

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

NANO492 TECHNOLOGIES, LLC,

Plaintiff,

v.

GOOGLE INC.,

Defendant.

Civil Action No. _____

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Nano492 Technologies, LLC (“Nano492” or “Plaintiff”), for its Complaint against Defendant Google Inc. (“Defendant” or “Google”) alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff is a limited liability company organized under the laws of the State of Delaware with a place of business at 717 North Union Street, Wilmington, Delaware 19805.

3. Upon information and belief, Google is a corporation organized and existing under the laws of Delaware, with a place of business at 1600 Amphitheatre Parkway, Mountain View, California 94043, and can be served through its registered agent, Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808. Upon information and belief, Google sells and offers to sell products and services throughout the United States, including in this judicial district, and introduces products and services that into the stream of commerce and

that incorporate infringing technology knowing that they would be sold in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

4. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

5. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

6. Venue is proper in this judicial district under 28 U.S.C. §§ 1391(b), (c), (d) and/or 1400(b). On information and belief, Defendant conducts business in this District, the claims alleged in this Complaint arise in this District, and the acts of infringement have taken place and are continuing to take place in this District.

7. On information and belief, Defendant is subject to this Court's general and specific personal jurisdiction because Defendant has sufficient minimum contacts within the State of Delaware, pursuant to due process and/or the Del. Code. Ann. Tit. 3, § 3104 because Defendant purposefully availed itself of the privileges of conducting business in the State of Delaware, because Defendant regularly conducts and solicits business within the State of Delaware, and because Plaintiff's causes of action arise directly from Defendant's business contacts and other activities in the State of Delaware. Further, this Court has personal jurisdiction over because it is incorporated in Delaware and has purposely availed itself of the privileges and benefits of the laws of the State of Delaware.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,300,016

8. The allegations set forth in the foregoing paragraphs 1 through 7 are incorporated into this First Claim for Relief.

9. On October 30, 2012, U.S. Patent No. 8,300,016 ("the '016 patent"), entitled "Electronic Device System Utilizing a Character Input Method," was duly and legally issued by

the United States Patent and Trademark Office. A true and correct copy of the '016 patent is attached as Exhibit 1.

10. Plaintiff is the assignee and owner of the right, title and interest in and to the '016 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

11. Upon information and belief, Defendant has and continues to directly infringe at least claims 81, 98, 103, 109, and 110 of the '016 patent by making, using, selling, importing and/or providing and causing to be used electronic device systems within the scope of claims 81, 98, 103, 109, and 110 of the '016 patent, including, but not limited to, the products with the following designations or trade names: Nexus S, Galaxy Nexus, Nexus 4, Nexus 5, Nexus 6, Nexus 5X, Nexus 6P, Pixel, Nexus 7, Nexus 10, Nexus 9, Pixel C, Google Zhuyin Input, Google Korean Input, Google English Input, Google Pinyin Input (the "Infringing Instrumentalities"). Exemplary images of the Infringing Instrumentalities are provided below:





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12. Claim 81 of the '016 patent generally recites an electronic device system, comprising: a touch sensitive device comprising a plurality of keys with real mechanical

structures or electronically displayable virtual keys, wherein each key of the plurality of keys is operable as a toggle key and is associated with a sequence of character candidates which comprises optional characters arranged in a specific arrangement for character input to the electronic device system, and two different keys in the plurality of keys are respectively associated with different sequences of character candidates, the plurality of keys comprise a first key; and a processor electronically connected to the touch sensitive device and operable to present character information on a display when connected to the display, and operable to detect operation of a key of the touch sensitive device according to a character input method, the method comprising: detecting if a first operation of press on a first key of the plurality of keys conforms to a first input pattern or a second input pattern; if the first operation conforms to the first input pattern associating the first key with a first character set of one or more character candidates and utilizes the first character set as a currently selected character set for character presentation associated with the first key, and presenting a first character in the first character set as a currently selected character for character input to the electronic device system in response to the first operation conforming to the first input pattern; if the first operation conforms to the second input pattern, associating the first key with a second character set of one or more character candidates different from the first character set and utilizes the second character set as the currently selected character set associated with the first key, and presenting a second character in the second character set as the currently selected character for character input to the electronic device system in response to the first operation conforming to the second input pattern, wherein the second character is different from the first character, and the currently selected character set is associated with the first key such that presentation of a subsequent character candidate in the currently selected character set as the currently selected character in

substitution for the first character or the second character during character presentation associated with the first key is activated in response to a subsequent character operation based on the first key upon a condition that the currently selected character set comprises a plurality of character candidates associated with the first key; displaying a menu showing at least the currently selected character set on the display in response to the first operation, the menu comprises at least the first character set or the second character set; and selecting a first subsequent character in the menu as the currently selected character in substitution for the first character or the second character according to a first route of character presentation to traverse a plurality of character candidates in the menu in response to a first touch track based on the first key detectable by the touch sensitive device upon a condition that menu comprises a plurality of character candidates associated with the first key; wherein the currently selected character is selected to be input to a text area of the electronic device system upon the end of character presentation associated with the first key, and the selecting of the first subsequent character as the currently selected character in response to the first touch track is performed even if the first touch track comprises a touch track outside of an area of the display representing the menu.

13. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 81 of the '016 patent because they are electronic device systems, comprising: a touch sensitive device comprising a plurality of keys with real mechanical structures or electronically displayable virtual keys, wherein each key of the plurality of keys is operable as a toggle key and is associated with a sequence of character candidates which comprises optional characters arranged in a specific arrangement for character input to the electronic device system,



and two different keys in the plurality of keys are respectively associated with different sequences of character candidates,



the plurality of keys comprise a first key;



and a processor electronically connected to the touch sensitive device and operable to present character information on a display when connected to the display, and operable to detect operation of a key of the touch sensitive device according to a character input method,

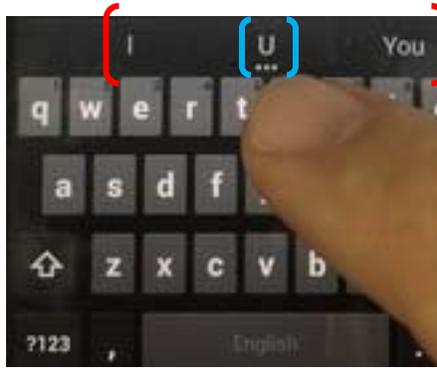



Nexus 7

Manufacturer	Google
Price	USD200
Availability	Mid-July
Storage	8/16GB
Expandable Storage	—
WiFi	802.11b/g/n
OS	Android 4.1
Thickness	10.45 mm
Weight	340g
Display Size	7.0 inches
Display Resolution	1280 x 800 pixels
Display Pixel Density	216 ppi
Processor	1.3GHz quad core

the method comprising: detecting if a first operation of press on a first key of the plurality of keys conforms to a first input pattern or a second input pattern; if the first operation conforms to the first input pattern associating the first key with a first character set of one or more character candidates and utilizes the first character set as a currently selected character set for character presentation associated with the first key, and presenting a first character in the first

character set as a currently selected character for character input to the electronic device system in response to the first operation conforming to the first input pattern;



First Character Set: I, U, You; First Character: U

if the first operation conforms to the second input pattern, associating the first key with a second character set of one or more character candidates different from the first character set and utilizes the second character set as the currently selected character set associated with the first key, and presenting a second character in the second character set as the currently selected character for character input to the electronic device system in response to the first operation conforming to the second input pattern, wherein the second character is different from the first character,



Second Character Set: 7, û, ü, ù, ú; Second Character: 7

and the currently selected character set is associated with the first key such that presentation of a subsequent character candidate in the currently selected character set as the

currently selected character in substitution for the first character or the second character during character presentation associated with the first key is activated in response to a subsequent character operation based on the first key upon a condition that the currently selected character set comprises a plurality of character candidates associated with the first key;





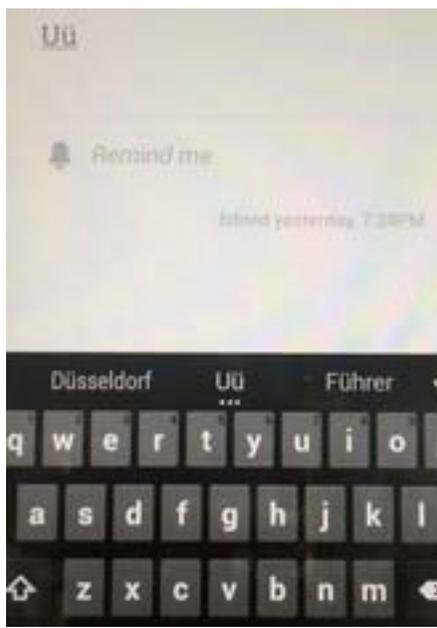
displaying a menu showing at least the currently selected character set on the display in response to the first operation, the menu comprises at least the first character set or the second character set;



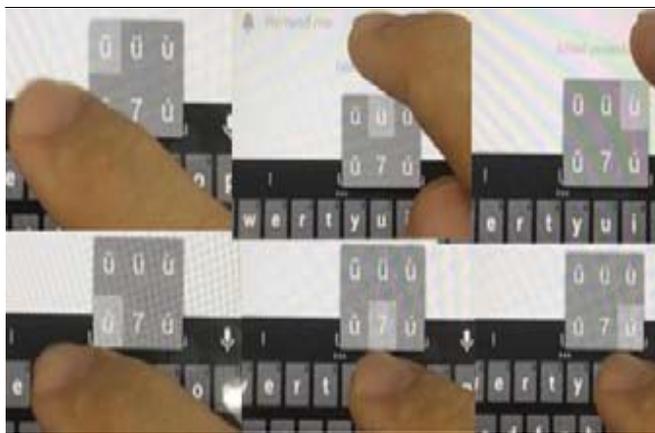
and selecting a first subsequent character in the menu as the currently selected character in substitution for the first character or the second character according to a first route of character presentation to traverse a plurality of character candidates in the menu in response to a first touch track based on the first key detectable by the touch sensitive device upon a condition that menu comprises a plurality of character candidates associated with the first key;



wherein the currently selected character is selected to be input to a text area of the electronic device system upon the end of character presentation associated with the first key,



and the selecting of the first subsequent character as the currently selected character in response to the first touch track is performed even if the first touch track comprises a touch track outside of an area of the display representing the menu:



14. Claim 98 of the '016 patent generally recites the electronic device system as claimed in claim 81, wherein the currently selected character is shown on a position in the text input area of the electronic device system where the currently selected character is to be entered.

15. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 98 of the '016 patent because they are electronic device systems as claimed in claim 81, wherein the currently selected character is shown on a position in the text input area of the electronic device system where the currently selected character is to be entered:



16. Claim 103 of the '016 patent generally recites the electronic device system as claimed in claim 81, wherein the electronic device system comprises a cell phone.

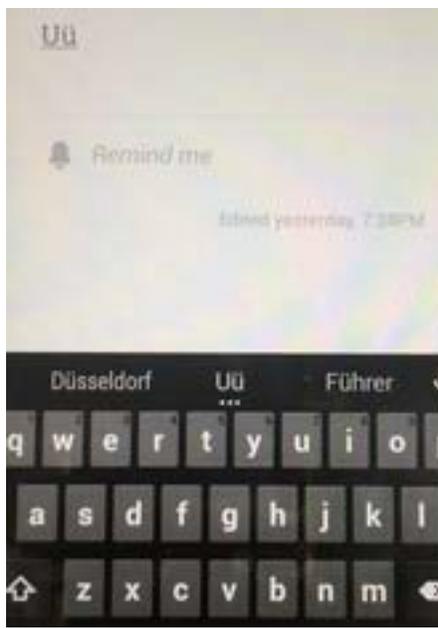
17. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 103 of the '016 patent because they are electronic device systems as claimed in claim 81, wherein the electronic device system comprises a cell phone:



Introducing Pixel
Phone by Google

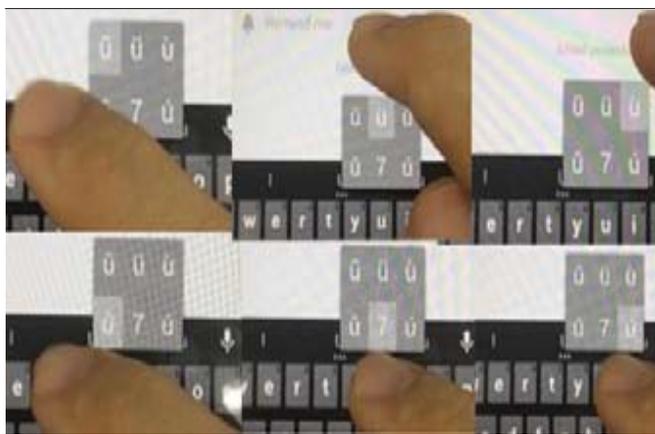
18. Claim 109 of the '016 patent generally recites the electronic device system as claimed in claim 81, wherein the menu comprises at least one candidate of autocompleted words derived from at least one character associated with the first key.

19. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 109 of the '016 patent because they are electronic device systems as claimed in claim 81, wherein the menu comprises at least one candidate of autocompleted words derived from at least one character associated with the first key:



20. Claim 110 of the '016 patent generally recites the electronic device system as claimed in claim 81, wherein the method further comprises: selecting another second subsequent character in the menu other than the first subsequent character as the currently selected character according to a second route of character presentation to traverse the plurality of character candidates in the menu in response to a second touch track based on the first key detectable by the touch sensitive device.

21. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 110 of the '016 patent because they are electronic device systems as claimed in claim 81, wherein the method further comprises: selecting another second subsequent character in the menu other than the first subsequent character as the currently selected character according to a second route of character presentation to traverse the plurality of character candidates in the menu in response to a second touch track based on the first key detectable by the touch sensitive device:



22. Plaintiff has been harmed by Defendants' infringing activities.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 8,319,733

23. The allegations set forth in the foregoing paragraphs 1 through 22 are incorporated into this Second Claim for Relief.

24. On November 27, 2012, U.S. Patent No. 8,319,733 ("the '733 patent"), entitled "Electronic Device System Utilizing a Character Input Method," was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the '733 patent is attached as Exhibit 2.

25. Plaintiff is the assignee and owner of the right, title and interest in and to the '733 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

26. Upon information and belief, each Defendant has and continues to directly infringe at least claims 27, 30, 31, 34, 35, and 36 of the '733 patent by making, using, selling, importing and/or providing and causing to be used electronic device systems including displays that are programmed to execute a character input method within the scope of claims 27, 30, 31, 34, 35, and 36 of the '733 patent, including, but not limited to, the products with the following designations or trade names: Nexus S, Galaxy Nexus, Nexus 4, Nexus 5, Nexus 6, Nexus 5X, Nexus 6P, Pixel, Nexus 7, Nexus 10, Nexus 9, Pixel C, Google Zhuyin Input, Google Korean Input, Google English Input, Google Pinyin Input (the "Infringing Instrumentalities").

Exemplary images of the Infringing Instrumentalities are provided in paragraph 11 above.

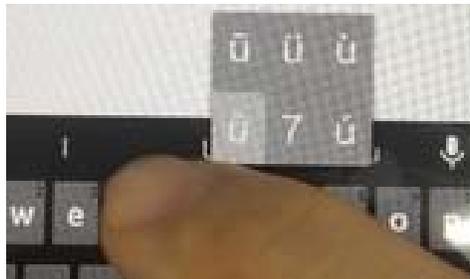
27. Claim 27 of the '733 patent generally recites a character input method executable by an electronic device system connectable to a display, comprising: receiving a first operation on a first key among a plurality of keys displayable by the electronic device system, wherein each key of the plurality of keys is operable as a toggle key and is associated with a sequence of character candidates that comprises optional characters arranged in a specific arrangement for character input to the electronic device system, and two different keys in the plurality of keys are respectively associated with different sequences of character candidates; wherein one character candidate associated with the first key is selectable as a currently selected character in response to one or more operations based on the first key during the operation period of the first key, the operation period is extendable by one or more operations based on the first key, and the currently selected character is input to a text area of the electronic device system upon expiration of the

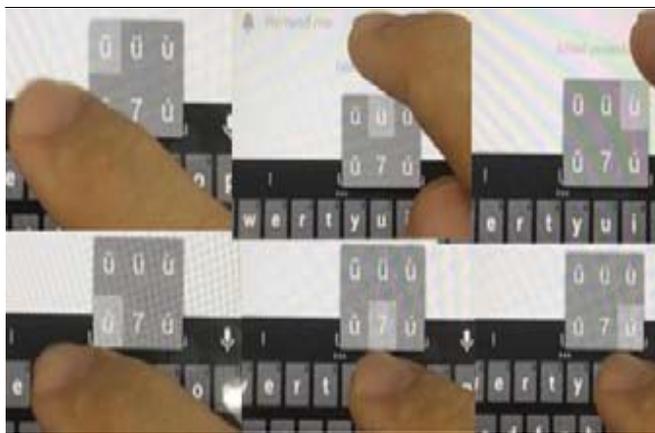
operation period, the first key is associated with a first sequence of character candidates; presenting a first character in the first sequence of character candidates as the currently selected character according to a first arrangement of characters in the first sequence of character candidates in response to a first instance of short press on the first key in a condition that the first operation comprises the first instance of short press; and displaying a graphical user interface operable to present the first sequence of character candidates associated with the first key during the operation period, wherein the graphical user interface comprises a focus operable to indicate the currently selected character; receiving and classifying a touch movement detectable by a two-dimensional touch sensitive device of the electronic device system into an operation of a forward direction or an operation of a backward direction of the graphical user interface according to a direction of the touch movement detectable by two-dimensional touch sensitive device during the operation period; wherein the graphical user interface allows a forward movement of the focus in the first sequence of character candidates in response to the operation of the forward direction and a backward movement of the focus in the first sequence of character candidates in response to the operation of the backward direction; wherein the first sequence of character candidates comprises a first optional character, a second optional character, and a third optional character arranged in order, in a condition that the focus indicates the second optional character as the currently selected character, in the forward movement the focus moves from the second optional character to the third optional character to indicate the third optional character as the currently selected character in substitution for the second optional character, and in the backward movement the focus moves from the second optional character to the first optional character to indicate the first optional character as the currently selected character in substitution for the

second optional character; and entering the currently selected character to a text area of the electronic device system upon expiration of the operation period.

28. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 27 of the '733 patent because they are electronic device systems connected to displays and they are programmed to execute a character input method, comprising: receiving a first operation on a first key among a plurality of keys displayable by the electronic device system, wherein each key of the plurality of keys is operable as a toggle key and is associated with a sequence of character candidates that comprise optional characters arranged in a specific arrangement for character input to the electronic device system, and two different keys in the plurality of keys are respectively associated with different sequences of character candidates; wherein one character candidate associated with the first key is selectable as a currently selected character in response to one or more operations based on the first key during the operation period of the first key, the operation period is extendable by one or more operations based on the first key, and the currently selected character is input to a text area of the electronic device system upon expiration of the operation period, the first key is associated with a first sequence of character candidates; presenting a first character in the first sequence of character candidates as the currently selected character according to a first arrangement of characters in the first sequence of character candidates in response to a first instance of short press on the first key in a condition that the first operation comprises the first instance of short press; and displaying a graphical user interface operable to present the first sequence of character candidates associated with the first key during the operation period, wherein the graphical user interface comprises a focus operable to indicate the currently selected character; receiving and classifying a touch movement detectable by a two-dimensional touch sensitive device of the electronic device

system into an operation of a forward direction or an operation of a backward direction of the graphical user interface according to a direction of the touch movement detectable by two-dimensional touch sensitive device during the operation period; wherein the graphical user interface allows a forward movement of the focus in the first sequence of character candidates in response to the operation of the forward direction and a backward movement of the focus in the first sequence of character candidates in response to the operation of the backward direction; wherein the first sequence of character candidates comprises a first optional character, a second optional character, and a third optional character arranged in order, in a condition that the focus indicates the second optional character as the currently selected character, in the forward movement the focus moves from the second optional character to the third optional character to indicate the third optional character as the currently selected character in substitution for the second optional character, and in the backward movement the focus moves from the second optional character to the first optional character to indicate the first optional character as the currently selected character in substitution for the second optional character; and entering the currently selected character to a text area of the electronic device system upon expiration of the operation period:

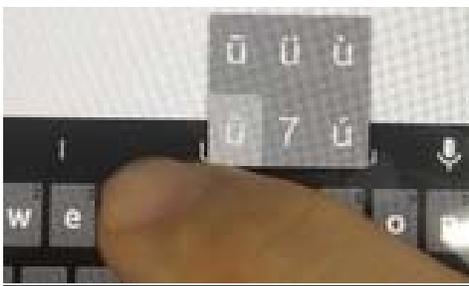




29. Claim 30 of the '733 patent generally recites the character input method as claimed in claim 27, wherein the graphical user interface is displayed in response to an instance of long press on the first key during the operation period.

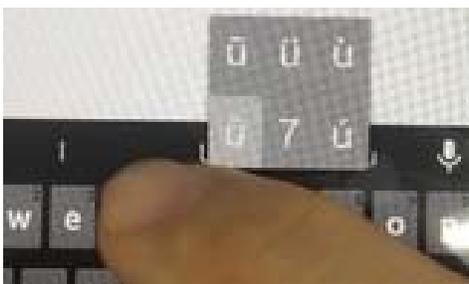
30. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 30 of the '733 patent because they are electronic device systems connected to displays, programmed to execute the character input method as claimed in claim 27, wherein the graphical user interface is displayed in response to an instance of long press on the first key during the operation period:





31. Claim 31 of the '733 patent generally recites the character input method as claimed in claim 30, wherein the short press on the first key represents a default input scheme operable to select one character candidate associated with the first key as the currently selected character according to the first arrangement, wherein duration of the short press is less than a predetermined time interval, and the long press on the first key represents an alternative input scheme operable to select one character candidate associated with the first key as the currently selected character, wherein the duration of the long press is greater than the predetermined time interval.

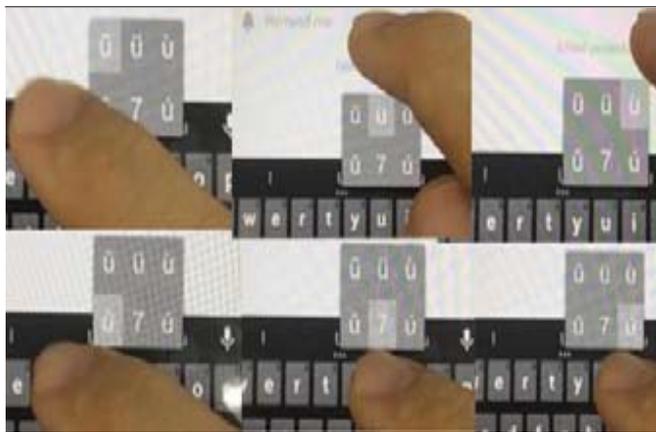
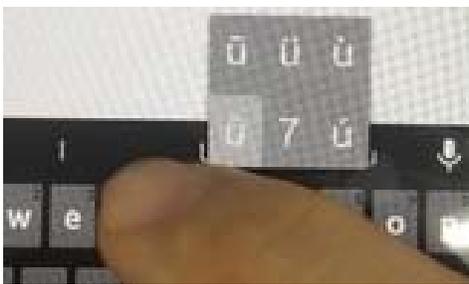
32. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 31 of the '733 patent because they are electronic device systems connected to displays, programmed to execute the character input method as claimed in claim 30, wherein the short press on the first key represents a default input scheme operable to select one character candidate associated with the first key as the currently selected character according to the first arrangement, wherein duration of the short press is less than a predetermined time interval, and the long press on the first key represents an alternative input scheme operable to select one character candidate associated with the first key as the currently selected character, wherein the duration of the long press is greater than the predetermined time interval:



33. Claim 34 of the '733 patent generally recites the character input method as claimed in claim 27, wherein each of the plurality of keys is operable to be toggled between a pressed state and a released state, the plurality of keys are arranged as an electronically displayable virtual keyboard, and the first key is switchable between the pressed state and the released state and is not transitioned to a specialized state beyond toggling of the first key between the pressed state and the released state in response to any or all of the instances of short press and the touch movement.

34. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 34 of the '733 patent because they are electronic device systems connected to displays, programmed to execute the character input method as claimed in claim 27, wherein each of the plurality of keys is operable to be toggled between a pressed state and a released state, the plurality of keys are arranged as an electronically displayable virtual keyboard, and the first key is switchable between the pressed state and the released state and is not transitioned to a

specialized state beyond toggling of the first key between the pressed state and the released state in response to any or all of the instances of short press and the touch movement:



35. Claim 35 of the '733 patent generally recites the character input method as claimed in claim 27, wherein the graphical user interface comprises a menu.

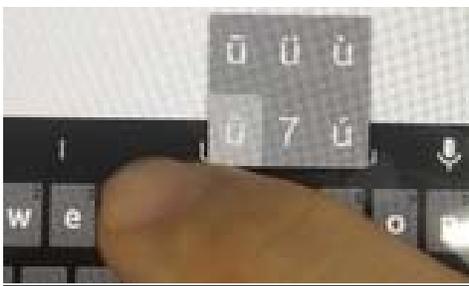
36. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 35 of the '733 patent because they are electronic device systems connected to

displays, programmed to execute the character input method as claimed in claim 27, wherein the graphical user interface comprises a menu:



37. Claim 36 of the '733 patent generally recites the character input method as claimed in claim 35, wherein the character candidates of the first sequence are arranged linearly in the menu or scattered in a two-dimensional layout in an area of the menu.

38. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 36 of the '733 patent because they are electronic device systems connected to displays, programmed to execute the character input method as claimed in claim 35, wherein the character candidates of the first sequence are arranged linearly in the menu or scattered in a two-dimensional layout in an area of the menu:



39. Plaintiff has been harmed by Defendants' infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 8,576,166

40. The allegations set forth in the foregoing paragraphs 1 through 39 are incorporated into this First Claim for Relief.

41. On November 5, 2013, U.S. Patent No. 8,576,166 (“the ’166 patent”), entitled “Electronic Device System Utilizing a Character Input Method,” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’166 patent is attached as Exhibit 3.

42. Plaintiff is the assignee and owner of the right, title and interest in and to the ’166 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

43. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 10, and 22 of the ’166 patent by making, using, selling, importing and/or providing and causing to be used electronic device systems including displays that are programmed to execute a character input method within the scope of claims 1, 10, and 22 of the ’166 patent, including, but not limited to, the products with the following designations or trade names: Nexus S, Galaxy Nexus, Nexus 4, Nexus 5, Nexus 6, Nexus 5X, Nexus 6P, Pixel, Nexus 7, Nexus 10, Nexus 9, Pixel C, Google Zhuyin Input, Google Korean Input, Google English

Input, Google Pinyin Input (the “Infringing Instrumentalities”). Exemplary images of the Infringing Instrumentalities are provided below:





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44. Claim 1 of the '166 patent generally recites an electronic device system, comprising: a touch sensitive device operable to detect one or more touch operations based on one or more keys of a virtual keyboard displayable by a display function of the electronic device; and a processor electronically connected to the touch sensitive device and operable to present character information through the display function, and operable to detect operation of the touch sensitive device according to a character input method, the character input method comprising: displaying the virtual keyboard comprising a plurality of keys and utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different sequences of character candidates, and a sequence of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area; detecting if a first operation on a first key of the plurality of keys conforms to a first input pattern or a second input pattern; utilizing a first route of character

presentation to traverse a plurality of optional characters associated with the first key to present a first character of the plurality of optional characters associated with the first key through the display function as a currently selected character in response to the first operation conforming to the first input pattern and a first subsequent character of the plurality of optional characters through the display function as the currently selected character in response to a first subsequent operation based on the first key according to the first route upon the condition that the first operation conforms to the first input pattern; and utilizing a second route of character presentation other than the first route to traverse the plurality of optional characters associated with the first key to present a second character of the plurality of the optional characters associated with the first key through the display function as the currently selected character in response to the first operation conforming to the second input pattern and a second subsequent character of the plurality of optional characters associated with the first key through the display function as the currently selected character in response to a second subsequent operation based on the first key according to the second route upon the condition that the first operation conforms to the second input pattern wherein the second character is different from the first character, arrangement of at least two optional characters in the first route is reversed in the second route, and the currently selected character is presented during the character presentation associated with the first key and is selected to be input to the text area of the electronic device upon the end of character presentation associated with the first key.

45. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 1 of the '166 patent because they are electronic device systems, comprising: a touch sensitive device operable to detect one or more touch operations based on one or more keys of a virtual keyboard displayable by a display function of the electronic device;



a processor electronically connected to the touch sensitive device and operable to present character information through the display function, and operable to detect operation of the touch sensitive device according to a character input method,

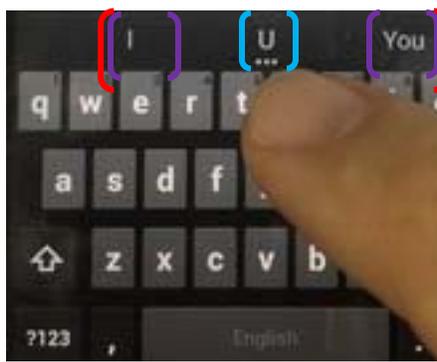


Nexus 7

Manufacturer	Google
Price	USD200
Availability	Mid-July
Storage	8/16GB
Expandable Storage	—
WiFi	802.11b/g/n
OS	Android 4.1
Thickness	10.45 mm
Weight	390g
Display Size	7.0 inches
Display Resolution	1280 x 800 pixels
Display Pixel Density	216 ppi
Processor	1.3GHz quad core

the character input method comprising: displaying the virtual keyboard comprising a plurality of keys and utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different sequences of character candidates, and a sequence of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area; detecting if a first operation on a first key of the plurality of keys conforms to a first input pattern or a second input pattern; utilizing a first route of character presentation to traverse a plurality of optional characters associated with the first key to present a first character of the plurality of optional characters associated with the first key through the display function as a currently selected character in response to the first operation conforming to the first input pattern and a first subsequent character of the plurality of optional characters through the display function as the

currently selected character in response to a first subsequent operation based on the first key according to the first route upon the condition that the first operation conforms to the first input pattern:



First Route of Character Presentation; Optional Characters: I, U, You
First Presented and Currently Selected Character: U
Characters Currently Selected after a First Subsequent Operation (Right or Left Toggle)

and utilizing a second route of character presentation other than the first route to traverse the plurality of optional characters associated with the first key to present a second character of the plurality of the optional characters associated with the first key through the display function as the currently selected character in response to the first operation conforming to the second input pattern and a second subsequent character of the plurality of optional characters associated with the first key through the display function as the currently selected character in response to a second subsequent operation based on the first key according to the second route upon the condition that the first operation conforms to the second input pattern wherein the second

character is different from the first character, arrangement of at least two optional characters in the first route is reversed in the second route, and the currently selected character is presented during the character presentation associated with the first key and is selected to be input to the text area of the electronic device upon the end of character presentation associated with the first key:



Second Route of Character Presentation: 7, û, ũ, ù, ú
Currently Selected Character from the First Operation of the Second Input Pattern: 7



Second Route of Character Presentation: 7, û, ũ, ù, ú
Second Subsequent Character from the Second Operation of the Second Input Pattern: û

46. Claim 10 of the '166 patent generally recites an electronic device, comprising: a touch sensitive device operable to detect one or more touch operations based on one or more keys of a virtual keyboard displayable by a display function of the electronic device; and a

processor electronically connected to the touch sensitive device and operable to present character information through the display function, and operable to detect operation of the touch sensitive device according to a character input method, the character input method comprising: displaying the virtual keyboard comprising a plurality of keys and utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different sequences of character candidates, and a sequence of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area; presenting a first character of a plurality of optional characters in a first sequence of character candidates associated with the first key as a currently selected character through the display function in response to a first operation of the first key conforming to a first input pattern; determining if a second operation based on the first key during the presentation of the first character conforms to a second input pattern; presenting an optional character associated with the first key previous to the first character as the currently selected character through the display function with respect to a present order of character presentation of the first sequence if the second operation conforms to the second input pattern; and presenting another optional character associated with the first key next to the first character through the display function as the currently selected character with respect to the preset order of character presentation of the first sequence if the second operation does not conform to the second input pattern; wherein the first sequence comprises three or more optional characters associated with the first key, the first operation comprises an operation initiating presentation of optional characters associated with the first key or an operation received by the input device during character presentation associated with the first key, the preset order of character presentation

represents a predetermined arrangement of the plurality of optional characters associated with the first key, and the currently selected character is selected to be input to the text area upon completion of character presentation associated with the first key.

47. As demonstrated in the exemplary images below, the Infringing Instrumentalities infringe claim 10 of the '166 patent because they electronic devices, comprising: a touch sensitive device operable to detect one or more touch operations based on one or more keys of a virtual keyboard displayable by a display function of the electronic device;



and a processor electronically connected to the touch sensitive device and operable to present character information through the display function, and operable to detect operation of the touch sensitive device according to a character input method,



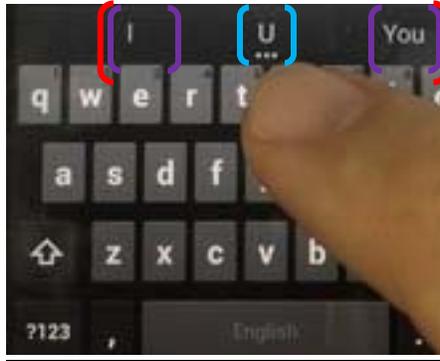
Nexus 7

Manufacturer	Google
Price	USD200
Availability	Mid-July
Storage	8/16GB
Expandable Storage	—
WiFi	802.11b/g/n
OS	Android 4.1
Thickness	10.45 mm
Weight	390g
Display Size	7.0 inches
Display Resolution	1280 x 800 pixels
Display Pixel Density	216 ppi
Processor	1.3GHz quad core

the character input method comprising: displaying the virtual keyboard comprising a plurality of keys and utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different sequences of character candidates, and a sequence of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area; presenting a first character of a plurality of optional characters in a first sequence of character candidates associated with the first key as a currently selected character through the display function in response to a first operation of the first key conforming to a first input pattern; determining if a

second operation based on the first key during the presentation of the first character conforms to a second input pattern; presenting an optional character associated with the first key previous to the first character as the currently selected character through the display function with respect to a present order of character presentation of the first sequence if the second operation conforms to the second input pattern; and presenting another optional character associated with the first key next to the first character through the display function as the currently selected character with respect to the preset order of character presentation of the first sequence if the second operation does not conform to the second input pattern; wherein the first sequence comprises three or more optional characters associated with the first key, the first operation comprises an operation initiating presentation of optional characters associated with the first key or an operation received by the input device during character presentation associated with the first key, the preset order of character presentation represents a predetermined arrangement of the plurality of optional characters associated with the first key, and the currently selected character is selected to be input to the text area upon completion of character presentation associated with the first key:





First Sequence of Character Candidates: I, U, You
First Currently Selected Character of First Input Pattern: U
Characters Currently Selected Depending on Conformation to Second Input Pattern

48. Claim 22 of the '166 patent generally recites a character input method executable by an electronic device connectable to a display and capable of detecting touch operations, comprising: displaying a virtual keyboard comprising a plurality of keys through a display function; utilizing a touch detection function to detect one or more touch operations based on the virtual keyboard, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different groups of character candidates, a group of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area, and the plurality of keys comprise a first key; displaying optional characters belonging to a default character set of character candidates associated with the first key; displaying a gesture operable graphical user interface with an appearance suggesting that the gesture operable graphical user interface receive a touch movement between a plurality of operational positions on the gesture operable graphical interface, wherein at least some of the displayed optional characters associated with the first key are positioned to surround a center of a virtual region in which the displayed optional characters associated with the first key are positioned, and each of the operational positions on the gesture operable graphical user interface is associated with one of the displayed optional characters

associated with the first key; providing a domain operable to detect a first operation associated with the first key; determining whether the first operation associated with the first key conforms to a first input pattern or a second input pattern; presenting a first character in the default character set as a currently selected character for character input to the test area in response to the first operation associated with the first key conforming to the first input pattern; allowing presentation of an alternative character in the default character set as the currently selected character in substitution for the first character during character presentation associated with the first key in response to the first operation associated with the first key conforming to the second input pattern; displaying a focus operable to indicate the currently selected character among the default character set; allowing movement of the focus among the default character set from a prior character to a post character in the default character set in response to a first touch movement track associated with the first key detectable by the touch detection function in the domain, wherein a direction of the movement of the focus is correlated with a direction of the first touch movement track; allowing movement of the focus even if the movement of the focus substantially comprises a radial move with respect to the center of the virtual region; allowing movement of the focus even if the movement of the focus substantially comprises a circular move with respect to the center of the virtual region; and inputting the currently selected character to the text area upon the end of character presentation associated with the first key.

49. As demonstrated in the exemplary images below of the Google Japanese Input, the Infringing Instrumentalities infringe claim 22 of the '166 patent because they are electronic device systems including displays that are capable of detecting touch operations and that are programmed to execute a character input method, comprising: displaying a virtual keyboard comprising a plurality of keys through a display function; utilizing a touch detection function to

detect one or more touch operations based on the virtual keyboard, wherein each key of the plurality of keys is operable as a toggle key, two different keys in the plurality of keys are respectively associated with different groups of character candidates, a group of character candidates comprises optional characters arranged in a specific arrangement for character input to a text area,



and the plurality of keys comprise a first key; displaying optional characters belonging to a default character set of character candidates associated with the first key; displaying a gesture operable graphical user interface with an appearance suggesting that the gesture operable graphical user interface receive a touch movement between a plurality of operational positions on the gesture operable graphical interface, wherein at least some of the displayed optional characters associated with the first key are positioned to surround a center of a virtual region in which the displayed optional characters associated with the first key are positioned, and each of the operational positions on the gesture operable graphical user interface is associated with one of the displayed optional characters associated with the first key;



providing a domain operable to detect a first operation associated with the first key;
determining whether the first operation associated with the first key conforms to a first input
pattern or a second input pattern;



presenting a first character in the default character set as a currently selected character for
character input to the test area in response to the first operation associated with the first key
conforming to the first input pattern;



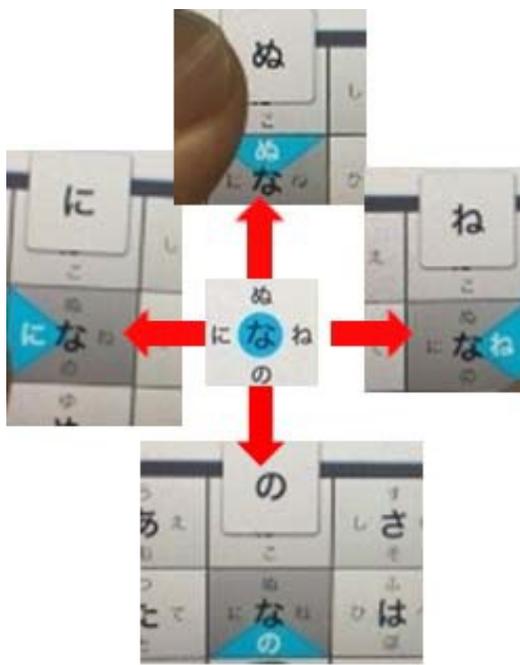
allowing presentation of an alternative character in the default character set as the currently selected character in substitution for the first character during character presentation associated with the first key in response to the first operation associated with the first key conforming to the second input pattern; displaying a focus operable to indicate the currently selected character among the default character set;



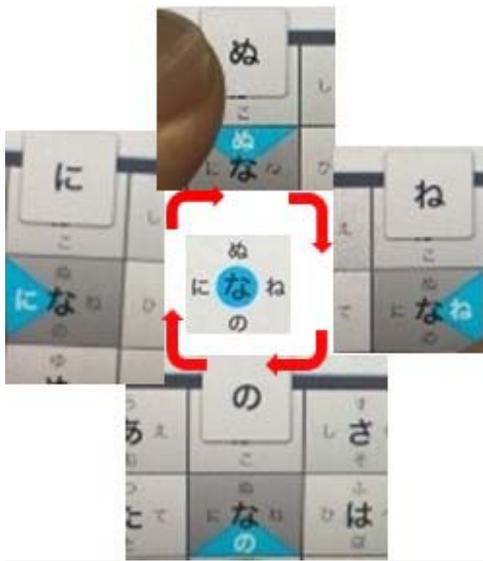
allowing movement of the focus among the default character set from a prior character to a post character in the default character set in response to a first touch movement track associated with the first key detectable by the touch detection function in the domain, wherein a direction of the movement of the focus is correlated with a direction of the first touch movement track;



allowing movement of the focus even if the movement of the focus substantially comprises a radial move with respect to the center of the virtual region;



allowing movement of the focus even if the movement of the focus substantially comprises a circular move with respect to the center of the virtual region;



and inputting the currently selected character to the text area upon the end of character presentation associated with the first key:



50. Plaintiff has been harmed by Defendants' infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 8,736,553

51. The allegations set forth in the foregoing paragraphs 1 through 50 are incorporated into this First Claim for Relief.

52. On May 27, 2014, U.S. Patent No. 8,736,553 (“the ’553 patent”), entitled “Text Input Method Executable by an Electronic Device,” was duly and legally issued by the United States Patent and Trademark Office. A true and correct copy of the ’553 patent is attached as Exhibit 4.

53. Plaintiff is the assignee and owner of the right, title and interest in and to the ’553 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

54. Upon information and belief, Defendant has and continues to directly infringe at least claim 1 of the ’553 patent by making, using, selling, importing and/or providing and causing to be used electronic device systems including displays that are programmed to execute a character input method within the scope of claim 1 of the ’553 patent, including, but not limited to, the products with the following designations or trade names: Nexus S, Galaxy Nexus, Nexus 4, Nexus 5, Nexus 6, Nexus 5X, Nexus 6P, Pixel, Nexus 7, Nexus 10, Nexus 9, Pixel C, Google Zhuyin Input, Google Korean Input, Google English Input, Google Pinyin Input (the “Infringing Instrumentalities”). Exemplary images of the Infringing Instrumentalities are provided below:





Introducing Pixel Phone by Google

55. Claim 1 of the '553 patent generally recites a text input method executable by an electronic device connectable to a display and capable of detecting touch operations, comprising: displaying a virtual keyboard comprising a plurality of keys; utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key and is associated with one or more characters for input to a text area of the electronic device, wherein each key in a selected key set of one or more keys in the plurality of keys of the virtual keyboard is operable to receive activation by receiving a touch operation comprising an operation of a press, an operation of a touch movement track, or a combination of an operation of a press and an operation of a touch movement track; receiving activation of the selected key set of one or more keys of the virtual keyboard, wherein the activation of the selected key set comprises activation of each key in the selected key set; selecting, for a first activated key in the selected key set that receives an activation, a first initially selected character associated with the first activated key in response to

the activation of the first activated key; selecting, for a second activated key in the selected key set that receives an activation, a second initially selected character associated with the second activated key in response to the activation of the second activated key; determining an expanded character set of one or more characters associated with the selected key set based on at least the first initially selected character and the second initially selected character; determining an auto-completed word based on a database of words in response to the activation of the selected key set, wherein the auto-completed word comprises a plurality of characters, and each of the plurality of characters of the auto-completed word is selected from the expanded character set of one or more characters associated with the selected key set; presenting the auto-completed word as an option in a menu graphical user interface component in response to the activation of the selected key set; and entering the auto-completed word to the text area in response to a touch operation associated with the option in the menu graphical user interface component and detectable by the touch detection function.

56. As demonstrated in the exemplary images below of the Google Pinyin Input, the Infringing Instrumentalities infringe claim 1 of the '553 patent because they are electronic device systems that are connected to a display capable of detecting touch operations and that are programmed to execute a text input method, comprising: displaying a virtual keyboard comprising a plurality of keys; utilizing the virtual keyboard as a base for one or more touch operations detectable by a touch detection function, wherein each key of the plurality of keys is operable as a toggle key and is associated with one or more characters for input to a text area of the electronic device,



wherein each key in a selected key set of one or more keys in the plurality of keys of the virtual keyboard is operable to receive activation by receiving a touch operation comprising an operation of a press, an operation of a touch movement track, or a combination of an operation of a press and an operation of a touch movement track;







receiving activation of the selected key set of one or more keys of the virtual keyboard, wherein the activation of the selected key set comprises activation of each key in the selected key set; selecting, for a first activated key in the selected key set that receives an activation, a first initially selected character associated with the first activated key in response to the activation of the first activated key;



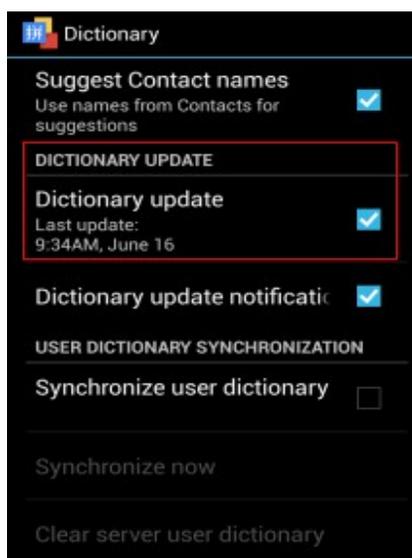
selecting, for a second activated key in the selected key set that receives an activation, a second initially selected character associated with the second activated key in response to the activation of the second activated key;



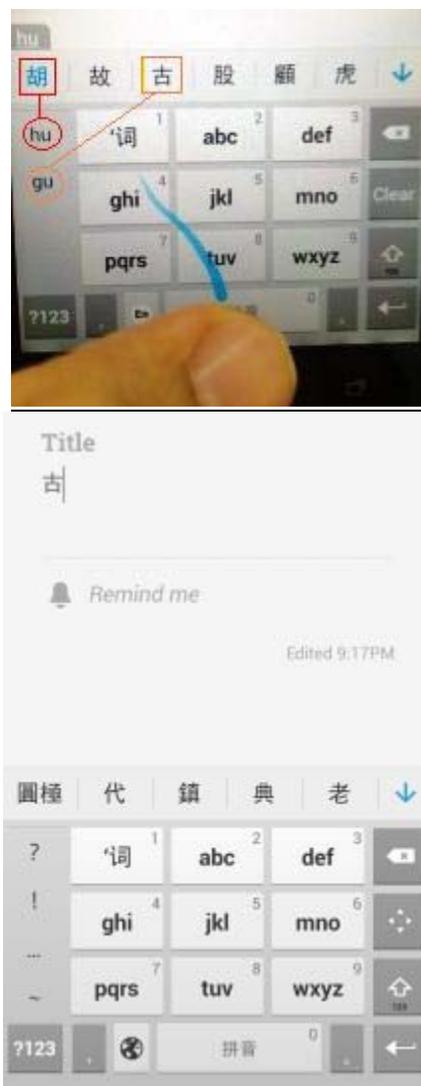
determining an expanded character set of one or more characters associated with the selected key set based on at least the first initially selected character and the second initially selected character;



determining an auto-completed word based on a database of words in response to the activation of the selected key set, wherein the auto-completed word comprises a plurality of characters, and each of the plurality of characters of the auto-completed word is selected from the expanded character set of one or more characters associated with the selected key set;



presenting the auto-completed word as an option in a menu graphical user interface component in response to the activation of the selected key set; and entering the auto-completed word to the text area in response to a touch operation associated with the option in the menu graphical user interface component and detectable by the touch detection function:



57. Plaintiff has been harmed by Defendants' infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendants as follows:

A. An adjudication that Defendant has infringed the '016 patent, '733 patent, '166, and '553 patent;

B. An award of damages to be paid by Defendants adequate to compensate Plaintiff for Defendant's past infringement of the '016 patent, '733 patent, '166, and '553 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiff's reasonable attorneys' fees; and

D. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper.

Dated: December 15, 2016

DEVLIN LAW FIRM LLC

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