FruitNinjaAR

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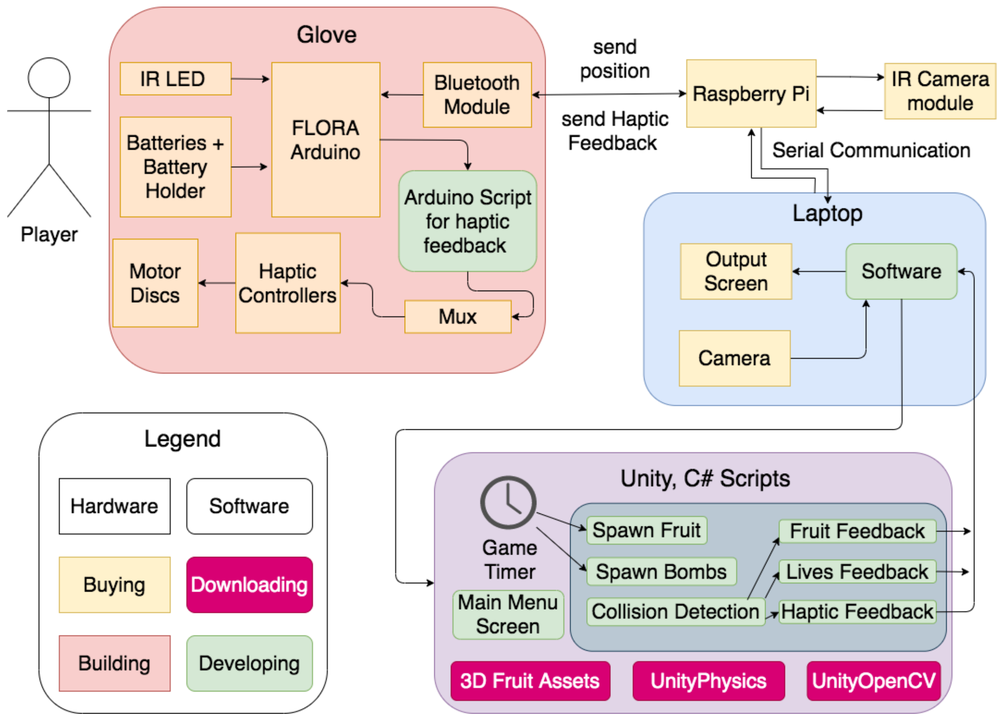
Product Pitch

The use of Augmented Reality(AR) systems has become exponentially popular in recent years. The human- environment interaction methods have become increasingly expensive and existing controllers are clunky objects that need to be held. FruitNinjaAR is a wearable glove and AR Game environment with haptic feedback. Our design consists of Infrared LEDs, image processing, a RaspberryPi, a wearable Arduino, infrared Camera and Unity Game environment. Our system has an average glove-environment latency of 133ms and minimum precision of 25mm when played from distances up to 15 feet away.

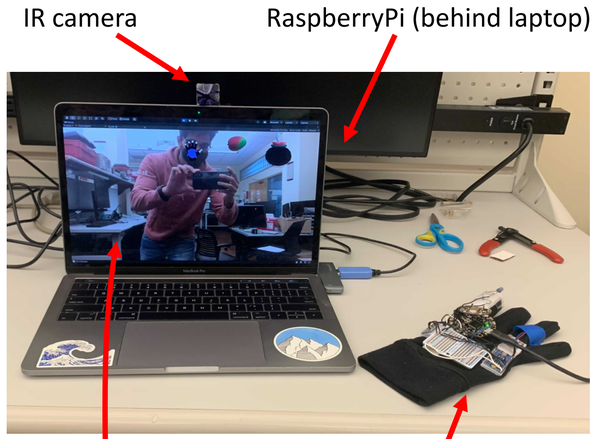
System Architecture

FruitNinjaAR Block Diagram

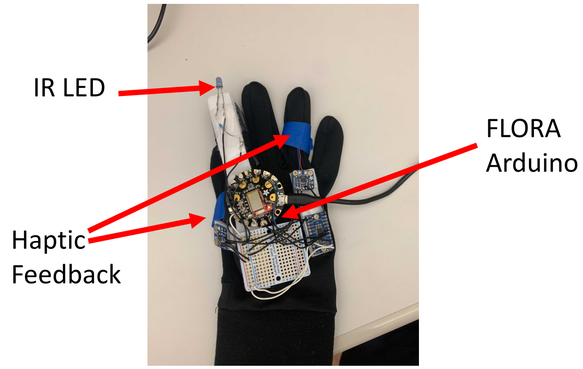


System Description

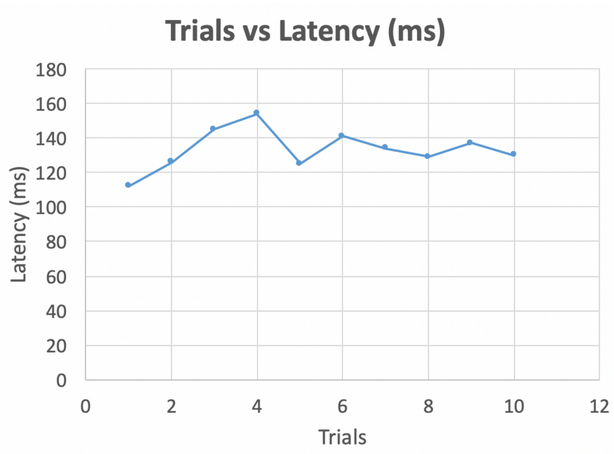
Overall System

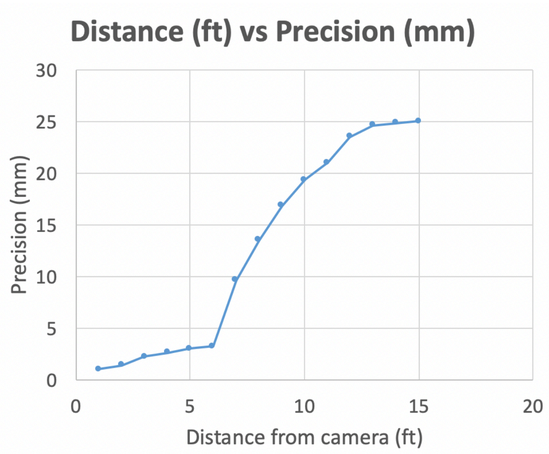


Zoomed-in subsystem: Glove



System Evaluation





Latency averaged 133ms across 10 trials. Precision was 5mm – 25mm in our optimal system interaction area.