Team DeKompanion

Abstract

The project encompassed an Internet of Things (IoTs) based Small Office Home Office Automation and Heartbeat checker for notification alerts on personal health. Also, it contain soil fertility detection component for Agricultural development.

DeKompanion Project

Home Automation and Circulatory Health Care



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# Introduction

## Scope

DeKompanion is a Home Automation system consisting of motion detection for house members, use their images for processing security access to doors, turning on lights and air-conditioners depending on the specific room locations; playing music, detecting temperature and humidity for opening and closing curtains, reading pulse with sensors to detect blood pressure level for health alerts.

## Purpose

The main idea or purpose of this project is to curtail the carelessness of people misusing appliances and other things in homes and Small Office Home Offices (SOHO). Also, high blood pressure level has been a major cause of death and paralyzing causative agent in our societies, therefore, we implement pulse detection for heart rate monitoring to frequently alert users or members of the SOHO on their Blood Pressure (BP) Levels. Providing them with health advise on how to control BP.

# Technologies used

## Arduino

Arduino / Genuino Uno

Arduino Heartbeat sensor with InfraRed

Arduino Motion Detector

Soil Moisture Detector

## .Net Framework

Universal Windows Platform

## Microsoft Asure

### Asure Storage

Azure storage is used for storing our assets such as images, PDFs and other documents.

### Azure Virtual Machines

Azure Virtual Machine is used for cloud faster processing and delivery.

### Azure Cognitive Services

Azure Cognitive Service such as Face API is used for image processing and face-detection.

### Azure App Services

Azure Web App is used for hosting the APIs and other web components.

## Ionic Framework

Ionic UI Components for mobile and desktop application for interfacing with Arduino

# System Architecture

# Deployment