

User Interface for Visually impaired Person

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Abstract—This paper elaborates idea of user interface for visually impaired persons. This system includes character recognition and voice based response for entered character, which makes writing easy for visually impaired persons.

Keywords: Touch screen, character Recognition.

I.INTRODUCTION

This paper explains how blind person can write with the help of touch screen and can recognize the typed character using voice based response system. There are many user interfaces which enable these people to get interact with system. But, using this interface person will become more interactive with system and independent and also can crosscheck what was the entered character? through voice based response. this paper consists of A. Necessity of the system B. working of system C. Algorithmic Steps D. Technology Used E. Conclusion F. References

II.NECESSITY OF THE SYSTEM

In today's world our work is more closed with keyboards, touchscreens, touchpads, virtual keyboards. but, there is emerging need of system which provides easy access & interaction without any alternative help for visually impaired persons.

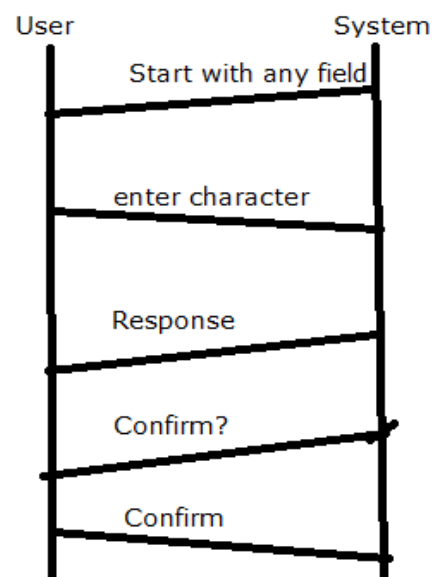
III.WORKING OF THE SYSTEM

In this System, I am going to use touch surface on which user can directly write character with the help of his finger similar to that pattern lock which we have provided for our smart phones. The system will recognize entered character and display it on the screen. Suppose person wrote character 'A' system will recognize it and display it on the screen. Suppose person is working with online form system will provide voice based assistance for form filling. For example, suppose particular field is "First Name" system will provide assistance that you are going to fill "First Name" which reduces confusion in between them and entered character is get displayed for particular field only.

IV.ALGORITHMIC STEPS

- 1.Start
- 2.System will instruct about particular field.
- 3.Person will enter characters.

- 4.Characters get converted to machine readable form.
- 5.System will spell entered characters for confirmation from user and also ask for modification.
- 6.If ,there is no modification repeat steps 2 to 5
- 7.Stop.



TECHNOLOGY USED

- 1.For Character Recognition:

Use of 8 connected pixel algorithm

- A1.start with left corner of screen horizontally.
- A2.check whether pixel is on/off.
- A3.once we find pixel is on check for its neighbouring Pixel
- A31. If it previously present in on pixel's list if present move towards next neighbouring pixel.
- A32.If it is not in on Pixel's list add it
- A4.Repeat steps 2 & 3

A5.stop.

2.Capacitive touch screen:

When finger hits the screen a minute electrical charge is transferred to the finger to complete the circuit ,creating a voltage drop on point that point of the screen

Conclusion

By using this technique the proposed system will be helpul for the betterment of visually impared people.

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