

# **INTELLIGENT POWER SAVING SYSTEM**

## **Process Model**

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### **1.Introduction**

We have analysed various process models like waterfall model, incremental model, transformational model, spiral model etc. We think that incremental model is suitable for our project. The reasons are given below.

### **2 .The Basic Working Model**

The system turns ON the light and fan when person enters into the monitored area after checking the lighting and temperature in the area. When a person enters into that place the PIR sensor absorbs the black body radiation emitted by that person and activates it. The LCD display will display the “PIR ON”.

After some time delay the light will glow for some time by using the Dimmer circuit and with the help of LDR sensor it checks the room lighting, and it takes the condition when the light is sufficient the lamp will be in OFF state and when light is insufficient the lamp will be in ON state.

With the help of Thermostat sensor the room temperature is measured and the speed of the Fan varies according to the temperature of Thermostat. The LCD display will display the room “temperature in degree centigrade”.

When a person is leaving that place, the PIR sensor will activate again and firstly the Fan will be OFF and after some time delay the lamp also will be OFF. Now the LCD display is in standby mode state. And the main supply power will be switched OFF.

### **3 . Why Incremental Model?**

We are planning to develop an intelligent power saving system in the library. Basically it deals with the fan and lights in a single room. In future the system can be upgraded with additional electronics devices such as air-conditioner. Also a user friendly interface with computer system can be developed for it. The system can be implemented in any shopping malls and factories.

We need to increment the system to adopt the all above features in future. In each level of increment we gather the requirements and update the system in each level. So we can construct the project with the increment process model. In our study about various process models increment model is most efficient for our project.

The reasons for selecting this model are listed below.

- Initially we are planning to implement a basic model of intelligent power saving system. Intelligent Power Saving Systems can be used in places where lighting and fan usage is significant. We can reduce the power conception by the use of this system. In future we can update the energy saving system by adding any device that consumes electricity.
- In the basic model it is integrated with the fan and lights only. We can reduce the unwanted power conception with the intelligent power saving system.
- This project can be modified by adding the air-conditioner and computer system. And it also can be implemented in the shopping malls to monitor the whole power consumption.
- The product will be tested on each increment. Customers can see the working version of the product at each increment because each of the iteration delivers a functionally operational product.
- By delivering the basic prototype model to the customers whenever it is finished will help the users to adapt to the system and the feedback from the users will help to modify the product as per the user requirements.

#### **4 .Future Increments**

The future increments of the proposed system that we have estimated are given below.

- The first increment is including an air conditioner to the system. The air conditioner can set the temperature in the room as needed.
- The second increment we are planning to form a PC interface which will be more users friendly. It has the detail about the temperature and lighting status of the room.
- Another one is the system can successfully implement in any shopping malls or factories. It helps to save the large amount of energy by reducing wastage.

#### **5 .Conclusion**

By analysing various process models we have decided to select incremental model for our project.