

Cover page

Project title: Smart Wheelchair

Academic Year:2022/2023

Group Members: 1) Obaida Aws .

Department Name: C.E

2) Mohammad Zetawi

Project Type Software or Hardware (Choose one)

Supervisor Name: Asmaa Afifi

Format:

- Single space, Times New Roman.



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- Maximum 1 page.

12pt,

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 main idea of the project is a wheelchair that works with voice commands, the user can fully control it, and it is also possible to activate the automatic mode by using the camera to ensure that the chair moves in the place designated for it, avoids obstacles, and walks randomly to take a walk, for example.

In the event of any malfunction, the wheelchair will contact a previously identified person and send an SM'S message with the site and a photo of it.

Features:

- Smart wheelchair using Raspberry Pi as a single board computer(it moves by voice commands).
- Heart Rate sensor with Raspberry Pi and send a message when the heart rate drops.
- Sending notifications to a specific person's phone when an injury or fall occurs and send the current site and a picture of it.
- Ultrasonic sensor to avoid any obstacles in the way (the camera can detect these obstacles but we will use also ultrasonic to make sure it doesn't run into objects) and make a sound when approaching a wall or edge .
- The camera to ensure that the wheelchair moves in the place designated for it in the event that the hiking mode is activated.

