TEAM: 16
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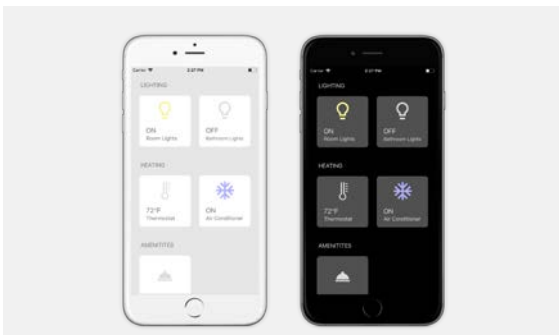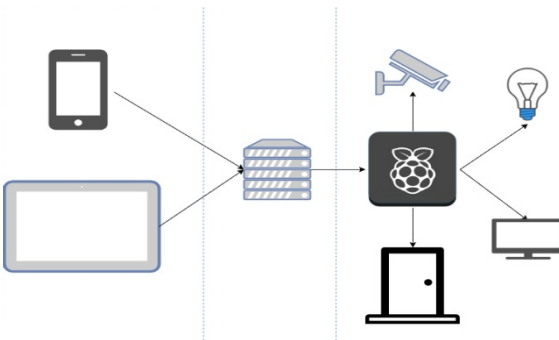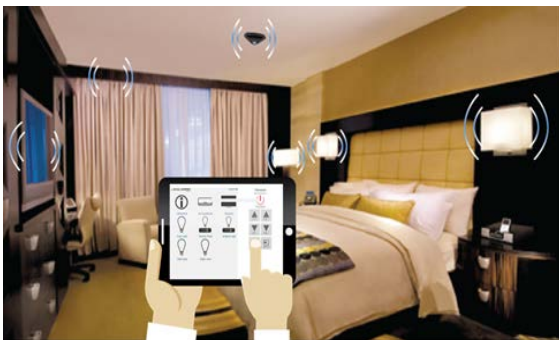**ADVISOR:** Dr. Reda Ammar, Dr. Sanguthevar Rajasekaran

From left to right: Arun George, Brian Matuszak, Rafal Bezubik, Chris Skoczylas, Kevin Schumitz, Rich Infante

UCONN
SCHOOL OF ENGINEERING

COMPUTER SCIENCE & ENGINEERING

Smart Hotels

A Smart Home is a system where a number of Internet of Things (IoT) devices are linked together via a central server and can be remotely controlled to provide smarter and more efficient experiences. Various smart devices and systems already exist in the market and have become more common in households. However, these implementations have not yet been applied to large-scale commercial use. This is because these smart systems are often outside of a feasible price range and lack full support for devices that don't connect to a wireless network. The goal of our project is to correct these faults by developing an affordable, all-encompassing smart system for implementation in hotels. Hotels are ideal for a system like this, as multiple rooms and buildings can be controlled from the same server, while standardizing equipment across chains and making our product easier to adapt to new technologies. Hotels will also have the opportunity to select which IoT devices they need, in order to customize their system for optimal price, and functionality.

The idea is for customers to use a mobile application in order to control their hotel room for the duration of their stay. The mobile application will communicate between the central server, management, and the guest's room in order to satisfy requests. These requests can vary from controlling doors, televisions, shades, lights, thermostats, and other devices to ordering room service, and communicating with hotel staff.

Additionally, a management web-application will be created so that the hotel administration can monitor requests for room service or maintenance, and configure the system quickly without the need for an outside service. We will utilize affordable technologies in order to reduce the cost of implementation for hotels, without compromising the modular aspects of the system such as the IoT devices in each room. To achieve this, each room will be outfitted with a Raspberry Pi running a Python server, and will include IoT devices such as Wi-Fi enabled light bulbs, switches, and shades. Interfaces can also be created between the Raspberry Pis and non-IoT products that are already installed in the rooms.

Ultimately, our system will allow hotel guests to control their smart hotel rooms remotely, thereby improving their experience while being affordable and profitable for the hotels themselves.