Team Ideators

Problem

Needless power consumption in institutions.Many of the offices, learning institutions, shops, etc.

Unnecessary usage of greater intensity lights even in daytime.

Approach

Prediction Model

Our solution gathers real time data and using the ***prediction model*** which has increasing accuracy with time outputs an appropriate light-switch off time; this saves energy and thus helps to conserve energy

IoT (Internet of Things)

For demonstration purposes, we have used raspberry pi. It will light up the LEDs when fed with the predicted light-switch off time and will also manipulate the intensity of light produced in a room

AWS Machine learning

Used S3 for storing dataset.Used Machine learning service to create a model for predicting date time of a day for switching off lightThis model fetched data from S3

Challenges deep-dive

Challenge 1

Prediction Algorithm

Challenge 2

Manipulating Intensity of switched on light bulbs

Challenge 3

Using AWS services for integrating components

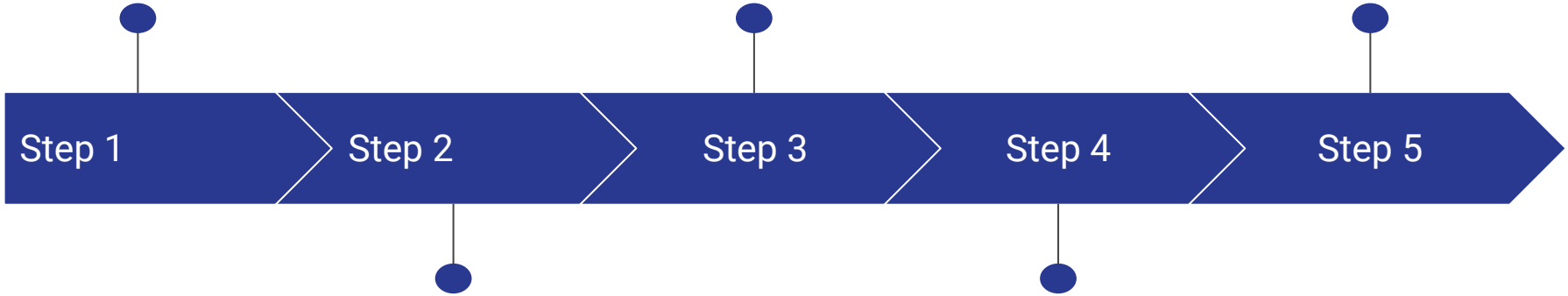
Solution

Consists of 3 parts:

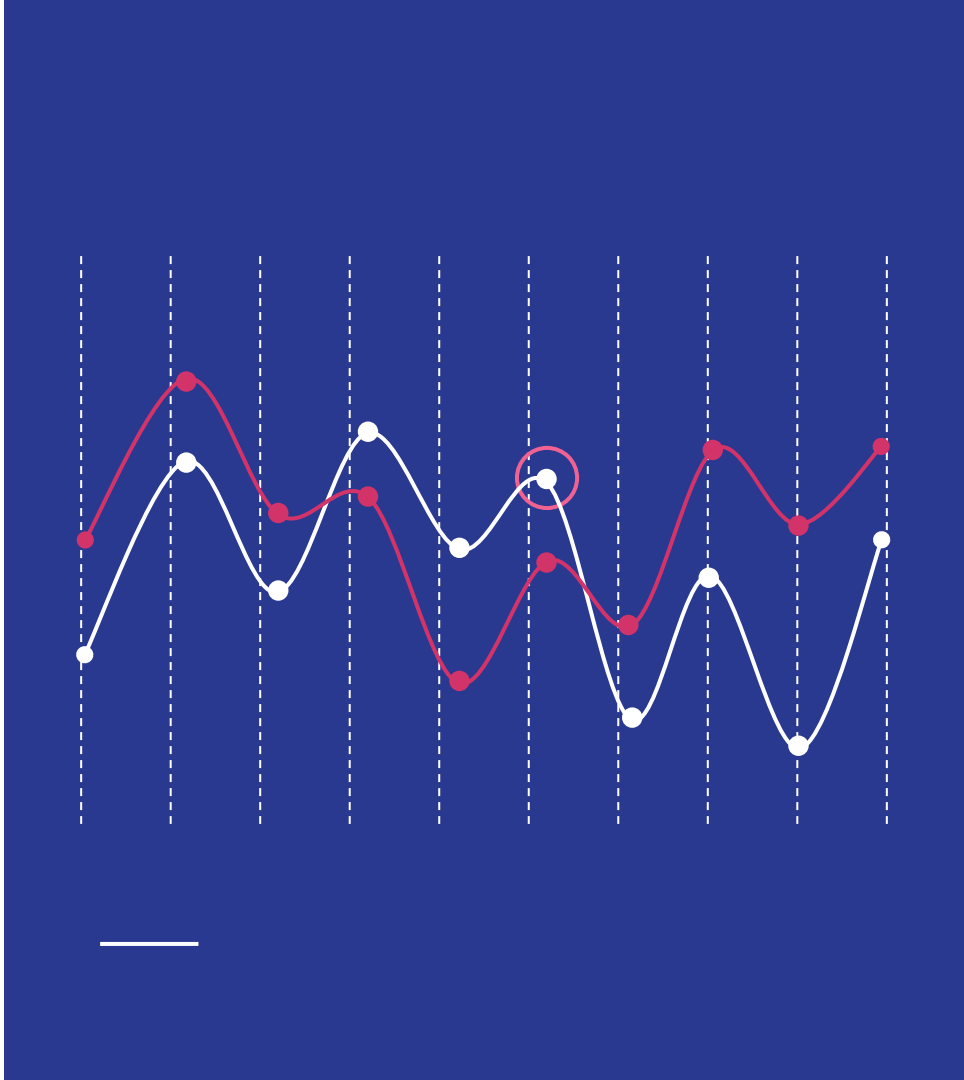
1. Linear Regression based prediction model
2. AWS Machine learning
3. Raspberry pi 3

Implementation

Flow


Prediction Model will generate a office leave time
Step 1
Using LDR sensors to calculate natural light intensity, we can manipulate the intensity of light needed in the room
Step 2
This output will be fed along with the predicted time to the processor which will be installed behind every electrical switch
Step 3
According to the predicted time, the lights will be switched off.
Step 4
According to the fed intensity, appropriate number of lights will on at a particular time
Step 5

Prediction Model



Technology Stack

1. Raspberry pi
2. AWS Machine learning
3. Prediction Model