

INFORMATICS INSTITUTE OF TECHNOLOGY

In collaboration with

UNIVERSITY OF WESTMINSTER (UoW)

IoT based Smart hotel room management system with unique access control identification

A dissertation by

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Submitted in partial fulfilment of the requirements for the

BSc (Hons) Software Engineering degree

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April 2019

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ABSTRACT

Access control for hotels is a major issue faced by both guests and employees as there are many situations where there are detection errors and guests losing the access methods. This study is done on a vast subject where there are many access methods when it comes to hotels and smart homes, but the feasibility of the method is always questionable. This research is on a feasible yet hassle-free access control method which has more than one use.

The author found a few issues faced by guests when it comes to access methods where the guest that stay in the rooms tend to face issues with the key card which is given to them, such as them leaving the card inside the room and lock themselves out or as simple as having their hands could be full while entering the room etc. here the solution is a waterproof RFID based wrist band which can be worn by the guests throughout their stay and to make it easier for the guests to carry out their activities hassle-free.

If they do forget the key-card inside the room the electricity within the room could be running and the concept that is implemented for saving electricity is lost. Because of which, the author found an alternative for that issue which is to install a BLE to the band which would identify the user's frequency which would give the option for the room to have electricity only if the respective guest assigned to the room is within the given radius of the room.

The author's research is very specific to this area and also it has been very informative research. The below-given chapters state the accuracy and efficiency of the product and the reasoning for this product to be taken forward.

Keywords

RFID- Radio Frequency Identification

IoT- Internet of Things

OLAP- Online analytical processing

BLE- Bluetooth Low Energy