Power Control & Monitoring Software.

BSc(Hons) Applied Computing, Year 4

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**Abstract**

**Title:** Power Control & Monitoring Software.

**Description:** With climate change and sustainability becoming a more and more important topic, people are trying to reduce their consumption of energy in the hope to reduce their carbon footprint. The aim of this project will be to reduce this consumption through education and intelli- gent control of devices through out the home or office. This control will be done by custom built hardware which will give wireless access to the current power usage and the ability to remote enable or disable power individual sockets. The software will be designed to run on an small computer-on-module such as gumstix1 or beagle board2 to ensure that even the server will be lower power rather then running on a standard desktop PC.

There will be a number of components to this project,

1. Server back-end

2. Web interface (used to administer devices)

3. TV interface (used to give current statistics and control from an easy to use interface)

4. Cross platform mobile application for remote access and control.

5. Facebook game ( used to incentivise and educate the user to reduce their carbon emissions by being in competition with other users)

6. E-Learning application which can be used as an education tool for schools to show the real world usage and consequences of energy consumption

**Technologies and Frameworks used:**

*•* Arudino micro controller

*•* Java

*•* JDBC

*•* MySQL

*•* Facebook API

*•* HTML5

*•* PHP

*•* XML

*•* Apache

*•* JavaFX

*•* XBee

*•* RRD4J

*•* RFID

**Methodology process:** Behavior Driven Development.

1 [http://www.gumstix.com](http://www.gumstix.com/)

2 <http://beagleboard.org/>

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