# 2) Project Plan

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| WBS Code | WBS | Definition | Scale  (1 to 5) |
| 1 | Drone Software | All the work to be done in the project |  |
| 1.1 | Motor Control System | Software packet to control movements of the drone |  |
| 1.1.1 | Device Driver | Low level layer of the motor driver hardware (interrupt handling, serial communication) | 4 |
| 1.1.2 | Velocity Control | Software implementations of basic speed control of the drone | 2 |
| 1.1.3 | Stabilization Control | Software about precise complex movements, providing endurance for adverse weather conditions | 2 |
| 1.2 | Communication System | Software package for both close and long range remote communication |  |
| 1.2.1 | Protocol Design | Communication protocol design for RF module | 3 |
| 1.2.2 | Drone-Drone | Close range drone to drone communication software in order to avoid collisions | 2 |
| 1.2.3 | Drone-Control Center | General communication system to control and check the drone from the control center | 2 |
| 1.3 | Automation System | Automation system provides speed parameters to the drone |  |
| 1.3.1 | GPS Integration | Low level interface for GPS module | 2 |
| 1.3.2 | Localization | Localization software locates the drone on the map using GPS data | 4 |
| 1.3.3 | Path Planning | Path planning system considering possible obstacles in the air (trees, buildings…) in order to avoid crash | 4 |
| 1.4 | Multiple Drone Control | Drone control software to provide real time information about drones, task assignment, failure and goal control |  |
| 1.4.1 | Interface | User interface to control multiple drones | 3 |
| 1.4.2 | Optimization | Optimization for this software package | 2 |
| 1.5 | Quality Control&Testing | Quality control, test procedures in this work package |  |
| 1.5.1 | Security Check | Security tests for drone communication system | 3 |
| 1.5.2 | Testing | Test procedures for software and hardware | 3 |

# 3) Estimation

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| WBS Code | WBS | Estimated  man-week |
| 1 | Drone Software | 72 |
| 1.1 | Motor Control System | 16 |
| 1.1.1 | Device Driver | 8 |
| 1.1.2 | Velocity Control | 4 |
| 1.1.3 | Stabilization Control | 4 |
| 1.2 | Communication System | 14 |
| 1.2.1 | Protocol Design | 6 |
| 1.2.2 | Drone-Drone | 4 |
| 1.2.3 | Drone-Control Center | 4 |
| 1.3 | Automation System | 20 |
| 1.3.1 | GPS Integration | 4 |
| 1.3.2 | Localization | 8 |
| 1.3.3 | Path Planning | 8 |
| 1.4 | Multiple Drone Control | 10 |
| 1.4.1 | Interface | 6 |
| 1.4.2 | Optimization | 4 |
| 1.5 | Quality Control&Testing | 12 |
| 1.5.1 | Security Check | 6 |
| 1.5.2 | Testing | 6 |