

Webcam based Gesture Mouse

OBJECTIVE

- Our objective is to build a pointing device with webcam-colour-tracking based cursor movement control.
- Our implementation will allow the user to wear a set of buttons for clicking and scrolling.
- We will use a colour marker(LED or colour tape) to track finger movements of the user.
- Users will be able to control the cursor by waving their hand in the air without the need of a desk.
- User input will be fed into micro-controller and webcam which will then be processed and passed onto the computer for mouse control.

ADDITIONAL FEATURES (if time permits)

- Will try to make the connection between the buttons and the micro-controller wireless.

COMPONENTS REQUIRED

- Micro-controller
- Webcam
- LED or colour tape
- Push buttons
- Wires and switches

WEEKLY ACTION PLAN

- **Week 1:** Gaining basic knowledge of MATLAB and micro-controller programming.
- **Week 2-3:** Develop MATLAB interface for detection of a certain coloured objects on the screen.
- **Week 4:** To interface the micro-controller for the user inputs.
- **Week 5:** To integrate the independent things done in Week 2-3 and Week 4.
- **Week 5:** Finishing of the project and implementation of additional feature.