

ABSTRACT

The advent of IoT technology has led to significant advancements in a wide area of fields, particularly the use of consumer electronics for home automation. Currently, there are many home automation technologies on the market which have been devised to ease common household tasks and offer control of household appliances. However, the existence of numerous products and protocols has caused the home automation to become fragmented. There is a lack of an open source protocol that can integrate many devices on a network and present the homeowner with a single uniform experience. This thesis is concerned with the development of a home automation system based on the Bluetooth Serial Port Profile that can be used to tie together a host of devices and appliances in a simple and efficient manner. Furthermore, this work details the fabrication of a simple, low-cost, and portable wearable device (dubbed BlueTouch), capable of translating tactile inputs into directives that can be sent to other devices utilizing the aforementioned protocol. Finally, two test stations were fabricated to test BlueTouch and the protocol it utilizes. The underlying goal of BlueTouch is to provide efficient control and management over a host of devices within the home in a means that is low cost, portable, and scalable.