INFORMATICS INSTITUTE OF TECHNOLOGY

INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER (UOW)

BEng/BEng.(Hons) in Software Engineering

Final year Project 2019/2020

Final Project Report

For

"Home automation using IOT and Machine Learning"

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Abstract

This proposal document is prepared in order to recognize and propose a viable solution to automated home environments that use the Internet of Things concept. One of the main goals of this project is to identify the potential of the home automation concept and improve its accuracy as well as efficiency by integrating a selection of technologies including Machine Learning. Machine Learning can be identified as the next big thing in technology with huge upside potential of real world applications such as Advertising, Digital Assistants, Gaming industry as well as home environments. In the proposed project, Machine Learning will be used to implement a home automation system. It will take multiple parameters from different IoT devices in a home and make decisions real-time according to them. It is expected to accurately automate the whole process and as a positive upside; reduce power consumption. The proposed concept addresses many problems posed by similar systems. Some of them include lack of a proper framework for the Internet of Things devices used within the system, inaccuracy in decision making, lack of control over the devices and fixed time based control. A hybrid mobile application will be developed as part of the project to allow the user to control the devices manually if required. This innovative solution along with the new modifications will have a great impact on the technological eco-system.