POLITEKNIK ELEKTRONIKA NEGERI SURABAYA INDONESIA

GROUP Information

Project Name : TULIBOT
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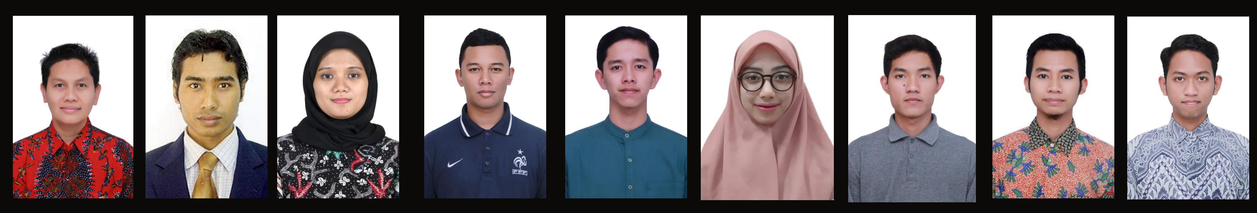
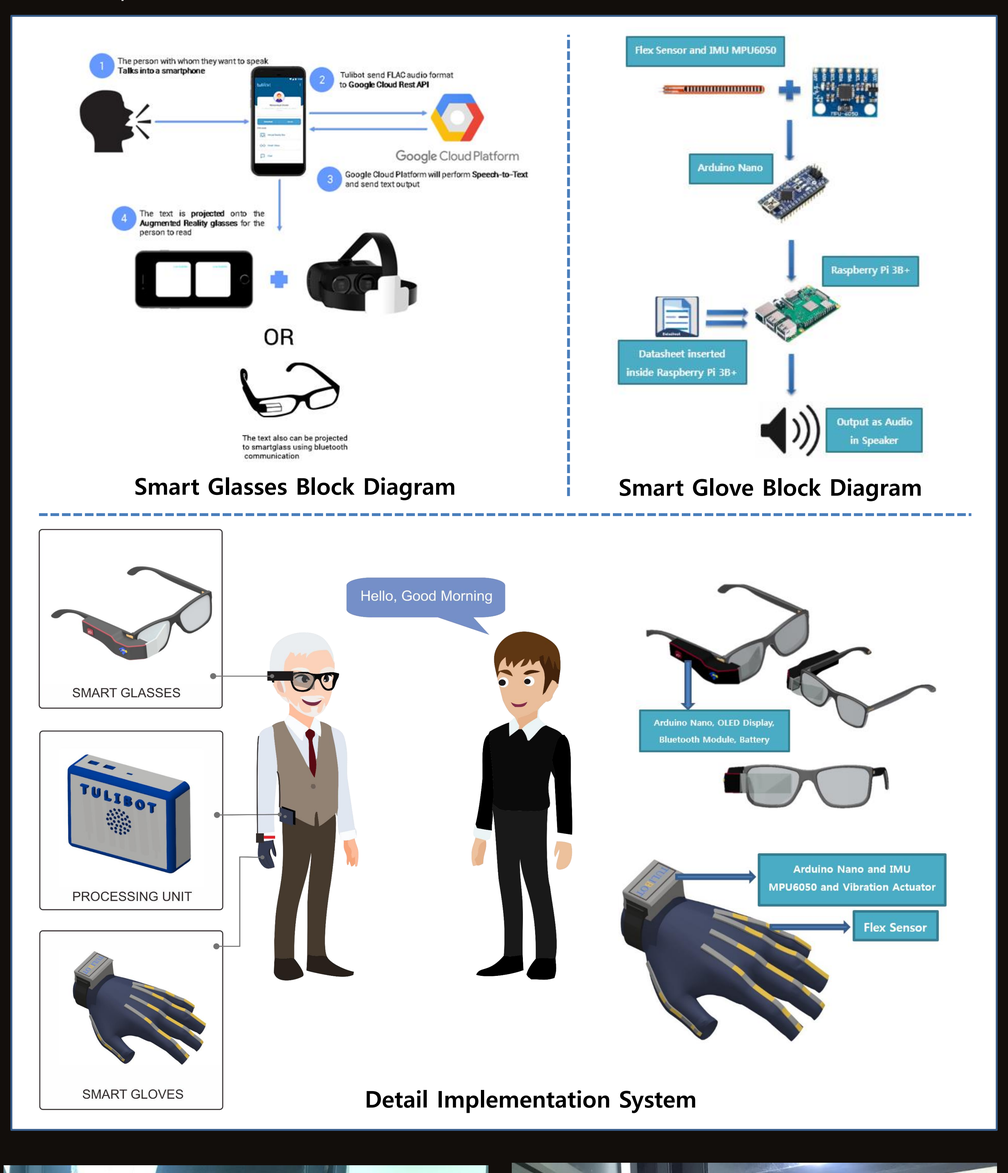


" AREK PENS "

TULIBOT

Tulibot`s smart gloves and smart glasses is attented to people with hearing impairment, to make it easier for them to communicate with other speakers.



Smart Glasses Block Diagram

Smart Glove Block Diagram

Detail Implementation System

Product Demonstration

Problem Definition

- The number of people with disabling hearing loss in 2018 is 466 million people (WHO)
- By using this device, it can helps to solve some issues according to people with people with hearing impairment.
- Impact due to lost hearing is lost productivity, higher unemployment, and lower wages for the deaf.
- This device offers a technology that can helps people with hearing impaired. The technology offers are Smart Glove and Smart Glasses.

Methods and Technologies Applied

Smart Glove :

The glove was attached by the flex sensor and IMO MPU6050 for sensing fingers and hand movement. The microcontroller is used in the research was Arduino Nano to read flex sensors and MPU6050 sensors.

Smart Glasses:

The Smart- Glasses are the wearable computing device used as an extension for deaf, which can be attached to the spectacles or sunglasses of the wearer, and can be paired with Tulibot Android Application, via Bluetooth. This extension, contains an Arduino Nano-controller having ATmega328p microprocessor, which is programmed to connect with smart phone.

Advantages of the Product

- Simplicity of the Product
- Affordable components used smart glove and smart glasses
- Used of flex sensor and IMU MPU6050 which makes the gloves works more flexible and faster
- Very beneficial also for people with hearing impairment, especially in situations where people with hearing impairment have a low skill at lip reading or understanding non-speaker of American Sign Language (ASL).

Application

Application of Tulibot`s smart gloves and smart glasses is attented to people with hearing impairment, to make it easier for them to communicate with other speakers. Hopefully in the future, the application of Tulibot can be expand to something more, that can bring more advantages for the user of this device. Accuracy of this device is approximately at 80% for Smart Glove and 90% for Smart Glasses, based on the test done by the team.

*"If you have a Dis**ability**, don`t let people Dis your Ability"* ***- Jeff -***