Senior Project Outline  
Haptic-Force Feedback Glove for VR

1. Abstract
2. Introduction
   1. Background on VR industry and context of our product
   2. Overview of glove including motivation
   3. Roadmap for rest of paper, outline of methodology
3. Related Work
   1. Electro-adhesive clutch
   2. VR tracking with accelerometers
   3. HAPTX VR glove
4. Method
   1. Tracking
      1. IMU’s
         1. Retrieving data
         2. Placement on fingers
         3. Interfacing with Unity
      2. HTC Vive Tracker
         1. Interfacing with Unity through UnityVR Library
         2. Relational tracking with IMU’s
   2. Microcontroller Architecture
      1. Hardware design decisions
      2. System controls
   3. Feedback
      1. Braking
         1. Electro-adhesive clutch design
         2. Building and testing constraints
      2. Haptic
         1. Piezoelectric buzzers
         2. Mounting on fingers and testing
   4. Mechanical Components
      1. Glove design considerations
      2. Materials used
      3. Mounting components
5. Evaluation
   1. How to use the glove
   2. Evaluating precision and accuracy of tracking
   3. Discussion of sensory feedback from mechanisms
6. Conclusion
   1. Applications of glove
   2. Discussion of results
   3. Future research