

# Control Software for a Quadcopter

## Background

A quadcopter is a hovercraft that is using four rotors to lift itself. It has hardware that can be used to measure distance to objects as well as knowing where a specific object is located on the axis of the quadcopter. The quadcopter can also receive input via bluetooth.

The quadcopters are often used by domestic individuals, but can also be used in a professional areas. One common usage area is extreme sports where practitioners use it together with an action camera to film themselves performing different kinds of stunts. The market for remotely controlled quadcopters has grown rapidly in recent years, and it is reasonable to assume that this trend will pursue in the upcoming years.

We are a hardware company which has developed a quadcopter for home use. Due to a recent scandal regarding software implementation of the quadcopter controls, we need a new software solution to control the quadcopter.

## Goal

The goal is to get an innovative way to control the quadcopter, by controlling it through some sort of bluetooth control or setting it to follow a target.

## Functionality

- The quadcopter should be able to be controlled via a third party device through bluetooth.
- The quadcopter should be able to follow a target from a specified distance.
- The quadcopter should be able to react quickly to input commands.
- The quadcopter should keep requested distance at all time, whenever possible.
- The quadcopter should hover at its current position whenever there is no input.
- The quadcopter should not crash by itself.
- Third party devices, if supported, should be able to get info/warnings from the quadcopter.

## Roles

We will be acting as the product owners, and we would like you to produce the correct project requirements which will fulfill the desired functionality of the quadcopter. These requirements will later be used in a tender process to find the best supplier for the product.

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