IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

INTELLIGENT KEYBOARD: A METHOD FOR TEXT INPUT USING TOUCH SCREEN FOR HINDI DEVANAGARI SCRIPT

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ABSTRACT

Now a days, most of the smart phones having touch screen instead of traditional keypad. The virtual keyboard is replaced with traditional keypad. There are various such keyboards that are present in the market including Devanagari language. Devanagari is a script used by many Indian languages like Hindi, Marathi, Nepali and Sanskrit, but typing on such touchscreen is a little difficult for new users. The problems with touchscreen are: - they are highly responsive, Touch area is precise, precision is required for typing and users are experiencing many errors in typing keys with their thumb so as a result, typing on such screen is very slow. The solution to these problems is to use an Intelligent keyboard. An Intelligent keyboard is a virtual keyboard used for touch screen smart phones and tablets where the user enters words by click on one or two letters of the word. The overall objective of this paper is to provide knowledge that can help to improve user experience of Devanagari text entry with an Intelligent keyboard in touch screen mobile devices.

KEYWORDS: Smartphone, touch screen, virtual keyboard, Devanagari Script.

INTRODUCTION

A touchscreen is an input device normally layered on the top of an electronic visual display of an information processing system. Touchscreen technology is the direct manipulation type gesture based technology. A device which works on touchscreen technology is called as Touchscreen. A user can give input or control the information processing system through simple or multi-touch gestures by touching the screen with a special stylus/pen and-or one or more fingers. The user can use the touchscreen to react to what is displayed and to control how it is displayed (for example by zooming the text size). The touchscreen enables the user to interact directly with what is displayed, rather than using a mouse, touchpad, or any other intermediate device (other than a stylus, which is optional for most modern touchscreens). A touchscreen is an electronic visual display capable of 'detecting' and effectively 'locating' a touch over its display area. It is sensitive to the touch of a human finger, hand, pointed finger nail and passive objects like stylus. Because of touchscreen devices virtual keyboards are used instead of traditional physical button based keyboards. The virtual keyboard technology uses sensor technology and artificial intelligence to allow users work on any flat surface as if it were a keyboard. Virtual keyboard with InScript (Indian Script) is the standard keyboard layout for Indian scripts using a standard 104 or 105 key layout. This is the standard keyboard for 12 Indian scripts including Devanagari, Bengali, Kannada, Malayalam, Oriya, Tamil and Telugu and others.

## REQUIRMENT SPECIFICATION
Harware Requirment

Hardware	Quantity
Computer/Laptop	1
Hard Disk (320GB)	1
RAM (2GB)	1
Monitor (17"VGA)	1
Android Mobile Phone	1

Software Requirment

PC operating system	Windows XP/8
Mobile O/S	Android 2.2(and Later)
System type	32/64 bit operating system
Language	Java
IDE	Eclipse
Database	SQLite Studio

PROPOSED METHODOLOGY

As per our problem statement we are presenting Intelligent keyboard for Hindi Devanagari script. For this we created dictionary of Hindi words for retrieving corresponding Hindi word.First, click on any Hindi letter on keypad then it will immediately show list of matched Hindi words starting from that letter, by tracing letter of user typing with the ideal word stored in the dictionary. Then comparison is made between words which satisfy matching condition. It compare ranks of matched words thus word having highest original rank is displayed first. And if that particular word is not in database then user have to type that word then word stored in database.If the word is repeatedly used or typed by user then project rank of that particular word get highest.

Figure:
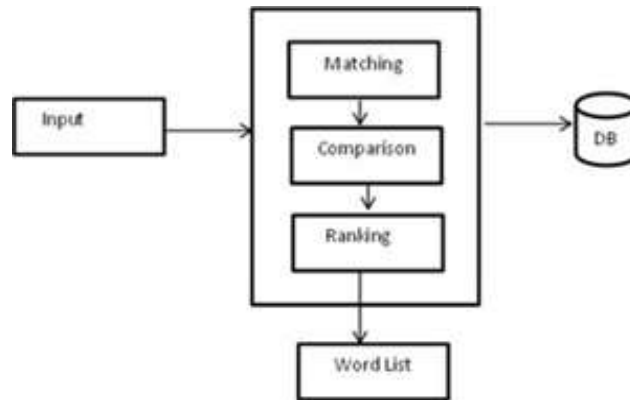
System Architecture

Above figure shows system architecture of proposed system. As shown in above, the input letter clicked by user is check in database. If letter is matched with stored words then compare their rank and highest ranked word is displayed first. Using this speed of typing increases.

GUI DESIGN

As shown in output screen there are two EditText, two TextView and four buttons.
- EditText1- To enter phone number of receiver.
- EditText2- To enter message.
- TextView1- It is label for "enter phone number".
- TextView2- It is label for "enter SMS ".
- Send_Button- When we click on this button the message is send to the specified receiver.
- Option_Buttons-For displaying matched word list
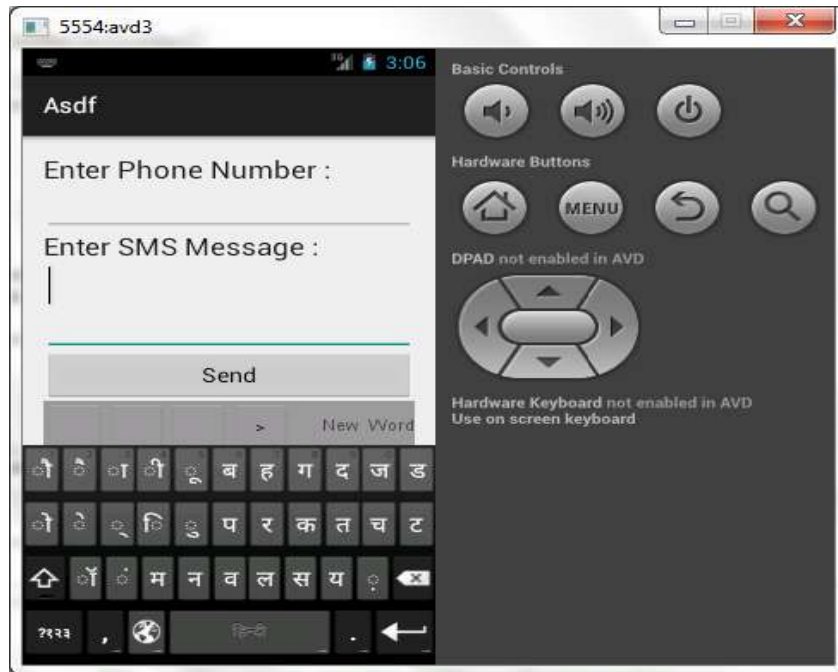
GUI of Intellegent Keyboard

CONCLUSION

The Intelligent Keyboard for Devanagari language is a novel keyboard for typing Hindi words based on the drag and tap actions on a flat touchscreen. The prominent feature of the Intelligent Keyboard for Devanagari script is accuracy. Users are able to type Hindi words more accurately and faster using this keyboard. This keyboard fast predicts words what user is typing with fewer mistakes.

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