Blind Design

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Abstract— We create this application to create a new world of learning for blind people where they can draw whatever shapes they feel (i.e. circles, squares, lines etc.) according to their knowledge and their imagination .A blind person cannot see things like a normal human being .So they may not know how the world is, even a human being is shaped by bones, in this awesome world each and everything has a shape which is compiled into structures. So it is easy to understand the structures by dividing them into shapes. Here the same works out. First they learn what a shape it is according to their knowledge and then they can implement it according to their imagination. Where they can architect and design according to their talent. Alphabets, numeric and words are all shapes which can be learnt easily through this software.This could be the revolution in the blind world and might change their lives completely.Vibration and multi touch and grid movement is the key feature for this software application.

Keywords— blind,android,vibration,shape,draw

I. INTRODUCTION

Eyes play a vital role in our life. All of us have seen the blind people and know the problems that they face in their life. In order to draw anything they must first know the existing shapes , numbers ,alphabets which are all shapes brought through curves. Through the novel idea that we are presenting can bring a permanent solution to them and enable them to draw every possible imagination, architect and probably bring it to reality.

II. OBJECTIVES

2.1 ENABLE BLIND PEOPLE TO FEEL THE SHAPES, ALPHABETS AND NUMBERS.
2.2 THROUGH THIS PROCESS THEY WILL LEARN ALL SHAPES.
2.3 ONCE LEARNT THEY WILL BE ABLE TO IDENTIFY THE SHAPES AND LETTERS.
2.4 THEY WILL BE ABLE TO IDENTIFY EVEN PICTURES AS IT CAN BE DECOMPOSED TO SHAPES AND COLORS IN VECTOR GRAPHICS AND BY PENCIL SKETCH.
2.5 FINALLY THEY CAN DRAW THEIR IMAGINATION AND BRING IT TO REALITY.

III. BACKGROUND

Our idea is an innovative new concept which is still not there in the world. Blind people do learn shapes through various other physical resources but not using vibration technique in android technology in mobiles. In our review we collected the following information regarding blind people identifying shapes and drawing.

HowtheBlindDraw
Blind and sighted people use many of the same devices in sketching their surroundings, suggesting that vision and touch are closely linked - by John M. Kennedy
BLIND ARTISTS rely on their sense of touch to render familiar objects. Tracy lost all sight to retinal cancer at the age of two, but by feeling the glass, she determines its shape. By rubbing the paper, placed on a piece of felt, she knows where her pen has scored the page and left a mark. Because the lines in most simple drawings reveal surface edges—features that are discerned by touching as readily as they are by sight—drawings by the blind are easily recognized by sighted people.
There is an android application being created that is using the Digital image processing and opencv to detect shapes in a wall. But for the blind to detect first they must learn the shapes. There are also codes to detect rectangles in a picture and draw outlines the same. There is also code to detect Hough circle in an image using opencv.
But the detected rectangle/circle has to be vibrated to locate where the rectangle is located in image with angle to text and text to voice. There are also codes telling which shape is touching the screen.

IV. DETAILED PROBLEM DEFINITION:

We know that blind people cannot see and without seeing it is very difficult for them to identify shapes, alphabets, numbers and draw their creativity. In order to draw they must first learn the shapes and the curves so that they will be able to identify all the objects and entities in the world which are just structured by combining shapes. They find it

difficult to identify the objects around them. If they can take a photo of their surrounding in their mobile, if they know shapes then the photo can be disintegrated and the shapes identified.

V. PROPOSED IDEA:

The solution for the above problem is to make them identify the various shapes, angles and curves that exist. Later continue to teach them the alphabets, numbers and words in their mobile all through their sensory touch using the vibration technique available in all android mobiles and tablets. Not only vibration but also we will use the motion event technique, multitouch and angle *to text* and text to voice technique for identifying location in the screen. Once they have learnt the shapes they will be able to detect the shapes in any photo. For this we have to convert the photo to pencil sketch and vector graphics and impart vibration to the same. Now by the vibration and motion event they can identify the objects in the photo and hence in their surroundings by clicking photos. We actually divide the vector graphics in a grid layout, zoom it, identify angles in each grid as there is a curve in every grid and hence enable blind to learn the entire architecture.

With this idea every blind person can become an architect and design their imagination into reality. They can learn the various rangoli, design patterns and many others in an effective easy way.

VI. IMPLEMENTATION TECHNIQUE:

. We combine java programming and Android

      6.1Grant the vibration permission

      6.2Use a pattern to vibrate the touch on the rectangle for example

      6.3java programming to build the pattern

      6.4Set the timing of the vibration in milliseconds

      6.5A software which will enable a blind to draw using cryptography

      6.6The number will indicate a shape

    Using 1. They learn all shapes

Now the number 1. Will automatically work when they just tell as there will be voicerecognition and they learn all shapes, alphabets, numbers, angles and each assigned with numbers.
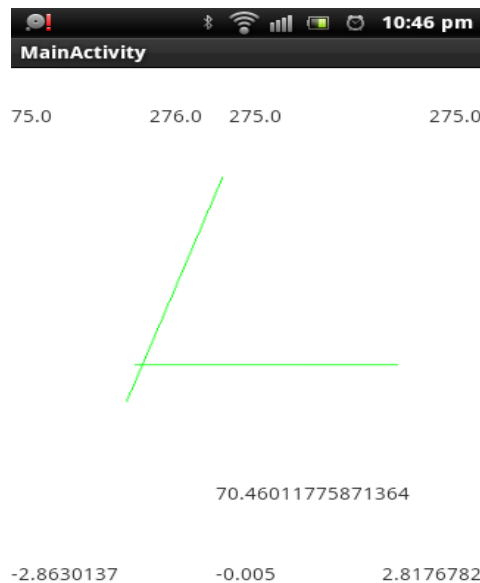
 Later with the grid number and the row and column numbers they can draw their imagination.

vi.a**Implementation result:**

AN ANDROID APP THAT HELPS BLIND RECOGNISE SHAPES
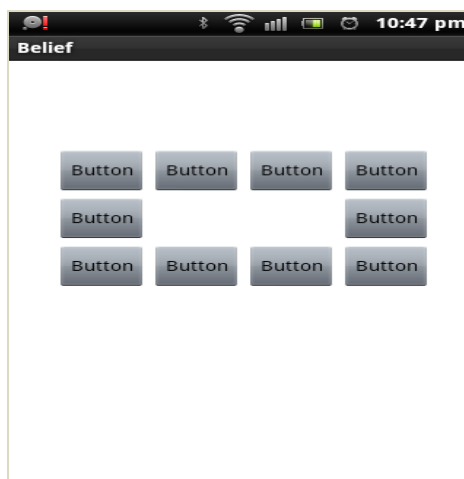
AN APP THAT HELPS BLIND PEOPLE LEARN ANGLES THROUGH VIBRATION

VII. EXPERIMENTATION RESULT:

We developed our first prototype of detecting a rectangle in android by vibration and tested it with Mr.Govind who was a blind employee in our university.He successfully identified that the shape was rectangle. Not only blind even small children found it as a wonderful game in identifying the shape by closing their eyes.

Anyone who blindfolds and touches the screen and moves along the vibrating design can identify the shape.

VIII. CONCLUSIONS

Through the experimentation done we have found that our idea has the potential to change the learning system for the blind people and make a difference to the society. The idea has reached the prototype level but we must implement and bring it to reality soon so that it can be beneficial to society.

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