Cloud Based Automation

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Abstract. The application aims to reduce the power consumption at home and workplace, thus providing the user a better experience, quality of life. The application uses the power of internet of things to make decisions pertaining to energy efficiency, providing the benefits in terms of comfort, safety, health and encouraging productivity at both home and workplace. The intention of the project is to provide connected user experience through Google APIs, where both controllers will share the same account, to provide seamless experience.

Keywords: Smart Home · Smart Office · Energy management · Comfort.

1 System Architecture

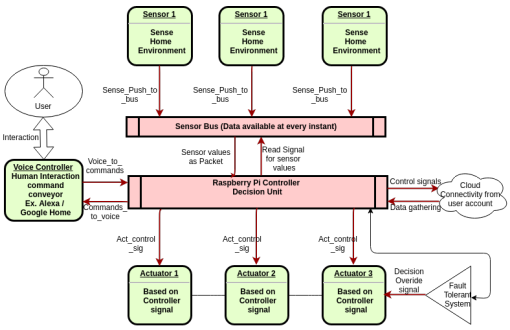

Fig. 1. Home Architecture.

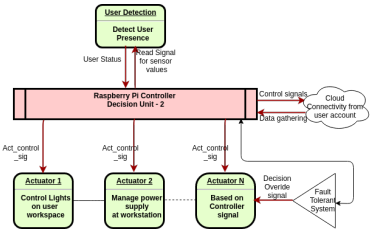

Fig. 2. Workplace Architecture.

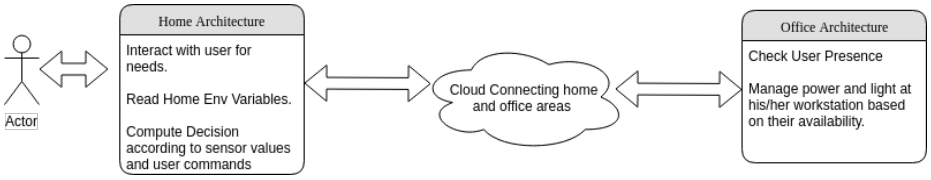

Fig. 3. System overall Architecture

2 Requirements Specification

For triggering actions at home and at workplace, certain sensors and actuators have to be placed. The sensors at home and at workplace are used to determine the presence of a user in the system. For the home systems a motion sensor, sound sensor and Google calendar API are used. Based on the sensor output, the overall system can send message to the corresponding actuators and trigger actions. With the same sensor setup at workplace, the corresponding actions are triggered. The sensors in each environment help to evaluate if the user is really present in the environment according to the information from the Google calendar. The actuators is used to turn the power of specific device on or off based on the intelligent decision where the user is in a specific time period. The user can avail to override the sensor data to interrupt that the system can act otherwise than as computed.

3 Conclusions and Outlook

An outline of a robust system is proposed to minimise the uncontrolled expenditure of energy and to provide a better lifestyle for the user. With this draft, the sensors that are a part of the smart network sense the parameters at home and workplace for the intelligent system to provide optimal living and working conditions that mainly emphasise on striking a balance between efficient usage of resources and comfortable lifestyle.

References

All links were last followed on April 17, 2019.