VIRTUAL MOUSE

(We changed our plan to virtual mouse from holographic keyboard)

DESCRIPTION :
The work of a mouse is done using hands on a rectangular pad. A stereocamera is used to detect motion of two fingers used for clicking(right/left) and scrolling by image processing.

COMPONENTS REQUIRED :
1. Stereocamera
2. Stand
3.Image Processor
4. Pad

Estimated total cost will be maximum Rs 12000(approx 10000 for stereocamera)

SKILLS REQUIRED :
1. Coding in 'Processing' software
2.Knowledge of Image Processing
3.Basic Electronics

IMPLEMENTATION STEPS :

1st week:
i. start scavenging for resources:info, ckts diagrams, researches, markets etc.
ii. get equipped with the required tools: research, components, softwares
iii. learn what is required: image processing,coding of image-processor
This includes basic data gathering, research work and searching for the required hardware and software resources

2nd week:
i. get the circuitry design and blueprint of the fabrications completed
ii. be ready with the final design (get it approved from mentors)
iii. get ready for action.:)
This includes getting the circuit designs and all the hardware components for the fabrication so that work can be started towards the building up of the project

2nd & 3rd week:
i. start fabrication and the coding and image processing part
ii. divide it in subsystems and switch in between the hardware and software works (for better learning and overall skill developing)
iii. improvise on the ways of fabrication and product building

This includes the real fabrication of the circuits, putting on all the components on the pcbs, making the enveloping case, and the software part which includes coding for the sensors, getting the input, interacting with the OS.

4th week:
i. getting all the parts together, compiling the hardware
ii. check the working, the compatibility with the output
iii. gearing up and accounting for any lost time (hoping won't require this)
This is basically catching up with the fabrication of the hardware components, bringing them all together (won't be fabrication the complete set on the same board; helps check any bugs), compiling them all, checking the input received by sensors (bluetooth or usb?), compatibility with the OS (driver required?)

5th week:
i. testing and debugging
ii. final touches to the hardware and software (aesthetic appeal, you see)
iii. Ready for the big show.
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 ckts and 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.

WHAT WE EXPECT TO LEARN BY THE END OF THE PROJECT:
Image processing,coding in new softwares like 'Processing' , what it takes to design and manufacture a product.