Crowd-Controlled User Interface

CS 490 Graphics Senior Design Project

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Summary

The goal of this project is to create a user interface that is controlled by the movement and positions of groups of people. By moving to different regions of a "play area" and performing different movements, the participants will be able to control an application or game. The games/applications will require participants to vote on choices or cooperate on tasks through movement. The system will use a camera for the detection of participants and the perception of movements. The information gathered by the camera system will then be used as input for various games and applications that will be displayed on a large screen in front of the participants. The choices and actions of the participants will be displayed through visual feedback given on this main screen. A projector may also be used in this project to project the borders of the different regions of the play area on the floor. The first application to be developed will be a basic driving simulation that uses four different regions of the play area with each region tied to a specific function of the vehicle: steering left, steering right, accelerating, and braking. Other applications, such as a music creation application and a choose-your-own-adventure game, will be developed as time allows. The end goal is to create a system that could be used in public areas such as amusement parks or museums that gives an entertaining experience that encourages social cooperation.

Deliverables

- September 15th: Camera setup and optical flow
- October 13th: Clustering and beta version of application
- December 1st: Final version of main application and others