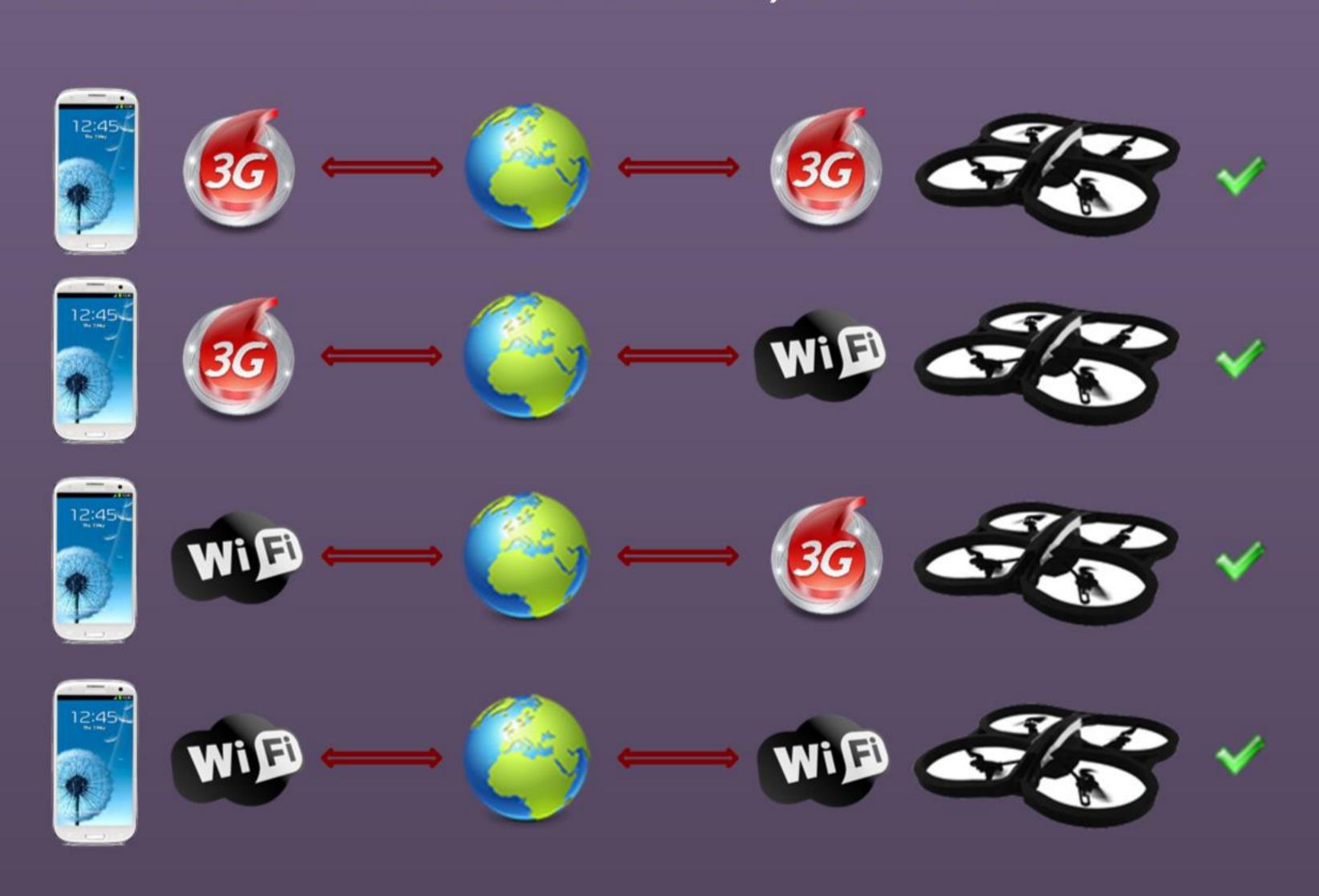
PROJECT CONCEPT

The project concept is to increase the flight range of the AR-Drone so he can fly higher and farther. In order to make it, we based our communication to the AR-Drone on existing infrastructure of cellular antennas.

Unlike the Wi-Fi and RC communication that limiting us, celluar antennas communications provide us a range of 35 Kilometers.

To make this concept possibale we transformed the AR-Drone controller from Wi-Fi to 3G cellular communication.

The fact that we use a server to implement the 3G cellular communication retain us the ability to use Wi-Fi, so we have several combinations of ways to communicate with the drone, such as:





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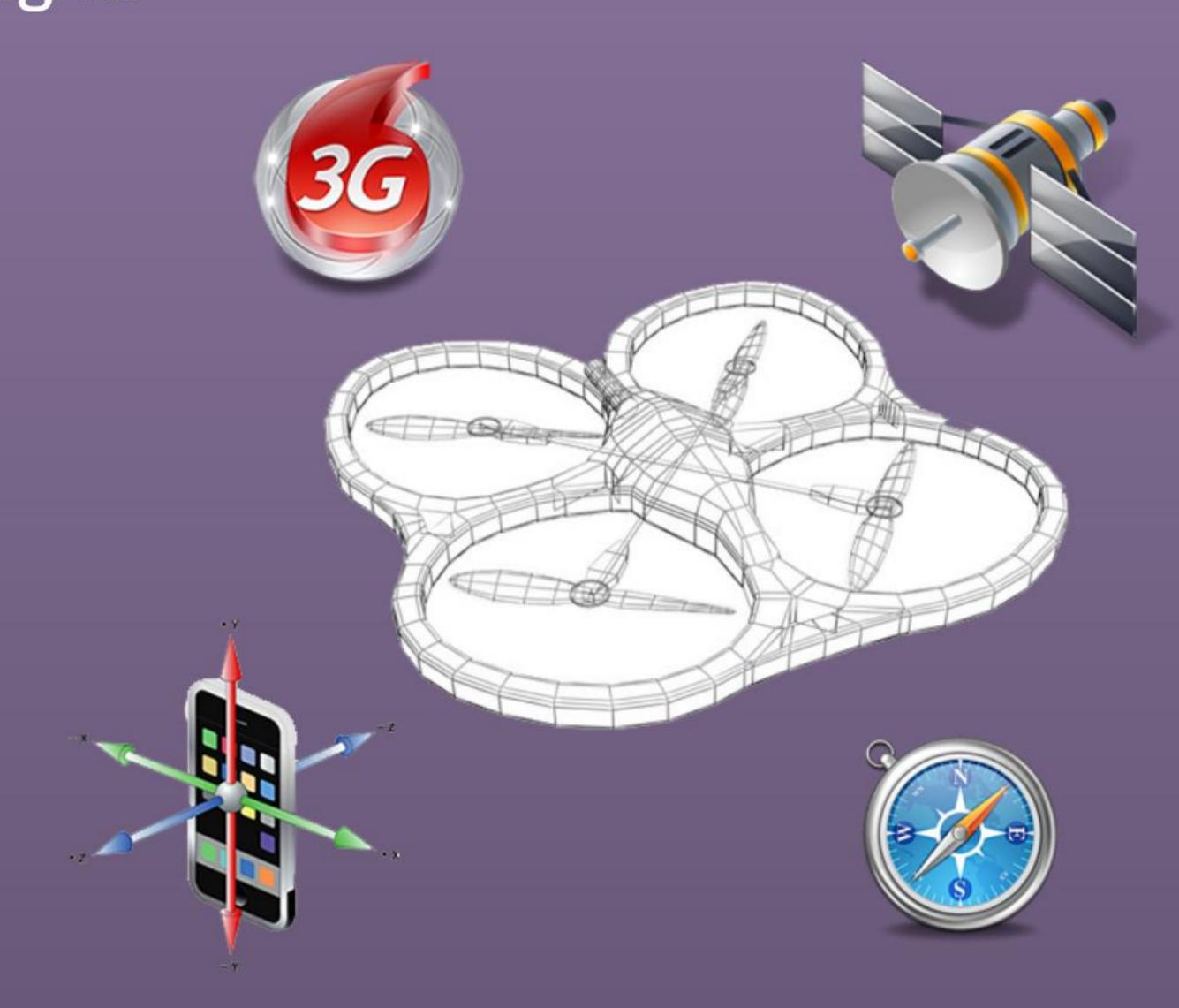
AA-WAW

PROJECT GOALS

The project goals are to transform AR-Drone into UAV - Unmanned Aerial Vehicle that can be controll by the user application.

The goal of Unmanned Aerial Vehicle means that we can program the plane to fly alone from one point to another,

we can get live video from the plane and we can get real time information about the plane flight.



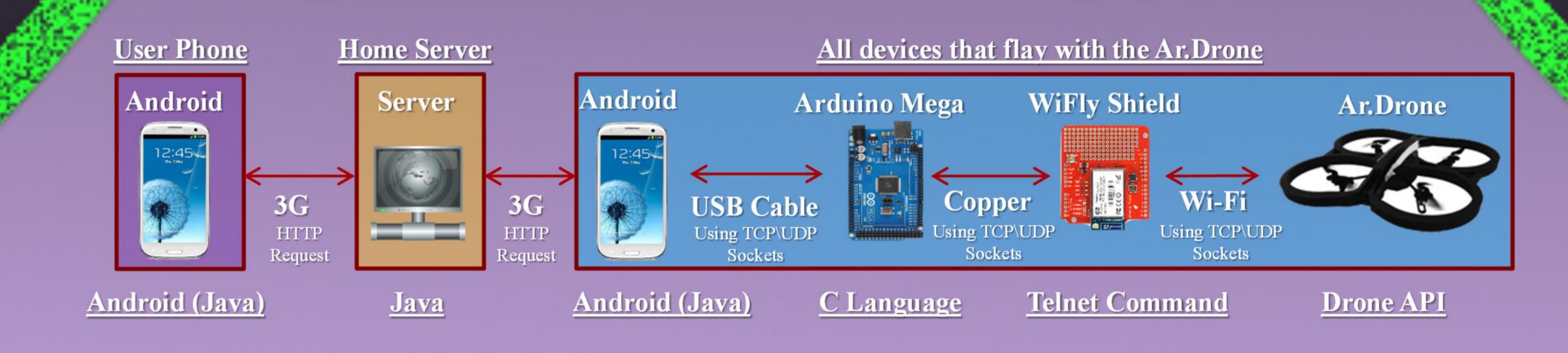
If we use certain communication and in-flight change into other communication, there will be a few seconds of disconnecting from the server and then we get back the drone control.



This concept gives us the opportunity to use AR-Drone for various uses such as: security, transferring and new games.

Design

The project design has been carefully designed to use a very small number of components and allow extremely high flight capabilities



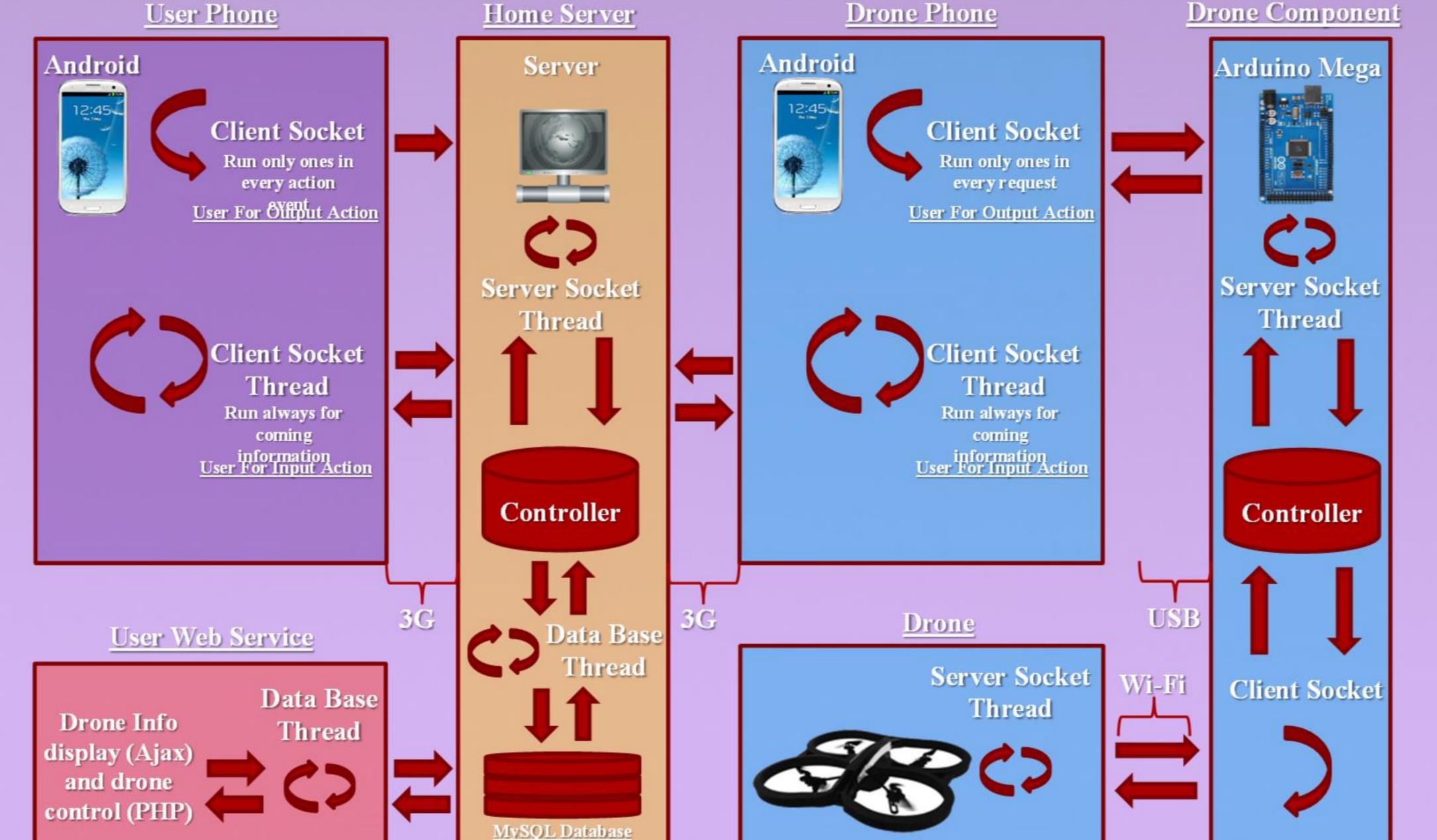
Architecture

Software Components

Components and software interfaces are divided into three parts :

- Phone using the user application to control the Drone.
- Server manages sending and receiving messages, keeping relevant information in a database.
- Drone who flew with electronic components and mobile device with drone application that allows receiving messages from the user and sending them to the drone.

<u>User Phone</u> <u>Home Server</u> <u>Drone Phone</u>



Software Development Tools

This project development is done by the following development tools:

- Eclipse Juno User & Drone Applications.
- Eclipse Indigo Server Software.
- Arduino ADK & Wifly Components.
- Sublime Text Project Website.