

Alert and Analyzing System for Action of Bowel

Introduction

These days many people use the smartphone. Technology impacts the time people stay in the toilet. Especially when people spend time sitting on the toilet, usage of smartphones leads people to spend more time sitting on the toilet. However, sitting for a prolonged period could lead to hemorrhoids, sometimes-painful swollen veins in the anal area. For this reason, an alert system that can send people to be aware of the time period from the toilet would be beneficial to the people using the toilet. It also helps to track the usage time pattern so that the users can find out their actions of the bowel. It might help them to figure out what time they use the toilet and how long, depending on the time basis.

Goal

The proposed project aims to build an IoT system that alerts the person sitting on the toilet that exceeds a certain amount of time. Thus, they can be aware of the time they are in there. Moreover, accumulate the data so that users can track what time they usually use it in the morning and how long they spend time there. The proposed project aims to build a toilet is an attached touch sensor that can detect a person sitting on the toilet and also an ultrasonic sensor that can detect the person sitting on the toilet. Using both two sensors could help the device can more robust in a failure case.

Methodology

The proposed project uses Arduino Grove Ultrasonic Sensor and Grove Touch Sensor. Also, the data will be sent to the cloud so that the long-term period of data can be accumulated and analyzed in the cloud storage.

Using Sensors:

Grove Touch Sensor, Grove Ultrasonic Distance Sensor, Arduino

Platform:

AWS IoT Core

Phrases

- Phase 1: Literature Review of the issue how the time period affects to the health.
- Phase 2: Building the system that collects data using sensor and Arduino.
- Phase 3: Building system that is used with AWS to collect data of usage on toilet.
- Phase 4: Building Report and Presentation.

Plan

- Phase 1: March 27 – March 31
- Phase 2: April 3 – April 15
- Phase 3: April 15 – April 24
- Phase 4: April 24 – April 27

Delivery

The proposed project will deliver the IoT Toilet that attaches a touch sensor and ultrasonic. Using the mock tools that mimic the same dimension as a toilet, it can demonstrate the device that can detect a person sitting on the toilet and track the period of time on the toilet.

Demo Application that uses:

- Touch Sensor (Detecting person Sitting on the toilet)
- Ultrasonic sensor (Detecting person Sitting on the toilet)
- AWS System that can contain the data and analyze the period of time pattern that is used on the toilet

Conclusion

The users can benefit from being aware of the action of the bowel so that it could be a marketable prototype for the bath supplies industry and domain.