User Guide

AUTONOMOUS FLIGHT

FOR

DRONES ON SIMULATION

May 2018

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1 Introduction

1.1 Scope and Purpose

The purpose of this product is to autonomously fly the drone according to the coordinates entered by the user. During the flight, the drone will calculate the shortest route to the destination and will determine a new route to overcome the obstacle if there is any obstruction. Simulation will do that according to coordinates identified by user, drone will autonomous flight from the starting point to destination point and during this flight when the drone encounter the obstacle, it will aim to determine itself a new path and reach the destination point.

2 How It Works?

2.1 MATLAB Installation and Compiler

To run the simulation program first of all you should install at least 2017 version of Matlab on your computer. You can enter MATLAB by double-clicking on the MATLAB shortcut icon (MATLAB 7.0.4) on your Windows desktop. When you start MATLAB, a special window called the MATLAB desktop appears. The desktop is a window that contains other windows. The major tools within or accessible from the desktop are

- The Command Window
- The Command History
- The Workspace
- The Current Directory
- The Help Browser
- Run and Time button

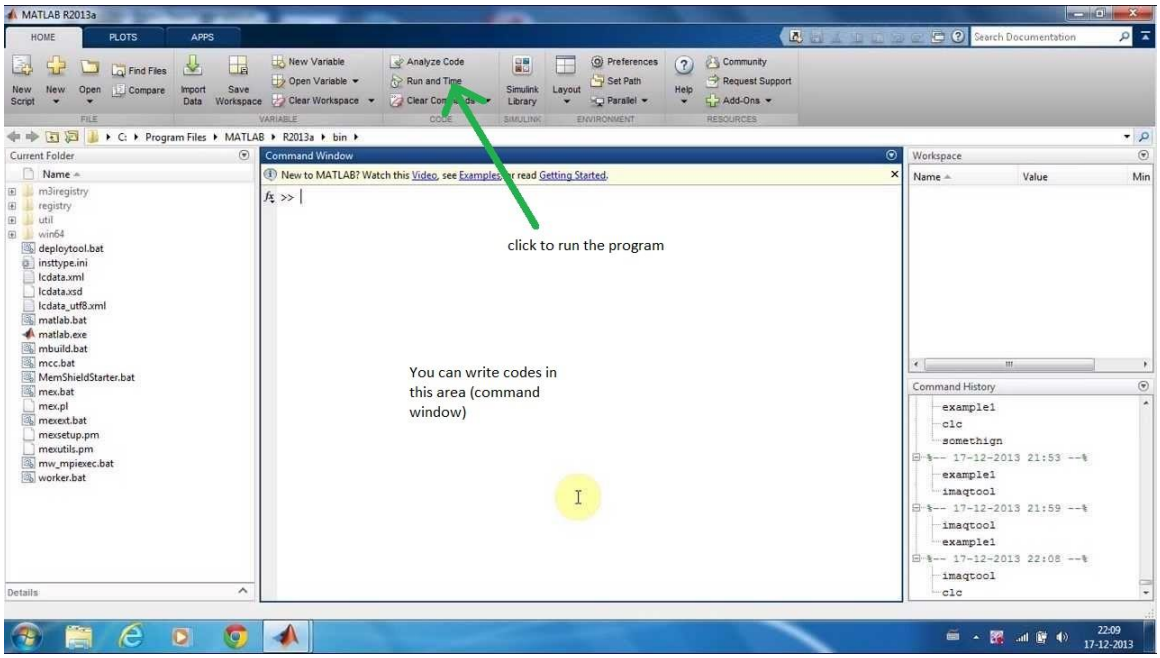

Figure 1.1: The graphical interface to the MATLAB workspace

2.2 Start Simulation

To run a program, first of all you have to write codes or copying to Command Window area. You can reach codes on our websites (www. .com). After write your codes this area you should save (Ctrl+S) and then click Run and Time button and you will see like a map

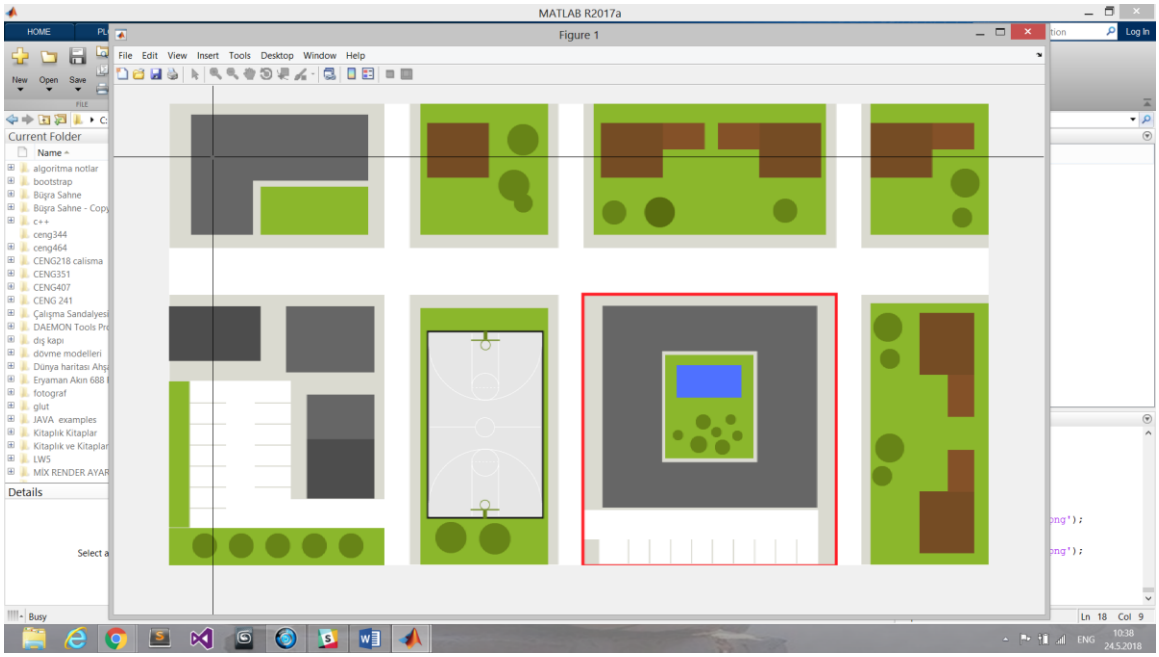

Figure 1.2: The graphical interface of map

To determine a coordinate on the map, you should use mouse and click a somewhere on you want to determine starting point and ending point. Then, the simulation will be start.