ABSTRACT

SOFTWARE FOR CONTROLLING POINTER WITH EYE USING HAAR CASCADE AND EYE TRACKING METHOD

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Software that was built on this final project is software for controlling pointer using eye movement. This application is one form of application in the field of Image Processing and Computer Vision, where users only move their eyes to control pointer and then this application will follow the direction of the user's eye view (Eye Tracking). So by having this software can help them who have physical disabilities to interaction with computer.

This software build using C# programming language, and use Haar Cascade Classifier method. This method is a method that pops up in 2001 by Paul Viola and Michael Jones. This method using Haar-like Features which need to be training first to get a decision three that called Cascade Classifier as a decider of whether there is an object or not in each frame which being procces.

This Software is running in realtime and dynamic so every information (such as : lighting, distance and angle between user's eyes to screen) obtain from the respective users are very influential on the success of the course of system. The average level of this application accuration is about 70% with the pointer movement speed between 1-5 second. The optimal distance to the camera for object detection is about 40 cm from camera.

Key Word : *Image Processing, Computer Vision, Eye tracking, Haar cascade classifier, haar-like feature*