

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)

Inter Partes Review

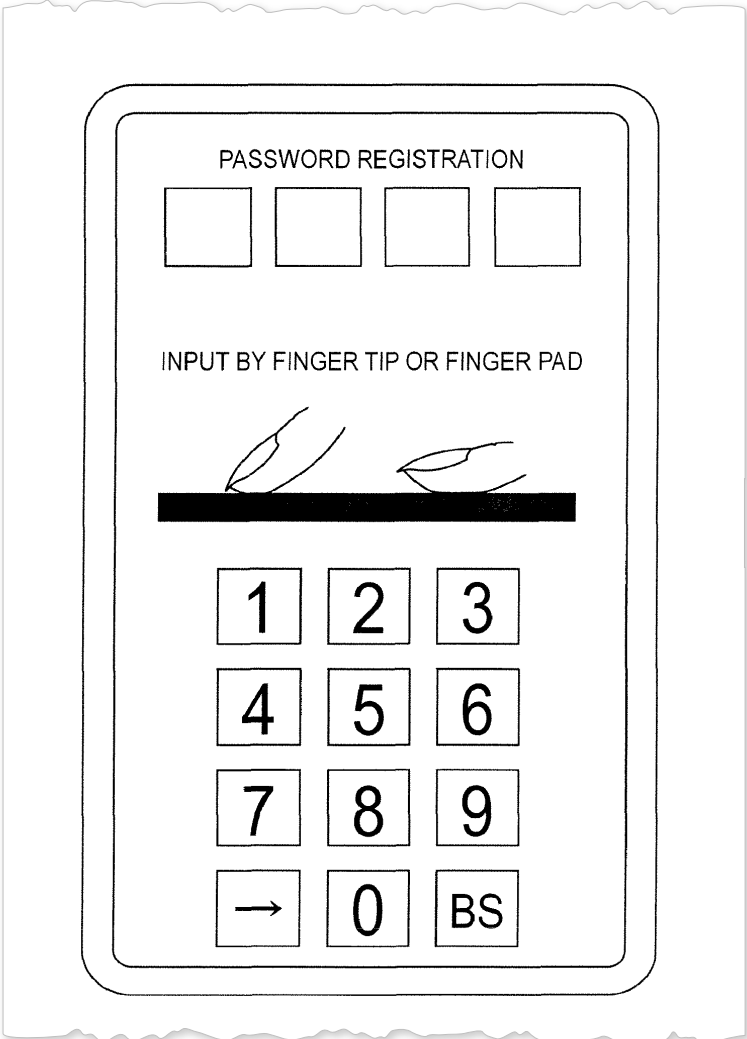
No. IPR2024-00828 | U.S. Patent No. 8,982,086

Petitioners' Presentation

IPR2024-00828 Oral Argument Agenda

- '086 Patent Overview
- Grounds for Finding Invalidity
- Claim Construction
- **Ground 1:** Rogers + Rosenberg (Cl. 1, 2, 4-7)
- **Ground 2:** Rogers + Rosenberg + Miyazawa (Cl. 9-14)
- **Ground 3:** Rogers + Rekimoto (Cl. 1, 2, 4-7)
- **Ground 4:** Rogers + Rekimoto + Miyazawa (Cl. 9-14)

'086 Patent Overview



EX1001 ('086 Patent) at Fig.11A

'086 Patent

DIGIT	1	2	3	4
PASSWORD	0	5	2	8
INPUT METHOD	FINGER TIP	FINGER PAD	FINGER PAD	FINGER PAD

EX1001 ('086 Patent) at Fig. 12A

'086 Patent Overview

FIG. 1A

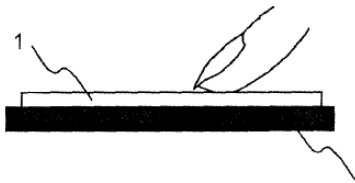


FIG. 1B

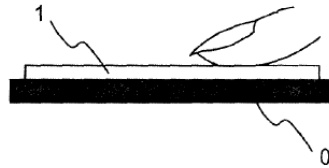


FIG. 5A

FINGER TIP CALIBRATION

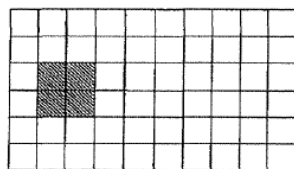
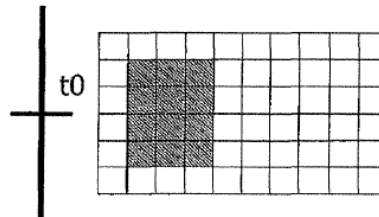


FIG. 5B

FINGER PAD CALIBRATION



EX1001 ('086 Patent) at Figs. 1A, 1B, 5A, 5B
Reply at 7-8

'086 Patent

includes a touch panel 1 having a touch sensor function. FIG. 1A is an image of a user making input by touching the touch panel 1 with his or her finger tip. The input using one's finger tip is characterized in that an area of contact (hereinafter referred also to as a "contact range") between the finger of the user and the touch panel 1 is small. This operation by the user will hereinafter be referred to as a finger tip input. FIG. 1B schematically shows an image of a user making input by touching the touch panel 1 with his or her finger pad. The input using one's finger pad is characterized in that the contact range of the finger and the touch panel 1 is wider than that of the finger tip input. This operation by the user will hereinafter be referred to as a finger pad input.

EX1001 ('086 Patent) at 3:1-13
Petition at 3

Independent Claim 1

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f]	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, Claim1

Grounds for Finding Invalidity

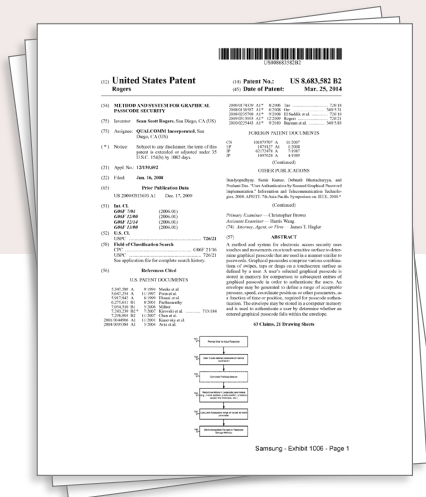
Ground	Claims	Stat. Basis	Prior Art
1	1, 2, 4-7	35 U.S.C. § 103 ¹	Rogers, Rosenberg
2	9-14	35 U.S.C. § 103	Rogers, Rosenberg, Miyazawa
3	1, 2, 4-7	35 U.S.C. § 103	Rogers, Rekimoto
4	9-14	35 U.S.C. § 103	Rogers, Rekimoto, Miyazawa

¹ Pre-AIA §§102 and 103 apply throughout this petition.

Prior Art Combinations

Primary Reference

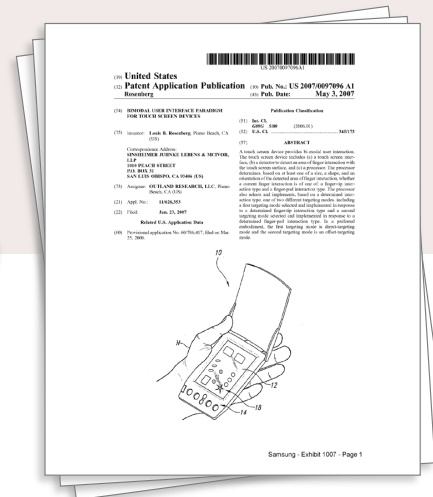
(All Elements Except [1f], cl. 9-14)



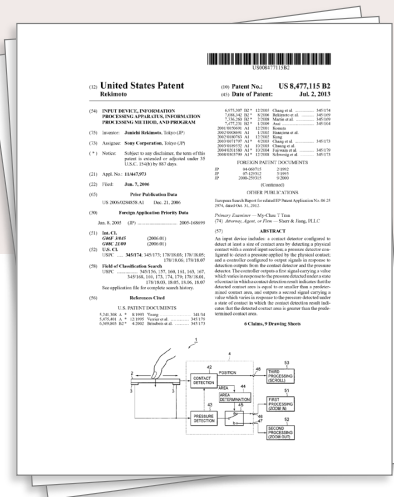
Rogers
EX1006

Secondary References

(Finger Tip / Pad Distinction, [1f])



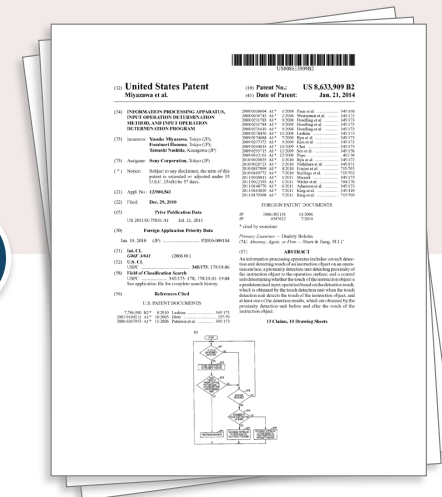
Rosenberg
EX1007



Rekimoto
EX1010

Secondary Reference

(Tap, Drag, Flick, Pinch Inputs, cl. 9-14)



Miyazawa
EX1008

Undisputed Issues

- **NO DISPUTE** that all references are prior art
.....
- **NO DISPUTE** that all references are in the same field as the patent
.....
- **NO DISPUTE** about the motivations to combine any references
.....
- The Patent Owner **DISPUTES ONLY** whether certain limitations are disclosed
 - For those arguments, the Patent Owner relies on claim construction

Claim Construction

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user , which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f]	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, Claim1

Claim Construction: “first information” / “second information”

“first information necessary for an identification of the user” and
“second information relating to the identification of the user”

Patent Owner’s Proposed Construction	Petitioners’ Proposed Construction
Plain and ordinary meaning.	“Information sufficient for the identification of the user, but not including information about a user’s fingerprint.”
EX2007 at 23, 26-27; POR at 9-10; Petition at 7-8	

Position Adopted by District Court

Claim Construction: “first registering mode” / “second registering mode”

“first registering mode for inputting input information by a pad of the finger” and
“second registering mode for inputting input information by an end of the finger”

Patent Owner’s Proposed Construction	Petitioners’ Proposed Construction
“a first operational state for registering in which information is input by the pad of a finger.” “second operational state for registering in which information is input by the pad of a finger, the first registering mode and the second registering mode being different operational states.”	Plain and ordinary meaning.

POR at 10; Petition at 7-8

Independent Claim 1

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f]	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, Claim1

Password Registration

'086 Patent

FIG. 11A

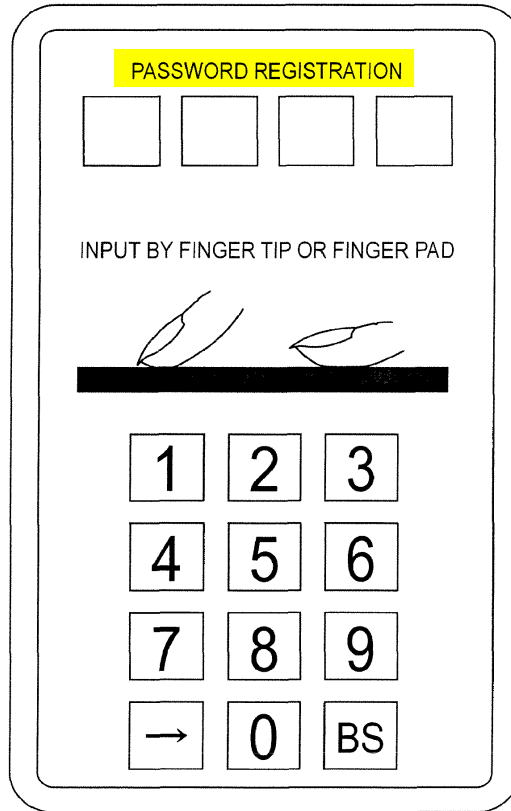


FIG. 11B

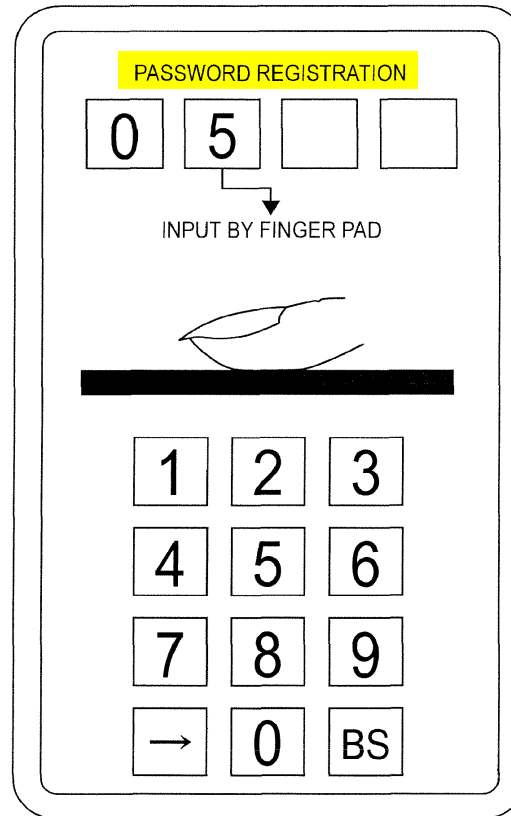
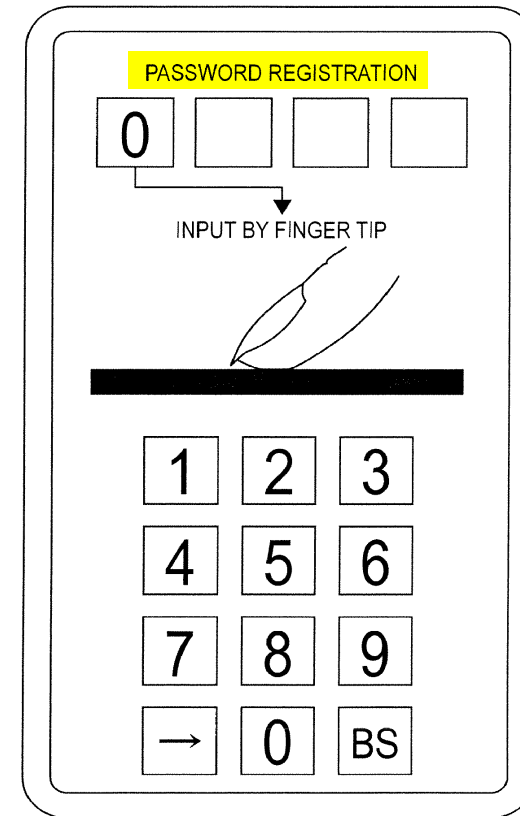


FIG. 11C

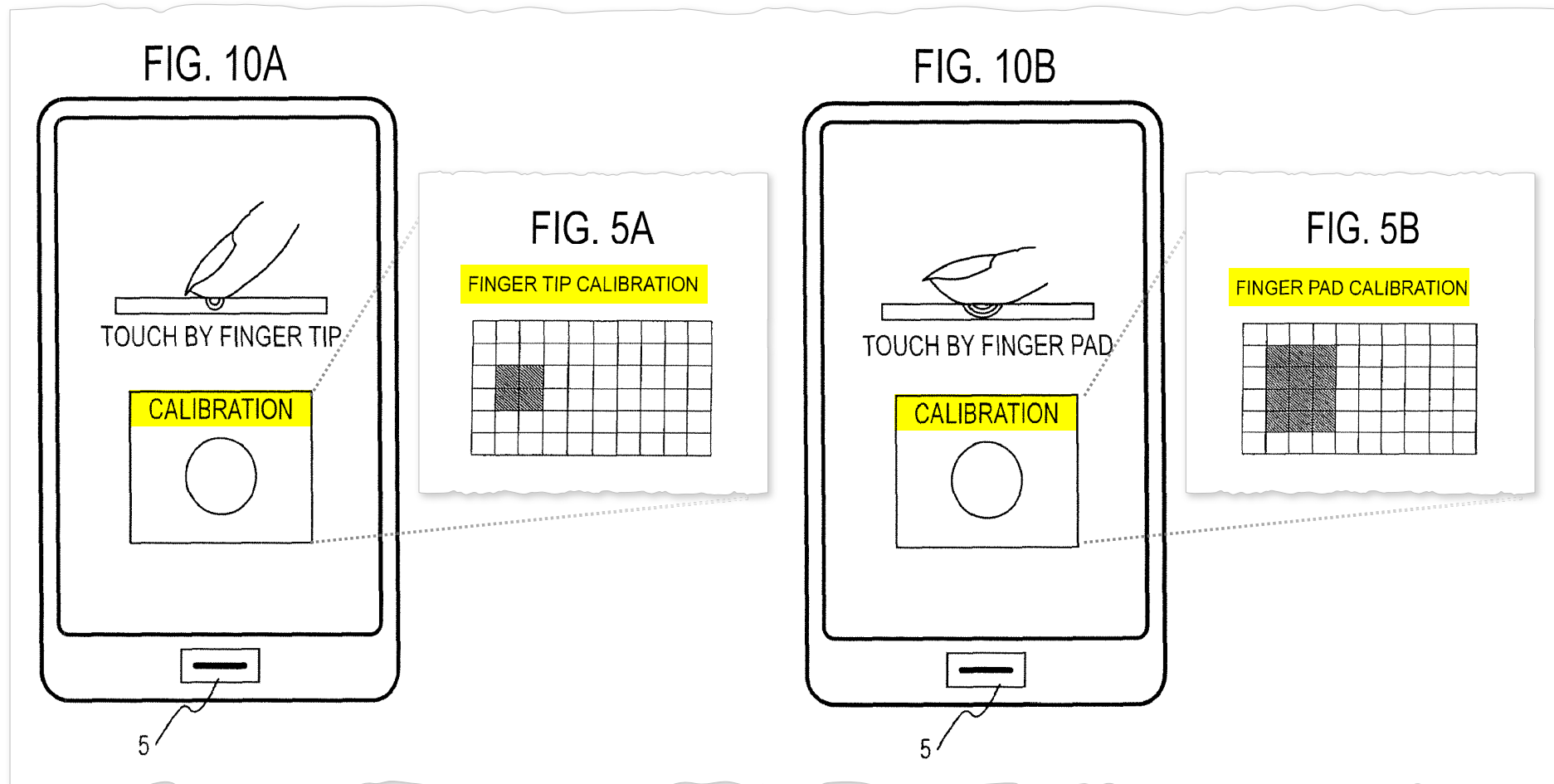


EX1001 ('086 Patent) Figs. 11A – 11C; see *also* Figs. 12A – 12B, 6:12-7:7

Petition at 3-4; Reply at 4-5

Calibration

'086 Patent



EX1001 ('086 Patent) Figs.10A, 10B, 5A, 5B

Reply at 3-4, 7-8

Reexamination History

'086 Patent Reexam History

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.

EX1004 ('086 Patent Reexam History) at p.4

No new matter has been added. Support for new claim 5 may be found in at least Figures 11A through 11C. Support for new claim 6 may be found in at least column 3, lines 15 through

EX1004 ('086 Patent Reexam History) at p.75

Maxell's Extrinsic Evidence

1/21/25, 3:36 PM

Definition of mode | PCMag

Search

Home > Encyclopedia > M

mode

Search PCMag Encyclopedia

BROWSE ENCYCLOPEDIA

A	B	C	D	E
G	H	I	J	K
M	N	O	P	Q
S	T	U	V	W
Y	Z	0-9		

(1) An operational state that a system has been switched to. It implies at least conditions. There are countless modes for hardware and software. With regard to modes on a hard drive (Mode 2, Mode 3, etc.), see [IDE](#). See [Real Mode](#), [Protected Mode](#), [burst mode](#), [insert mode](#), [supervisor state](#) and [program state](#).

(2) In fiber optics, the reflective path taken by light in a fiber. Each mode has its own pattern of electromagnetic fields as it propagates through the fiber. From a cross section of the fiber, these modes can be viewed as multiple headlights beaming at you. In multimode fiber, multiple modes are generated, causing pulse dispersion at the receiving end. See [multimode fiber](#), [dispersion](#) and [fiber optics glossary](#).

on the house

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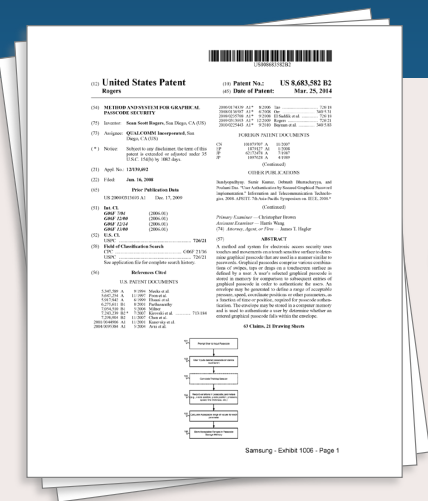
ADVERTISEMENT



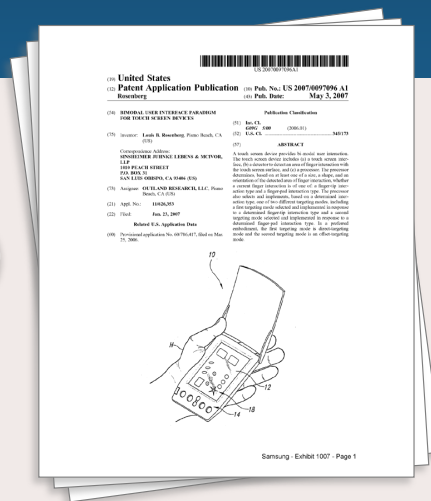
1/21/25, 3:36 PM

EX2011 (PCMag Excerpt) (Cited by Dr. Wobbrock at EX2005 ¶ 91; see also POR at 16)

Ground 1



Rogers
EX1006



Rosenberg
EX1007

Ground 1: Disputed Claims and Limitations

'086 Patent, Claim 1

[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f]	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2

[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
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'086 Patent, Claim 4

[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
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'086 Patent, Claim 5

[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.
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'086 Patent, Claim 6

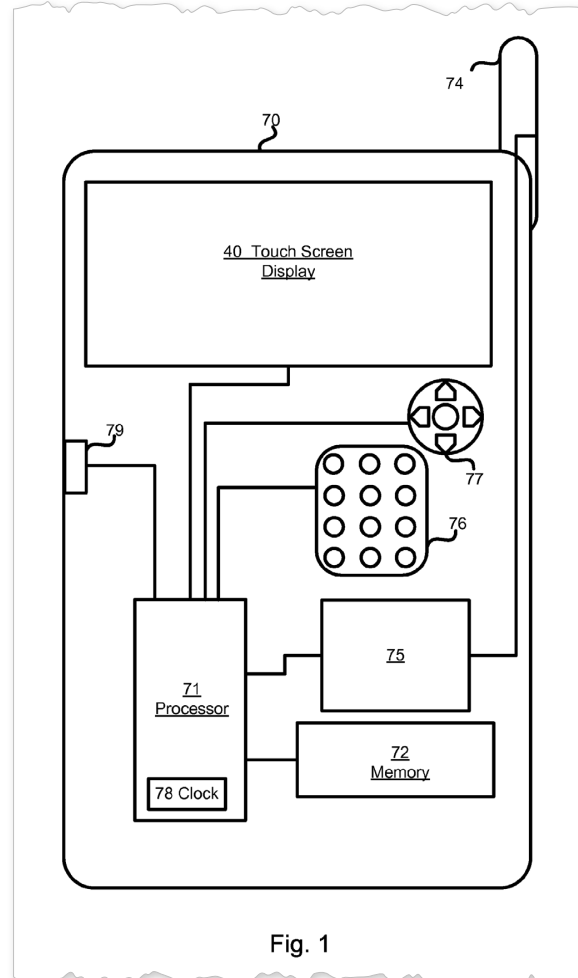
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
-----	--

'086 Patent, Claim 7

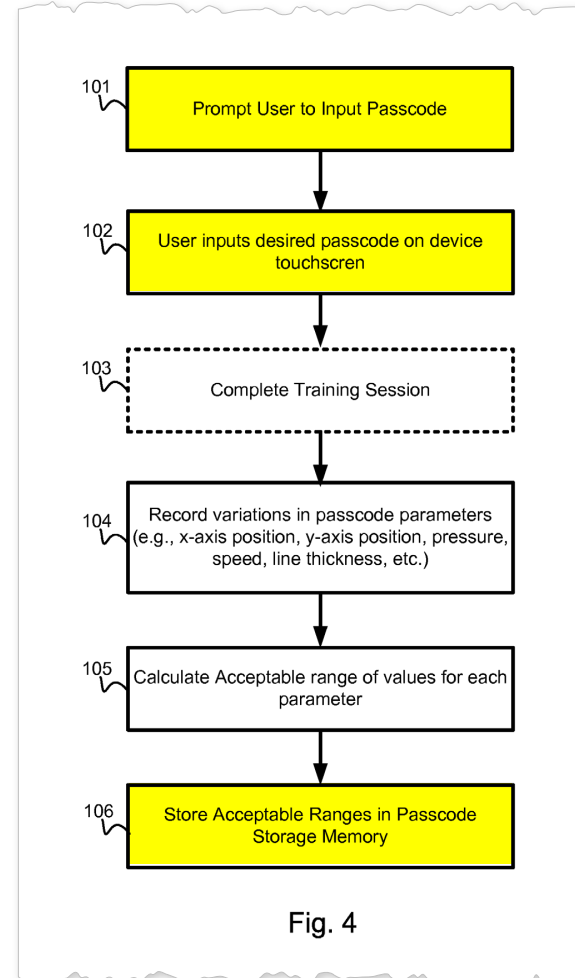
[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
-----	--

Rogers: Registering a Password

Rogers



EX1006 (Rogers) at Fig. 1



Petition at 24 (EX1006 (Rogers) at Fig. 4)

In an embodiment method secure access to a mobile device is provided by using graphical passcodes. First, a user may create a graphical passcode by touching the touchpad in a memorable manner one or more times and storing the resulting information in a non-volatile computer readable memory of the electronic device that is to be secured. Then an envelope

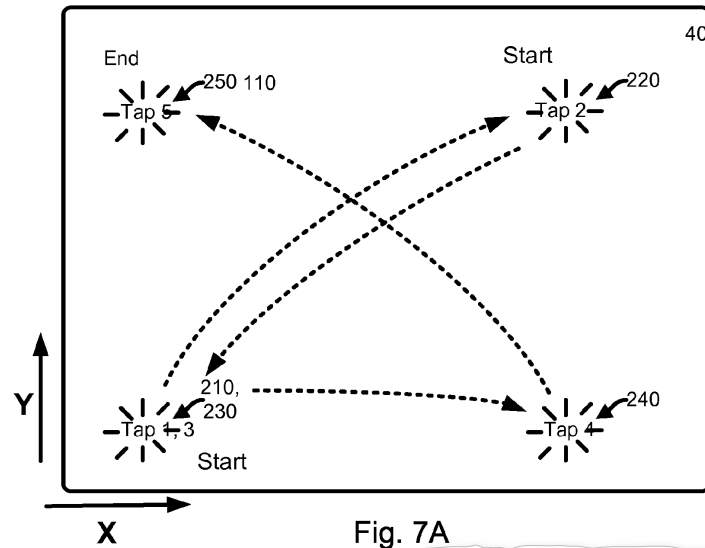
EX1006 (Rogers) at 1:45-50

Petition at 17-18, 20, 24

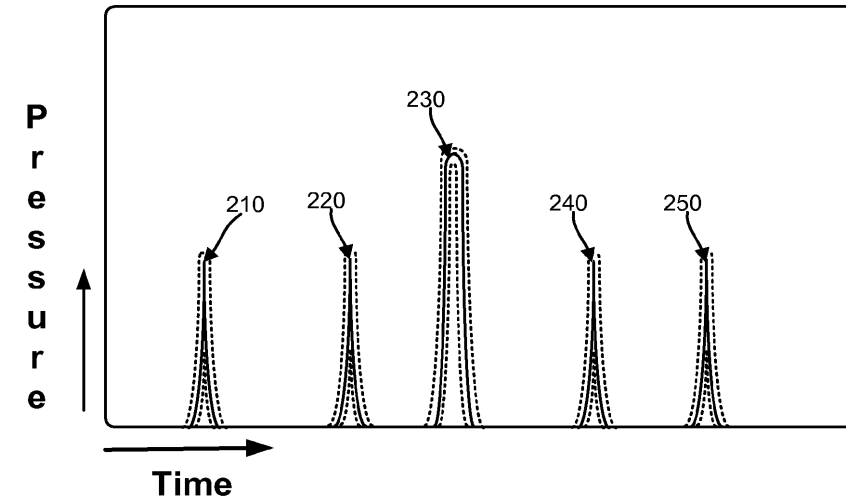
19

Rogers: First and Second Registering Mode

Rogers



EX1006 (Rogers) at Fig. 7A



EX1006 (Rogers) at Fig. 7E

FIG. 7A illustrates another exemplary graphical passcode. FIGS. 7B-7E are plots illustrating various parameter measurements of the graphical passcode as well as exemplary envelopes circumscribing each measured parameter value. The exemplary graphical passcode of FIG. 7A consists of five taps 210, 220, 230, 240, and 250, in the four corners of the touchsurface performed in the order illustrated by the arrows. Tap #3 230 is of longer duration and is applied at a higher pressure than the other four taps. This is made evident in the plot of pressure versus time in FIG. 7E.

Rogers: First and Second Registering Mode

Rogers

In an alternative embodiment, the envelope may be nonexistent (i.e. infinitely large) in certain regions of time or position. In this case, areas where the envelope does not exist are

EX1006 (Rogers) at 7:36-38

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.

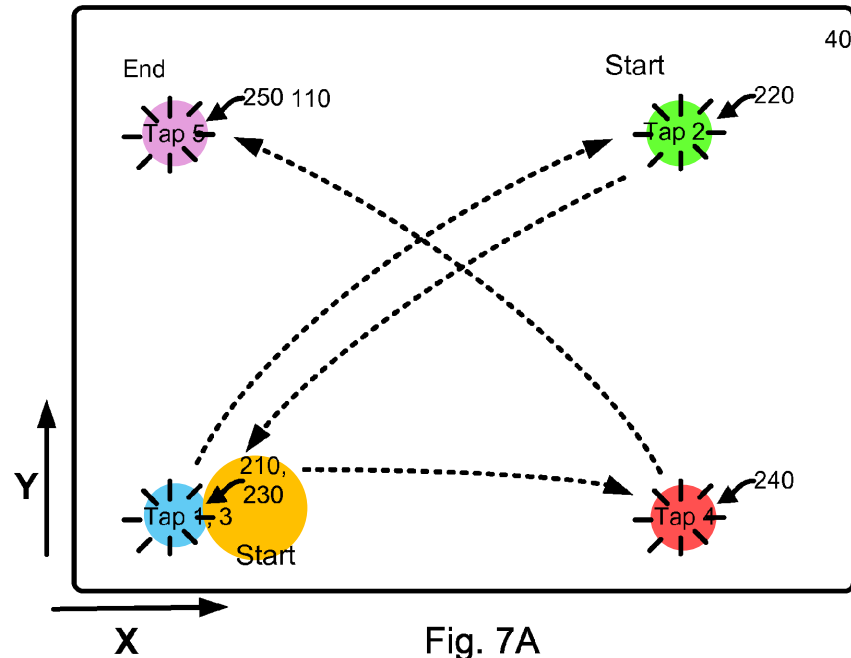
EX1006 (Rogers) at 7:56-67

Petition at 31, 34; Reply at 18

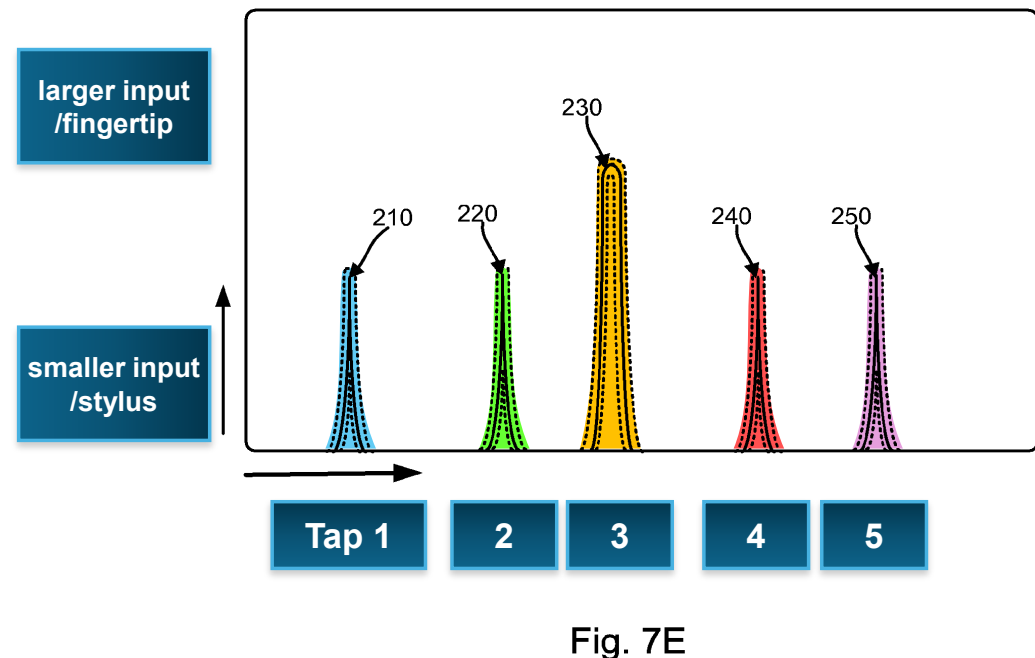
21

Rogers: First and Second Registering Mode

Rogers



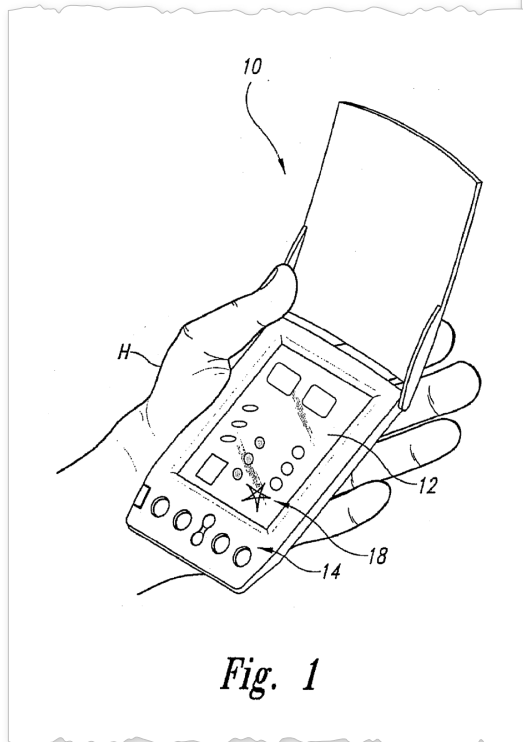
EX1006 (Rogers) at Fig. 7A
(annotated to show contact size)



EX1006 (Rogers) at Fig. 7E
(annotated to show contact size)

Rosenberg: Finger Tip and Pad Inputs

Rosenberg



EX1007 (Rosenberg) at Fig. 1

Fig 8a

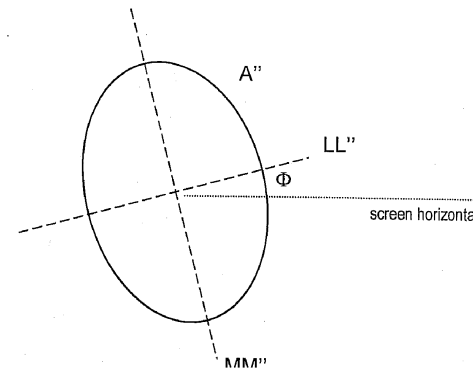
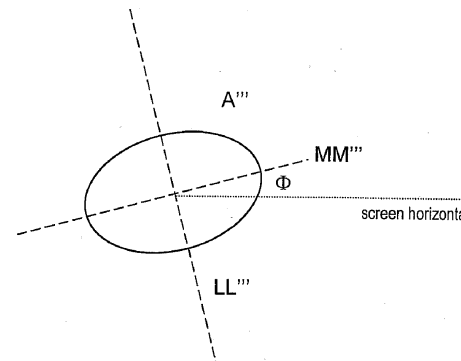


Fig 8b



EX1007 (Rosenberg) at Figs. 8a and 8b

[0050] FIGS. 8A and 8B illustrate two example finger contact areas shown as they might be detected by touch screen sensor hardware according to at least one embodiment of the invention. The finger contact area of FIG. 8A is represented by elliptical outline A'' and represents a characteristic finger contact area for a pad-pointing interaction caused by an index finger of a typical user. The finger contact area of FIG. 8B is represented by elliptical outline A''' and represents a characteristic finger contact area for a tip-pointing interaction as caused by an index finger of a typical user. As can be seen by comparing A'' and A''', these two area are substantially different in size, shape, and orientation. The tip-pointing interaction as represented by A''' is substantially smaller in size (both area and circumference), more eccentric in shape (i.e., less rounded), and is oriented such that the major axis MM''' is oriented closer to the reference screen horizontal. On the other hand, the pad-pointing interaction as represented by A'' is substantially larger in size (both area and circumference), is less eccentric in shape (i.e., more rounded), and is oriented such that the minor axis LL'' is oriented closer to the reference screen horizontal. Thus, each of the size, shape, and/or orientation of the detected finger contact area may be used alone or in combination by the routines of the present invention to distinguish between a tip-pointing interaction and a pad-pointing interaction. They may be evaluated by the routines of the present invention with respect to absolute or relative values. They may be evaluated based only upon current sensor values or may be evaluated also based upon a recent time-history of sensor values. A variety of methods may be used for such evaluation.

EX1007 (Rosenberg) at [0050]

Petition at 11, 14, 37

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Rosenberg: Finger Tip and Pad Inputs

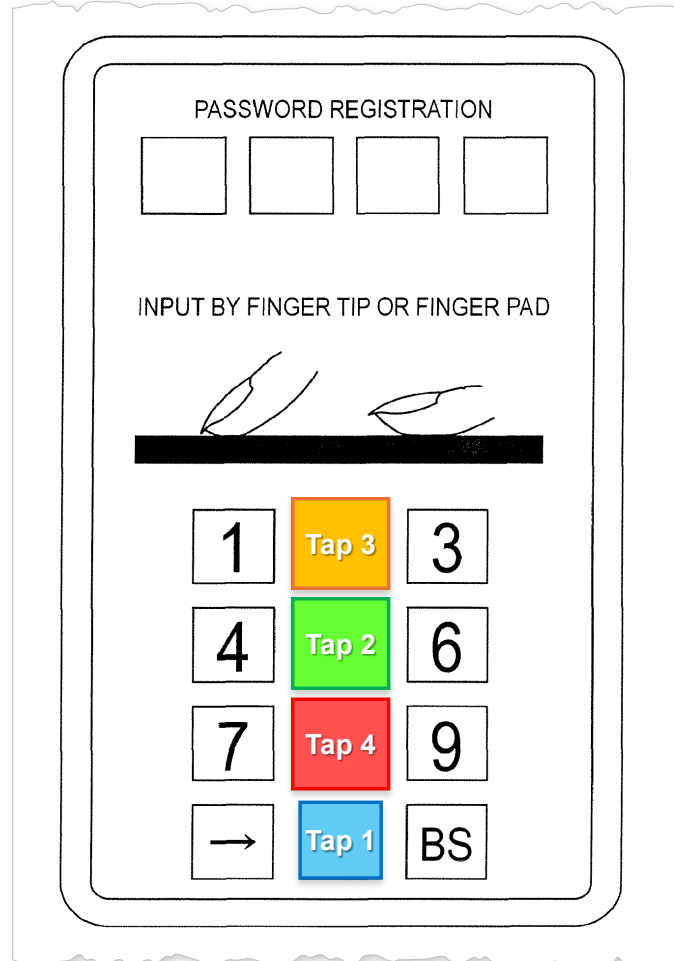
Rosenberg

small graphical elements. Unfortunately, the use of 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. In addition, a stylus is often not convenient for touch screen interfaces that enable multi-point 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. Thus there is a need for an alternate means of finger targeting of graphical elements upon touch screen interface that enables a user to select elements that are small in size relative to his or her finger without needing a stylus. There is also a need for a natural

EX1007 (Rosenberg) at [0030]; Petition at 12

First and Second Registering Modes

'086 Patent



EX1001 ('086 Patent) at Fig. 11A
Petition at 3-4, Reply at 4-5

Rogers

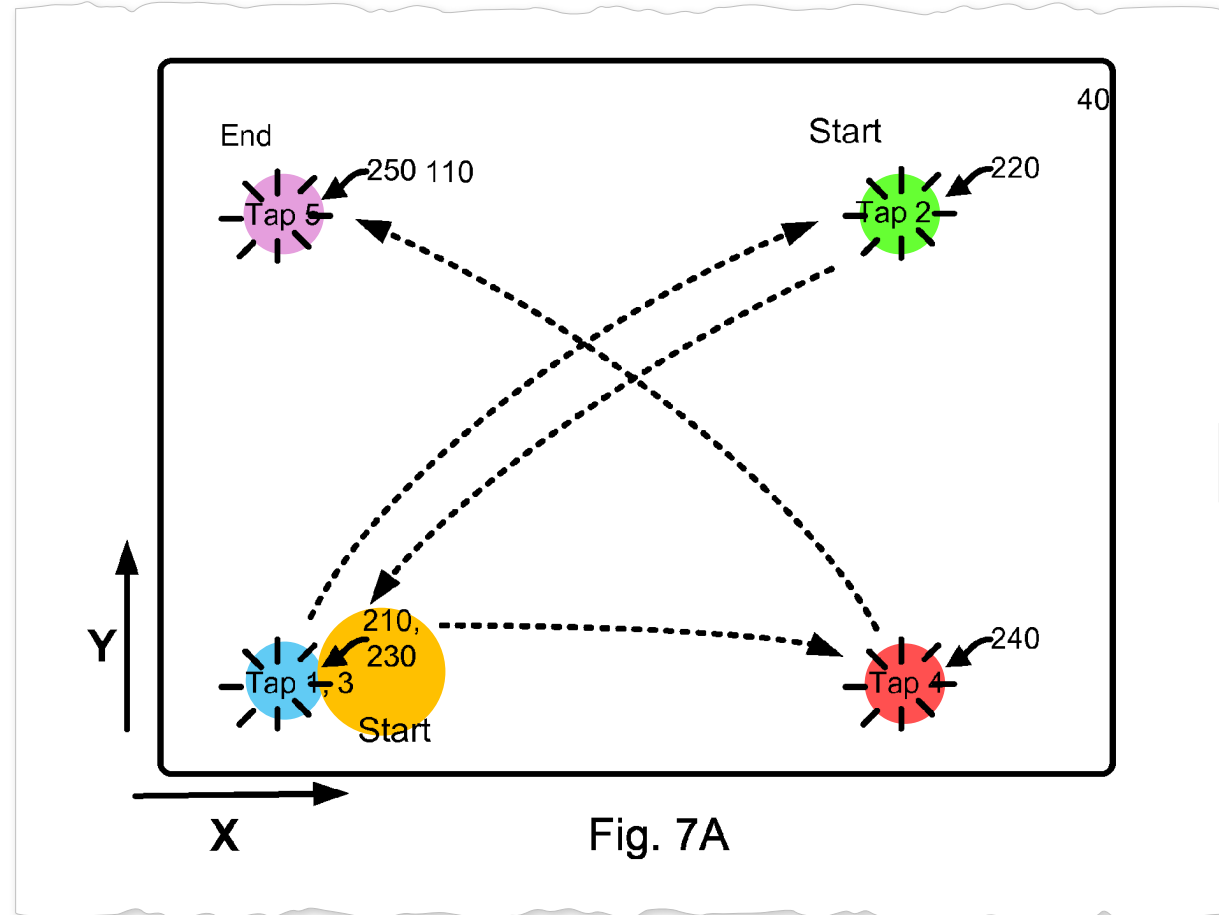


Fig. 7A

EX1006 (Rogers) at Fig. 7A
Petition at 32-33, Reply at 16-17 25

Ground 1: Disputed Claims and Limitations

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2	
[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
'086 Patent, Claim 4	
[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
'086 Patent, Claim 5	
[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.
'086 Patent, Claim 6	
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
'086 Patent, Claim 7	
[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.

Limitation [1d]

POR

Therefore, for at least the same reasons that Rogers in view of Rosenberg does not disclose element [1f], Rogers in view of Rosenberg does not disclose the claimed second information in element [1d].

POR at 48

Ground 1: Disputed Claims and Limitations

'086 Patent, Claim 1

[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d] ✓	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2

[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
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'086 Patent, Claim 4

[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
-----	--

'086 Patent, Claim 5

[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.
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'086 Patent, Claim 6

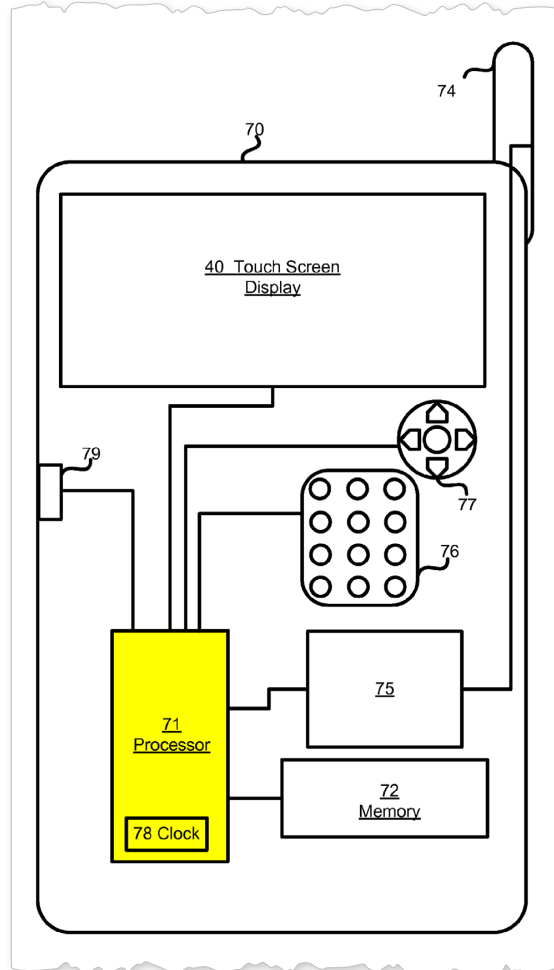
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
-----	--

'086 Patent, Claim 7

[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
-----	--

Second Controller

Rogers



Petitioners' Reply

It is undisputed that Rogers discloses a “processor 71” that (1) controls “electronic device 70,” (2) consists of “processing elements” comprising “electronic hardware, computer software, or combinations of both,” and (3) “executes a specified process” as recited in limitation [1e]. Petition 27-29. The sole issue PO

Reply at 9

EX1006 (Rogers) at Fig. 1

Undisputed Issues

- PO has never before, in any proceeding, disputed that a processor can constitute either controller in the claims.
.....
- PO does not dispute that the processor of Rogers is a controller as recited in limitation [1c].
.....
- PO did not dispute during reexamination that the processor in Bayram constituted a first controller as recited in limitation [1c].
.....
- PO did not dispute during reexamination that it would have been obvious to modify the processor in Bayram to use a second controller to control unlocking the device.

Prior Admissions

PO's/Complainant's ITC Initial Markman Brief

Reading all these exemplary disclosures in the '086 Patent, a person of ordinary skill in the art would understand that the disclosed control unit is corresponds to, for example, one or more components of the portable terminal that controls various subsystems of the portable terminal by, for example, executing software to perform the disclosed methods. One of ordinary skill in the art would understand that such components could include, for example, a microcontroller, a CPU, and/or one or more processors as were being used in portable terminals in or around 2011.

EX1020 (PO's/Complainant's ITC Initial Markman Brief at 15-16) at 6-7

Reply at 10

Prior Admissions

PO's/Complainant's ITC Initial Markman Brief

disclosure in any such way. As Dr. Wobbrock explained, “the specification uses ‘control unit’ broadly in various examples . . . to show that the control unit provides a variety of exemplary functions.” Wobbrock Decl. at ¶ 56.

EX1020 (PO's/Complainant's ITC Initial Markman Brief at 18) at 9
Reply at 12

Dr. Wobbrock's ITC Declaration

There is no intrinsic evidence that would require the claimed “controller” to be limited to a specific type of structure. In fact, the specification uses “control unit” broadly in various examples

EX1017 (Dr. Wobbrock's ITC Declaration) at ¶ 66
Reply at 12

Prior Admissions

Dr. Wobbrock's ITC Declaration

publications cited during the prosecution of the '086 Patent, a POSITA would also understand that the specification uses the terms “controller” and “control unit” consistent with their plain and ordinary meaning as identified in the intrinsic evidence to include **at least a processor**. For example,

EX1017 (Dr. Wobbrock's ITC Declaration) at ¶31
Reply at 11

Prior Admissions

Dr. Wobbrock's ITC Declaration

confirms my opinion that the inventors of the '086 Patent did not invoke 35 U.S.C. §112 ¶ 6 when reciting “second controller,” but simply recited a known structure of a microcontroller that includes, for example, a processor (e.g., CPU) and additional components for performing various processes, such as the claimed specified process, the following additional evidence also supports

EX1017 (Dr. Wobbrock's ITC Declaration) at ¶ 57

curriculum, it would have been common for electrical engineering and computer engineering students in or before 2011 to be exposed to the known structures of controllers as claimed in claim 1 of the '086 Patent. For example, the University of Washington course catalog for Electrical

EX1017 (Dr. Wobbrock's ITC Declaration) at ¶ 64

Testimony from PO's Expert

Dr. Wobbrock

A. kind of thing, but it's -- the claim is silent on the specific hardware arrangement that might be employed to realize those claims and it could be done with physically separate components. In the preferred embodiment, we see I think some of that. But it could also be done with some physically similar but programmatically separate components, like running isolated code that's separate from other code but perhaps on the same physical processor but not, of course, at the same time and so on.

EX1018 (Wobbrock Depo. Tr.) at 78:3-12
Reply at 13

Testimony from PO's Expert

Dr. Wobbrock

- A. And so that's what I mean when I say even if it runs on the same CPU, the determination unit could be code, for example, that is dedicated to carrying out the functions of the determination unit. That code could be, for example, swapped into the CPU, to run and carry out the determination unit's functions, perhaps even in a secure way because maybe it's dealing with, you know, passwords and biometrics and other secure information. And then, you know, it could be swapped out and the main controller, the first controller code, could then run. CPUs are swapping in and out code all the time and that's how they operate, so that's why your laptop is capable of running multiple things at once, because the CPU can only run one process at a time, but it does so very fast and switches between a great many at one time.

EX1018 (Wobbrock Depo. Tr.) at 74:5-21
Reply at 13

Testimony from PO's Expert

Dr. Wobbrock

Q. Would a person of ordinary skill in the art know how to configure these different arrangements that are described in the patent or the patent claim?

A. Yeah, I think so. I mean, configuring could be writing software code to program the controllers to carry out certain things.

EX1018 (Wobbrock Depo. Tr.) at 80:16-22
Reply at 14

Testimony from Petitioners' Expert

Dr. Nielson

111. It is also my opinion that a POSITA would have understood that Rogers discloses that the separate processes performed by processor 71 are disclosed as being performed by *separate* processing elements, each of which could be run on a separate module as discussed above. Thus, a POSITA would have understood that these multiple processing elements running on separate modules are the claimed multiple controllers.

EX1003 (Nielson Decl.) at ¶111
Reply at 28

Ground 1: Disputed Claims and Limitations

'086 Patent, Claim 1

[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d] ✓	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e] ✓	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2

[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
-----	---

'086 Patent, Claim 4

[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
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'086 Patent, Claim 5

[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.
-----	---

'086 Patent, Claim 6

[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
-----	--

'086 Patent, Claim 7

[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
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Rogers: Graphical Display During Registration

Petitioners' Reply

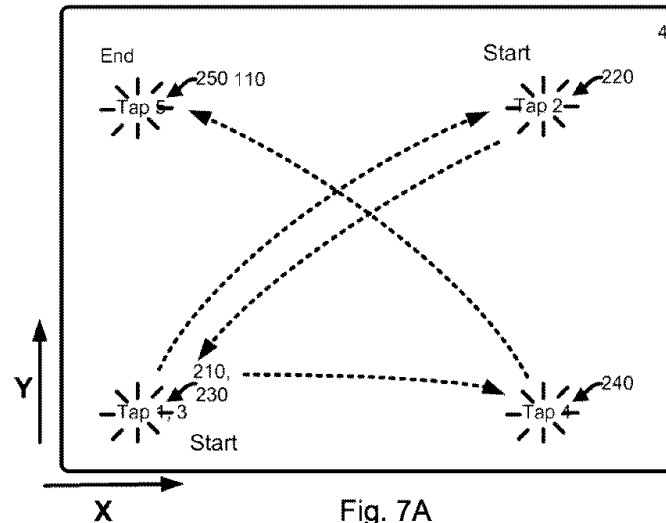


Fig. 7A

EX1006, Fig. 7A. Rogers also teaches that the graphical passcode entered by the user can be accompanied by visible indicators such as “an ‘X’ or target symbol.”

EX1006, 8:1-5. As explained in the Petition, these disclosures from Rogers—

Ground 1: Disputed Claims and Limitations

'086 Patent, Claim 1

[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d] ✓	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e] ✓	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2

[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
-----	---

'086 Patent, Claim 4

[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
-----	--

'086 Patent, Claim 5

[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.
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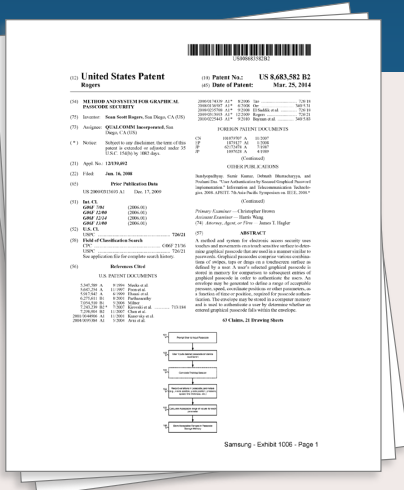
'086 Patent, Claim 6

[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
-----	--

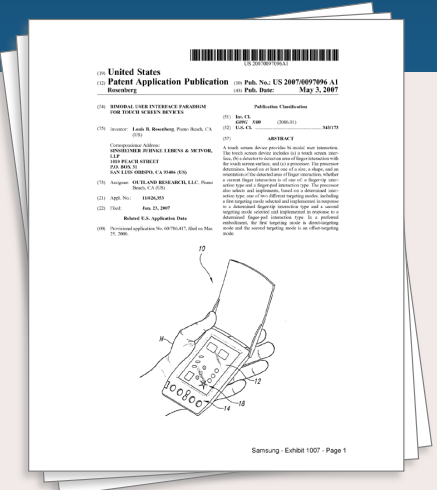
'086 Patent, Claim 7

[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
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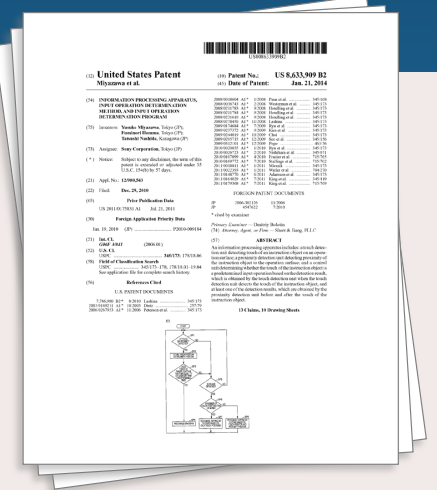
Ground 2



Rogers
EX1006



Rosenberg
EX1007



Miyazawa
EX1008

PO Makes No Separate Arguments for Ground 2

POR

II. GROUND 2: PETITIONERS HAVE FAILED TO ESTABLISH THAT CLAIMS 9-14 ARE RENDERED OBVIOUS BY THE COMBINATION OF ROGERS, ROSENBERG, AND MIYAZAWA

Ground 2 challenges claims 9-14, which depend from claim 1. Petitioners do not rely on Miyazawa to cure any of the deficiencies of the Roger-Rosenberg combination with respect to claim 1. As such, due to at least the reasons set forth above with respect to Ground 1, Petitioners have similarly failed to establish that claims 9-14 are rendered obvious by the combination of Rogers, Rosenberg, and Miyazawa. EX2005, ¶161.

POR at 51

Ground 2: Undisputed Limitations

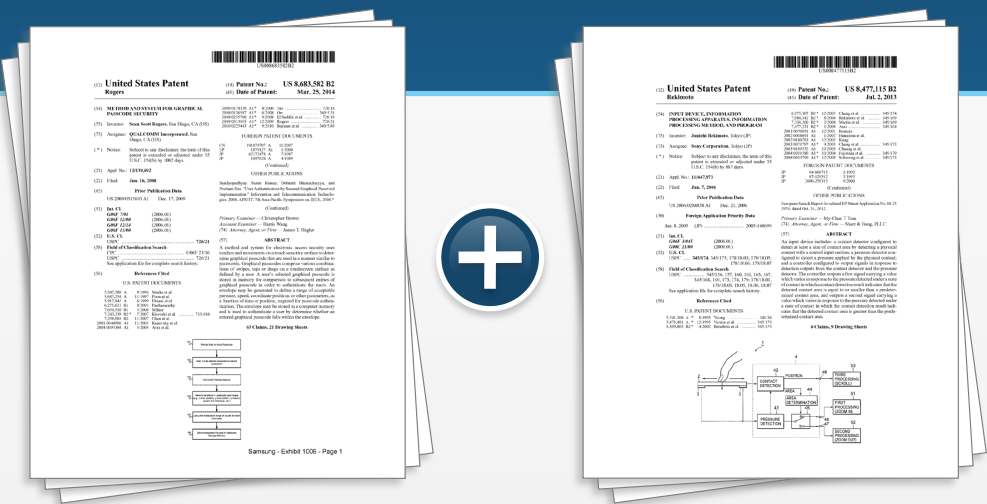
'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	a detector configured to detect first information necessary for an identification of the user when the contact is detected between the touch panel and the finger of the user;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e] ✓	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.
'086 Patent, Claim 2	
[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
'086 Patent, Claim 4	
[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
'086 Patent, Claim 5	
[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.
'086 Patent, Claim 6	
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.

Disputed claims/limitations : **Undisputed claims/limitations**

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

'086 Patent, Claim 7	
[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
'086 Patent, Claim 9	
[9]	The information processing apparatus according to claim 1, wherein the first controller is configured to execute one or more of tapping, dragging, flicking, and pinching operations based on the detection of contact of the finger.
'086 Patent, Claim 10	
[10]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute tapping operations, and the tapping operations include detection of contact of the finger for a first time period.
'086 Patent, Claim 11	
[11]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute dragging operations, and the dragging operations correspond to the user moving the finger while maintaining contact for a first time period.
'086 Patent, Claim 12	
[12a]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute flicking operations, and the flicking operations correspond to the user sliding the finger for a first time period, and
[12b]	wherein the first controller is configured to execute pinching operations, and the pinching operations correspond to the user establishing two contacts and increasing the distance between the established two contacts.
'086 Patent, Claim 13	
[13a]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute said dragging operations, and the dragging operations correspond to the user moving the finger while maintaining contact for a first time period, and
[13b]	wherein the first controller is configured to execute said flicking operations, and the flicking operations correspond to the user sliding the finger for a second time period that is shorter than the first time period.
'086 Patent, Claim 14	
[14]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen displaying a plurality of icons corresponding to applications being executed on the information processing apparatus, and the information processing apparatus is configured to execute an operation for moving at least one of the plurality of icons based on an operation that requires contact by a finger for a predetermined period of time.

Ground 3



Rogers
EX1006

Rekimoto
EX1010

Ground 3: Disputed Claims and Limitations

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e]	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f]	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2	
[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
'086 Patent, Claim 4	
[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
'086 Patent, Claim 5	
[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.
'086 Patent, Claim 6	
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
'086 Patent, Claim 7	
[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.

Ground 3: PO Relies on its Ground 1 Arguments

POR

III. GROUND 3: PETITIONERS HAVE FAILED TO ESTABLISH THAT CLAIMS 1, 2, AND 4-7 ARE RENDERED OBVIOUS BY THE COMBINATION OF ROGERS AND REKIMOTO

Ground 3 relies on the same faulty arguments grounded in Rogers alone for claim limitations [1e] and [1f] distinguished above in Sections IV(A) and IV(B). A combination of Rogers and Rekimoto does not change the result. Thus, Ground 3 fails for at least the same reasons. EX2005, ¶162.

POR at 51

Ground 3: Disputed Claims and Limitations

'086 Patent, Claim 1

[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e] ✓	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.

Disputed claims/limitations

Undisputed claims/limitations

'086 Patent, Claim 2

[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
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'086 Patent, Claim 4

[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
-----	--

'086 Patent, Claim 5

[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.
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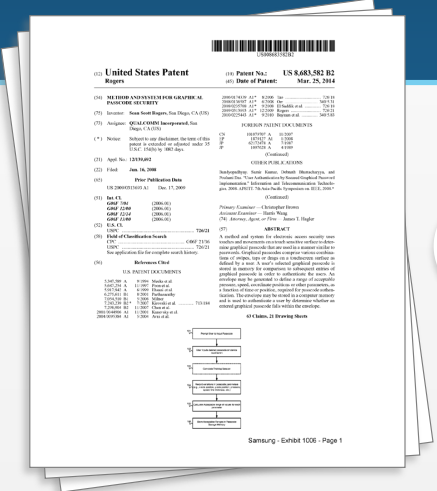
'086 Patent, Claim 6

[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.
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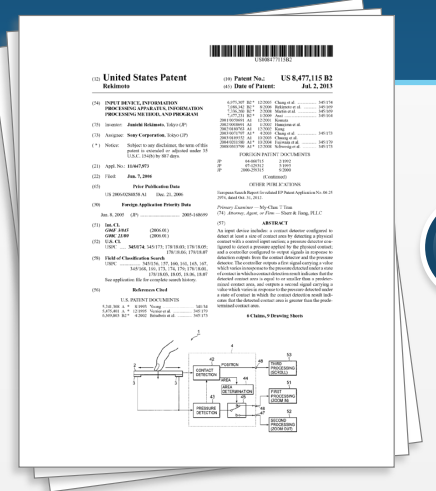
'086 Patent, Claim 7

[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
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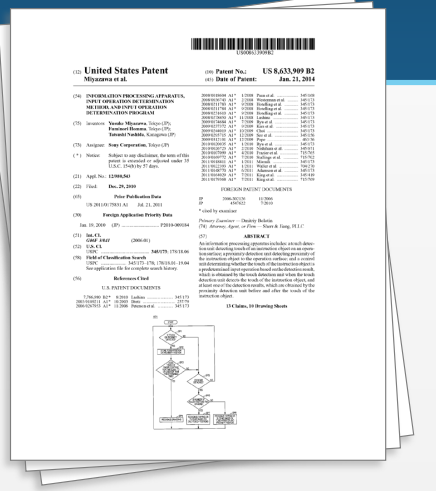
Ground 4



Rogers
EX1006



Rekimoto
EX1010



Miyazawa
EX1008

PO Makes No Separate Arguments for Ground 4

POR

IV. GROUND 4: PETITIONERS HAVE FAILED TO ESTABLISH THAT CLAIMS 9-14 ARE RENDERED OBVIOUS BY THE COMBINATION OF ROGERS, REKIMOTO, AND MIYAZAWA

Ground 4 challenges claims 9-14, which depend from claim 1. Petitioners do not rely on Miyazawa to cure any of the deficiencies of the Roger-Rekimoto combination with respect to claim 1. As such, due to at least the reasons set forth above with respect to Ground 3, Petitioners have similarly failed to establish that claims 9-14 are rendered obvious by the combination of Rogers, Rekimoto, and Miyazawa. EX2004, ¶184.

POR at 57

Ground 4: Undisputed Limitations

'086 Patent, Claim 1	
[1pre]	An information processing apparatus comprising:
[1a]	a touch panel configured to detect a contact of a finger of a user;
[1b]	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;
[1c]	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;
[1d]	memory that is configured to store second information relating to the identification of the user, which is stored in advance; and
[1e] ✓	a second controller configured to execute a specified process when said first information and said second information are coincident within said identification mode, wherein:
[1f] ✓	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.
'086 Patent, Claim 2	
[2]	The information processing apparatus according to claim 1, wherein said first information includes a position and an area of the finger contacting with said touch panel.
'086 Patent, Claim 4	
[4]	The information processing apparatus according to claim 1, wherein said specified process includes releasing of a lock of resting an operation of said information processing apparatus.
'086 Patent, Claim 5	
[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.
'086 Patent, Claim 6	
[6]	The information processing apparatus according to claim 1, wherein the touch panel includes one or more capacitive sensors, such that the contact of the finger is detected based on variations in capacitance of the one or more capacitive sensors in response to the contact.

Disputed claims/limitations : **Undisputed claims/limitations**

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

'086 Patent, Claim 7	
[7]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen configured to display information during the identification mode that informs the user to use a finger to execute an unlock operation of the information processing apparatus.
'086 Patent, Claim 9	
[9]	The information processing apparatus according to claim 1, wherein the first controller is configured to execute one or more of tapping, dragging, flicking, and pinching operations based on the detection of contact of the finger.
'086 Patent, Claim 10	
[10]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute tapping operations, and the tapping operations include detection of contact of the finger for a first time period.
'086 Patent, Claim 11	
[11]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute dragging operations, and the dragging operations correspond to the user moving the finger while maintaining contact for a first time period.
'086 Patent, Claim 12	
[12a]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute flicking operations, and the flicking operations correspond to the user sliding the finger for a first time period, and
[12b]	wherein the first controller is configured to execute pinching operations, and the pinching operations correspond to the user establishing two contacts and increasing the distance between the established two contacts.
'086 Patent, Claim 13	
[13a]	The information processing apparatus according to claim 9, wherein the first controller is configured to execute said dragging operations, and the dragging operations correspond to the user moving the finger while maintaining contact for a first time period, and
[13b]	wherein the first controller is configured to execute said flicking operations, and the flicking operations correspond to the user sliding the finger for a second time period that is shorter than the first time period.
'086 Patent, Claim 14	
[14]	The information processing apparatus according to claim 1, wherein the touch panel comprises a display screen displaying a plurality of icons corresponding to applications being executed on the information processing apparatus, and the information processing apparatus is configured to execute an operation for moving at least one of the plurality of icons based on an operation that requires contact by a finger for a predetermined period of time.