

Our goal is to create a hand gesture controlled fighting game. The main components of this project are computer vision analysis to recognize the hand gestures, game logic, graphics, and haptic feedback. There will be player vs player mode and player versus AI. The hand gestures will be specified as punching, kicking, and moving on the platform. Points will be deducted based on the type of damage inflicted on the player (i.e. "kicking" vs "punching" ), as well as the acceleration of hand motions. Distance and motion between opponents will also influence points. Location of contact will also be taken into account. Haptic feedback will also be based on the location of damage. For example, a hit to the body will result in the belt vibrating. The level of vibration will depend on the strength of the contact. Image analysis will be done with reflective gloves and infrared. Haptic feedback will be done over short range radio communication. We hope the technical aspects of this project will be interesting and that the game itself turns out to be fun.