جامعة الفيصل
Alfaisal University

BOEING

كلّية الهندسة
College of Engineering

Annual Engineering Design Expo & Boeing Student Competition

Code
SE-18

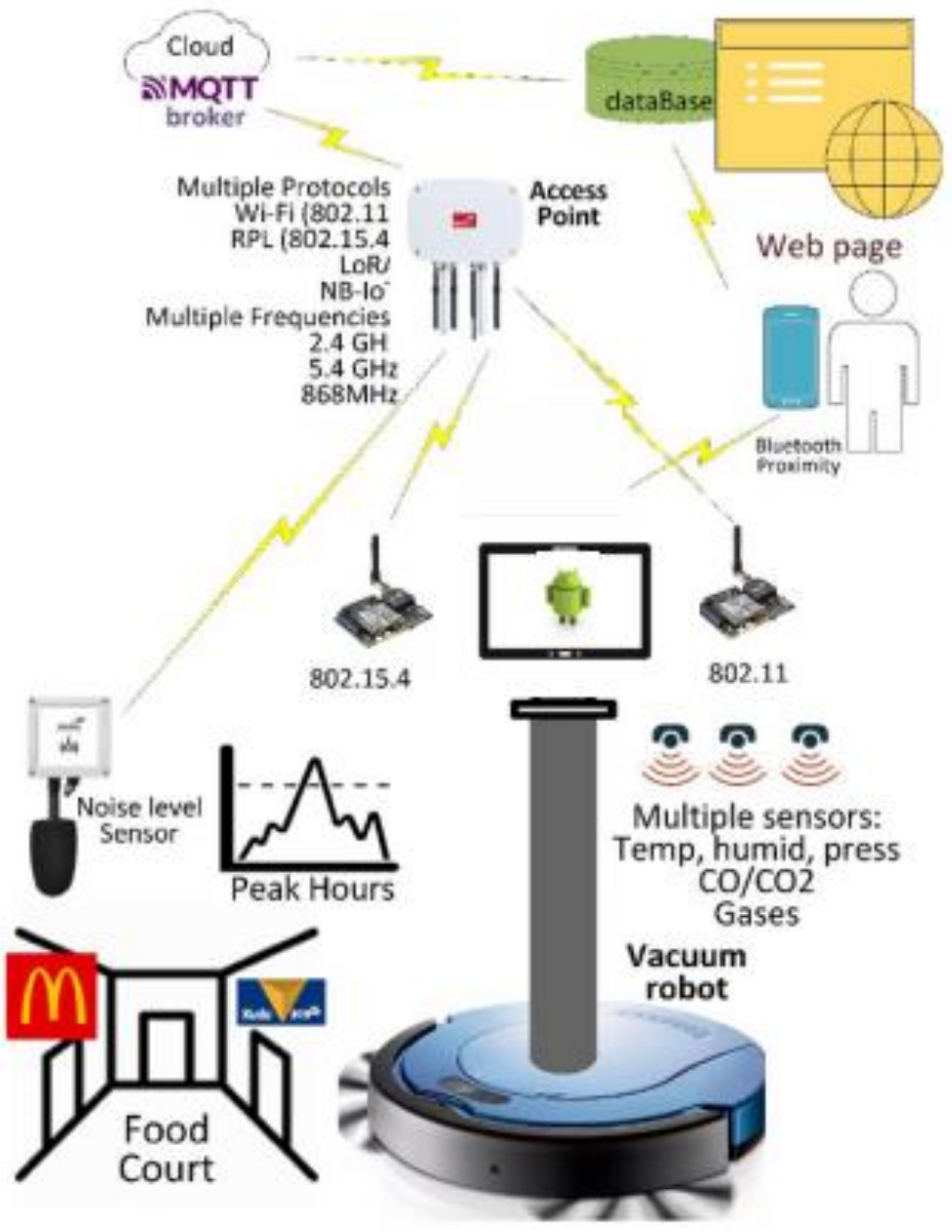
< Smart Hoover as an IoT solution>

Members: *<Nawaf Alzahem>, <Mohammad Abuhaimed>, <Khalid Abualsaud> <Fahad Aldulaigan> <Khalid Hali>*

Supervisor: *<Dr.Niddal Nasser>*

Abstract

AI powered Robotic Vacuum cleaners referred as the hoovers of type iRobot create 3 ,which are the autonomous devices which are being used worldwide. The new system being developed would be the automated robotic hoover which would be significantly effective and easy in using. Using Mobile Application with advanced technologies of biometrical recognition features such as facial recognition and Libelium sensors.



Solution

The goal of the system is to design, develop, and deploy a mobile application using android studios that uses some tools of biometric features including facial recognition to access requests and results on Android Studio application with different specific modules for this project. the storage and availability of the system must monitor and collect the data in real time and extract the parameters using Firebase database. In addition, connecting the developed biometric features application using machine learning libraries of the OpenCV libraries and TensorFlow Lite through Android Studio IDE.

Approach:

User is asked to log in into the mobile application, either using facial recognition feature or manually typing username and password.

Using the mobile application user is able to send requests to the admin. Requests (temperature, Pressure humidity, noise-level, or instruction).

The capability to add new biometric data features of the users in the system. Editing the biometric features details of any of the users and ensuring it would be accepted

Tools/Resources Used:

waspmote

android studio

Firebase

OpenCV

TensorFlow