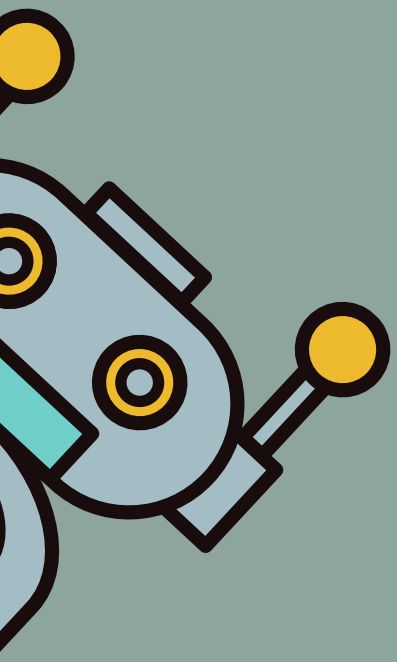
GLOBAL GROUP

SMART METHODS COMPNY

Betool Aljuraish / AI Department



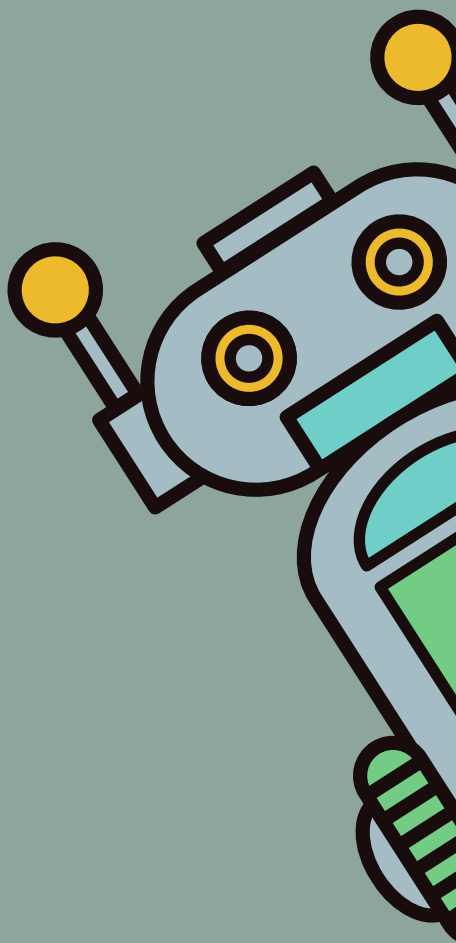
MECHANICAL DEPARTMENT

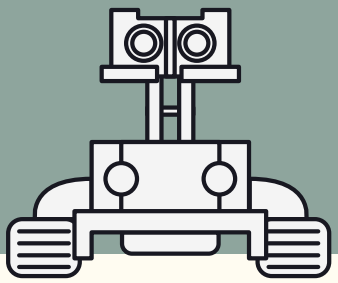
ELECTRONICS AND POWER DEPARTMENT

IOT AND SOFTWARE DEVELOPMENT DEPARTMENT

ROBOTICS AND AI DEPARTMENT

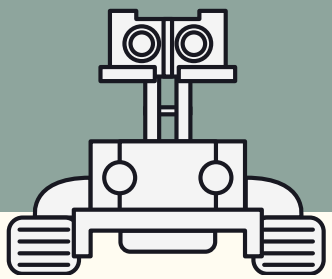
INDUSTRIAL AND SYSTEM ENGINEERING DEPARTMENT





PROJECT IDEA

In this summer training for 2021, our project is about designing a robot that welcomes visitors at meetings and ceremonies by serves coffee. It has hand can holding coffee and in his other hand a container to hold cups.



PROJECT PLAN

1-planing : On this stage starts the mental visualization of structure and the way of implementation it on real-life.

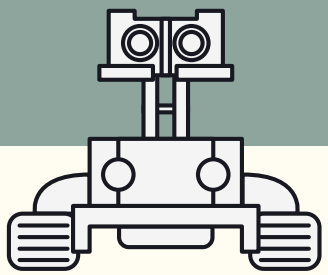
2-Analysis : Analysis the parts of robot, external structure, head , arms . Define strength ,weaknesses and the future insight whether the robot will help the society or not.

3-Designing : Starting to design robot with using 3D softwares.

4-Implementation : which include tasks by dividing to number of department, each one of members take a specific task that refer to his department. e.g the mechanical Department they design the external structure of robot and AI they will program robot motion.

5-Testing and integration : testing the robot on real-life and get a customers's feedback.

6-maintenance : (after testing) : To fix any errors on robot and develop it.



TASKS DIVIDING

Robot parts tasks

Mechanical

- Assemble and design external structure of robot
- Floyd dynamic force analysis for amount of liquid in coffee robot
- 3D printing of robot parts.

Electronics

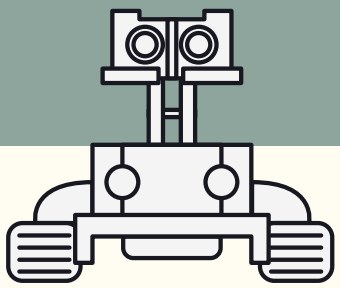
- Installation the motors to move
- Power circuit design and implementation .
- Control circuit design.

IOT

- UI Design to control the motion system of the robot.
- Design database for the robotic control system.
- Testing and develop the UI effectiveness

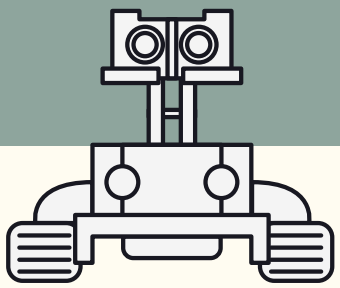
AI

- Using ROS system to simulate the robot motion.
- control the motion of the robot in an automated way
- design a robotic vision system



TIMELINE

Department	Task and time to implement		
Mechanical	Assemble and design external structure of robot 4 days	Floyd dynamic force analysis for amount of liquid in coffee robot 3 days	3D printing of robot parts. 2 days
Electronics	Installation the motors to move 2 days	Power circuit design and implementation . 4 days	Control circuit design. 5 days
IOT	UI Design to control the motion system of the robot. 3 days	Design database for the robotic control system. 2 days	Testing and develop the UI effectiveness 2 days
AI	Using ROS system to simulate the robot motion. 3 days	control the motion of the robot in an automated way 4 days	design a robotic vision system 4 days



PRODUCTION LINE

- Modeling → 3D printing
- Assembly → manual
- Package → A box that contains the robot that wrapped with bubble cushioning for protection and put a sticker Be careful "fragile" on the box.
- Software → Web , Apps