**Project Plan**

* Analysis & mechanical design for robotic arms
* Determining the right motors for the robotic arms
* Structural the programing of the robotic arms using ROM system.
* Design the automatic control using IOT principles.
* Mechanical design of the robotic moving base & analyze the mechanical motions.
* Build & design the brush.
* Construct vision systems in the robot
* Design control board of the robot
* Measure the frequency & the disturbance as well as the overall quality

**Tasks distribution**

IoT tasks

AI tasks

Electrical tasks

Install & download the package of the arm to the system

Design the robotic arm

Mechanical tasks

Design face interface

Design electrical circuit

Connect ROS with the control board

Program the motors to operate with movable resisters

Construct data base to control the robotic arm

Program the circuit to make 90 degrees motion

Assemble the units using 3D software

Connect the data base with the face interface

Design suitable End-effector

Design PHP to connect he data base with the hardware

Print the end-effector by 3D printer

**Production line**

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| --- | --- |
| Determining the assembly method for the robot | |
| 1- assemble the parts of the robot on a 3D software  2- design an end-effector  3- print the end-effector using a 3D printer | 3D printer |

|  |  |
| --- | --- |
| Criteria of assembly | |
| First using a software | Then applying it on the workshop |

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| Testing the functionality of the robot in the workshop and fixing technical issues if any |

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| Final step for the robot to be launched | |
| Will be informed by the training instructors later on | Duel robots will be there to stand on the quality of the work that has done by the teams |