**Project Proposal**

**Power Man Electricity Controller**

Power Man Project group

Department of Information and communication technology

Faculty of Applied Sciences

Rajarata University of Sri Lanka

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Content

**Introduction**

These days Electricity has become a major issue in Sri Lanka. Electricity consumption has been increased in our country, with population growth & development So The Electricity board of Sri Lanka, Spending much more effort to control and reduce the electricity consumption of each and every house, industries and other electricity consuming places. But there is a major problem in it,

Unless people don’t have the facility to monitor the power consumption they can’t control it.

The corporate vision of our client, Domore Technologies (Pvt) Ltd, is to implement a software solution to manage energy consumption of their customers while maintaining an open-minded, dynamic, and customer-centric approach to delivering cutting-edge solutions.

We plan to provide consumers with an engaging, easy-to-use interface to control their appliance power settings on the web or via mobile apps. The huge annual power costs for a SME to top enterprise or a single-family home in the Sri Lanka can be manage and control from wherever they are, hence power consumers can be more energy efficient and realize significant savings.

At this situation our Client is in the stage of software product development and hardware product is already completed.

**Background & Motivation**

The power crisis has become a hot topic these days. At present The annual electricity requirement in Sri Lanka is about 11,000 GWh and the installed power plant capacity is about 2700 MW. This consists of 1200 MW of hydropower and 1200 MW of thermal power. The thermal power plant generates electricity by firing coal, Heavy fuel oil (HFO) and diesel. Hydropower is a cheapest option for power generation. But during the dry season, it’s very hard to generate the targeted power from hydro plants.

And currently 85% of power is generated by thermal power plants and the remaining 15% is from hydro plants. As I mentioned above, thermal power generation is done using fossil fuel and these days fossil fuel is require a higher expenditure and in near future there may be a scarcity of fossil fuel. So electricity generation has become a big issue to Sri Lankan economy. As a developing country Sri Lankan economy can’t spend much more amount for growing need of fossil fuel, Hence government tries to regulate the unnecessary power usage of Sri Lankans.

But before regulating this amount, there should be a proper way to monitor the power consumption. So our client wants to give a software solution for this problem as the hard ware solution is already provided by a Chinese manufacturing company named Shenzhen Sailwider Electronics Co. Ltd. They invented a device called ‘Wireless 2-way home energy monitoring and control system’ which monitors the electricity consumption amount of a building.

Our client required and motivated us to implement a web application to sale this device in Sri Lanka and monitor and control this device using remote access.

**Problem in brief**

**A power monitoring and controlling system**

**Proposed Solution**

As our system is based on a web application, we intended to design that with following features.

The application will allow the customer to register for an account which requires a username and password. If a user wants to purchase the power controller kit, he can make his deal via this web application. After purchasing and setting this in their home or industry, through this application user can control the device.

Our application can monitor the electricity consumption of ten equipments in his home. He can on off these equipments from anywhere in the world through our web application. As well as he will receive an SMS to his mobile indicating the amount and the status of the machine. For this task we planned to get support from a call centre and we use Agile methodology to develop this system.

The user can give a limit for an equipment and when that equipment exceeds that limit, it will also indicated in our application. As soon as the user concentrated on this, if he wants, then he can off that high e-consuming device at that movement from anywhere.

**Resource Requirements**

**Hardware Requirements**

1. 2 computers, with 3GM ram and 2.67 GHz processing power, one with Windows operating system and the other with Ubuntu 12.04.
2. Control Unit of the Wireless 2-way home energy monitoring and control system.
3. RJ45-USB data cable, Sensor sockets, Power adapter, RFS switch, 1 way transmitter with sensor clamp.
4. A sim card.

**Software Requirements**

1. My SQL 5.0, Net beans 5.0, Apache 2 and PHP My Admin.
2. J Query, CSS, Java script, XML, XHTML, Photoshop, Dream viewer, Vector magic and Illustrator .
3. Internet connection.