PROBLEM DEFINITION AND DESIGN SPECIFICATIONS

PROJECT TITLE: Mini Robotların Tatlı Dünyası

Definition of the Problem:

The main of the Project design a smart city system that we can apply mechatronics design skills and having a education system that can be used in ME461 project and Romer Internship Project. In addition, the system is going to have graphical user interface which will allow any student or intern to learn and test their algorithms.

Project Requirements:

- The system needs to be portable and re-used. (3D printable parts and electronic components).
- The battery management system needs to be designed.
- Communication system between mini robots and operator must be satisfied.
- Diffrent algorithms should be implamented eaisly.
- The World size proportions (building, road, vehicle, etc.) should be arranged properly.
- The electronic components should be assembled.
- Graphical User Interface should allow users to monitor sensor outcomes and real-time positions of the robot (in a 2-D grid).
- The system should be open source.

Tasks\Time	30/03/2023	6/4/2023	13/4/2023	20/4/2023	27/4/2023	4/5/2023	11/5/2023	18/5/2023	25/05/2023	1/6/2023	8/6/2023	10-11/6/2023
Mini Robot World Project Assignment by Ahmet Bugra Koku												
Analysis of project requirements and components												
Literature Survey												
Developing multiple conceptual design												
Real concept presentation and selection												
Mini Robot World Prototype electronic component selection and order												
Electronic component arrival												
Electronic/Mechanical component design and manufacturing												
Mini Robot World motor actuation, sensor control algorithm development												
Mini Robot World communication with a basic GUI												
Developing a ROS firmware												
Design of ROS environment												
Calibration and testing												
Development of sample algorithms												
Preparation towards the project completion												
Final Presentation												

Table-1: Gantt Chart of the Project