

Assignment 1 Report

Enhanced Universe Algorithm Approach

My approach to this problem is divide the window area into 10 columns. Each robot will be assigned a unique ID, and its position will be used to determine which column it belongs to. When `UpdatePixels()` method is called, all robots in robot's current and adjacent columns will be used to calculate near by robots. This way, the number of calculation can be reduced.

Code Modification

- Add a static variable called *counter*, which will be used to determine unique robot ID.
- Add a static two dimensional Vector called *sections*, it will store columns information, and maintain lists of robot that is in each column.
- Add private methods *getRobotNumber()*, *getRobotSection()* to retrieve robot ID and robot's current column.
- Add *removeRobot()* to remove robot from its current column list.

