



Cover page

Project title:Maze Solver..... Academic Year 2023/2024.....

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.....Majdy Sabra.....

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Project Type Software or Hardware (Choose one)

Supervisor Name:Dr .Saed Tarabia.....

Format:

- Single space, Times New Roman.
- 12 pt,
- Maximum 1 page.

Abstract Body:

Items must be provided in the Abstract:

- Why do you think this project is important? Please explain the significance of this Project in brief.
- In your point of view what are the important aspects that should be covered in the project?
- Objective(s): In your view, please explain the main objectives of the project.
- Methodology: Give a brief outline of the application development process.
- Had this project been done before? Are there any similar applications available today?
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- **Note:** Please deliver this abstract early to ensure that your Project has been approved by the department's projects committee. **Registration will not be done without this approval.**



Project's Abstract:

The objective of this project is to develop an intelligent robot optimized for efficiently navigating complex mazes. This robot will stand out for its exceptional speed in solving mazes, achieved by improving the algorithm governing its movement. This enhancement involves precise control over the speed of both the right and left motors.

The robot is equipped with special sensors, like a color sensor to detect the start and end point of the maze, and ultrasonic sensors, to understand its surroundings. Also, the robot has an LCD to provide the user with some data statistics. The robot has 3 ultra-sonic sensors which detect if there is a wall surrounding it. In parallel to the ultrasonic sensor, there will be a color sensor to detect if the robot reaches the last point in the maze. also, the LCD will provide the user with the statics data. In addition to that, they will be LEDS used as indicators of the current state. we have one main control unit for solving the path and for controlling the robot's movement. All the sensors will provide data to the robot's main unit, which helps it choose the path through the maze while avoiding obstacles. We'll be using Arduino as the main controller.

The main significant feature of our robot will be path saving, after the robot completes solving the whole maze, the right path will be saved inside the robot so if the robot is back to the start point, there is no need to detect any obstacles since the robot already has the path, also there will be a button to remove the saved path in order to save a new path in the maze.

