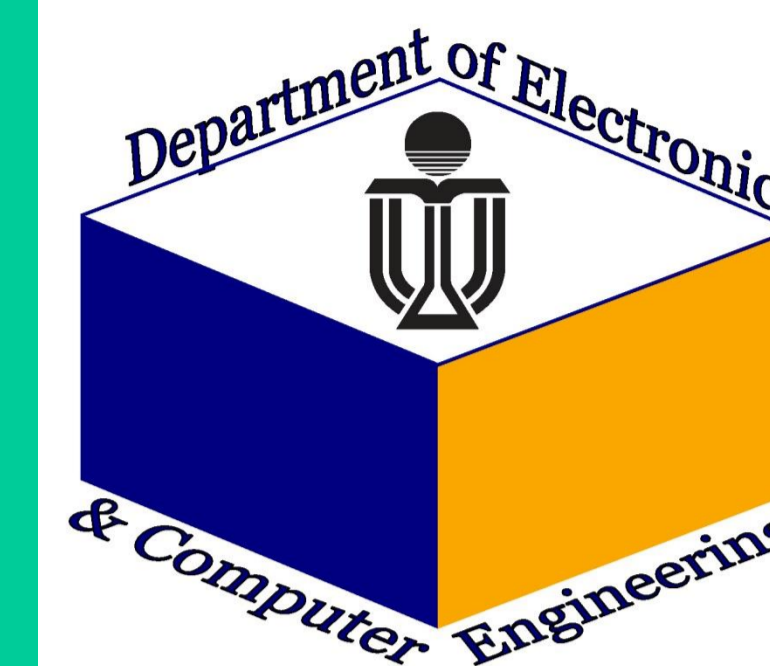


Monitoring and Controlling an UAV via Smart Glass SL3- 14

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Overview

Introduction

A quadcopter is a kind of Unmanned Aerial Vehicle with four rotors, which has become more and more popular in aerial photography market. Wearable devices, especially smart glasses, working as assistants in people's daily life also have become more and more popular.

We believe they can work together and give user a better experience when operating a quadcopter with Google Glass.



DJI Phantom



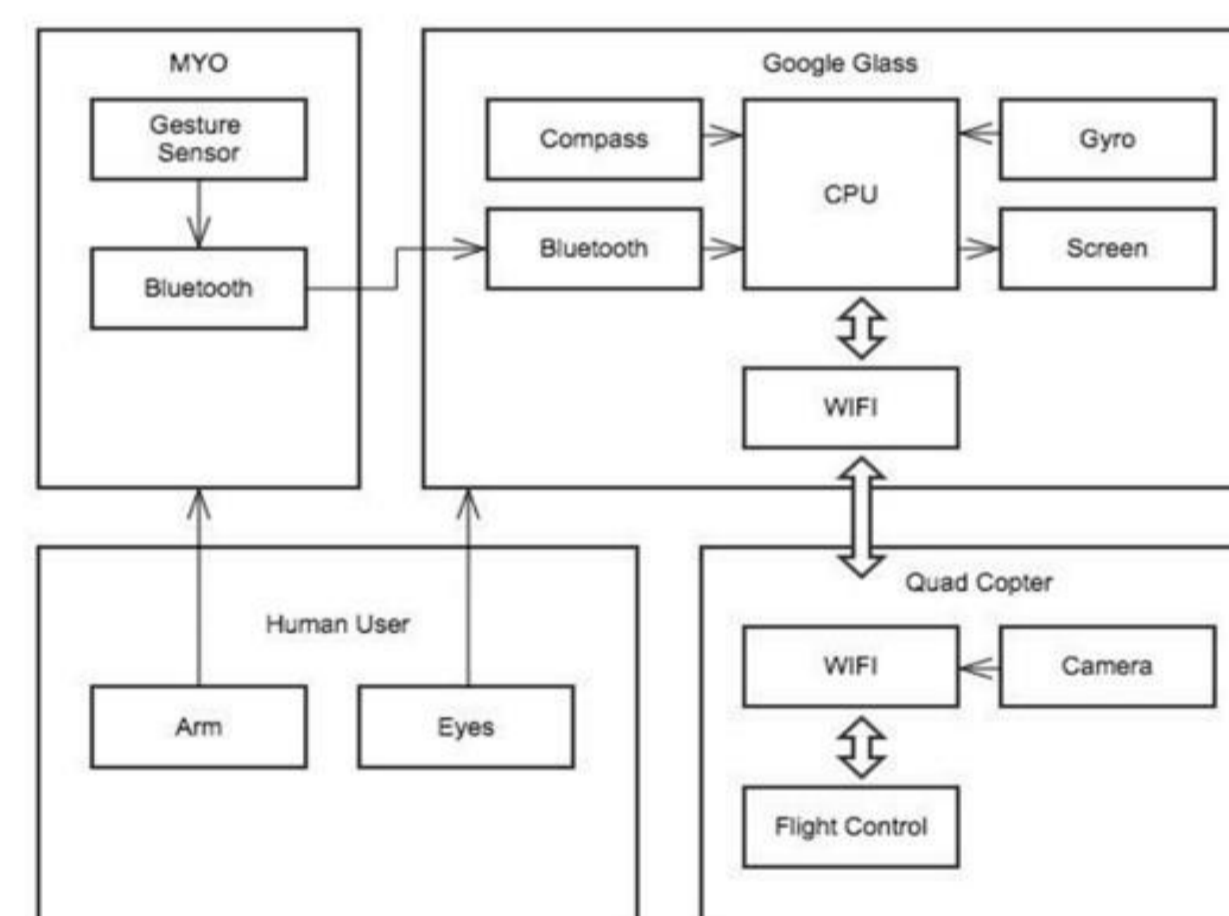
Google Glass and MYO

Objective

The objective of this project is to design and develop a Google Glass application that can monitor and control DJI Phantom using Google Glass together with MYO, an gesture control armband working as an extra sensor.

Methodology

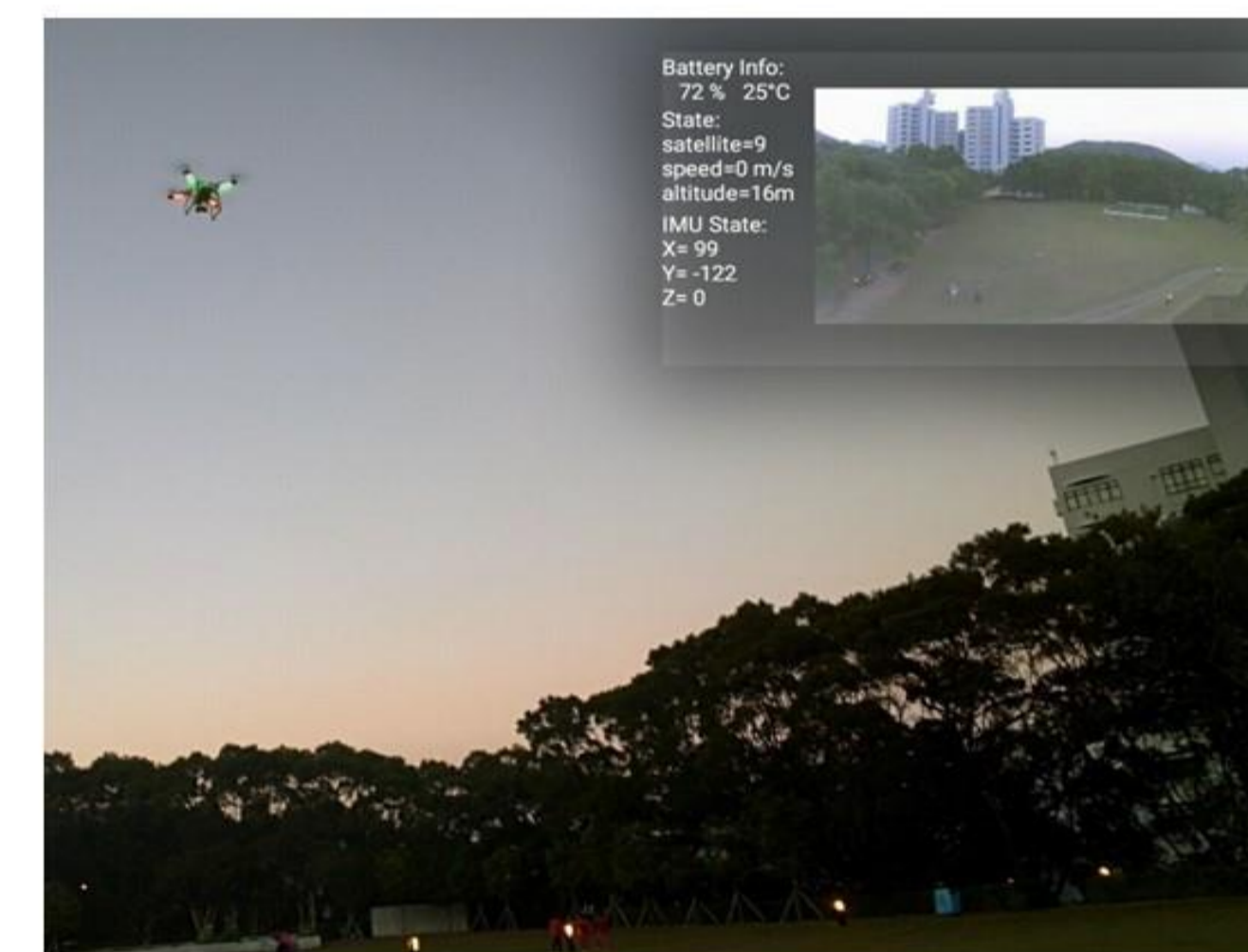
System Block Diagram



User wears Google Glass and MYO when operating a Phantom. Google Glass, which works as the center processor of the whole system, is connected with the Phantom through Wi-Fi host by Phantom's range extender. Through Wi-Fi connection, Google Glass can interact with Phantom. MYO and Google Glass are connected with each other by Bluetooth protocol and they can also exchange data with each other. This is the basic structure of system. Based on the structure and communication protocol, user can check the data using his eyes and control the quadcopter using his body.

Result

Snapshot



With the help of API provided by DJI, we are able to connect Google Glass and DJI Phantom together. User wearing Google Glass can check the current state and camera view sent from Phantom in real time. User can also control the movement of Phantom itself and its gimbal by moving his head and arm along certain directions.