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10/14/14

CS 461

Problem Statement

**Create an android application with a drag and drop interface**

**that can easily control any hardware via bluetooth.**

Problem: I want to be able to control different objects in my house from my phone without having prior programing knowledge. The phone should act like a universal remote for bluetooth devices. This application should be able to interface with *any* bluetooth enabled device: whether or not the device is sending or receiving data. If the hardware that I am trying to control already has bluetooth functionality I want to simply be able to connect and control the hardware. If the hardware does not have bluetooth functionality I want to be able to simply hook up “the ECE module” to easily control and interface with the hardware. Through the drag and drop interface I want to be able to change the functionality of my application. For example, I have a bluetooth enabled lamp: I would like to drag and drop an on/off switch to control the lamp. If this lamp has a dimming function I would like to drag and drop a module to control that functionality.

**Create a web based framework where programmers can easily**

**add their own code to increase functionality**

I want a web based interface powered by some type of version control, most likely git. This web based interface will allow users to upload and/or download “buttons” with different functionalities. It will also enable users to filter buttons by different categories of hardware, and once the hardware is narrowed down, the user can choose the specific control they need over the hardware. Then the user will be able to deploy the button to their android application.

**Create a framework that can easily be used for creating more buttons**

I want a framework to be set up that users could use to write their own buttons. A more advanced user could then use this framework to write code for interfacing with devices that aren’t yet supported. These buttons would then be put up onto the online repository for other people to download and use.

**Create a bluetooth module that can interface with most electronic devices**

The bluetooth module should enable anyone with basic knowledge of electrical wiring and the hardware they are using to interface the app with the hardware. For example, the bluetooth module may connect to a relay, that then interfaces with the power connection of a lamp. The bluetooth module and related hardware should also be inexpensive, so that it is easily accessible to ordinary people. One module should also be able to connect to multiple hardware devices. For instance, one module may have 4 input and output ports. This portion of the project, however, will mostly be designed and implemented by the ECE team.

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