



# Abu Dhabi Polytechnic

## Students' Graduation Project Abstract

<b>Department:</b>	EMET	<b>Semester:</b>	Spring-2022
<b>Project Title:</b>	Smartphone Controlled Wheelchair		
<b>Supervisor:</b>	Dr. Fawwaz Alkhatib		

### Abstract:

The advancement of technology today is contributing a lot in every field especially in the medical field. This smart phone controlled wheelchair is designed to help the individuals that can't move of their own such as disabled people and elder people of society when there is nobody around to bring them the wheelchair from a remote location.

The idea of this project is to create two types of wheelchair control i.e., manual, and automatic. The manual solution enables the wheelchair control via a mobile application. The automatic control uses the line detecting technique. This wheelchair is designed with the help of an ESP32 microcontroller that also has built in Wi Fi facility. Also, it has Arduino nano as a secondary microcontroller to control the components. There are 4 DC motors in this project for the mobility of the smart wheelchair connected with the motor driver, to run these motors. This wheelchair can be operated through a mobile application, by connecting it with Wi Fi via mobile application.

One of the advanced functions of this smart chair is that it will automatically start moving towards the charging station by following black patches of line on the floor.

This project has good potential to solve the issue of elder and disabled people, for the future, we can add a more advanced feature for the safety of the person, voice interaction, brain plus controlling smart chair, or even location sensor that display relative about the location of the disabled person through an android application.