



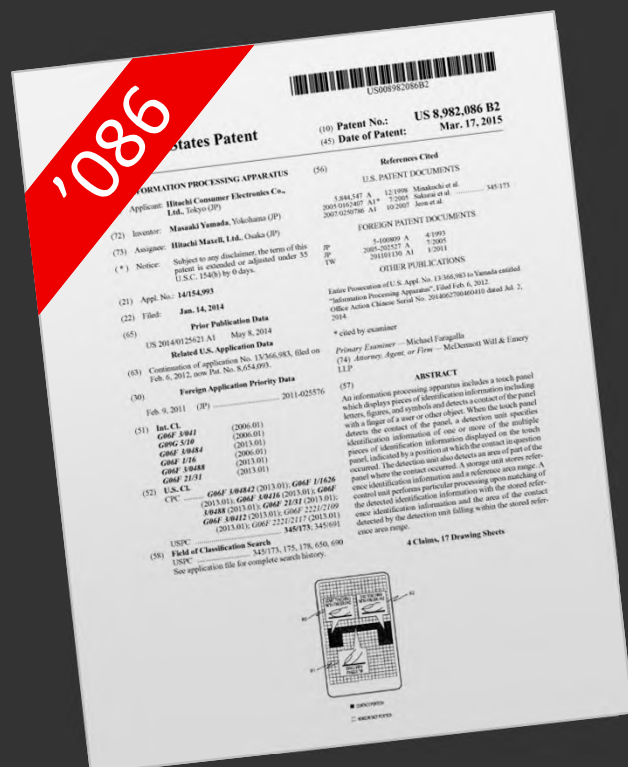
PATENT OWNER'S HEARING DEMONSTRATIVES

*Samsung Electronics Co., Ltd. and Samsung Electronics America,
Inc. v. Maxell, Ltd.*

IPR2024-00828

US Patent No. 8,982,086

August 13, 2025



INFORMATION PROCESSING APPARATUS

U.S. PATENT NO. 8,982,086

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

2

Maxell, Ltd.
Ex. 2014
Page 2 of 49



US008982086B2

(12) **United States Patent**
Yamada

(10) **Patent No.:** **US 8,982,086 B2**
(45) **Date of Patent:** **Mar. 17, 2015**

(54) **INFORMATION PROCESSING APPARATUS**

(71) Applicant: **Hitachi Consumer Electronics Co., Ltd., Tokyo (JP)**

(72) Inventor: **Masaaki Yamada, Yokohama (JP)**

(73) Assignee: **Hitachi Maxell, Ltd., Osaka (JP)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/154,993**

(22) Filed: **Jan. 14, 2014**

(65) **Prior Publication Data**

US 2014/0125621 A1 May 8, 2014

Related U.S. Application Data

(63) Continuation of application No. 13/366,983, filed on Feb. 6, 2012, now Pat. No. 8,654,093.

(30) **Foreign Application Priority Data**

Feb. 9, 2011 (JP) 2011-025576

(51) **Int. Cl.**

G06F 3/041 (2006.01)
G09G 5/10 (2006.01)
G06F 3/0484 (2013.01)
G06F 1/16 (2006.01)
G06F 3/0488 (2013.01)
G06F 21/31 (2013.01)

(52) **U.S. Cl.**

CPC **G06F 3/04842** (2013.01); **G06F 1/1626** (2013.01); **G06F 3/0416** (2013.01); **G06F 3/0488** (2013.01); **G06F 21/31** (2013.01); **G06F 3/0412** (2013.01); **G06F 2221/2109** (2013.01); **G06F 2221/2117** (2013.01)
(2013.01); **G06F 2221/2117** (2013.01)
USPC **345/173**; **345/691**

(58) **Field of Classification Search**

USPC **345/173**, **175**, **178**, **650**, **690**
See application file for complete search history.

(56) **References Cited**

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2005/0162407 A1* 7/2005 Sakurai et al. 345/173
2007/0250786 A1 10/2007 Jeon et al.

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JP 2005-202527 A 7/2005
TW 201101130 A1 1/2011

OTHER PUBLICATIONS

Entire Prosecution of U.S. Appl. No. 13/366,983 to Yamada entitled "Information Processing Apparatus", Filed Feb. 6, 2012.
Office Action Chinese Serial No. 2014062700460410 dated Jul. 2, 2014.

* cited by examiner

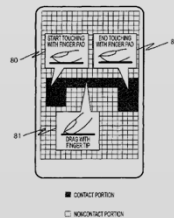
Primary Examiner — Michael Faragalla

(74) Attorney, Agent, or Firm — McDermott Will & Emery LLP

(57) **ABSTRACT**

An information processing apparatus includes a touch panel which displays pieces of identification information including letters, figures, and symbols and detects a contact of the panel with a finger of a user or other object. When the touch panel detects the contact of the panel, a detection unit specifies identification information of one or more of the multiple pieces of identification information displayed on the touch panel, indicated by a position at which the contact in question occurred. The detection unit also detects an area of part of the panel where the contact occurred. A storage unit stores reference identification information and a reference area range. A control unit performs particular processing upon matching of the detected identification information with the stored reference identification information and the area of the contact detected by the detection unit falling within the stored reference area range.

4 Claims, 17 Drawing Sheets



EX1001

Patent No.: US 8,982,086 B2
Date of Patent: Mar. 17, 2015

Foreign Application Priority Data

Feb. 9, 2011 (JP) 2011-025576

INFORMATION PROCESSING APPARATUS

EX1001

(12) **EX PARTE REEXAMINATION CERTIFICATE** (11921st)
United States Patent
Yamada

(10) **Number:** **US 8,982,086 C1**

(45) **Certificate Issued:** **Sep. 28, 2021**

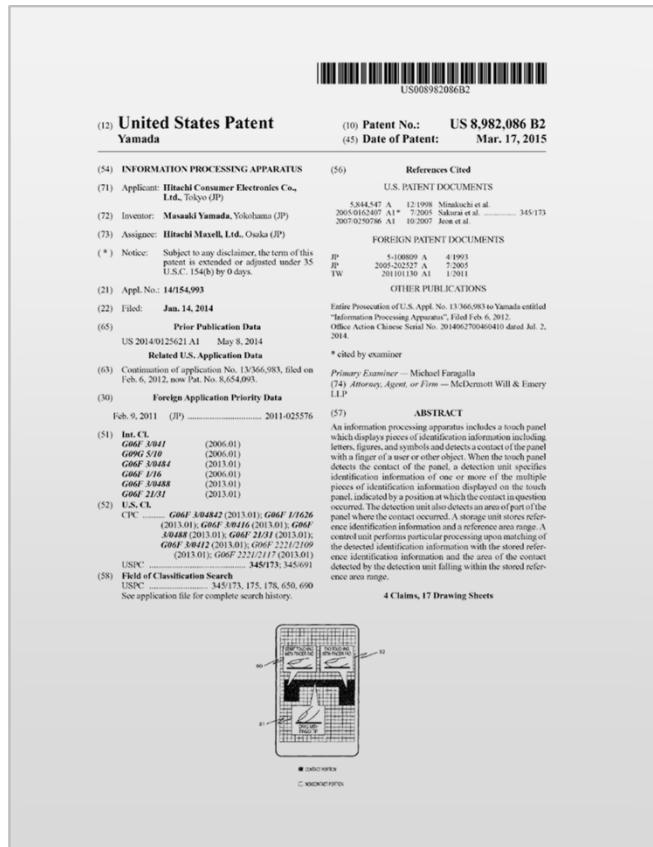
EX1004

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Maxell, Ltd.
Ex. 2014
Page 3 of 49



The '086 Patent – Overview



EX1001



An object of the present invention is to provide an information processing apparatus that offers improved convenience to users.

EX1001 ('086 Patent) at 1:34-36

By employing such system, an information processing apparatus including a touch panel can be improved in usability.

EX1001 ('086 Patent) at 1:65-67

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

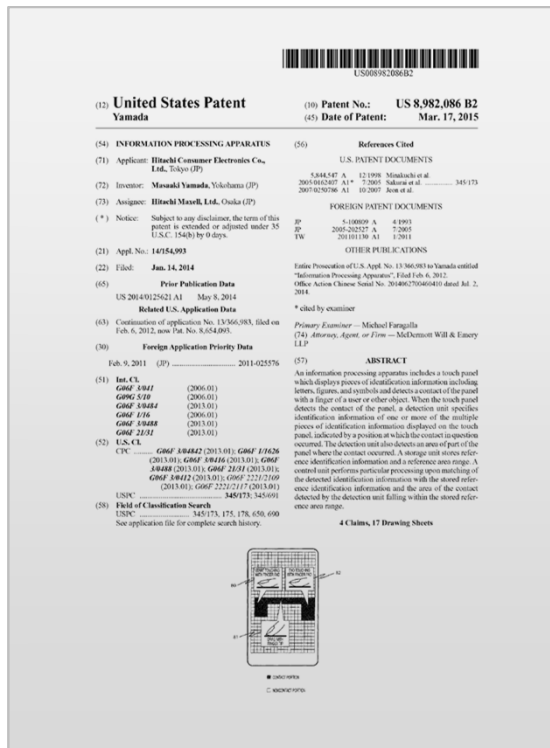


The '086 Patent – Overview



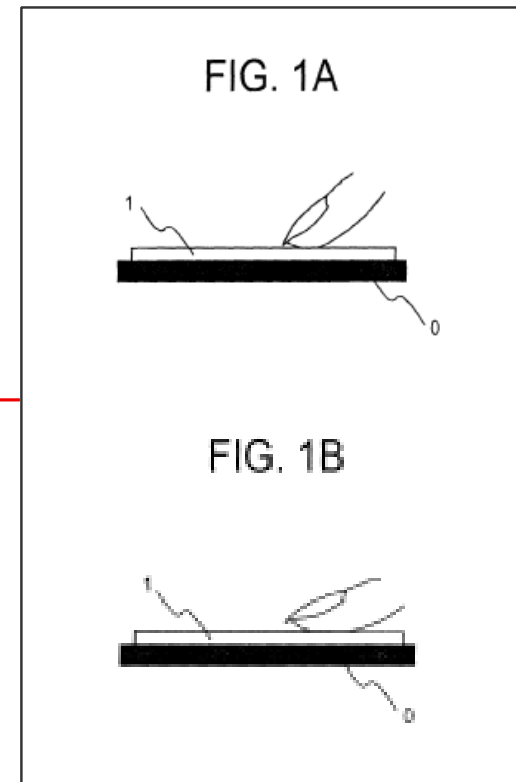
OBJECT

The patent allows users to conveniently unlock their devices



EX1001

The patent allows users to input information with a finger pad and a finger end (tip)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

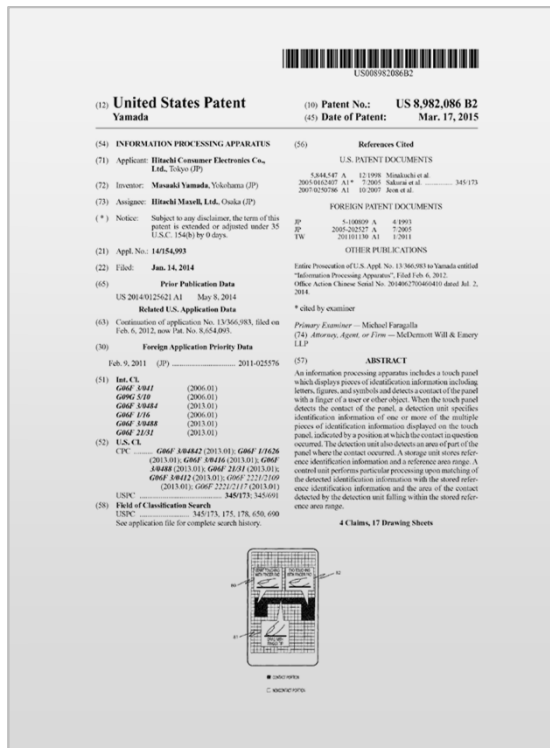


The '086 Patent – Overview

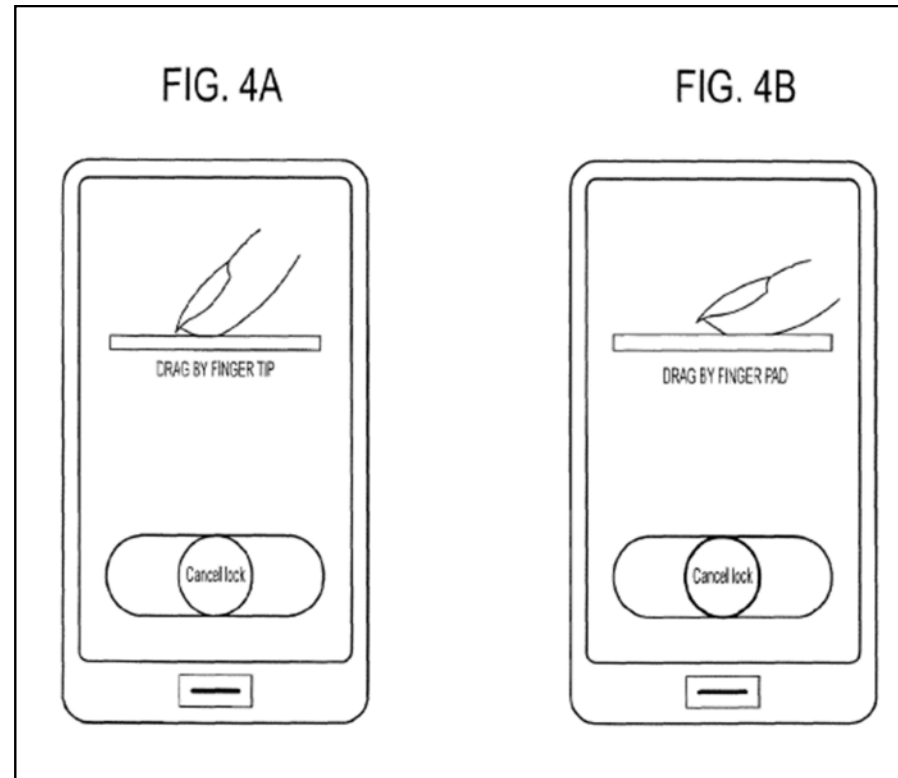


OBJECT

The patent allows users to conveniently unlock their devices



EX1001



EX1001 ('086 Patent) at FIGS. 4A, 4B

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

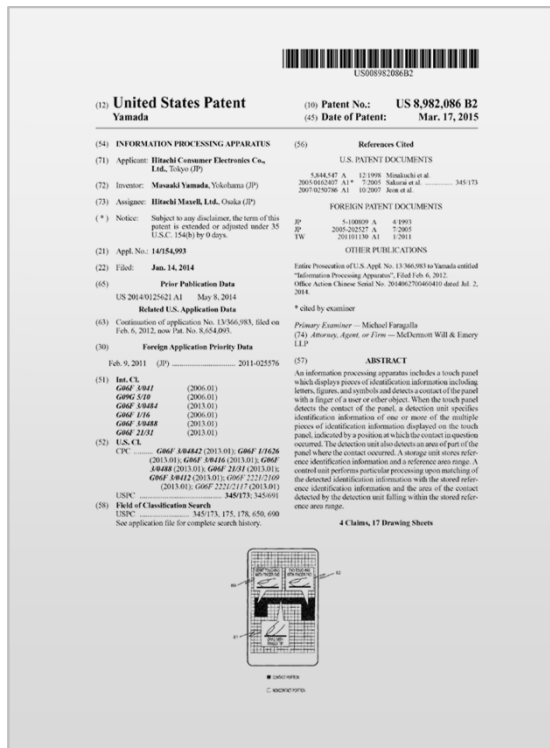


The '086 Patent – Overview



OBJECT

The patent allows users to conveniently unlock their devices



EX1001

FIG. 12B						
DIGIT		1	2	3	4	OPERATION
PASSWORD		0	5	2	8	—
INPUT METHOD	1	FINGER TIP	FINGER PAD	FINGER PAD	FINGER PAD	WAITING SCREEN
	2	FINGER TIP	FINGER TIP	FINGER TIP	FINGER TIP	MAIL CREATING SCREEN
	3	FINGER PAD	FINGER TIP	FINGER PAD	FINGER TIP	APPLICATION STARTING

EX1001 ('086 Patent) at FIG. 12B

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Grounds All Depend on Rogers

Ground	'086 Patent Claim(s)	Type of Challenge	Primary Reference	Secondary Reference(s)
1	1, 2, 4-7	§ 103	Rogers	Rosenberg
2	9-14	§ 103	Rogers	(1) Rosenberg (2) Miyazawa
3	1, 2, 4-7	§ 103	Rogers	Rekimoto
4	9-14	§ 103	Rogers	(1) Rekimoto (2) Miyazawa

POR at 9

'086 Patent: Claim 1

CLAIM 1

An information processing apparatus comprising:

[1.a] a touch panel configured to detect a contact of a finger of a user;

[1.b] a detector configured to detect first information necessary for an identification of the user when the contact is detected between the touch panel and the finger of the user;

[1.c] a first controller configured to control the information processing apparatus to operate into two operating modes: at least an identification mode and a registering mode, as the operating mode thereof;

[1.d] **memory that is configured to store second information relating to the identification of the user, which is stored in advance; and**

[1.e] **a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:**

[1.f] **in said registering mode, there are provided a first registering mode for inputting input information by a pad of the finger, and a second registering mode for inputting input information by an end of the finger, and said second information relating to the identification of the user is produced upon basis of the input information, which is inputted at least in the first or second mode.**

EX1001, at Claim 1

'086 Patent: Claim 5

CLAIM 5

The information processing apparatus according to claim 1,

wherein the touch panel comprises a display screen configured to display a first image and first descriptive text associated with the first registering mode and a second image and second descriptive text associated with the second registering mode.

EX1001, at Claim 5

The Issues in Dispute Impact All Grounds



The correct construction of “mode”



Whether Rogers discloses or renders obvious the claimed first and second registering modes



Whether Rogers discloses or renders obvious the claimed first and second controller

Petitioner Fails to Apply the Plain and Ordinary Meaning of “modes” as Understood by a POSITA

Term	Patent Owner’s Constructions	Petitioner’s Constructions
“first registering mode for inputting input information by a pad of the finger”	“a first operational state for registering in which information is input by a pad of the finger” or the plain and ordinary meaning as understood by a POSITA	Plain and ordinary meaning
“second registering mode for inputting input information by an end of the finger”	“a second operational state for registering in which information is input by an end of the finger, the first registering mode and the second registering mode being different operational states” or consistent with the plain and ordinary meaning as understood by a POSITA	Plain and ordinary meaning

POR at 10; Sur-reply at 2
Reply at 2

The Claim Construction Dispute

DO THE **FIRST** AND **SECOND** REGISTERING MODES
REQUIRE **TWO** DIFFERENT OPERATIONAL STATES?

YES

Claim 1 Refers to “identification mode” and “registering mode” as “two operating modes”

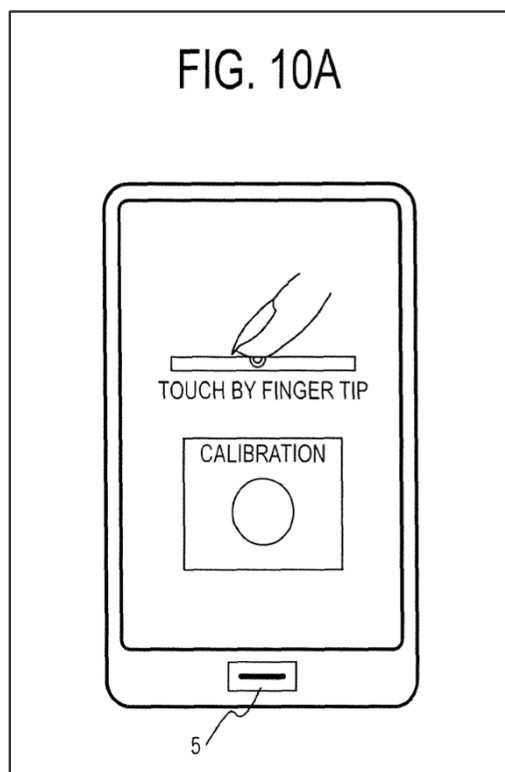
CLAIM 1

An information processing apparatus comprising:

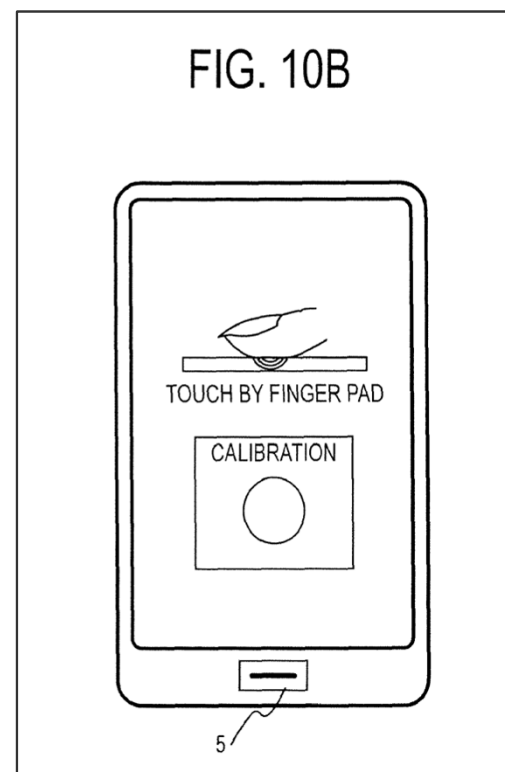
- [1.a] a touch panel configured to detect a contact of a finger of a user;
- [1.b] a detector configured to detect first information necessary for an identification of the user when the contact is detected between the touch panel and the finger of the user;
- [1.c] a first controller configured to control the information processing apparatus to operate into **two operating modes**: at least an **identification mode** and a **registering mode**, as the operating mode thereof;
- [1.d] memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
- [1.e] a second controller configured to execute a specified process when said first information and said second information are coincident within **said identification mode**, wherein:
- [1.f] in **said registering mode**, there are provided **a first registering mode** for inputting input information by a pad of the finger, and **a second registering mode** for inputting input information by an end of the finger, and said second information relating to the identification of the user is produced upon basis of the input information, which is inputted at least in the first or second mode.

EX1001, at Claim 1

Fig. 10A and 10B are Two Different Registering Modes



SECOND REGISTERING MODE



FIRST REGISTERING MODE

EX1001 at Figs. 10A and 10B
POR at 12-13; Sur-reply at 5

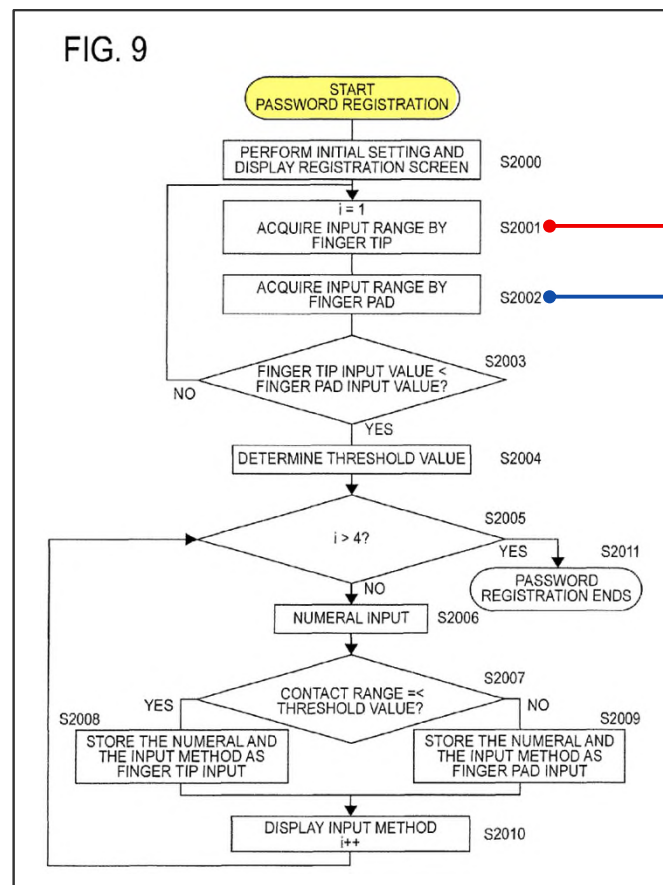
15

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Calibration is Part of the Process for the “registering mode”

The process for password registration will be first described with reference to the flow chart of FIG. 9. After initial settings such as counter reset is done, an image as shown in FIG. 10A is displayed to prompt the user to make a finger tip contact (S2000). A control unit 3 records the contact range of the finger tip input (S2001). Next, an image as shown in FIG. 10B is displayed to prompt the user to make a finger pad contact. The control unit 3 records the contact range of the

EX1001 at 6:28-36



**SECOND REGISTERING
MODE**
**FIRST REGISTERING
MODE**

EX1001 at Fig. 9

Sur-reply at 4-5

16

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Registration of Values Based on Expected Input

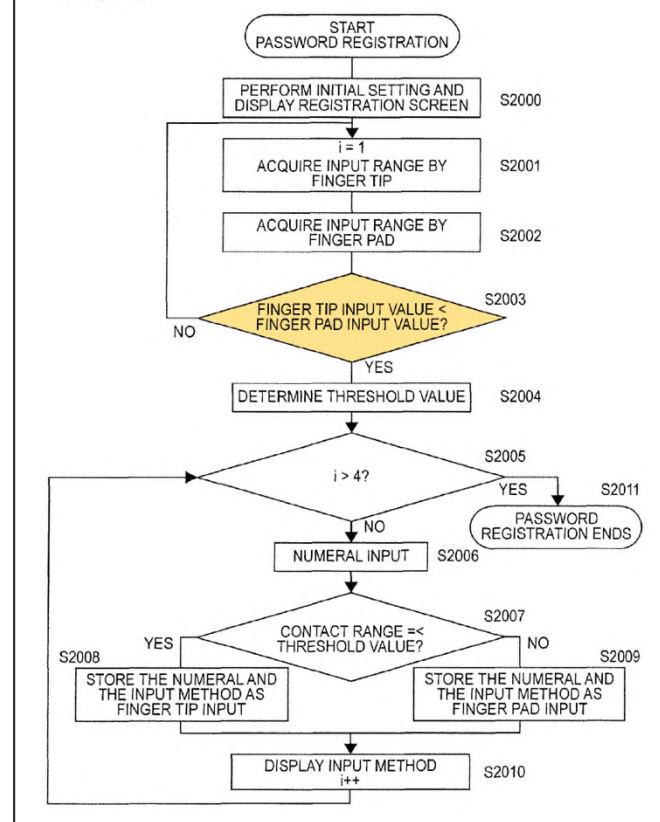
with finger tip or finger pad. When the contact range of the finger pad input is larger than that of the finger tip input, the control unit 3 authorizes the input as a correct input (S2003: Yes). The contact range of the finger tip input is determined as

EX1001 at 6:38-41

The user selects and touches any numbers among numbers 0 to 9 displayed on a touch panel 1 by either the finger tip input or the finger pad input. The selected numbers are registered as input numerals (S2006). Then, the control unit 3 compares the contact range with the threshold value. When the contact range is equal to or smaller than the threshold value (S2007: Yes), the control unit 3 stores the input numeral in association with the finger tip input (S2008). A message as shown in FIG.

EX1001 at 6:52-59

FIG. 9



Sur-reply at 5-6, 8

EX1001 at Fig. 9

17

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Petitioner's Expert Incorrectly Interprets First/Second Registering Modes as Different Input Methods that can be Distinguished



Seth James Nielson, Ph.D.

THE WITNESS: So mode can refer to having a setting and you see that with the registration mode versus the identification mode. And it can also be a detection of input modes in which it's based on detecting the parameters to determine what mode of input is being used.

EX2009 at 53:3-8

POR at 17-18

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

18

Petitioner's Expert Takes a Narrower Position in the Litigation



Seth James Nielson, Ph.D.

Q. And I'm trying to understand, I guess, what makes a mode a mode to a person of ordinary skill in the art. Do you have an opinion on that?

THE WITNESS: Well, I think the way that a person of ordinary -- a person of ordinary skill in the art sees a mode could be interpreted as a state.

A state of the system is -- is a mode of the system, and so you could have a state of the system. If there was one, if the system had a state for being in -- inputting information by the pad of the finger or inputting information

EX2013 at 3

POR at 20-21

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

19

Patent Owner Consistently Interprets “Mode” As an Operational State

A POSITA would understand that the concept of a mode is a setting *S* such that the same action *A* has different results or effects based on the current value of *S*. Put differently, when *S* equals mode *M1*, then action *A* leads to result *B1*. But when *S* equals mode *M2*, then same action *A* leads to result *B2*. For example, with caps lock “off”, the action of hitting the “W” key is to produce a lower-case “w”. But with caps lock “on”, the same action of hitting the “W” key is to produce an upper-case “W”. The same action *A* produces different results (*B1*, *B2*) because of the current mode setting *S*.

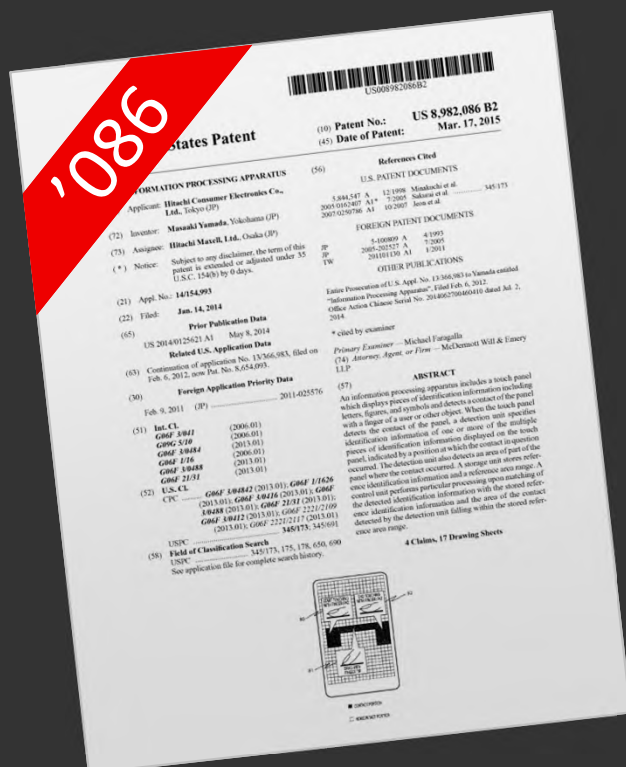
In the '086 Patent, touching the screen, the action *A*, registers values for a fingertip (Figure 10A) in one registering mode *M1*. The same action *A*, touching the screen, registers values for a finger pad (Figure 10B) in another registering mode *M2*. So, in Figures 10A and 10B, the two registering modes have the same action resulting in different outcomes, namely the values registered for finger tips and pads, respectively.

EX1004 at 29

POR at 15

20

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE



DEFICIENCIES OF GROUND 1 AND 2

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

21

Grounds 1 and 2 Deficiencies

PRIOR ART FAILS TO DISCLOSE	Claim 1[e]
PRIOR ART FAILS TO DISCLOSE	Claim 1[f]
PRIOR ART FAILS TO DISCLOSE	Claim 1[d]
PRIOR ART FAILS TO DISCLOSE	Claim 5

Rogers Fails to Disclose First and Second Registering Modes

CLAIM 1

[1.f] in **said registering mode**, there are provided **a first registering mode** for inputting input information by a pad of the finger, and **a second registering mode** for inputting input information by an end of the finger, and said second information relating to the identification of the user is produced upon basis of the input information, which is inputted at least in the first or second mode.

Rogers Discloses a Single Registering Process

	
US008683582B2	
(12) United States Patent Rogers	(10) Patent No.: US 8,683,582 B2 (45) Date of Patent: Mar. 25, 2014
(54) METHOD AND SYSTEM FOR GRAPHICAL PASSCODE SECURITY	2006 0174339 A1* 8/2006 Tao 726/18 2008 0136357 A1* 6/2008 Cho 340/531 2008 0253788 A1* 9/2008 El Saddik et al. 726/18 2009 0315693 A1* 12/2009 Rogers 726/21 2010 0225443 A1* 9/2010 Beynon et al. 340/530
(75) Inventor: Sean Scott Rogers , San Diego, CA (US)	
(73) Assignee: QUALCOMM Incorporated , San Diego, CA (US)	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1082 days.	CX 104079707 A 11/2007 EP 1879127 A1 1/2008 JP 62172478 A 7/1987 JP 1097628 A 4/1989 (Continued)
(21) Appl. No.: 12/139,692	OTHER PUBLICATIONS
(22) Filed: Jun. 16, 2008	Bandyopadhyay, Samir Kumar, Debnath Bhattacharyya, and Poulami Das, "User Authentication by Secured Graphical Password Implementation," Information and Telecommunication Technologies, 2008. APSTIT '08, Asia-Pacific Symposium on, IEEE, 2008.*
(65) Prior Publication Data US 2009/0313693 A1 Dec. 17, 2009	(Continued)
(51) Int. Cl. G06F 7/04 (2006.01) G06F 12/00 (2006.01) G06F 12/14 (2006.01) G06F 13/00 (2006.01)	Primary Examiner — Christopher Brown Assistant Examiner — Harris Wang (74) Attorney, Agent, or Firm — James T. Hagler
(52) U.S. Cl. 726/21 USPC	(57) ABSTRACT
(58) Field of Classification Search CPC G06F 21/36 USPC 726/21 See application file for complete search history.	A method and system for electronic access security uses touches and movements on a touch sensitive surface to determine graphical passcode that are used in a manner similar to passwords. Graphical passcodes comprise various combinations of swipes, taps or drags on a touchscreen surface as defined by a user. A user's selected graphical passcode is stored in memory for comparison to subsequent entries of graphical passcode in order to authenticate the users. An envelope may be generated to define a range of acceptable pressure, speed, coordinate positions or other parameters, as a function of time or position, required for passcode authentication. The envelope may be stored in a computer memory and is used to authenticate a user by determining whether an entered graphical passcode falls within the envelope.
(56) References Cited U.S. PATENT DOCUMENTS 5,347,589 A 9/1994 Meeks et al. 5,687,254 A 11/1997 Pines et al. 5,917,942 A 6/1999 Elzouki et al. 6,275,611 B1 8/2001 Parkkari et al. 7,054,510 B1 5/2006 Miller 7,243,239 B2* 7/2007 Kowalski et al. 713/184 7,296,964 B2 11/2007 Choi et al. 2001/0044950 A1 11/2001 Kanevsky et al. 2004/0095384 A1 5/2004 Avni et al.	
	63 Claims, 21 Drawing Sheets

As used herein, a “graphical passcode” is a figure, drawings, letter, or shape input on a touchsurface such as by a user’s finger or a stylus. The graphical passcode is essentially a series of touches, swipes and/or taps on a touchsurface of varying pressure, speed and position. The graphical passcode

EX1006 at 3:32-36

EX1006

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 32-33

24

Maxell, Ltd.
Ex. 2014
Page 24 of 49

Rogers Discloses a Single Registering Process

 US08683582B2	
(12) United States Patent Rogers	(10) Patent No.: US 8,683,582 B2 (45) Date of Patent: Mar. 25, 2014
(54) METHOD AND SYSTEM FOR GRAPHICAL PASSCODE SECURITY	2006 0174339 A1* 8/2006 Tao 726/18 2008 0136357 A1* 6/2008 Cho 340/531 2008 0253788 A1* 9/2008 El Saddik et al. 726/18 2009 0315693 A1* 12/2009 Rogers 726/21 2010 0225443 A1* 9/2010 Beynon et al. 340/530
(75) Inventor: Sean Scott Rogers , San Diego, CA (US)	
(73) Assignee: QUALCOMM Incorporated , San Diego, CA (US)	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1082 days.	FOREIGN PATENT DOCUMENTS CX 100797907 A 11/2007 EP 1879127 A1 1/2008 JP 6212478 A 7/1997 JP 1097628 A 4/1999 (Continued)
(21) Appl. No.: 12/139,692	OTHER PUBLICATIONS
(22) Filed: Jun. 16, 2008	Bandyopadhyay, Samir Kumar, Debnath Bhattacharyya, and Poulami Das, "User Authentication by Secured Graphical Password Implementation," Information and Telecommunication Technologies, 2008. APNET '08, Asia-Pacific Symposium on, IEEE, 2008.* (Continued)
(65) Prior Publication Data US 2009/0313693 A1 Dec. 17, 2009	
(51) Int. Cl. G06F 7/04 (2006.01) G06F 12/00 (2006.01) G06F 12/14 (2006.01) G06F 13/00 (2006.01)	Primary Examiner — Christopher Brown Assistant Examiner — Harris Wang (74) Attorney, Agent, or Firm — James T. Hagler
(52) U.S. Cl. 726/21	(57) ABSTRACT
(58) Field of Classification Search CPC G06F 21/36 USPC 726/21 See application file for complete search history.	A method and system for electronic access security uses touches and movements on a touch sensitive surface to determine graphical passcode that are used in a manner similar to passwords. Graphical passcodes comprise various combinations of swipes, taps or drags on a touchscreen surface as defined by a user. A user's selected graphical passcode is stored in memory for comparison to subsequent entries of graphical passcode in order to authenticate the users. An envelope may be generated to define a range of acceptable pressure, speed, coordinate positions or other parameters, as a function of time or position, required for passcode authentication. The envelope may be stored in a computer memory and is used to authenticate a user by determining whether an entered graphical passcode falls within the envelope.
(56) References Cited U.S. PATENT DOCUMENTS 5,347,589 A 9/1994 Meeks et al. 5,687,254 A 11/1997 Pines et al. 5,917,942 A 6/1999 Elzahi et al. 6,275,611 B1 8/2001 Parkkari et al. 7,054,510 B1 5/2006 Miller 7,243,239 B2* 7/2007 Kowalski et al. 713/184 7,296,964 B2 11/2007 Choi et al. 2001/0044950 A1 11/2001 Kanevsky et al. 2004/0095384 A1 5/2004 Avni et al.	63 Claims, 21 Drawing Sheets

EX1006

FIG. 4 illustrates a process flow of steps in a method of an embodiment for initializing an electronic device with a template graphical passcode. The electronic device 70 via the processor 71 and display 40 may prompt a user to input a desired graphical passcode, step 101. In response to the prompt, the user inputs a graphical passcode to be used as a passcode template, step 102, such as by drawing a finger tip across the touchsurface in the appropriate manner. The user may optionally be prompted to complete a training session, step 103, where the desired graphical passcode may be inputted multiple times to enable the processor 71 to generate the necessary parameter envelopes 28 circumscribing the passcode template. Alternatively, the user may initiate a training session. The electronic device 70 processor 71 measures at least one characteristic parameter of the inputted template graphical passcode and stores the measured at least one characteristic parameter in the internal memory 72 as at least part of the passcode template, step 104. The measured passcode parameters may include X-axis position, Y-axis position, pressure, speed, line thickness, etc. The characteristic parameter measurements may be measured and stored as a function of time or location. For example, if applied force is measured, then the applied force measured at each time interval is stored in the memory 72. The characteristic parameter measurements may be stored as plotted graphs or as correlated datasets.

Sur-reply at 15

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

EX1006 at 8:42-67

25

Rogers Discloses a Single Registering Process

IN UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.

Petitioners,

v.

MAXELL, LTD.,
Patent Owner

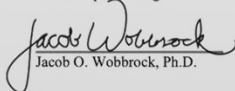
Case: IPR2024-00828

U.S. Patent No. 8,982,086

DECLARATION OF JACOB O. WOBBERCK, PH.D.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the patent which is under review in this proceeding.

Dated: January 23, 2025


Jacob O. Wobberck, Ph.D.

Maxell, Ltd.
Ex. 2005
Page 1 of 94

122. While it is true that Rogers, for example, discusses “large fingertip” and a small stylus tip to provide input during the “training session,” these inputs are not treated as or disclose two separate registering modes as claim element [1f] requires for at least these reasons. Rogers discloses a single registering mode for creating a template for a single graphical passcode. See EX1006, 8:42-67; EX2009, 89:10-22 (“We have just **one registration mode** that is either going to have an identification that there’s finger pad or an identification that there’s fingertip and it’s one or the other and that’s it.”). In contrast, claim element [1f] requires multiple registering modes.

EX2005, para. 122

EX2005

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 32

26

Maxell, Ltd.
Ex. 2014
Page 26 of 49

Petitioner's Interpretation of Element [1c]

REGISTRATION MODE

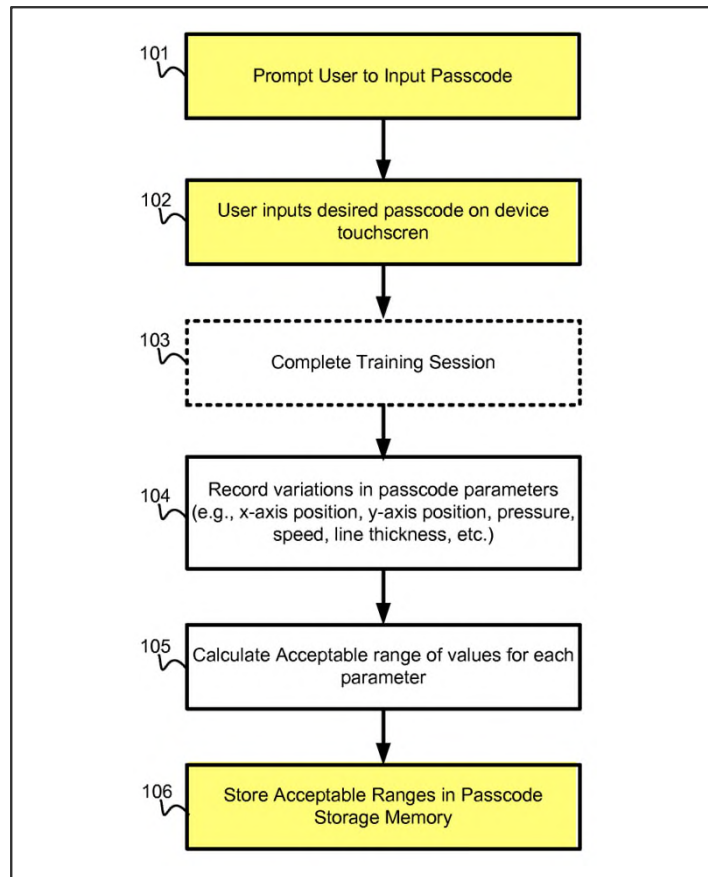


Fig. 4

IDENTIFICATION MODE

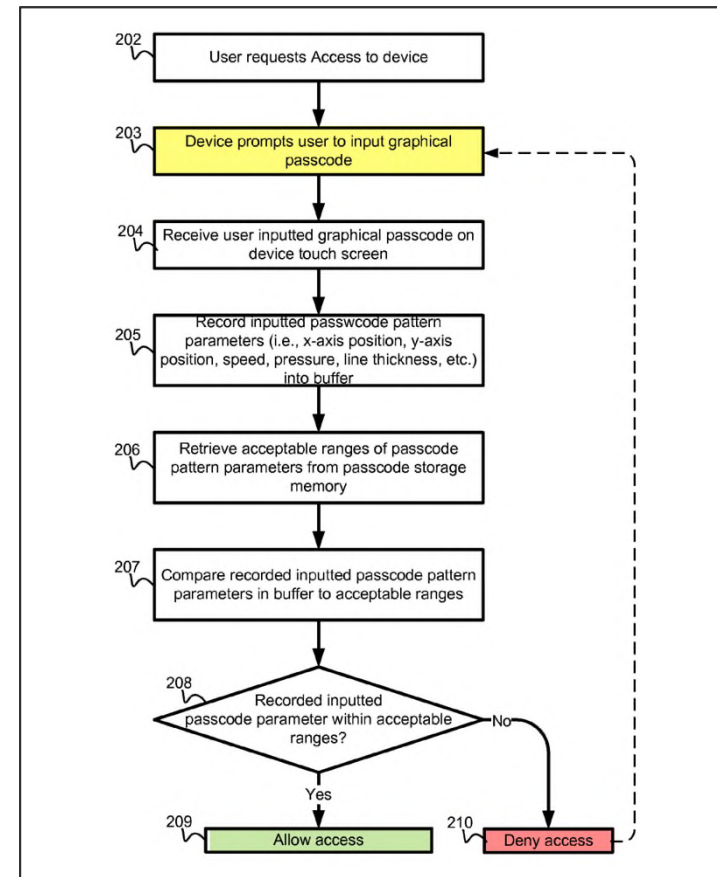


Fig. 5

Pet. at 21-24

27

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Rogers Figure 4 Discloses One Registering Mode

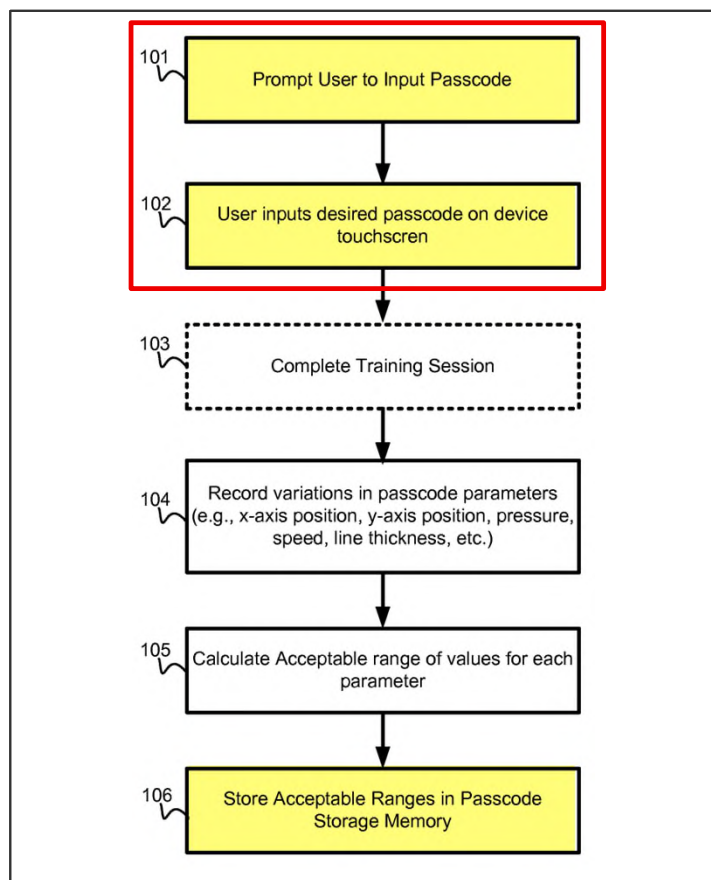


Fig. 4

FIG. 4 illustrates a process flow of steps in a method of an embodiment for initializing an electronic device with a template graphical passcode. The electronic device 70 via the processor 71 and display 40 may prompt a user to input a desired graphical passcode, step 101. In response to the prompt, the user inputs a graphical passcode to be used as a passcode template, step 102, such as by drawing a finger tip across the touchsurface in the appropriate manner. The user may optionally be prompted to complete a training session, step 103, where the desired graphical passcode may be inputted multiple times to enable the processor 71 to generate the necessary parameter envelopes 28 circumscribing the passcode template. Alternatively, the user may initiate a training session. The electronic device 70 processor 71 measures at least one characteristic parameter of the inputted template graphical passcode and stores the measured at least one characteristic parameter in the internal memory 72 as at least part of the passcode template, step 104. The measured passcode parameters may include X-axis position, Y-axis position, pressure, speed, line thickness, etc. The characteristic parameter measurements may be measured and stored as a function of time or location. For example, if applied force is measured, then the applied force measured at each time interval is stored in the memory 72. The characteristic parameter measurements may be stored as plotted graphs or as correlated datasets.

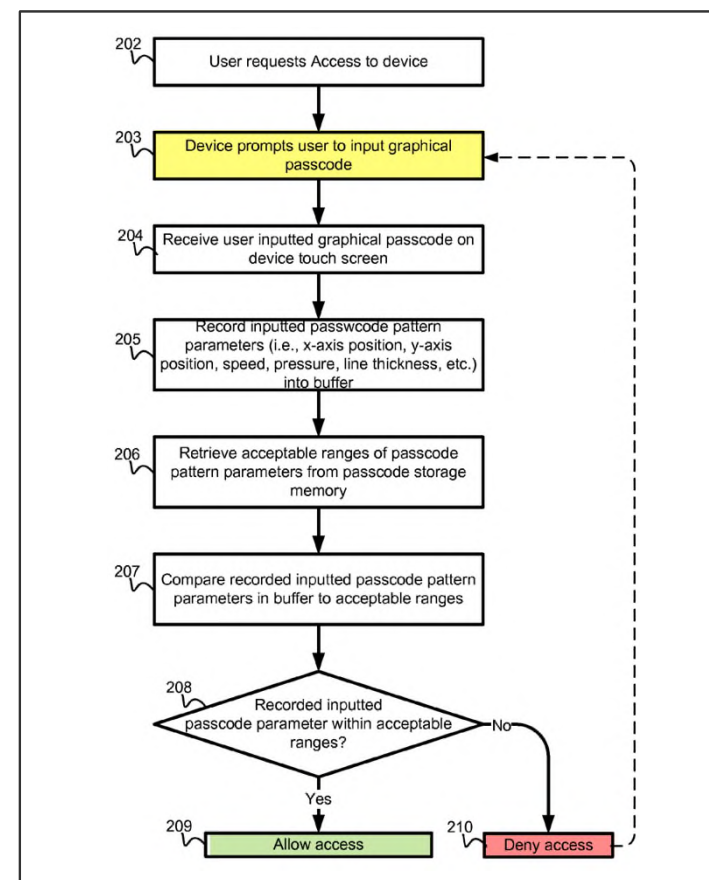
EX1006 at Fig. 4,
8:42-67
28

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Identification Mode

- Input same passcode and access is granted

tive measured parameter in the passcode. Each of the measured parameter values for the inputted graphical passcode is compared against the respective retrieved parameter envelope of the passcode template, step 207, and a determination is made as to whether the inputted graphical passcode falls within acceptable ranges of the passcode template, decision 208. If each of the respective measured parameter values stored in the buffer is within the range of acceptable values of each respective envelope (i.e., decision 208="Yes"), then access to the electronic device 70 is allowed, step 209. If any or some fraction of the respective measured parameter values stored in the buffer is not within the range of acceptable values of each respective envelope of the passcode template (i.e., decision 208="No"), then access to the electronic device



EX1006 at 9:54-67, Fig. 5

Fig. 5

Petitioner's Expert Agreed Rogers Discloses One Registration Mode



Seth James Nielson, Ph.D.

THE WITNESS: We have just one registration mode that is either going to have an identification that there's finger pad or an identification that there's fingertip and it's one or the other and that's it.

EX2009 at 89:19-22

Sur-reply at 15

30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Rogers Does not Disclose Two Registering Modes Claimed in the '086 Patent

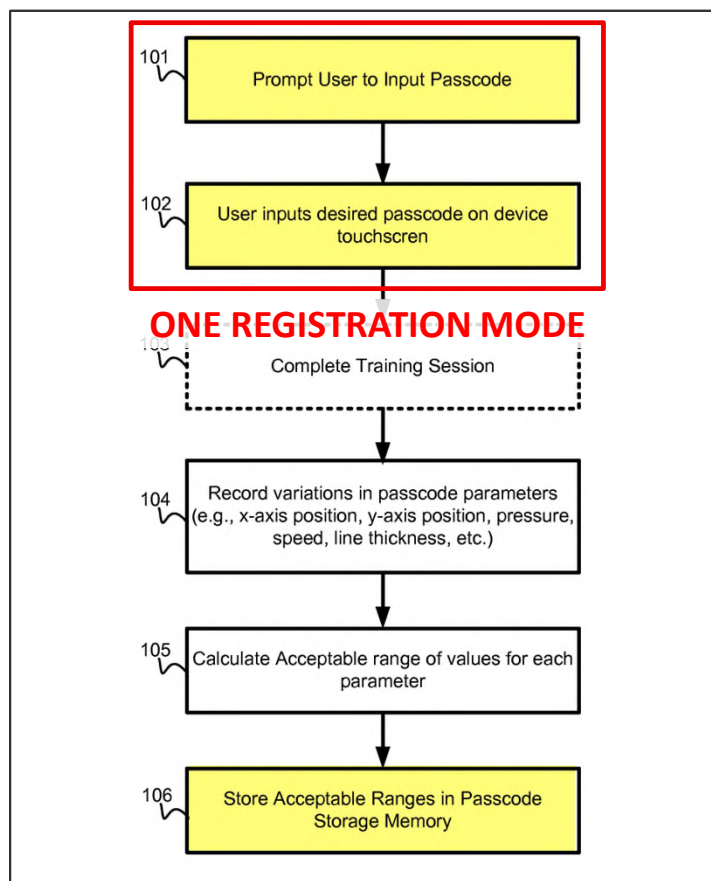
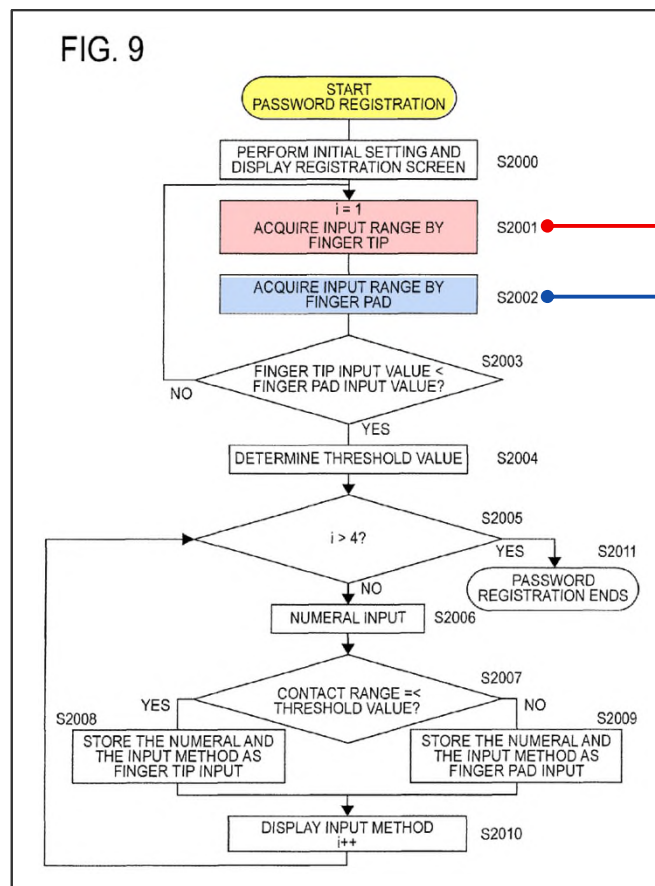


Fig. 4

EX1006 at Fig. 4

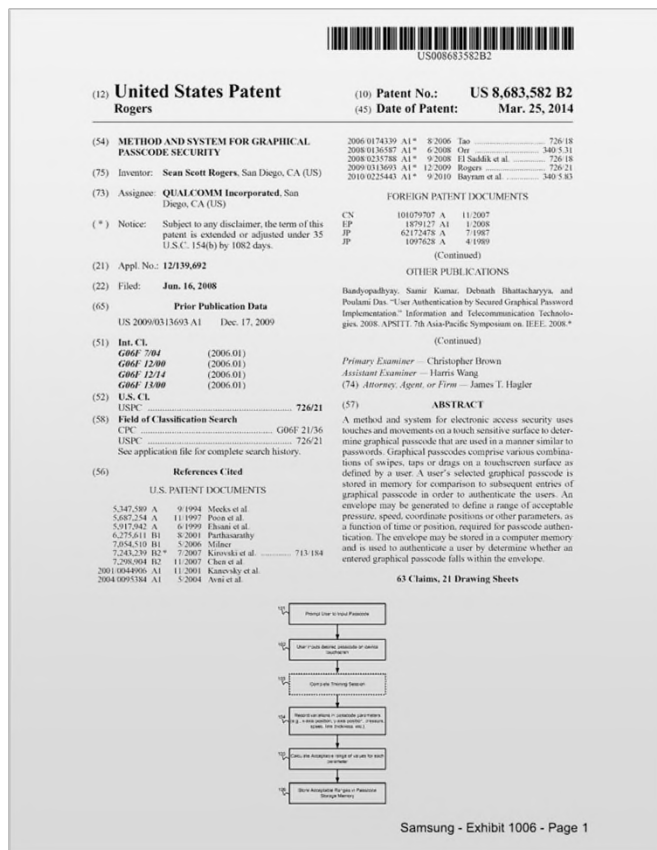


EX1001 at Fig. 9

POR at 32-34
Sur-reply at 5-6

Roger's "Size Requirement" Does Not Disclose Two Registering Modes

- Independent of any specific mode or operational state



EX1006

In some embodiments, authentication of the subsequently inputted graphical passcode may employ a measurement of a size (i.e., area) of the object or fingertip applied to the touch-surface. For example, the touchsurface may discriminate between a large fingertip and a small stylus tip, and use this area difference as a measured parameter that can be compared against the template graphical passcode for authentication. Authentication may require a measured contact area greater than or less than a certain size, or within a certain size range. The size requirement can be determined during a training session, or can be predetermined or can be selected by the user.

EX1006 at 7:56-67

Sur-reply at 17

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

32

Maxell, Ltd.
Ex. 2014
Page 32 of 49

Rogers Discloses Its Own Training Session

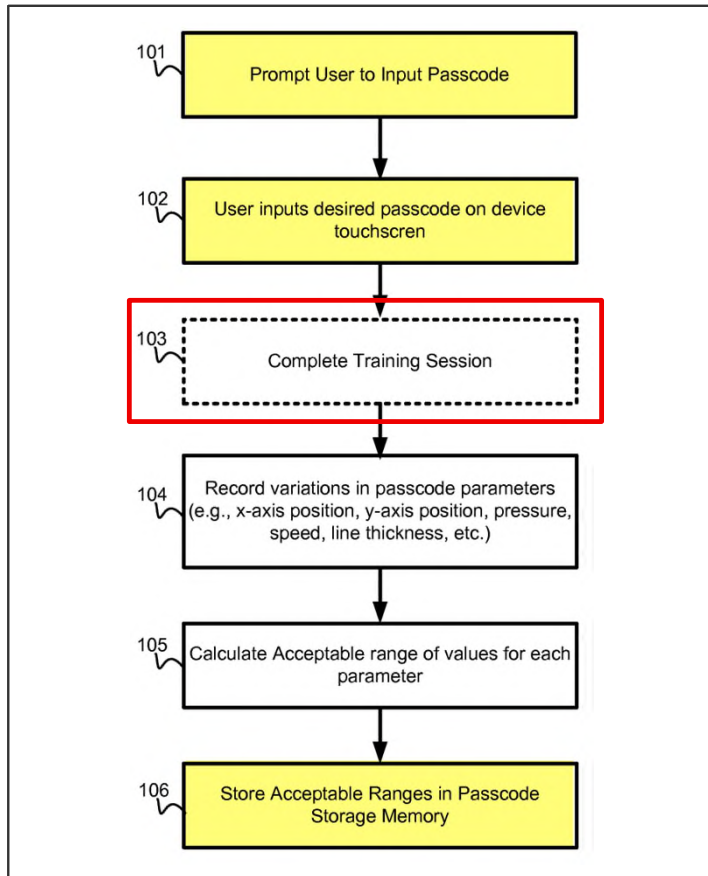


Fig. 4

across the touchsurface in the appropriate manner. The user may optionally be prompted to complete a training session, step 103, where the desired graphical passcode may be inputted multiple times to enable the processor 71 to generate the necessary parameter envelopes 28 circumscribing the passcode template. Alternatively, the user may initiate a training

EX1006 at 8:49-54

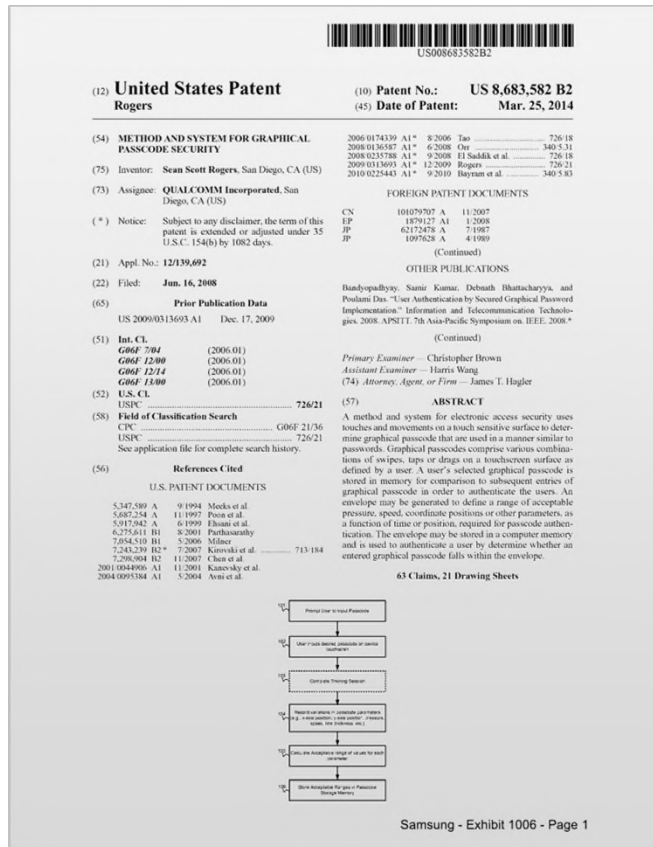
POR at 41

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

33

Rogers Discloses Its Own Training Session

- Not in the context of two different modes



In still other embodiments, the size and width of the envelopes 28 can be automatically calculated by the electronic device 70. For example, during a training procedure within the initialization procedure, a user may be prompted to input a desired graphical passcode multiple times. Variations in the characteristic parameters of each multiple iteration inputted in the training session are measured. The envelope size and shape can then be selected by the electronic device so that most or all of the entered graphical passcodes will be authenticated. For example, the variations in the characteristic

EX1006 at 7:7-16

EX1006

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 45

34

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Ex. 2014
Page 34 of 49

Claim 1[f] would not have been obvious in view of Rosenberg

- Petitioner uses Rosenberg for finger pad and fingertip touches
- Petitioner does not rely on Rosenberg for two sub registering modes

Rogers teaches distinguishing between a “large fingertip and a small stylus tip” based on “area difference[s]” between the two input types as a factor in graphical passcode authentication. EX1006, 7:59-62. A POSITA would have recognized that this implementation goal would have been better accomplished through Rosenberg’s disclosure of distinguishing finger pad touches from fingertip touches. EX1003, ¶88. Rosenberg expressly states that “a stylus is often not always preferred because it requires that the user employ another piece of hardware that needs to be stored, taken out of a holder for usage, put away after usage, and is often accidentally lost,” and that “a stylus is often not convenient for touch screen interfaces that enable multipoint targeting and multi-finger gesturing because a user can not easily hold a stylus at the same time he or she is performing a multi-finger gesture.” EX1007, ¶30. A POSITA therefore would have considered the disclosures in Rosenberg and been motivated to modify Rogers’ “large fingertip

Pet. at 12

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

35

Rosenberg

Trials@uspto.gov
571-272-7822

Paper 9
Date: November 4, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO. LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.,
Petitioner,

v.

MAXELL, LTD.,
Patent Owner.

IPR2024-00828
Patent 8,982,086 B2

Before TERRENCE W. MCMILLIN, KEVIN C. TROCK, and
JASON W. MELVIN, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Rosenberg is titled “Bimodal User Interface Paradigm for Touch Screen Devices.” Ex. 1007, code (54). Rosenberg relates to “a unique targeting methodology for GUIs implemented upon touch screen devices.” *Id.* ¶ 8. Specifically, Rosenberg describes “a bimodal targeting paradigm in which a user may naturally and intuitively select between two targeting modes, a traditional targeting mode (referred to herein as direct-targeting) and a modified targeting mode (referred to herein as offset-targeting).” *Id.* “[D]irect-targeting is particularly well adapted for user interaction with large graphical elements” and this mode may be “engaged when it is determined that the user is tip-pointing upon the touch screen.” *Id.* “Offset-targeting is well adapted for user interaction with small graphical elements” and this mode may be “engaged when it is determined that the user is pad-pointing upon the touch screen interface.” *Id.* Rosenberg provides “a variety of methods for distinguishing between finger-tip interactions and finger-pad interactions, including as assessment of the finger contact area size, shape, and/or orientation.” *Id.* ¶ 27.

Paper 9

Paper 9 at pg. 15-16

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

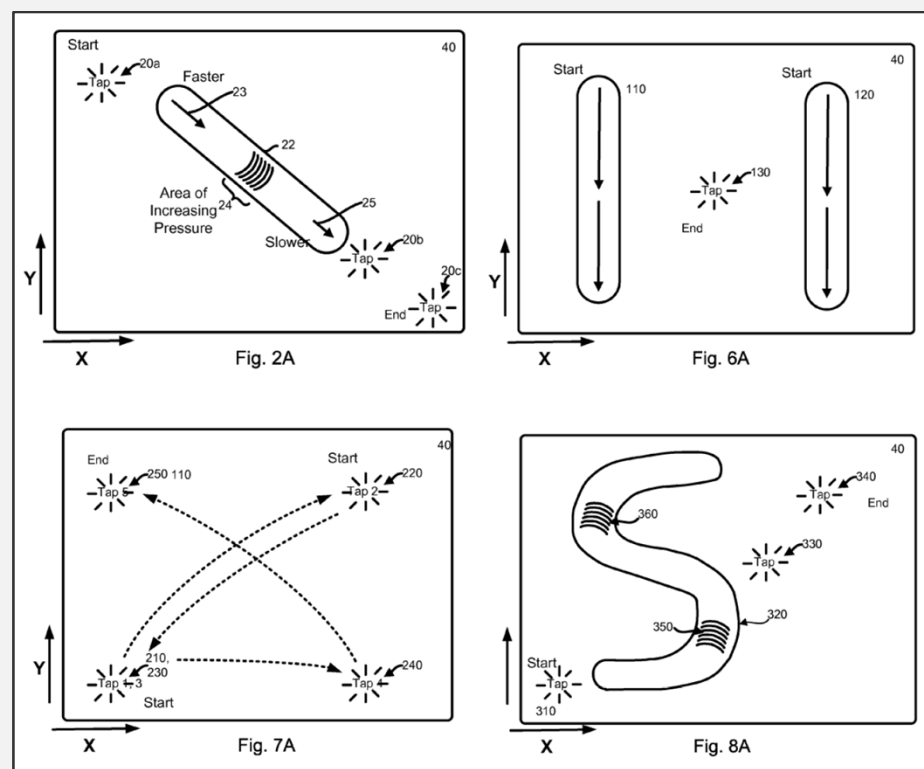
36

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Ex. 2014
Page 36 of 49

Rogers Does Not Disclose Claim 5

“a display screen configured to display a first image and first descriptive text associated with the first registering mode and a second image and second descriptive text associated with the second registering mode”

Rogers “exemplary graphical passcode”



EX1006 at Figs. 2A, 6A, 7A, 8A

POR at 49-50

Sur-reply at 19-20

37

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Rogers Fails to Disclose Both a First and Second Controller

CLAIM 1

[1.e] **a second controller** configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:

“Controller” is a Well Understood Term

IN UNITED STATES PATENT AND TRADEMARK OFFICE
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MAXELL, LTD.,
Patent Owner

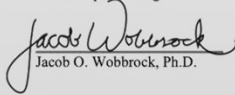
Case: IPR2024-00828

U.S. Patent No. 8,982,086

DECLARATION OF JACOB O. WOB Brock, PH.D.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the patent which is under review in this proceeding.

Dated: January 23, 2025


Jacob O. Wob Brock, Ph.D.

Maxell, Ltd.
Ex. 2005
Page 1 of 94

EX2005

106. I also note that “controller” is a well understood structure in electrical and computer engineering. At a minimum, a controller has processing, input/output (I/O), and memory, as described below. EX2008 at 18. A POSITA would understand that the claimed “first controller” and “second controller” can perform particular tasks by using a processor (*e.g.*, CPU) typically included in the known structures of a controller with different configurations or executing different instructions. For example, a POSITA would recognize that one example of a known structure corresponding to the claimed “controller” would be a microcontroller. My opinion is supported by the following textbook that confirms the understanding of a POSITA that a “controller” was a known structure at the time of the ’086 Patent.

EX2005 at para 106

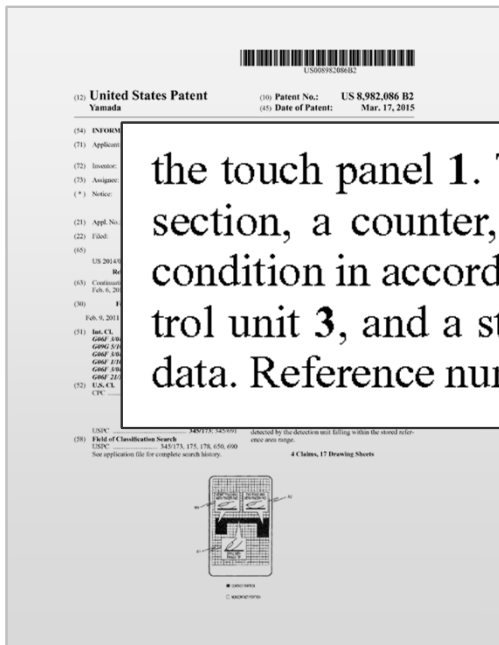
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 25

39

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Page 39 of 49

'086 Patent "Control unit 3" is a microcontroller



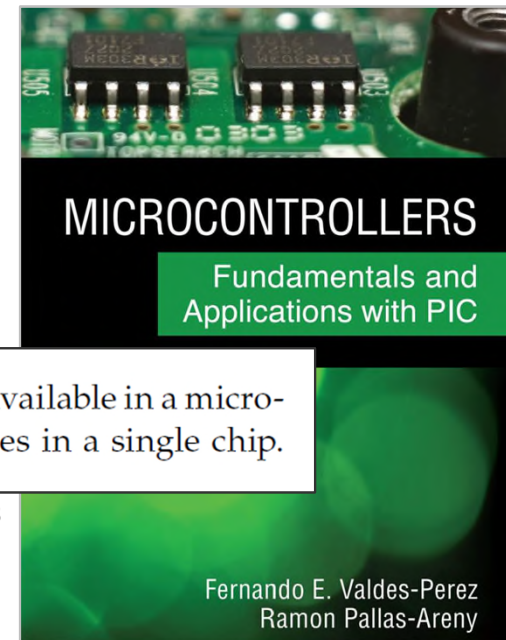
EX1001

the touch panel 1. The control unit 3 includes an arithmetic section, a counter, a determination unit which determines condition in accordance with input information into the control unit 3, and a storage unit which stores various types of data. Reference numeral 4 denotes, as mentioned, a group of

EX1001 at 3:26-30

Microcontrollers combine the fundamental resources available in a micro-computer such as the CPU, memory, and I/O resources in a single chip.

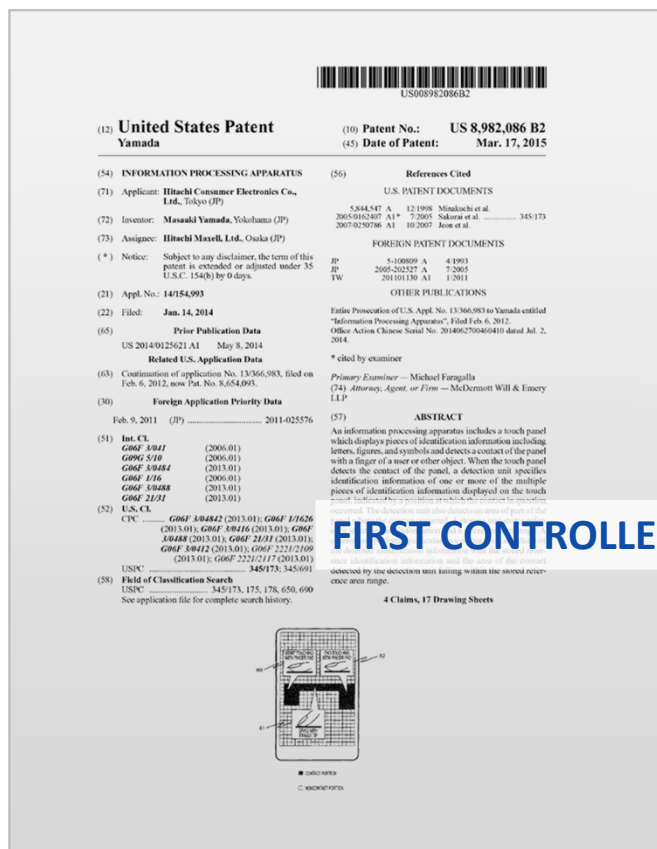
EX2008 at 18



EX2008

POR at 25-27

The '086 Patent Discloses a “first controller” and “second controller”



EX1001

SECOND CONTROLLER

information and a reference area range; a determination unit which determines whether the identification information detected by the detection unit matches the reference identification information stored in the storage unit and whether the area of the contact detected by the detection unit falls within the reference area range stored in the storage unit; and a control unit which performs particular processing when the determination unit determines that the identification information detected by the detection unit matches the reference identification information stored in the storage unit and the

EX1001 ('086 Patent) at 1:53-62

POR at 23

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

41

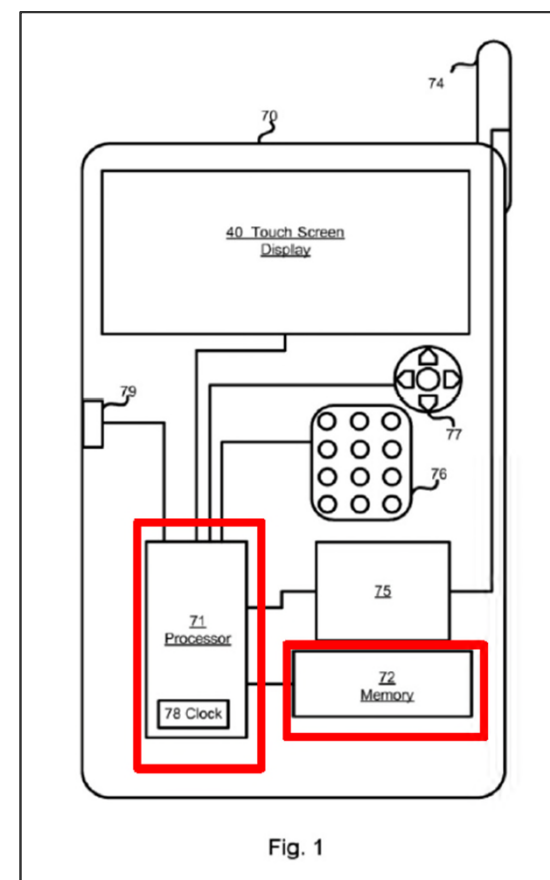
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Ex. 2014
Page 41 of 49

Rogers Discloses a Single Processor

- “Processing elements” $\neq$ two controllers

The hardware used to implement the foregoing embodiments may be processing elements and memory elements configured to execute a set of instructions, wherein the set of instructions are for performing method steps corresponding to the above methods. Alternatively, some steps or methods may be performed by circuitry that is specific to a given function.

EX1006 at 13:21-27, Fig. 1



A POSITA Would Not Add Another Controller to Rogers

IN UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.

Petitioners,

v.

MAXELL, LTD.,
Patent Owner

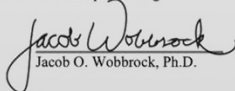
Case: IPR2024-00828

U.S. Patent No. 8,982,086

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I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the patent which is under review in this proceeding.

Dated: January 23, 2025


Jacob O. Wob Brock, Ph.D.

Maxell, Ltd.
Ex. 2005
Page 1 of 94

EX2005

105. A POSITA would recognize that expanding Rogers to add an additional controller/processor would require at least: (1) adding an additional powered hardware component; (2) rewriting source code routines such that some source code is executed on one controller and other source code is executed on another controller; (3) additional memory controllers/interfaces to allow both processors access to memory 72; (4) adding a means of communication between the extant processor 71 and the new controller; and (5) numerous additional changes to the hardware and software of the device. Making the change proposed by Petitioners would result in an increase in costs of the device and would require additional power and circuitry to support a two processor structure versus a single processor structure. And there is no clear motivation a POSITA would have to make all of these modifications, since Rogers's functionality is already adequately supported by Rogers's own single processor 71.

EX2005 at para. 105

POR at 30

43

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Maxell, Ltd.
Ex. 2014
Page 43 of 49

A POSITA Would Not Add Another Controller to Rogers

IN UNITED STATES PATENT AND TRADEMARK OFFICE
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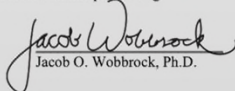
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U.S. Patent No. 8,982,086

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Dated: January 23, 2025


Jacob O. Wobbrock, Ph.D.

Maxell, Ltd.
Ex. 2005
Page 1 of 94

EX2005

115. Finally, Petitioners have not explained why it would be obvious to add an additional controller (*i.e.*, “simple substitution”) into Rogers in view of all the changes to the hardware/software of the system I note above. *See* Pet. at 29-30. For example, Rogers designed his system with a specific disclosed architecture. Other than hindsight, there is no reason to modify this to require two processors or controllers when doing so would require a significant redesign and increase costs. All Rogers’ system is doing is recording graphical passcodes in memory and then allowing users to access the device via subsequent touches by a stylus or fingers. Petitioners provide no reason why a POSITA would be motivated to change the designed single processor solution by Rogers into a dual-controller solution to perform the exact same storing and recognition of graphical passcodes.

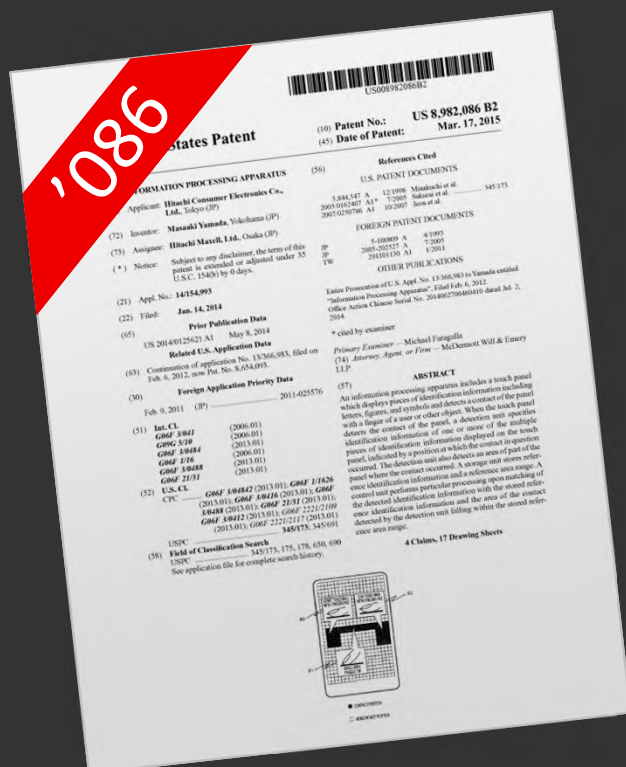
EX2005 at para. 115

POR at 30

44

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Maxell, Ltd.
Ex. 2014
Page 44 of 49



DEFICIENCIES OF GROUNDS 3 AND 4

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

45

Grounds 3 and 4 Deficiencies

PRIOR ART FAILS TO DISCLOSE

Claim 1[e]

PRIOR ART FAILS TO DISCLOSE

Claim 1[f]

PRIOR ART FAILS TO DISCLOSE

Claim 5

Claim 1[f] would not have been obvious in view of Rekimoto

- Petitioner uses Rekimoto for finger pad and fingertip touches
- Petitioner does not rely on Rekimoto for two sub registering modes

Rogers in view of Rekimoto

To the extent PO argues that Rogers does not fully disclose limitation [1f] because Rogers does not explicitly recite the use of finger pad and fingertip inputs, Rogers in view of Rekimoto renders this limitation obvious. EX1003, ¶¶178-181.

Rekimoto discloses inputting input information by a pad of the finger (“finger pad”) and inputting input information by an end of the finger (“fingertip”):

Rekimoto's Inputs Does Not Disclose Two Different Registering Modes

- Not a registering mode

US9084771B2

(12) **United States Patent**
Rekimoto

(10) **Patent No.:** US 8,477,115 B2
(45) **Date of Patent:** Jul. 2, 2013

(54) **INPUT DEVICE, INFORMATION PROCESSING APPARATUS, INFORMATION PROCESSING METHOD, AND PROGRAM**

(75) **Inventor:** Junichi Rekimoto, Tokyo (JP)

(73) **Assignee:** Sony Corporation, Tokyo (JP)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(h) by 887 days.

(21) **Appl. No.:** 11/447,973

(22) **Filed:** Jun. 7, 2006

(65) **Prior Publication Data**
US 2006/0284858 A1 Dec. 21, 2006

(30) **Foreign Application Priority Data**
Jun. 8, 2005 (JP) 2005-108699

(51) **Int. Cl.**
G06F 3/045 (2006.01)
G06C 23/00 (2006.01)

(52) **U.S. Cl.**
USPC 345/174, 345/173, 178/18.03, 178/18.05, 345/168, 169, 173, 174, 179, 178/18.01, 178/18.03, 18.05, 18.06, 18.07

(58) **Field of Classification Search**
USPC 345/156, 157, 160, 161, 163, 167, 345/168, 169, 173, 174, 179, 178/18.01, 178/18.03, 18.05, 18.06, 18.07

See application file for complete search history.

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,241,308 A * 8/1993 Young 341/34
5,475,401 A * 12/1995 Venner et al. 345/179
6,389,803 B2 * 4/2002 Bruchers et al. 345/173

6 Claims, 9 Drawing Sheets

Samsung - Exhibit 1010 - Page 1

ary. Therefore, by pressing the input device 1 by erecting a finger and thus with a fingertip, the user can perform first processing for zooming in on an image in response to the pressing force. Similarly, by pressing the input device 1 by laying the finger down and thus with the finger pad, the user can perform second processing for zooming out on the image in response to the pressing force.

EX1010 at 5:31-37

EX1010

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Sur-reply at 22-23

POR at 52-54

48

Maxell, Ltd.
Ex. 2014
Page 48 of 49

Rekimoto

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Paper 9
Date: November 4, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

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IPR2024-00828
Patent 8,982,086 B2

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JASON W. MELVIN, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Rekimoto is titled “Input Device, Information Processing Apparatus, Information Processing Method, and Program.” Ex. 1010, code (54). Rekimoto describes a problem relating to an input device that uses a pressure value “to zoom in or out on an image of a map in a navigation system or the like.” *Id.* at 1:47–48. Namely, “a user can increase or decrease his/her pressing force to increase the zoom percentage from 0 (no zoom in/zoom out), or to step back to 0 (no zoom in/zoom out), but cannot zoom out from 0 (no zoom in/zoom out).” *Id.* at 1:48–52. Rekimoto states it is desirable to provide a solution to “control an input in both positive and negative direction from zero without changing the position of a finger or the like.” *Id.* at 2:1–5. Rekimoto proposes using “two kinds of values, namely a contact area and a pressing force by a finger or an input device,” where “the detected contact area is discriminated by a predetermined threshold [and] the detected pressure value can be interpreted in one of two directions, a positive

Paper 9

Paper 9 at pg. 36-37

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

49

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Ex. 2014
Page 49 of 49