Team eyeCU

User Manual

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**Introduction**

Congratulations! You are now a proud owner of the eyeCU vision based cursor control system.

The eyeCU provides a human-computer interface which allows its user to control the computer cursor with eye movements. This technology has many applications; however, the focus of this system is to enable individuals with limited mobility to easily interact with technology. The system design employs a pair of glasses with an infrared video camera to capture the position as well as the motion of the user’s gaze. To increase the spectral contrast between the salient features of the eye, a near-infrared light array will illuminate the eye. The device processes the images collected by the camera in real-time to generate the corresponding cursor movement which is transmitted wirelessly to the computer.

The eyeCU offers two modes of operation. Mode one consists of using ‘eye gestures’ to control the cursor movement on a computer. In this configuration, when the eye looks left for example, the cursor will move to the left and stop when the eye moves back to the center. Mode two provides an intuitive set of commands in which the cursor follows the position of the user’s gaze on the computer display.

**What’s in the box**

* Glasses with camera module
* Battery
* Power Supply
* Beagle Bone
* Daughter Board
* USB XBEE Explorer
* CD
  + Proprietary software and drivers
  + Digital copy of this user manual
* USB cable

**Instructions for use**

1. Turn on the desired PC running Windows XP/Vista/7.
2. Insert the provided CD and .
3. Connect the male USB Type A cable of the camera into the female USB Type A slot of the Beagle Bone.
4. Insert the provided battery into the power supply and connect the DC barrel jack into the 5V input of the Beagle Bone.
5. The Beagle Bone comes ready to go with preinstalled software and firmware.
6. Connect the USB XBEE Explorer into an available slot of the PC.
7. Run GUI.
8. Run Calibration.