

## **Project Title**

VIRTUAL PIANO

## **Implementation steps**

### **1st week:**

1. Learn what is required: image processing with processing software.
2. Be ready with the final design (get it approved from mentors)

This includes basic data gathering, and searching for the required hardware and software resources and finalizing the design.

### **2nd & 3rd week:**

1. Start fabrication and the coding and image processing part.
2. Image processing with color detection.
3. Use multiple colors for detection.
4. Linking the input read with the respective sound.

starting towards the building up of the project, making the structure, and the software part which includes coding for the webcam, getting the input, interacting with the OS, output sound.

### **4th week:**

1. Getting all the parts together, compiling the hardware
2. Check the working, the compatibility with the output
3. Testing and debugging

This is basically catching up with the fabrication of the hardware components, bringing them all together, compiling them all, and checking the input received by sensors (webcam), compatibility with the OS.

### **5th week:**

1. Final touch to project.
2. Submission.
3. Packing our bags and leaving home.

This is basically towards the end when the separate testing is completed and the components are all put together. Checking for any bugs in the code, driver and all, testing it all together and debugging. When ready, putting in some final touches to the covers and the code for technical soundness and aesthetic appeal.

## **Components Required**

1. Webcam (Rs.1000)
2. Lasers \* 20 (Rs.1500)
3. Stand(Rs.100)
4. USB cable extension (Rs.100)
5. Battery(Rs.300)
6. Other expenses(Rs.1200)

## **What we will learn from this project**

1. Image Processing
2. Sound Processing
3. How to design a project

Other minor changes can be done during the stay.....