Course Project

Students are asked to form project teams of 5 students at a maximum for each. Each team will develop an application using the techniques learned in the class through appropriate programming languages and environments. After selecting the project application, the team should choose at least one proper algorithm to solve the considered application.

Project Deliverables:

- Project Report and Presentation: Complete documentation that introduces and describes the details of the used robot and the developed application.
  - Due to the last week of the semester.
- Project Source Code: Attached with the project report.
  - Due to the last week of the semester.

Report Layout:

1. Title Page - Include Project Title, Date, Course, and Team Members.
2. Table of Contents
3. Report Body
   - **I. Introduction/Executive Summary:** Introduce the project problem and its formal definition and importance. Analyze the considered problem solvers and algorithms. Introduce the selected algorithm invoked to solve the considered problem.
   - **II. Methodology:** Describe the main algorithms and analyze their steps. Give the formal algorithmic steps of the selected methods to solve the considered problem, including pseudocodes or flowcharts. Discuss how such algorithms can solve the considered problem and analyze its time complexity.
   - **III. Experimental Simulation:** Describe the programming languages and environments used in the project. Discuss the details of programming the primary function and its procedures of the algorithms introduced in Section II. Explain the test cases used to test the programmed codes and how to set the program parameters and constants.
   - **IV. Results and Technical Discussion:** Report the main program results and outputs. Test/Evaluation experimental procedure and analysis of results. Discuss the main results and their quality.
   - **V. Conclusions:** Conclusion remakes and recommendations for future work.
   - **VI. References**
   - **VII. Appendix:** Project Source Codes.