

Assignment 1	Project Summary
Course	Practical Robotics and Smart Things – 2021
GitHub Repository	https://github.com/HHristov22/Cleaner_robot

Project author		
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Project name	Intelligent Cleaner Robot - ICR
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1. Short project description (Business needs and system features)

The aim of the project is to make our homes and electrical appliances more intelligent, interconnected, and easier to use. The robot vacuum cleaner (Intelligent Cleaner Robot IICR) will aim to clean the floor in a new way. He will be able to clean himself, avoiding collisions with objects.

- There is an automatic mode of operation, in which the robot starts to walk around the room on its own and clean.
- In addition, there is also a manual mode of operation, controlled by the user through an application on the phone, via bluetooth.

2. Project Goals

1. Optimization of distance sensors by replacing them with more accurate ones.
2. Build a map of the premises (rooms, halls, etc.) based on a sufficient number of thorough cleanings.
3. Creation of a mobile application entirely for work, in which a map of the premises and objects will be created. Objects on the map will be able to be moved by the user in order to facilitate the operation of the robot, faster cleaning and reduce the consumption of the robot (increasing the number of cleanings with one charge).

3. Main Use Cases / Scenarios		
Use case name	Brief Descriptions	Actors Involved
1.1. Demo mode	Demonstrates the features available and the user can use.	Robot
1.2. Autonomous mode	The robot starts autonomous movement avoiding obstacles in front of it while cleaning.	Robot
1.3. Manual mode	The User can control the robot through the android application	User
2.2. App interaction	The User can control the robot through the android application which will send the actions to the robot	User
2.3. Logs	The User can read the robot's logs through the android application.	User