Project Report

29th November 2016

1. Title

Smart Plug

2. Project ID

19

3. Objective

To make a smart plug using Rpi and Arduino which measures current usage of the devices connected to it using a current sensor. We can control the switch via an android mobile app which has a

- Switch to turn on/off the connected device.
- Shows the statistics about the power usage of connected device.

4. Team

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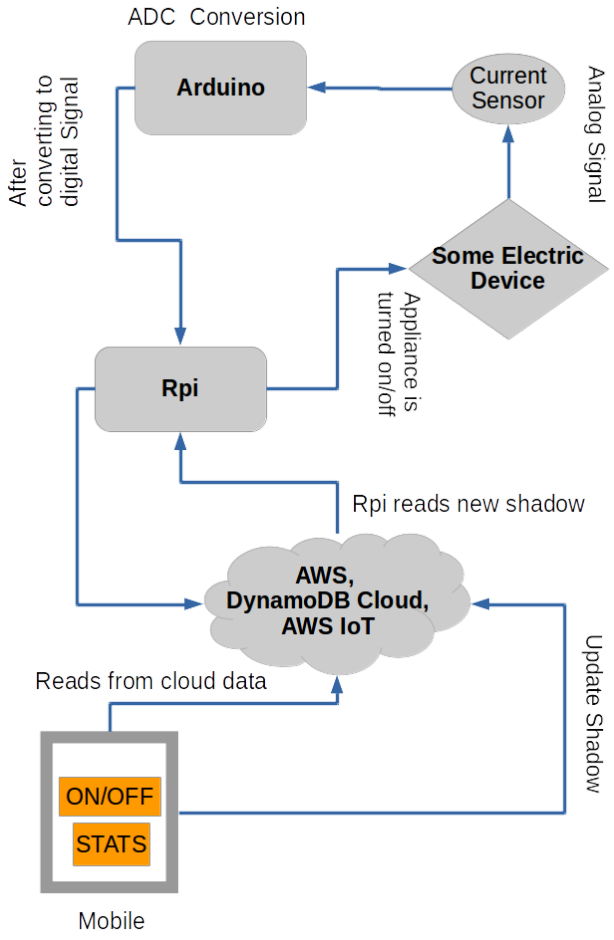
5. Architecture diagram



6. Hardware and software prerequisites

Hardware Prerequisites

- Rpi
- Arduino
- Acs712 current sensor
- 12 v relay

Software Prerequisites

- Nodejs
- Android Studio
- Digital signal processing Filter Library for Arduino

7. Link to source code and executable

https://drive.google.com/open?id=0B_LEsuoXel7BbVRFSkZmQXphaXM

8. Summary of the midsem demo
Mention all the comments, which you had received for your mid sem demo.

We were not able to plot the current statistic against the time.

9. Progress after the mid sem demo
What features did you implement after midsem?

After Midsem, we made a mobile app through which we can turn on/off the appliance connected to the rpi and arduino. Earlier we were updating the state through aws console.

Current sensing is also implemented. We can now see the amount of current used by the appliance via mobile app.

10. Unfinished tasks

We proposed to collaborate Alexa voice services of Amazon with our rpi so that we can control switch via voice. Although we used basic alexa services in rpi but due to time constraints we were not able to fully implement it and hence not included it in our project.