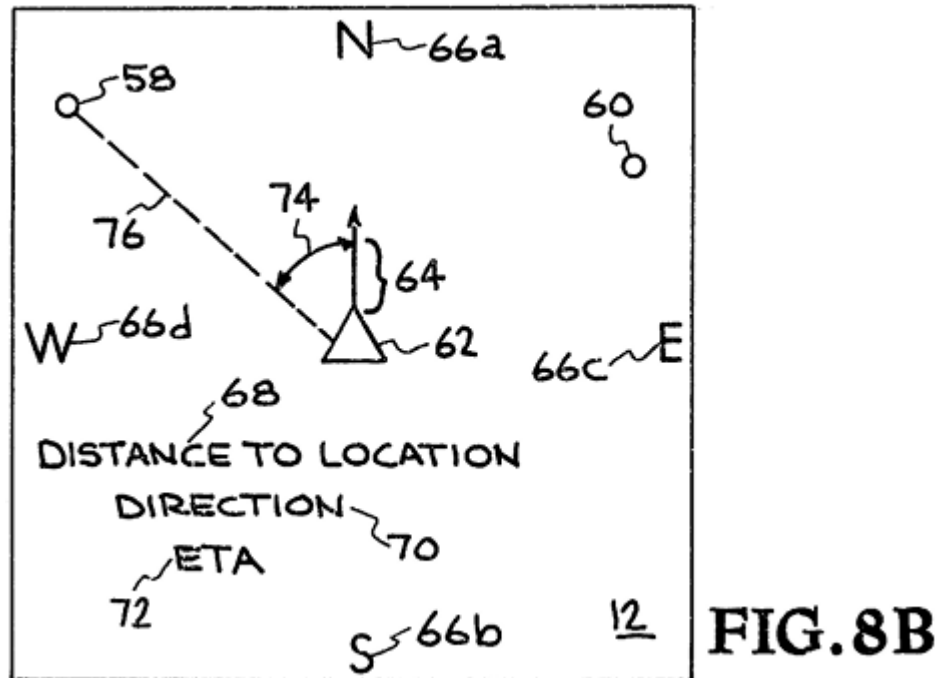
[0349] Wako (EX1025) describes a “route guidance screen 76 further includ[ing] an information box 78 which shows a distance to the final destination and an anticipated time to reach the final destination.” Wako, 9:18-28, FIG. 7 (excerpted below); *see also* 2:12-34 (“[A]n information box 24 at the bottom of the display screen includes information regarding the remaining distance to the final destination.”).



Wako, FIG. 7 (excerpted)

[0350] Mura-Smith (EX1067) describes “display[ing] navigational information in text form on display screen 12.” Mura-Smith, 8:45-47, FIGs. 8A-8B (below). “As shown in FIGS. 8A and 8B, navigational information displayed

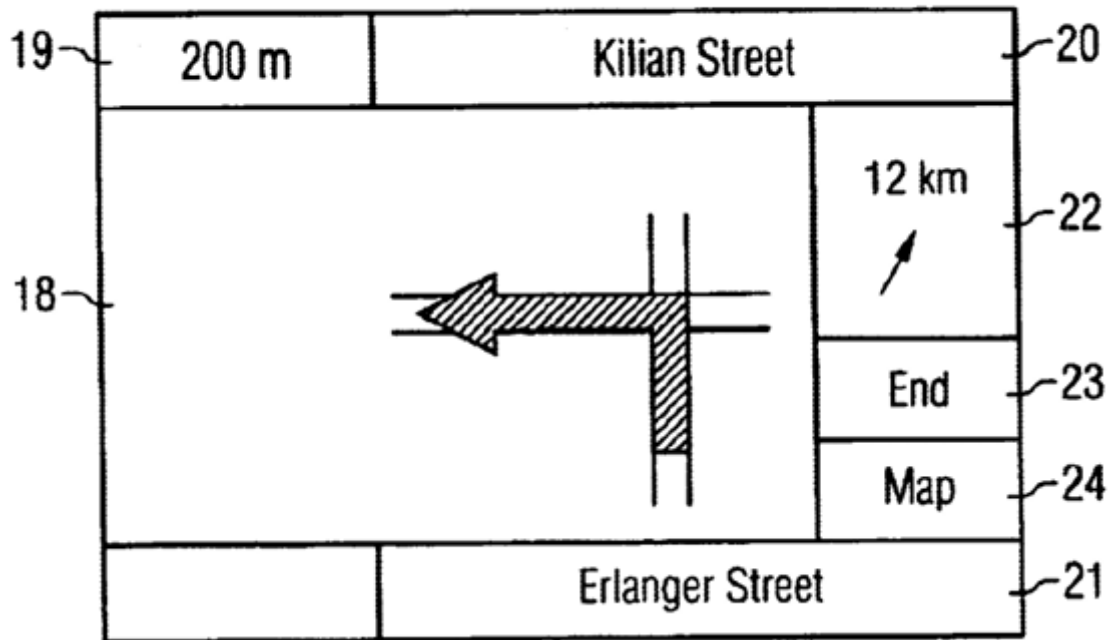
in text format includes, for example, ‘Distance to Destination’ 68’’. Mura-Smith, 8:47-50; *see also* 8:50-61.



Mura-Smith, FIG. 8B

[0351] Deworetzki (EX1068) describes “a display mode on the display apparatus 12 during the journey to the selected destination” that includes “various information” such as “a distance (200 m) [] depicted in an area 19 on the left, and a destination (Kilian Street) [] depicted in an area 20 situated next to that on the right...In an area 22 on the right of the picture, the distance to the destination (12 km) is shown by an arrow indicating the direction of the destination.” Deworetzki, 4:55-5:7, FIG. 2 (below).

FIG 2



Deworetzki, FIG. 2

[0352] Tobin (EX1041) describes a “graphical user interface for use with user device 105.” Tobin, [0028], FIG. 1C (below). Tobin describes “the distance and time information particular to each service vendor is shown in a small data box adjacent to the service vendor logo. For example, data box 123 displays the real-time time and distance information for service vendor 137, which is a Texaco™ station. The time information displays the estimated remaining travel time, calculated by dividing the approximate distance separating the Texaco™ station from user device 105 by the speed of user device 105. The distance information displays the approximate distance in miles or kilometers separating

user device 105 from the service vendor 137. Similar data boxes are provided for other service vendors 127 and 129.” Tobin, [0028], FIG. 1C.

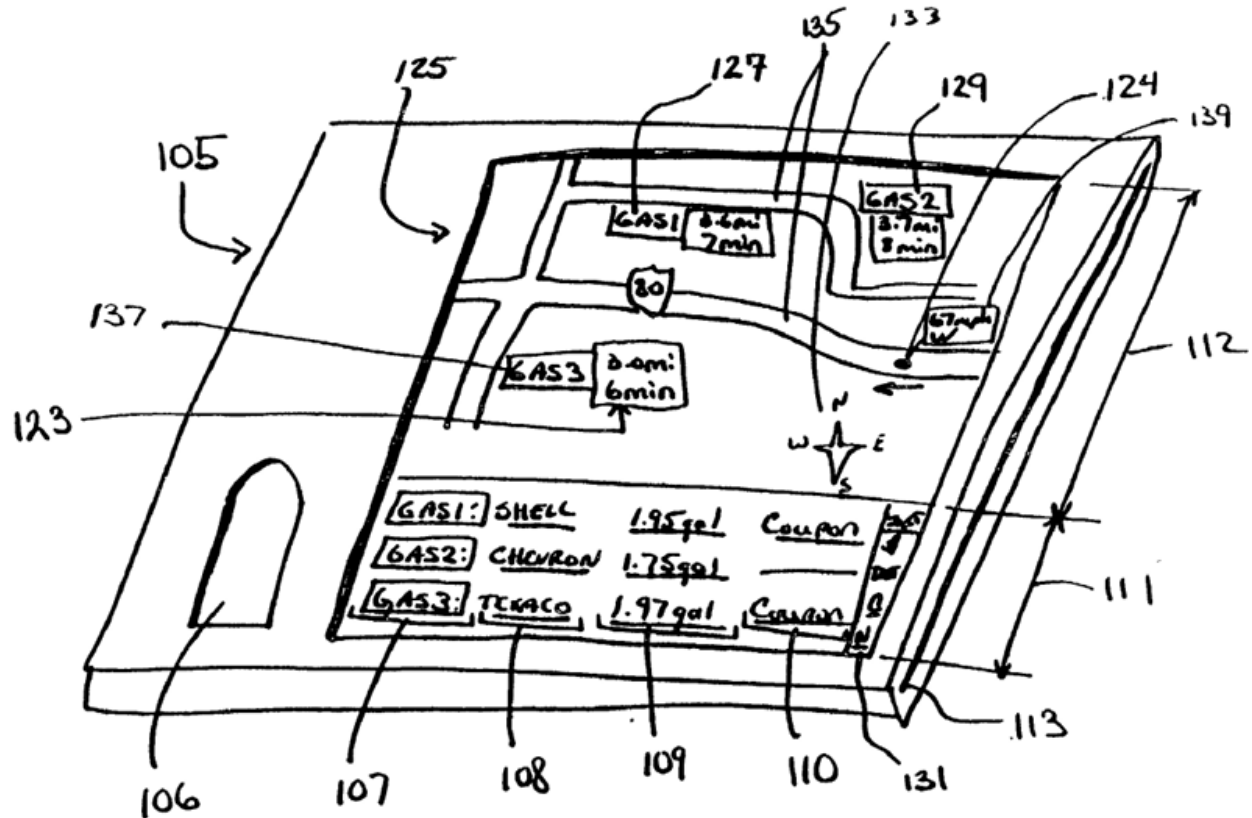


FIG. 1C
Tobin, FIG. 1C

[0353] Thus, the above references corroborate my opinion that it was well-known background knowledge to determine the distance from a user’s device to a desired destination, such as a location of another user’s device, to aid the user in planning their trip and that a POSA would have had a reasonable expectation of success doing so in a system like Randall’s / Randall-Froeberg’s.

[0354] Determining the distance to the destination server-side and providing it to the wireless device was well-known background knowledge with reasonable expectation of success. My opinion regarding POSAs' background knowledge is corroborated by the references I discussed above (§VIII.A.2.e (citing corroborating EX1056 ("Stewart"), 8:12-47; EX1041 ("Tobin"), [0018]-[0020], [0028])).

[0355] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 5.

- f. **Claim 6: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.**

[0356] Randall teaches that the *access rights* Alice provides Bob (which the *remote system stores* as I discussed above (§VIII.D.2.a.iv, Element [1C]) can allow Bob to *access* the *location* of Alice's *first wireless telephone* "for a pre-defined *period of time*." Randall, [0144]. Randall teaches that Alice can "extend the visibility period to 'forever'"—*i.e.*, to an *indefinite period of time*. Randall, [0144].

[0357] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 6.

- g. Claim 7: The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.**

[0358] Randall teaches that Alice can “select the person and allow access” (as I discussed above §VIII.D.2.f (claim 6)) for only “a pre-defined *period of time*,” after which “the location information...again become[s] invisible.” Randall, [0144], [0143] (allowing location access for “*specific period of time*”).

[0359] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 7.

- h. Claim 8: The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.**

[0360] Randall teaches that “[t]he user” can “change a visibility setting” for “location information” on “an ad hoc basis...for a *specific period of time*” which is “easily extensible by the user.” Randall, [0141]-[0144]. POSAs would thus have understood that Alice can use her device (*first wireless telephone*) to indicate *said specific period of time* to be applied to the *remote system*, which manages allowing other users to access her location as I discussed above (§VIII.D.2.a, claim 1).

[0361] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 8.

- i. **Claim 15: The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.**

[0362] Randall teaches that the *remote system* can *provide said location* of Alice's device to any *device user* on Alice's *list of authorized users* (as I discussed above (§§VIII.D.2.a.iv-v, Elements [1C]-[1D]), *after* that user *inputs a login and password* as Randall explains using Bob as a generic example (as I discuss further below (§VIII.D.2.n, claim 24)). Randall further teaches that "users will want...to access data and services from a variety of terminals and devices," and that "***web browsers***[]" can access an entity's database" on the "server." Randall, [0365], [0049]. POSAs would have understood and found it obvious that when an authorized user logs in to access Alice's data from a "web browser," that user will be authenticated by *inputting* their *login and password into a website*, which is what web browsers access. *See also* Randall, [0046] (user's "database" on "internet server[]" "represents a web page containing information specific to that entity").

[0363] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 15.

- j. **Claim 18: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.**

[0364] Randall's "wireless information devices" can "include[...]*personal computers*." Randall, [0002]. Randall teaches that any user's "GPS wireless information device" can "transmit[] location information to the i-server" for *transmitting* to "authorised people" (Randall, p. 24 "People tracking"), thus teaching that the *remote system* can *store and transmit* to Alice's *first wireless telephone a location of a personal computer* if that device's user has authorized Alice.

[0365] My opinion in this regard is corroborated by POSAs' background knowledge of wireless laptop personal computers being GPS-enabled for location tracking, as demonstrated by EX1070 ("Behr"), which discloses "[t]here is a further need for a routing and information system which is independent of any particular hardware configuration and which may be implemented on any suitably equipped data processing apparatus, such as a desktop personal computer, a laptop computer, a personal digital assistant or even a pager." EX1070, 2:50-60. Behr discloses that a "laptop personal computer 18 is another example of a mobile unit which can be used in the system 10. The laptop PC 18 includes," among other components, "a position locator 42." EX1070, 8:20-30. *"The position locator 42 provides the geographical position of the laptop*

PC 18. For example, the position indicator 42 may perform radio frequency (RF) triangulation or may be *responsive to GPS (Global Positioning System)*, LORAN C signals *or other satellite positioning systems for providing latitude and longitude positioning information.* EX1070, 8:31-49; *see also* EX1070, FIG. 1.

[0366] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 18.

k. **Claim 19: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.**

[0367] Randall teaches that “wireless information device[s]” include “*radio* telephones,” and that any wireless information device’s *location* can be *stored and transmitted* by the i-server *to said first wireless telephone* as I discussed above (§VIII.D.2.j, claim 18). Randall, [0002], p. 24 (“People tracking”). Randall’s *remote system* can thus *store and transmit a location of a radio*.

[0368] It is my opinion that, alternatively, it would have been obvious to *store and transmit a location of* any type of location-transmitting radio, which were well-known in POSAs’ background knowledge. My testimony regarding POSAs’ background knowledge in this regard is corroborated by several references, as discussed below.

[0369] Boling (EX1074) describes a “combination personal audio device and emergency phone” that is “an AM/FM radio” that can transmit its

“GPS” location to a “private service” via “cellular communications.” Boling, Abstract, 4:5-18, 5:6-7, 7:13-26, 9:30-64. Thus, Boling corroborates that it was well known in POSAs’ background knowledge that a mobile device having position-reporting capability can be a radio.

[0370] Lelievre (EX1076) describes “a location-aware radio” that “transmits location information indicating its present location, to a location-based services provider.” Lelievre, Abstract, [0047], FIG. 5. Thus, Lelievre corroborates that it was well known in POSAs’ background knowledge that a mobile device having position-reporting capability can be a radio.

[0371] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 19.

I. Claim 20: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.

[0372] Randall teaches to provide a “Route finder” service “similar to GPS tracking in cars, but for mobile phones,” where “the phone...give[s] you step by step instructions on how to get” “where you want to go”—“eg. Turn left at the next lights. ...Go straight over the roundabout.” Randall, p. 29. It would have been apparent to POSAs based on these teachings that a user may be using the mobile phone in *a car* when using this service, as users would benefit from such instructions while driving, and instructions to “[t]urn...at...lights” and how to

navigate a “roundabout” are typical driving instructions. In this scenario, POSAs would have understood the mobile phone’s location to be *a location of a car*, which can be *stored* by Randall’s *remote system* and *transmitted* to Alice’s device if Alice is authorized by that user.

[0373] Additionally, as I discussed above (§VIII.D.2.k, claim 19), POSAs would have understood that a typical implementation of a “radio telephone[]” (Randall, [0002]) was a car phone, whose location is *a location of a car*. My opinion regarding POSAs’ background knowledge of a typical implementation of a “radio telephone[]” for location-tracking was a car phone is corroborated by the following references.

[0374] EX1077 (“Aisaka”) discloses as “Background” that “[m]obile radio telephones are known as radio telephone apparatus and are used in vehicles such as automobiles” where the radio “signals are transmitted from a transceiver unit, installed for example, in the trunk of the automobile, to a base station through which a communication link with a remote land line telephone or a remote radio telephone is established.” Aisaka, 1:14-23.

[0375] Similarly, EX1078 (“Kuge”) discloses that an example of “radio telephone apparatuses such as car telephones,” and describes as background information that “prior art radio telephone apparatus, for example, a car telephone comprises a transceiver unit and a control unit,” where “[t]he control unit is

coupled to a party telephone set (an ordinary home telephone set or another car telephone) through an antenna, a radio circuit and a base station to form a talk path between the control unit and the party telephone set.” Kuge, 1:1-34.

[0376] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 20.

- m. **Claim 23: The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.**

[0377] As I discussed above (§VIII.D.2.a.iv, Element [1C]), Alice’s “Universe” is her “contacts database” which lists “all the entities known to” Alice with their contact information. Randall, [0511], Table 2, [0509]-[0510], [0060]. POSAs would have understood this to be *a phone book corresponding to Alice*. Randall, p. 25 (“your phone’s address book”). As I also discuss below (§VIII.D.2.n.iii, Element [24B]), the “Universe” is stored in a “database” at the i-server (*remote system*) and also may be “cached on” the user’s “wireless information devices.” Randall, [0511], p. 23 (“Auto-entering address book”), [0062]-[0063], [0069]. Thus, Alice’s device can *download* her “Universe” *phone book* from the *remote system*.

[0378] Randall teaches that Alice’s data on the i-server is “a ‘master’ version” of which “local copies...can be automatically created” and “made

available to any *new devices* that a user adds to their retinue.” Randall, [0046], [0062], [0129]. Randall thus teaches that the *remote system can store and download Alice’s phone book to a new wireless telephone of Alice.*

[0379] Thus, it is my opinion that Randall / Randall-Froeberg meet Claim 23.

n. Claim 24

i. Preamble [24PRE]: A system comprising:

[0380] Like claim 1, claim 24’s preamble only recites “A system comprising.” *See supra* §VIII.D.2.a.i. Thus, Randall meets [24PRE] for the same reason Randall meets [1PRE] (*see supra* §VIII.D.2.a.i). As I will discuss below, it is my opinion that Randall meets all the limitations of claim 24.

ii. Element [24A]: a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:

[0381] Element [24A] recites the same limitation as Element [1A]. Thus, Randall meets [24A] for the same reason Randall meets [1A], as I discussed above (§VIII.D.2.a.ii, Element [1A]).

- iii. **Element [24B]: receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;**

[0382] As I discussed above (§VIII.D.2.a.iii, Element [1B]), Bob’s wireless information device in Randall’s system is an exemplary *first wireless telephone* (as is Alice’s).

[0383] Each of Randall’s wireless devices can have “a directory application” that “contains a user’s contacts list.” Randall, [0009]. As discussed *supra* §VIII.D.2.a.iv ([1C]), a user’s “contacts database”—called their “Universe”—“is the list of all the entities known to an entity and to whom access to more private data is to be given” and “Table 2” (copied below) is “an example” of “Alice’s Universe.” Randall, [0511].

TABLE 2

<u>ALICES UNIVERSE</u>		
NAME	DETAILS	i-GROUP
Aardvark plumbers	Number, email, address etc . . .	contractors
Bently, John	Number, email, address etc . . .	friend
Coppermill Corp	Number, email, address etc . . .	contractors
Davies, Charles	Number, email, address etc . . .	work 1
Entwistle, Peter	Number, email, address etc . . .	partner, friend
Greenfield Ventures	Number, email, address etc . . .	business 1

[0384] As Table 2 shows, a user's Universe displays *a plurality of users*. As I discussed above (§VIII.D.2.a.iv, Element [1C]), Randall teaches that at least some of these users have their own wireless information devices. Randall, [0512] ("people in the list" can "look[] at" the user's information "using an application on their ADS system wireless information devices"), Appendix 1 p. 25 (user's "address book" of contacts includes "mobiles you regularly phone"), [0511], Table 2 (showing "Number" of each contact). Thus, *each one of said plurality of users is associated to a different one of a plurality of wireless telephones*, where the claimed *plurality of users* can be the whole contact list of a user whose contacts all have wireless devices, or a subset of a contact list where the subset of contacts have wireless devices.

[0385] The Universe contacts database is both "stored on the i-server" and "cached on" the user's "wireless information device[]." Randall, p. 23 (Table 4: "Auto-entering address book"), [0062]-[0063] (wireless device has "local copies of the master information held on the central server(s)" including "contact numbers"), [0069] (wireless device "typically includes a cached version of all of [its user's] information which is on the central server"). Like other server-stored data, the copy of the user's contacts list on the wireless device is for "*display* in an appropriate application." Randall, [0013], [0021] ("contacts application" on user's device "allow[s] them to see" their contacts' information), [0179] (if "user has

allowed Buddies to see specific” information, “user should be able to easily determine this through their Buddy view”), [0222] (similar), [0400] (other user’s “unique ID” can be “store[d]” in user’s “contact manager”).

[0386] Table 2 shows “Alice’s Universe” as an example; Bob similarly has his own “Universe” contacts list, and Bob and Alice can each be included as contacts displayed in each other’s contacts lists. Randall, [0509]-[0510] (“Bob’s details” are in “Alice’s Universe” and “downloaded to Alice’s mobile device,” and likewise “Alice’s contact” is provided to “Bob’s device[]”), [0060] (Bob “view[s]” “Alice’s contact information” on his device), p. 24 (Table 4: “Data freshness” – “visual indication” regarding “Alice’s contact information can be shown on Bob’s wireless information device”). Even if Randall had not explicitly taught this, it would have been an obvious implementation option to allow any wireless device users to subscribe to the same functionality (including contacts functionality and location functionality) in Randall’s system, and to allow any user to include any other user in their contacts list, to provide flexibility and allow each subscriber to choose and access the functionality that appeals to them

[0387] Thus, Bob’s contact list is displayed on Bob’s wireless device and Alice’s contact list is displayed on Alice’s wireless device. Either meets *a display of said first wireless telephone*, as recited in Element [24B].

[0388] Taking Bob as an example, Randall teaches that “[w]hen one of the people in [Alice’s] list...looks at Alice[]...on their...wireless information device[]...in their contacts application” (i.e., when Bob selects Alice in his device’s displayed contacts list), “they see a view onto Alice’s personal data that is defined by Alice.” Randall, [0512], [0049], [0053], [0067], [0509] (“Bob” is Alice’s “contact” and has “access” to Alice’s “information”). That view is of a subset of Alice’s “Identity” information which contains data “objects” that are “information relating to an individual.” Randall, [0180]-[0187], [0118], [0505]-[0508], [0021]. Bob’s device can “display an icon or other shorthand” for such an object, and Bob can “select[] the icon or shorthand” to view “attributes of the object.” Randall, [0022], [0060] (“Bob’s device” can display “icon appearing next to Alice’s contact information”). A “user’s data object” in “a contacts application” can have a “location attribute” used to “show the position of the user.” Randall, [0021].

[0389] Thus, Randall teaches, or at minimum renders obvious, that an entry representing Alice (by icon or other shorthand) can be displayed in Bob’s contacts list, and Bob can select that entry to view Alice’s location attribute (and Alice can do the same in her contacts list to view Bob’s location). In my opinion, POSAs would have understood this to disclose *manually selecting one of the plurality of users*, or at minimum to render such *manually selecting* obvious

because manual input was a well-known way for wireless device users to input such a selection. Randall, [0012] (“user could click on” data displayed on wireless device “to perform...actions”), [0146]-[0151] (user can take “action” on a “specific contact” in “their buddy list”).

[0390] Additionally, it would have been obvious to POSAs to implement Bob’s device to allow Bob to *manually select* Alice from Bob’s displayed contacts list to request Alice’s location information. *Manually selecting* another user from a displayed contacts list was well-known in POSAs’ background knowledge as a suitable option with reasonable expectation of success for “look[ing] at [another user’s] ADS Number” to “see a view onto [that user’s] personal data” (Randall, [0512]) such as location. My opinion regarding a POSA’s background knowledge in this regard is corroborated by the prior art I discussed above. *See supra* §VIII.B.3.b.iii (Ground 2, Element [24B] (where I cite various corroboration in support of my opinion, such as EX1023 (“Smith”), 5:15-18, 6:53-7:3, 7:41-49, 9:42-61, 10:29-11:4, FIGs. 14-16; EX1027 (“Han”), [0033]; EX1018 (“Meadows”), FIG. 4A, 5:30-47)); *see also* EX1022 (“Darling”), 41:1-15 (“Search for a friend [a]llows the user to scroll through the list of people that they are allowed to view locations for...”)).

[0391] Randall’s *remote system receives this selection* from Bob’s *first wireless telephone over said communications network* “[w]hen Bob’s device sends

Alice's ADS Number to the server" in order "to read Alice's information held on the database which is specified as being accessible to Bob." Randall, [0049], p. 24 ("People tracking").

[0392] Thus, it is my opinion that Randall meets Element [24B].

iv. Element [24C]: receiving from said first wireless telephone information indicative of a login and a password;

[0393] Randall teaches that "an entity seeking information," such as Bob seeking Alice's location, must be "[a]uthenticat[ed] (i.e. identif[ied]...)" by "the server recognising Bob's device and determining the database access rights which Alice has given him." Randall, [0067]. The user "Bob (as opposed merely to Bob's device)" may be "authenticated" by inputting "a PIN" or "select[ing] [his] favourite colour/restaurant/recent film etc.[.], with the server only authenticating Bob when he answers correctly." Randall, [0067]. Information indicative of these is "transmit[ed] to the server" from Bob's *wireless telephone*. Randall, [0067]. In some examples, this authentication can be "relevant...where Bob borrows someone else's wireless information device or uses a public device" to access both "his own personal information" and information of his contacts, including Alice. Randall, [0067].

[0394] Because Bob can be authenticated as "Bob the person, rather than Bob's device," even when using "someone else's" device or "a public

device,” POSAs would have understood Randall to teach that Bob inputs a login (i.e., an identifier “identifying an entity seeking information” as purporting to be “Bob the person”) on the *first wireless telephonic* device he is using. Randall, [0067]. The “PIN” or “select[ed] answer[] from a multiple choice” is a password that, if it “correctly” matches what the server has stored as Bob’s “PIN” or “favourite colour/restaurant/recent film” (Randall, [0067]), authenticates that the user is truly Bob. Randall, [0380] (“[t]he authentication can use...a basic WID and password/passphrase”). Randall’s “authentication” can be used for access control “both locally and on the server” (Randall, [0380]), corroborating that it is input locally on the wireless device. POSAs would have understood that manual input on the wireless device was a typical and obvious way for such identifier and PIN or answer word to be submitted by person who is using the wireless device.

[0395] Alternatively, even if Randall had not explicitly taught *receiving from said first wireless telephone information indicative of a login and a password*, it would have been obvious to modify the implementation of Randall’s *remote system to receive login and password input information from said first wireless telephone* to authenticate Bob. *See, e.g.*, Randall, [0067]. That is because using these inputs to authenticate a device user seeking another user’s information (including location) was well-known in POSAs’ background knowledge as a beneficial and commonly used option that would have been merely a simple

substitution of one known element for another with predictable results (e.g., Bob's device would receive these specific inputs to authenticate Bob).

[0396] My testimony regarding POSAs' background knowledge in this regard is corroborated by several references, as discussed in the paragraphs below.

[0397] Thomas (EX1019) describes a "location monitoring system" for "location tracking, location utilization, and dissemination and management of location information." Thomas, 1:15-55 (disclosing that the "present invention relates to computing or communication devices," which include "wireless communication devices," such as "mobile phones [and] personal digital assistants (PDAs)"), *see also id.*, 2:58-3:6. Prior to disseminating location information to a requesting user, the requesting user "must login with an appropriate ***user name and/or password***. This allows restricted access to the location information." Thomas, 5:49-54, *see also id.*, 6:53-7:49 (describing waiting for a log-in response and then, once received, determining whether it was successful), 7:27-40 (describing providing location information to a requesting user after the log-in response is successful). The location information of mobile devices in the system is thus obtainable by a user if the user is authorized and authenticated via user name and password. Therefore, Thomas corroborates that the entering of a username and password to authenticate a requesting user accessing a location of another user via that user's mobile device was well-known in POSAs' background

knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0398] Chern (EX1029) concerns mobile wireless communication devices and a system and method for "locating and tracking mobile telephone devices via the Internet." Chern, 1:6-9. Chern discloses that when users "want to know the location of a particular mobile telephone" they connect to a Web server "via a browser residing on a mobile telephone device" that "displays an authorization screen that requires the requesting party to enter a valid *user name and password combination*." Chern, 6:55-7:20. The location information of mobile devices in the system is thus obtainable by another mobile device without the user of one mobile device calling the other. Therefore, Chern also corroborates that the entering of a user name and password to authenticate a requesting user accessing a location of another user was well-known in POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0399] Sandhu (EX1054) relates to "distributing positional information and location specific messages to mobile units by using a data network." Sandhu, 1:8-10. Sandhu discloses users that register with the positioning system receive "*a login name and a password*" entered via the user's mobile device. Sandhu, 5:8-34. The positional and location information of mobile devices in the system is thus

obtainable without the user of one mobile device calling the other. Therefore, Sandhu also corroborates that the entering of a user name and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0400] Futagami (EX1030) concerns an information processing apparatus that uses “*a password together with user identification*” to access a “management server” (8:56-67) from which “personal information of user[s]” can be obtained (10:9-17). The personal information of mobile devices in the system is thus obtainable without the user of one mobile device calling the other. Therefore, Futagami also corroborates that the entering of a username and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's personal information.

[0401] Darling (EX1022) concerns communications with mobile device. Darling discloses a user using an “identifier (e.g., *login name and/or password and/or email address*)” (8:32-34) to gain access to a service that permits “a user to determine the location of another user without specifically having to contact that other user” (2:1-12). The location information of mobile devices in the system is thus obtainable without the user of one mobile device calling the

other. Therefore, Darling also corroborates that the entering of a username and password via a mobile device was within a POSAs' background knowledge as a typical and obvious way to use manual inputs to authenticate a device user seeking another user's information (including location).

[0402] Thus, it is my opinion that Randall meets Element [24C].

v. Element [24D]: determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,

[0403] Randall's *remote system determines whether to allow access of Alice's wireless telephone's location information* when "the server recognis[es] Bob's device and determin[es] the database access rights which Alice has given him," including whether Alice has given Bob access rights to her device's "GPS location" database filed in her "i-Data," in the manner I discussed above (§§VIII.D.2.a.iv-v, Elements [1C]-[1D]). Randall, [0067], Table 1, [0047], [0128], [0503]-[0512], [0116]-[0136], p. 24 ("People tracking"). As shown in Table 1 (highlighted below), one of the fields in Alice's "i-Data" ("Identity") database is her device's "GPS location," and she has designated that field as only being accessible to users whom she has designated as part of the "i-Group" called "partner." Randall, [0503]-[0512], [0116]-[0136] ("Identity" used for sharing "Location information").

TABLE 1

<u>Alice's iData</u>			
Field/Attribute	Category	Details	i-Groups
First name	personal	Alice	all
Family name	personal	Edwards	all
Title	work	European Marketing Manager	all

TABLE 1-continued

<u>Alice's iData</u>			
Field/Attribute	Category	Details	i-Groups
Company Name	work	Wireless Information Device gets R Us	all
Company Address	work	1 Science Park Rd, London, N1	all
Company E-mail	work	alice.edwards@Wireless Information Device getsrus.com	business 1
Company switchboard	work	0207 200 2000	all
Company Direct	work	0207 200 2012	business 1
Mobile Phone	work	0840 1234 567	business 1, friends
Home Phone 1	work	0208 341 1234	friends, family
Home Address	work	25 The Gables, Hampstead, London, NW3	family
My photo	photos		friends
Childhood photo	photos		family
Home note	notice	Sorry about dinner ☹	partner
Work note	notice	In a meeting with Tim till 7pm	work 1
My mood now	mood	Very tired	all
Tel Call Subject		"Dinner Tonight"	
Bluetooth	location	Bluetooth pods 1000–1020 ... Sentinel room 2 ...	
GPS	location	London W1, Seymour St.	partner
Hobby	preferences	Photography, travel	friends
Book	preferences	Maverick	friends
AlbumOfTheWeek	InstaPoll		friends

Randall, Table 1 (highlighted)

[0404] Thus, “[t]he I-server is up-dated with the location of a person...via a GPS wireless information device, which transmits location information to the i-server, enabling authorised people to track the location of [Alice’s] GPS wireless information device by polling the server.” Randall, p. 24 (Table 4: “People tracking”). “[S]ensitive information is only available to people in certain i-Groups; allowing Alice to control what data they see.” Randall, [0509], [0136] (“Location information” is “[v]isible to specific people (or groups)”). “The extent to which this is visible to a Communicator” (e.g., Bob) “is dependent upon both their device and the visibility rights that the Target” (e.g., Alice) “has assigned to them.” Randall, [0128]. Thus, when Bob’s device polls the server by requesting Alice’s information, the server *determines whether to allow access of Alice’s location information* (e.g., her device’s GPS location) by determining whether the received login and password properly authenticate Bob and whether Alice has designated Bob as a member of the i-Group she has designated as having access to her GPS location. Randall, [0067], [0503]-[0512].

[0405] Thus, it is my opinion that Randall meets Element [24D].

vi. Element [24E]: wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password

[0406] As I discussed above (§VIII.D.2.n.iv, Element [24C]), POSAs would have understood Randall to teach, or, alternatively, it would have been

obvious to POSAs to implement Randall such that the server uses an input *login and password* to identify Bob as the *user* to be authenticated as using the *first wireless telephone*. This “[a]uthentication (i.e. identifying an entity seeking information)” is part of “the server recognizing Bob’s device” (including “[a]uthentication of Bob the person”) “and determining the database access rights which Alice has given him” (Randall, [0067])—which can include “authoris[ing] [Bob] to track the location of [Alice’s] GPS wireless information device by polling the server” (Randall, p. 24)—and, thus, is part of Element [24D]’s “*determining*” that I discussed above (§VIII.D.2.n.v).

[0407] Thus, it is my opinion that Randall meets Element [24E].

vii. Element [24F]: and determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone;

[0408] As I discussed above (§§VIII.D.2.n.v-vi, Elements [24D]-[24E]), Randall’s “*determining*” of Element [24D] includes “determining the database access rights which Alice has given [Bob],” which includes *determining whether Alice has provided access rights for said location information to Bob*, thereby meeting [24F]. Randall, [0067], [0503]-[0512], [0116]-[0136], p. 24 (“People tracking”).

[0409] Thus, it is my opinion that Randall meets Element [24F].

viii. Element [24G]: determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining a location of said first wireless telephone; and

[0410] As I discussed above (§VIII.D.2.a.vi, Element [1E]), Randall teaches that any “user must be able to switch location information on for a person or group of people..., i.e., being able to select the person and allow access” to make the user’s device’s location “[v]isible to specific people (or groups) for a specific period of time”—e.g., “for the half hour that the group of friends are trying to locate each other in town.” Randall, [0144], [0136], [0143]. This teaches that Bob can *assign location access rights* to Alice’s device *for obtaining a location* of Bob’s *first wireless telephone*.

[0411] As another example, Randall teaches that “whenever Alice wishes to, she can change the level of access of a current contact—perhaps promoting Bob from ‘business’ to ‘friend.’” Randall, [0509]. This is a “method[] of making contacts into members of a particular i-Group.” Randall, [0509]. As I discussed above (§VIII.D.2.a.iv, Element [1C]; §VIII.D.2.n.v, Element [24D]), a user can designate members of a particular i-Group as having access to the user’s device’s GPS location. POSAs would have understood this to be a generic example that is equally applicable to Bob as to Alice. Randall, [0067] (“Bob also has stored on the server his own personal information”); *see supra* §VIII.D.2.a.iii

(explaining that Bob and Alice are arbitrary examples). Thus, Bob could promote Alice from an i-Group that Bob has specified as not having access to Bob’s GPS location (e.g., a “business” i-Group) to an i-Group that Bob has specified as having access to Bob’s GPS location (e.g., a “friend” or “family” or “partner” i-Group), thus *assigning location access rights* specifically and individually to Alice’s device whose number is in Bob’s contacts. Alice would then have access to Bob’s location when she is authenticated on her own device as listed in Bob’s contacts, and/or when she is authenticated as Alice logging in from another device. Randall, [0067]. In other words, Randall discloses both authentication when a user uses their own device and authentication when a user is using someone else’s device. Randall further discloses that “[a]ccess rights can be associated with individual entities, and can also be associated with groups of entities.” Randall, [0070]. Thus, in one example, if Bob assigns Alice to the “partner” i-Group having access to Bob’s GPS location and Bob has only one partner, then Bob is assigning location access rights only to Alice (and her device). Randall, p. 21 Table 1.

[0412] Randall’s *remote system determines whether* the above have occurred when it stores Bob’s current i-Data access specifications (Randall, [0503]-[0509]), and in the manner I discussed above (§VIII.D.2.n.vii, Element [24F]), e.g., when Alice seeks to access Bob’s location.

[0413] Thus, it is my opinion that Randall meets Element [24G].

ix. Element [24H]: transmitting over said communications network said location information to said first wireless telephone.

[0414] Randall teaches that “[o]nce [Bob is] authenticated” as being truly Bob and as having been given “database access rights” by Alice to Alice’s i-data that Bob is requesting, “the server passes to Bob’s device the information it requests.” Randall, [0067]. As I discussed above (§§VIII.D.2.a.iv-v, Elements [1C]-[1D]; §VIII.D.2.n.v, Element [24D]), Alice’s data accessed by Bob can include Alice’s *location information*.

[0415] Thus, it is my opinion that Randall meets Element [24H].

- o. Claim 25: The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.**

[0416] In Randall, Bob’s device *assigned location access rights* to Alice’s device as I discussed above (§§VIII.D.2.n.viii, Element [24G]). Bob’s device can provide to Randall’s *remote system a selection that modifies said [assigned] location access rights* by, e.g., changing the period of time for which Alice has access to his location. Randall, [0144] (“The user must be able to...*select* the person and allow access. Location information should only be visible for a pre-defined period of time. This period should be easily extensible by the user. At the end of the pre-defined period the location information should again

become invisible.”). Another way Bob can *modify said location access rights* is by “chang[ing] the level of access of a current contact” (e.g., Alice) by changing her i-Group membership in his contacts database on the i-server. Randall, [0509] (Bob’s “device will report this to the server”).

[0417] Thus, it is my opinion that Randall meets claim 25.

p. **Claim 26: The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.**

[0418] Randall teaches that any user can “authorise[] people to track” their device’s “location...by polling the server,” and that multiple *wireless telephones* can concurrently share their locations with each other. Randall, p. 24 (“People tracking”), p. 29 (“Rendezvous”) (“Temporarily you can elect to have your location visible to others - so using your phones everyone in your group can tell precisely where the others are.”). Thus, Randall’s *remote system* can *transmit* Bob’s *first wireless telephone’s location* to Alice’s *one of said plurality of wireless telephones*, for example, in the same way that I discussed above (§VIII.D.2.n.ix, Element [24H]).

[0419] Thus, it is my opinion that Randall meets claim 26.

- q. **Claim 27: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.**

[0420] Claim 27 replicates recitations of claim 6, but with claim 24's "*first wireless telephone*" taking the place of claim 1's "*one of said users of said list of users,*" and claim 24's "*one of said plurality of wireless telephones*" taking the place of claim 1's "*first wireless telephone.*" Thus, Randall meets the limitations added by claim 27 for the reasons I discussed above that Randall meets claim 6 (§VIII.D.2.f), with Bob's device being an exemplary "*first wireless telephone*" and Alice's device being an exemplary "*one of said plurality of wireless telephones*" in claim 24 (as I discussed above (§VIII.D.2.n)).

[0421] Thus, it is my opinion that Randall meets claim 27.

- r. **Claim 28: The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.**

[0422] Claim 28 replicates recitations of claim 7, but with claim 24's "*first wireless telephone*" taking the place of claim 1's "*one of said users of said list of users,*" and claim 24's "*one of said plurality of wireless telephones*" taking the place of claim 7's "*first wireless telephone.*" Thus, Randall meets the limitations added by claim 28 for the reasons I discussed above that Randall meets

claim 7 (§VIII.D.2.g), with Bob’s device being an exemplary “*first wireless telephone*” and Alice’s device being an exemplary “*one of said plurality of wireless telephones*” in claim 24 (as I discussed above (§VIII.D.2.n)).

[0423] Thus, it is my opinion that Randall meets claim 28.

- s. **Claim 29: The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones.**

[0424] Claim 29 replicates recitations of claim 8, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Randall meets the limitations added by claim 29 for the reasons I discussed above that Randall meets claim 8 (§VIII.D.2.h), with Bob’s device being an exemplary “*first wireless telephone*” and Alice’s device being an exemplary “*one of said plurality of wireless telephones*” in claim 24 (as I discussed above (§VIII.D.2.n)).

[0425] Thus, it is my opinion that Randall meets claim 29.

- t. **Claim 39: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.**

[0426] Claim 39 replicates recitations of claim 18, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said*

list of users,” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Randall meets the limitations added by claim 39 for the reasons I discussed above that Randall meets claim 18 (§VIII.D.2.j), with Bob’s device being an exemplary “*first wireless telephone*” and Alice’s device being an exemplary “*one of said plurality of wireless telephones*” in claim 24 (as I discussed above (§VIII.D.2.n)).

[0427] Thus, it is my opinion that Randall meets claim 39.

- u. **Claim 41: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.**

[0428] Claim 41 replicates recitations of claim 20, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,”* and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Randall meets the limitations added by claim 41 for the reasons I discussed above that Randall meets claim 20 (§VIII.D.2.l), with Bob’s device being an exemplary “*first wireless telephone*” and Alice’s device being an exemplary “*one of said plurality of wireless telephones*” in claim 24 (as I discussed above (§VIII.D.2.n)).

[0429] Thus, it is my opinion that Randall meets claim 41.

- v. **Claim 44: The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.**

[0430] Claim 44 replicates recitations of claim 23, but with claim 24’s “*first wireless telephone*” taking the place of claim 1’s “*one of said users of said list of users,*” and claim 24’s “*one of said plurality of wireless telephones*” taking the place of claim 1’s “*first wireless telephone.*” Thus, Randall meets the limitations added by claim 44 for the reasons I discussed above that Randall meets claim 23 (§VIII.D.2.m), with Bob’s device being an exemplary “*first wireless telephone*” and Alice’s device being an exemplary “*one of said plurality of wireless telephones*” in claim 24 (as I discussed above (§VIII.D.2.n)).

[0431] Thus, it is my opinion that Randall meets claim 44.

E. Ground 6: Claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43 would have been obvious over Randall in Combinations with Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim

[0432] As I explain in this section below, in my opinion claims 9-14, 16-17, 21-22, 30-35, 37-38, and 43-43 of the ’024 patent would have been obvious to a POSA in view of the combined teachings of Randall (EX1007-EX1008), Froeberg (EX1051), De-Vries (EX1013), Degnbol (EX1035), Wollrab (1014), Obradovich (EX1043), and Bechtolsheim (EX1075).

[0433] Above, I provided a discussion of Randall (§VIII.D.1), Froeberg (§VII.D), Degnbol (§VIII.C.1), Wollrab (§VIII.C.2), Obradovich (§VIII.C.3), Bechtolsheim (§VII.C.5), and Randall-Froeberg (§VIII.D.1, §VIII.D.2.a.vii).

1. Discussion of De-Vries (EX1013)

[0434] De-Vries relates to “notifications to inform when certain people (e.g., friends, family, business contacts, etc.) are nearby” based on “devices carried by the people” such as “cell phone[s].” De-Vries, Abstract, 2:21-26. A device’s “user can set rules and/or parameters to control when notifications are generated”—“[f]or example, a user may set a proximity parameter designating that notifications are provided only when the other users on his or her buddy list are within a certain proximity.” De-Vries, 2:52-59. “This proximity parameter can have the form of a geographic distance threshold” or “same city/town/neighborhood,” etc. De-Vries, 9:1-18. “This applies both the degree to which a user discloses their location to others, and the relevance of another’s location relative to the user.” De-Vries, 9:19-22. “[T]he user can segregate” their contacts “into separate subsets, such as subsets of family, friends, business contacts, co-workers, etc.” and “set the rules and/or parameters that control notifications to also be based on the subset of the other user who moved.” De-Vries, 3:5-14.

2. Discussion of Combinations of Randall/Randall-Froeberg with De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim

[0435] **Combination with De-Vries:** Randall, like De-Vries, provides notifications via wireless devices when certain contacts are nearby, including via an “Old buddy finder” service that, e.g., “alerts Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city and didn’t know it).” Randall, p. 24 (Table 4). To the extent that Randall does not specify how the server transmits these alerts or that the user receiving them (e.g., Bob) or the user whose location is the subject of an alert (e.g., Alice) can set the rules/parameters for receiving them and choose among various ways of defining what triggers notifications with respect to particular other device users, POSAs would have been motivated to implement Randall’s service (with or without Froeberg) that way based on De-Vries’s teachings, to provide the user with control over what alerts they receive and trigger, about whom, and in what circumstances. In my opinion, POSAs would have had a reasonable expectation of success based on De-Vries’s teachings of successfully implementing such functionality in a system like Randall’s with wireless device users accessing each other’s locations.

[0436] **Combination with Degnbol:** Based on Degnbol’s teachings regarding a similar system providing similar location-based alerts, POSAs would have been motivated and reasonably expected success to “inform[]” a user at his

wireless telephone “that he has been the subject of an alert to another user,” as well as to “determin[e] the position of” “communication units” including “wristwatches.” Degnbol, 21:4-6, 18:27-31, 4:1-5:20, 6:22-7:17, 27:14-16;

[0437] **Combination with Wollrab**: POSAs would have been motivated to enhance Randall/Randall-Froeberg by incorporating Wollrab’s teachings discussed *supra* §VIII.C.2, to store historical location-tracking records to help trace where a device has been and locate a device whose tracking has been lost. Wollrab, 3:21-27, 4:40-58. My opinion on the POSA’s background knowledge in this regard is corroborated by EX1012 (“Ganesh”), which describes providing a mobile device’s location to an authorized requesting party. Ganesh, Abstract, 1:14-18. In Ganesh’s system, a mobile device’s approximate location can be obtained using call history records to identify cell sites and sectors in communication with the device during a prior call. Ganesh, 1:43-55, 4:29-35, 7:3-20; *see supra* §VIII.C.6, §§VIII.C.7.f-g. POSAs would have reasonably expected success given that Randall’s i-server already receives, stores, and provides updates of a wireless device’s location as discussed above (*supra* §VIII.D.1, §VIII.D.2.a, §VIII.D.2.n).

[0438] **Combination with Obradovich**: POSAs would have been motivated and reasonably expected success to incorporate into Randall/Randall-Froeberg Obradovich’s teachings discussed *supra* §VIII.C.6, §VIII.C.7.k, to “make

use of [Randall's] location monitoring capability" in "determining the validity of credit requests." Obradovich, 24:51-54.

[0439] **Combination with Bechtolsheim:** POSAs would have recognized Bechtolsheim's techniques discussed *supra* §VIII.C.5 as the type of "GPS tracking in cars" techniques that Randall's "Route finder" is "similar to" (Randall, p. 29). POSAs would therefore have been motivated and reasonably expected success incorporating Bechtolsheim's navigation information and display techniques when implementing Randall's "Route finder" service (with or without Froeberg), with another user's location as the destination (as discussed *supra* §VIII.D.2.a.vii (Element [1F])).

3. Mapping of Combinations of Randall, Froeberg, De-Vries, Degnbol, Wollrab, Obradovich, and Bechtolsheim to claims 9-14, 16-17, 21-22, 30-35, 37-38, and 42-43

a. Claims 9 & 30

Claim 9: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.

Claim 30: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.

[0440] In my opinion, POSAs would have found claims 9 and 30 to have been obvious over Randall-De-Vries / Randall-Froeberg-De-Vries (§VIII.E.2).

[0441] In Randall’s “Old buddy finder,” Bob’s “device *alerts* Bob when a contact happens to be within a defined proximity (e.g. Bob and Alice are both in the same foreign city...).” Randall, p. 24. This *alert* is *based on* Alice’s device’s *location* being near Bob’s location.

[0442] De-Vries concerns the same type of proximity-based alerts as Randall. De-Vries, Abstract (“notifications to inform when certain people...are nearby” as “tracked by positioning equipment based on personal communications/computing devices carried by the people”), 2:18-35 (“mobile personal information devices such as cell phone”), 4:39-44, 4:60-65, 5:20-62

(wireless device GPS locations are “stored in the people/place database” on the server to “provide alerts” to other users’ devices). De-Vries teaches that the “presence server sends a notification to all that have subscribed,” which includes the wireless telephone. De-Vries, 8:1-3. De-Vries further teaches that “the information service 100 also supports notification operations,” where “the locations of the user and those on the user’s buddy list(s)...are tracked.” De-Vries, 8:27-31. “Upon an update to the people/place state data 300 in which the relative locations of the user and/or those on the user’s buddy list(s) change, the information service 100 determines which people are in the user’s proximity” and then “transmits a notification message to the user” (“i.e., to the user’s personal mobile data communications device....”). De-Vries, 8:31-40. I further note that De-Vries’s Figure 1 shows that the “information service” that sends the above-discussed notification message is composed of “servers.” Thus, De-Vries teaches to implement such alerts by the “server send[ing] a notification” (*i.e., transmitting*) to the *wireless telephone*, which thus receives the alert. De-Vries, 8:1-3, 8:31-40, FIG. 1.

[0443] Thus, Randall-De-Vries and Randall-Froeberg-De-Vries meet claims 9 and 30.

b. Claims 10 & 31

Claim 10: The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.

Claim 31: The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.

[0444] In my opinion, POSAs would have found claims 10 and 31 to have been obvious over Randall-De-Vries / Randall-Froeberg-DeVries (§VIII.E.2).

[0445] De-Vries teaches that “[t]he information service” (Randall’s *remote system* in Randall-De-Vries / Randall-Froeberg-De-Vries) “supports a parameter for the user to disable and enable notifications,” by which “user A could enable notifications from a group including person B.” De-Vries, 9:46-62, FIG. 1 (“information service” is server-implemented). In my opinion, POSAs would have understood such “enabl[ing] notifications” to be the *remote system receiving a request for said alert from Bob’s wireless telephone*.

[0446] De-Vries further teaches that a mobile device user can set parameters controlling which other users’ locations will trigger alerts and in what circumstances, as I discussed above (§VIII.E.1). De-Vries, 2:52-59, 3:5-14, 9:1-22. The “parameter settings” from “the user’s...mobile...device” are “stored by the information service” to control what alerts the server transmits. De-Vries, 8:41-62. In my opinion, POSAs would have understood setting these parameters,

which are *received* by the *remote system*, to be a *request for said alert* to be provided when the parameters are met.

[0447] Thus, Randall-De-Vries and Randall-Froeberg-De-Vries meet claims 10 and 31.

c. **Claims 11 & 32**

Claim 11: The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.

Claim 32: The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone

[0448] In my opinion, POSAs would have found claims 11 and 32 to have been obvious over Randall-De-Vries / Randall-Froeberg-De-Vries (*supra* §VIII.E.2).

[0449] Randall teaches that *said alert* can be *geographic area-based*—e.g., *alerting when the other user’s location is within a city* (e.g., “the same foreign city”). Randall, p. 24 (“Old buddy finder” “alerts Bob when...Bob and Alice are both in the same foreign city”). De-Vries also teaches *geographic area-based alerts*, and that the *wireless telephone* user (e.g., Bob) can *specify the geographic*

area by setting “proximity parameters, such as same city/town/neighborhood,” within which the server will “provid[e] notifications” that specified other users’ “locations are within the scope indicated by the parameter.” De-Vries, 8:41-9:18.

[0450] Thus, Randall-De-Vries and Randall-Froeberg-De-Vries meet claims 11 and 32.

d. Claims 12 & 33

Claim 12: The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.

Claim 33: The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.

[0451] In my opinion, POSAs would have found claims 12 and 33 to have been obvious over Randall-Degnbol / Randall-Froeberg-Degnbol (*supra* §VIII.E.2).

[0452] Based on Degnbol’s teachings discussed *supra* §VIII.C.1, it would have been obvious to *transmit an alert* to Bob’s *wireless telephone* when “he has been the subject of an alert to another user” by which that user *locates* Bob’s *wireless telephone* as being nearby. Degnbol, 21:4-6, 18:27-31. It would alternatively have been obvious to *transmit an alert* whenever another user requests Bob’s location, as this was a known useful option.

[0453] My testimony in this regard is corroborated by Rice (EX1071), which describes providing a user an “option...to receive a notification on their wireless communications device whenever a location request is made by a client application” to access the user’s location. Rice, 9:26-35. Rice teaches that this is useful even where the requesting entity already has access rights. Rice, 7:40-49, 9:36-51, 12:20-33; *supra* §VIII.C.7.d. Thus, Rice corroborates that transmitting an alert to a first user when a second user requests the first user’s location was well known in POSAs’ background knowledge.

[0454] Thus, Randall-Dengbol/Randall-Froeberg-Degbol meet claims 12 and 33.

e. **Claims 13-14 & 34-35**

Claim 13: The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.

Claim 14: The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.

Claim 34: The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones.

Claim 35: The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.

[0455] In my opinion, POSAs would have found Wollrab's teachings in the Randall-Wollrab / Randall-Froeberg-Wollrab combinations (*supra* §VIII.E.2) meet claims 13-14 and 34-35 for the same reasons the same Wollrab teachings meet the same claims in the Sheha-based combinations with Wollrab that I discussed above *supra* §§VIII.C.7.e-f. Thus, in my opinion, POSAs would have found that Randall-Wollrab/Randall-Froeberg-Wollrab renders obvious claims 13, 14, 34, and 35.

f. Claims 16 & 37

Claim 16: The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.

Claim 37: The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch

[0456] In my opinion, POSAs would have found claims 16 and 37 to have been obvious over Randall-Degnbol / Randall-Froeberg-Degnbol (*supra* §VIII.E.2).

[0457] Randall teaches that its “wireless information device[s]” can be “any kind of device with one or two way wireless information capabilities,” and teaches the *remote system storing and transmitting the location of a wireless information device to any authorized wireless telephone* as I discussed above (§VIII.D.2.a, claim 1); §VIII.D.2.n, claim 24). Randall, [0002], [0021]

[0458] As I discussed above (§VIII.C.7.h), Degnbol describes “determining the position of” “communication units,” which include “wristwatches” and can receive information. Degnbol, 4:1-5:20, 6:22-7:17, 27:14-16. In my opinion, POSAs would have understood Degnbol’s “wristwatches” to, therefore, be a suitable wireless information device in Randall and Randall-Froeberg (§VIII.D.2.a.vii) because applicable devices in Degnbol are “two-way (wireless) communication devices” (Degnbol, 3:11-21), and as I noted above,

Randall discloses that “[t]he term ‘wireless information device’ used in this patent specification *should be expansively construed to cover any kind of device with one or two way wireless information capabilities.*” Randall, [0002]. Thus, it would have been obvious to POSAs to *store and transmit the location of a watch.*

[0459] Thus, Randall-Degnbol/Randall-Froeberg-Degnbol meet claims 16 and 37.

g. Claims 17 & 38

Claim 17: The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

Claim 38: The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

[0460] In my opinion, POSAs would have found claims 17 and 38 to have been obvious over Randall-Degnbol / Randall-Froeberg/Degnbol (*supra* §VIII.E.2).

[0461] Degnbol teaches that the *watch* that I discussed above (§VIII.E.3.f– claims 16 and 37) is “[a] unit in the set” of “*communication* units” whose “position” is determined by “triangulation methods, GPS,” etc. Degnbol, 4:1-5:11, 6:22-7:30. Randall teaches that such GPS-enabled (Global *Positioning System*) wireless communication devices communicate their position to the *remote*

system (i-server) over said communications network, as I discussed above

(§VIII.D.2.a.iii, Element [1B]). Randall, p. 24 (“People tracking”).

[0462] Thus, Randall-Degnbol/Randall-Froeberg-Degnbol meet claims 17 and 38.

h. Claims 21 and 42

Claim 21: The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.

Claim 42: The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.

[0463] In my opinion, POSAs would have found Obradovich’s teachings in the Randall-Obradovich / Randall-Froeberg-Obradovich combinations (*supra* §VIII.E.2) meet claims 21 and 42 for the same reasons the same Obradovich’s teachings meet the same claims in the Sheha-based combinations with Obradovich that I discussed above *supra* §VIII.C.7.k. Thus, in my opinion, POSAs would have found Randall-Obradovich/Randall-Froeberg-Obradovich render obvious claims 21 and 42.

i. **Claims 22 and 43**

Claim 22: The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

Claim 43: The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

[0464] In my opinion, POSAs would have found Bechtolsheim's teachings in the Randall-Bechtolsheim / Randall-Froeberg-Bechtolsheim combinations meet claims 22 and 43 for the same reasons the same Bechtolsheim's teachings meet the same claims in the Sheha-based combinations with Bechtolsheim that I discussed above *supra* §VIII.C.7.1. Thus, in my opinion, POSAs would have found Randall-Bechtolsheim/Randall-Froeberg-Bechtolsheim render obvious claims 22 and 43.

* * *

I declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: 12-30-2024



IX. APPENDIX: CLAIM LISTING

The following claim listing assigns labels (e.g., [1A], [1B], etc.) to certain claim elements for ease of reference.

Claim 1
[1PRE] A system comprising:
[1A] a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:
[1B] obtaining a location of a first wireless telephone;
[1C] changing, at the direction of said first wireless telephone, a list of users for a profile associated with said first wireless telephone that are allowed to access said location, wherein each user of said list of users is representative of one of a plurality of wireless telephones;
[1D] transmitting said location to at least one of said users of said list of users over said communications network;
[1E] determining a second location associated with one of said plurality of wireless telephones; and
[1F] providing directional information to said one of said plurality of wireless telephones, wherein said directional information is representative of directions between said second location and said location.
Claim 2
The system of claim 1, wherein said changing comprises adding an additional user to said list of users.
Claim 3
The system of claim 1, where said remote system is further capable of transmitting the address of said location to said at least one of said users of said list of users.

Claim 4

The system of claim 1, where said remote system is further capable of determining a third location associated with one of said plurality of wireless telephones.

Claim 5

The system of claim 1, where said remote system is further capable of determining the distance between said first wireless telephone and at least one of said plurality of wireless telephones.

Claim 6

The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for an indefinite period of time.

Claim 7

The system of claim 1, wherein said remote system is further capable of storing access rights that allow at least one of said list of users to access said location of said first wireless telephone for only a specific period of time.

Claim 8

The system of claim 7, wherein said remote system is further capable of receiving an indication of said specific period of time from said first wireless telephone.

Claim 9

The system of claim 1, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones based on said location of said first wireless telephone.

Claim 10

The system of claim 9, wherein said remote system is further capable of receiving a request for said alert from said one of said plurality of wireless telephones.

Claim 11
The system of claim 10, wherein said alert is geographic area-based and said remote system is further capable of alerting said one of said plurality of wireless telephones when said location of said first wireless telephone is within a geographic area specified by said one of said plurality of wireless telephones.
Claim 12
The system of claim 1, wherein said remote system is further capable of transmitting an alert to said first wireless telephone when said one of said plurality of wireless telephones locates said first wireless telephone.
Claim 13
The system of claim 1, wherein said remote system is further capable of storing a history of locations of said first wireless telephone.
Claim 14
The system of claim 13, wherein said transmitting said location to at least one of said users of said list of users over said communications network comprises transmitting to said at least one of said users a location from said history of locations when said first wireless telephone is turned off.
Claim 15
The system of claim 1, wherein said remote system is further capable of providing said location to a device utilized by one of said users of said list of users after said one of said users of said list of users utilizes said device to input a login and password for said one of said list of users into a website.
Claim 16
The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.
Claim 17
The system of claim 16, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

Claim 18
The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.
Claim 19
The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.
Claim 20
The system of claim 1, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.
Claim 21
The system of claim 1, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.
Claim 22
The system of claim 1, wherein said remote system is further capable of providing to said one of said plurality of wireless telephones information indicating time to reach said location from said second location according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.
Claim 23
The system of claim 1, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.
Claim 24
[24PRE] A system comprising:

[24A] a remote system comprising a server, the remote system capable of communicating with wireless telephones over a communications network and further capable of:

[24B] receiving from a first wireless telephone over said communications network a selection of one of a plurality of users, said selection corresponding to a user of said first wireless telephone manually selecting said one of said plurality of users from a display of said first wireless telephone, wherein each one of said plurality of users is associated to a different one of a plurality of wireless telephones;

[24C] receiving from said first wireless telephone information indicative of a login and a password;

[24D] determining whether to allow access of location information for said one of said plurality of wireless telephones associated to said selected one of said plurality of users,

[24E] wherein said determining includes identifying said user of said first wireless telephone using said information indicative of said login and password and

[24F] determining whether said selected one of said plurality of users has provided access rights for said location information to said user of said first wireless telephone;

[24G] determining whether said user of said first wireless telephone has assigned location access rights to said one of said plurality of wireless telephones associated with said selected one of said plurality of users for obtaining a location of said first wireless telephone; and

[24H] transmitting over said communications network said location information to said first wireless telephone.

Claim 25

The system of claim 24, wherein said remote system is further capable of receiving a selection from said first wireless telephone that modifies said location access rights assigned by said user of said first wireless telephone to said one of said plurality of wireless telephones.

Claim 26

The system of claim 24, wherein said remote system is further capable of transmitting said location of said first wireless telephone to said one of said plurality of wireless telephones associated with said selected one of said plurality of users.

Claim 27

The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for an indefinite period of time.

Claim 28

The system of claim 24, wherein said remote system is further capable of storing access rights that allow said first wireless telephone to access said location information for said one of said plurality of wireless telephones for only a specific period of time.

Claim 29

The system of claim 28, wherein said remote system is further capable of receiving an indication of said specific period of time from said one of said plurality of wireless telephones.

Claim 30

The system of claim 24, wherein said remote system is further capable of transmitting an alert to said first wireless telephone based on said location information for said one of said plurality of wireless telephones.

Claim 31

The system of claim 30, wherein said remote system is further capable of receiving a request for said alert from said first wireless telephone.

Claim 32

The system of claim 31, wherein said alert is geographic area-based and said remote system is further capable of alerting said first wireless telephone when a

location of said one of said plurality of wireless telephones is within a geographic area specified by said first wireless telephone.

Claim 33

The system of claim 24, wherein said remote system is further capable of transmitting an alert to said one of said plurality of wireless telephones when said first wireless telephone locates said one of said plurality of wireless telephones.

Claim 34

The system of claim 24, wherein said remote system is further capable of storing a history of locations of said one of said plurality of wireless telephones.

Claim 35

The system of claim 34, wherein said transmitting said location information to said first wireless telephone comprises transmitting to said first wireless telephone a location from said history of locations when said one of said plurality of wireless telephones is turned off.

Claim 36

The system of claim 24, wherein said remote system is further capable of providing said location information to another device utilized by said user of said first wireless device after said user utilizes said another device to input said login and said password into a website.

Claim 37

The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a watch.

Claim 38

The system of claim 37, wherein said remote system is capable of communicating with said watch over said communications network to obtain said location of said watch from a positioning system of said watch.

Claim 39

The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a personal computer.

Claim 40

The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a radio.

Claim 41

The system of claim 24, wherein said remote system is further capable of storing and transmitting to said first wireless telephone a location of a car.

Claim 42

The system of claim 24, wherein said remote system is further capable of providing said location of said first wireless telephone to a credit card authorization system.

Claim 43

The system of claim 24, wherein said remote system is further capable of providing to said first wireless telephone information indicating time to reach a location of said one of said plurality of wireless telephones from said location of said first wireless telephone according to at least two types of travel selected from the types of travel consisting of subway, walking, running, and driving.

Claim 44

The system of claim 24, wherein said remote system is further capable of: storing a phone book corresponding to a user of said first wireless telephone; and downloading said phone book to a new wireless telephone of said user.