Final Year Project Pre-Proposal

Game Software Engineering

Controlling Player Avatars and Influencing Game Worlds Using Multi-Modal Inputs

The project I am proposing would be to creation of a game, in which the user will control a virtual avatar and influence the game world using the combined data capture from bio and physiological input schemes. These would include the use of electroencephalography (EEG), electromyography (EMG), eye-tracking, VR and potentially other bio and physiological feedback. Unlike traditional input schemes like controllers and the keyboard and mouse, I believe there is more potential in building games around newer interaction methods, in particular the ones described above. VR and the Wii remote are great examples of initially unconventional examples of interacting with digital media, and yet they were wildly successful, allowing entirely new game types to be created.

With this project I would like to explore how well these technologies work in the context of gaming, testing to see if virtual avatars can be controlled using the output from a neural network, translated from the input data received from the measuring devices. As well as seeing if inputs can be used to trigger other in game events.

Supervisor Requests:

1. Fred Charles
2. Simant Prakoonwit
3. Karsten Pederson
4. Leigh McLoughlin