

Project Name: Virtual Keyboard

Team: Learners

Abstract

Project Description:

The idea is to build a customizable virtual keyboard. Image and video processing will be used to recognize the input using a video camera. The program will recognize the input when a finger is touched to the drawn keyboard layout on the paper and send the OS the signal corresponding to the key press.

Further we are planning to combine the input from two cameras to get a 3-dimensional input so that the virtual keyboard is user friendly.

We are planning to use MATLAB for this purpose.

Component required: Video Camera (laptop's webcam will suffice)

Timeline:

- 1st week :
 - Learning the basic concepts of image processing
 - Learning how to use MATLAB
- 2nd week :
 - Trying basic programs of image processing in MATLAB
 - Making the basic blocks of the final program
- 3rd and 4th week :
 - Combining the blocks together and giving finishing touch to the program
- 5th week :
 - If all the above goes well then improving the program and trying to combine the input of two cameras to get a 3-dimensional input and function more accurately

What we expect to learn?

We expect to learn the basics of image processing. Image processing is a widely used method in various fields. Learning this will help us develop our skills in robotics and help us to implement it in other application in our future.