FLOWER WATERING BOT

CSE 495
3.Presentation

Muhammed ÖZKAN

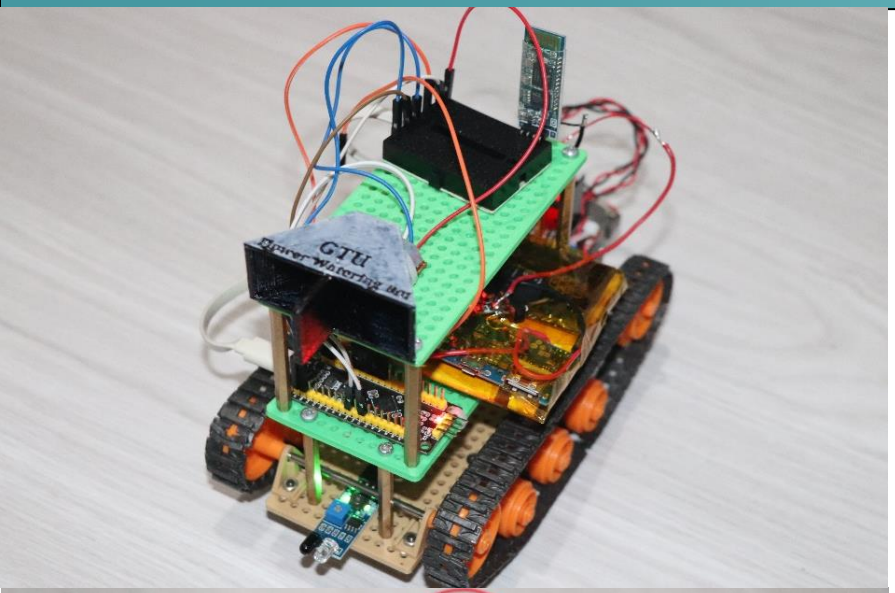
Advisor: Dr. Alp Arslan BAYRAKÇI

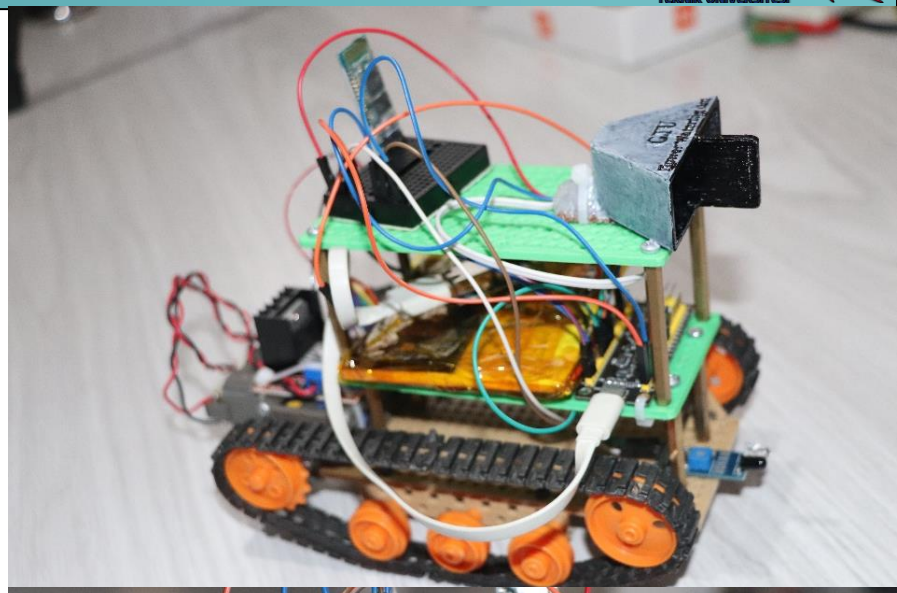
2021 November

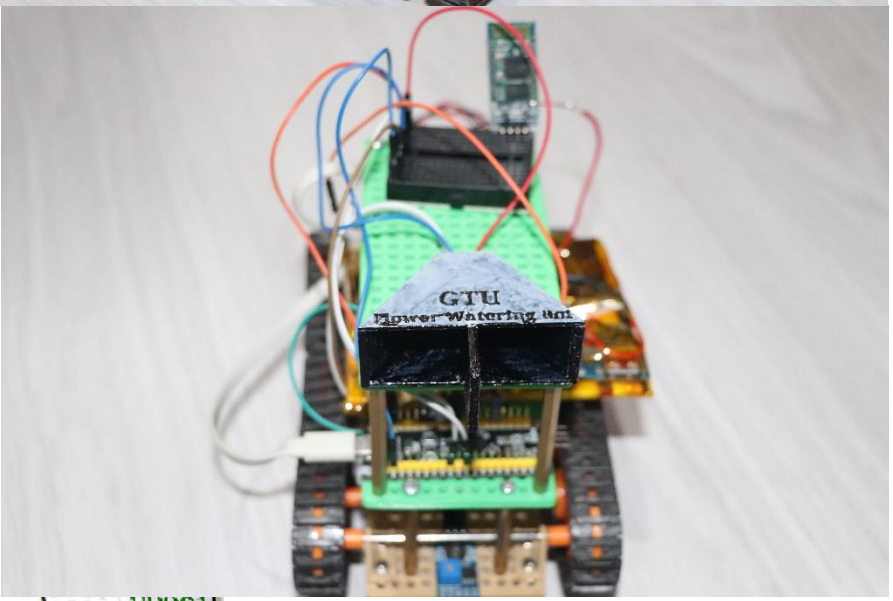
Timeline

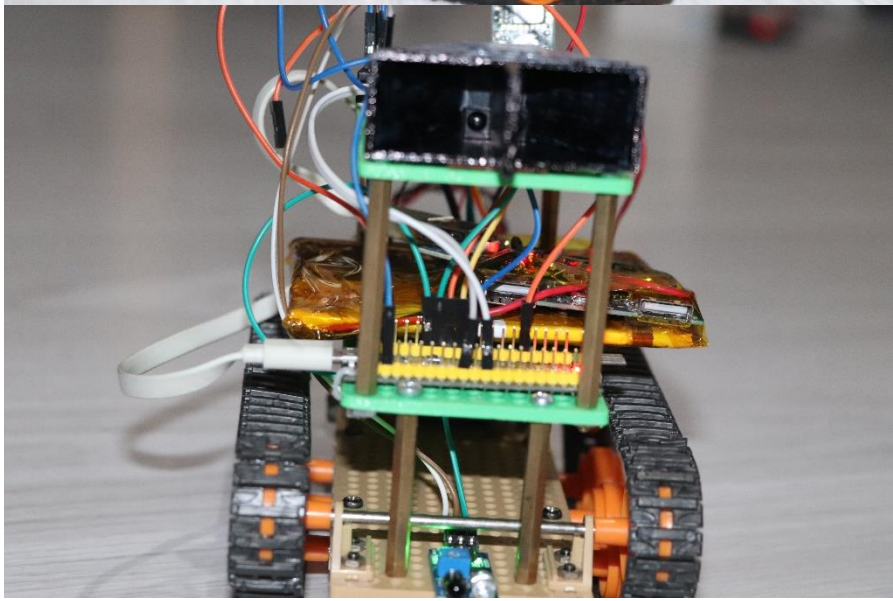
- 10.11.2021 - 8.12.2021 3.Presentation
- *The presence of more than one flower separately.*
- The process of watering the flowers.
- Design of mobile application, communication with hardware

2.Presentation Images

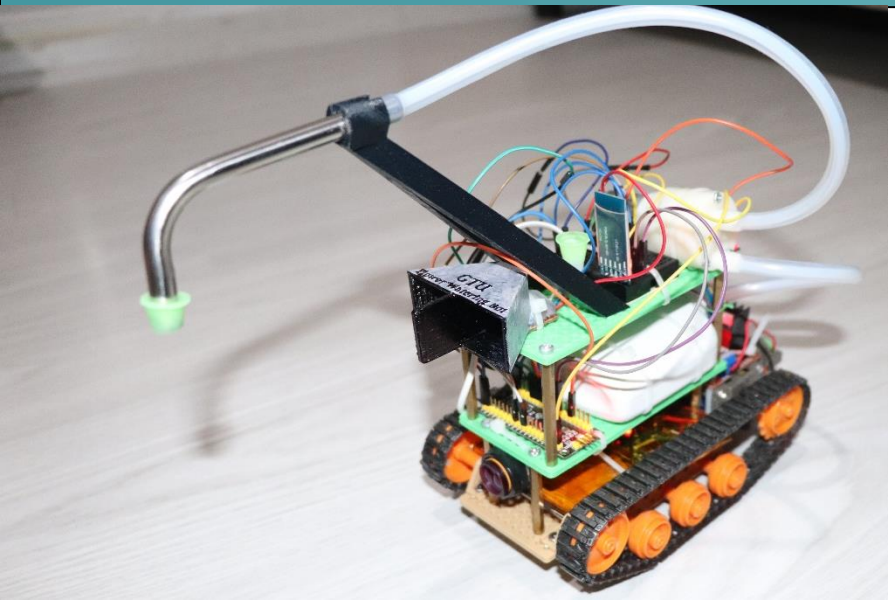


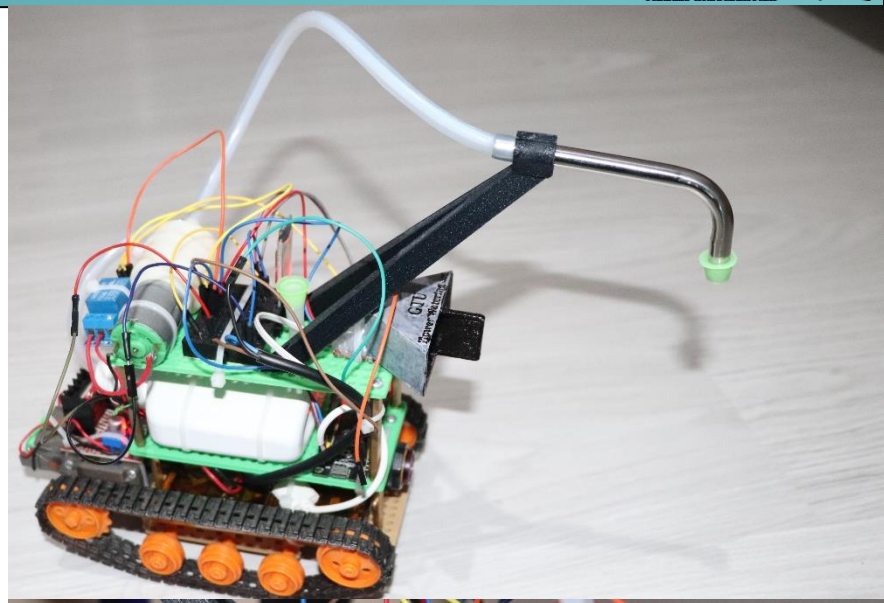


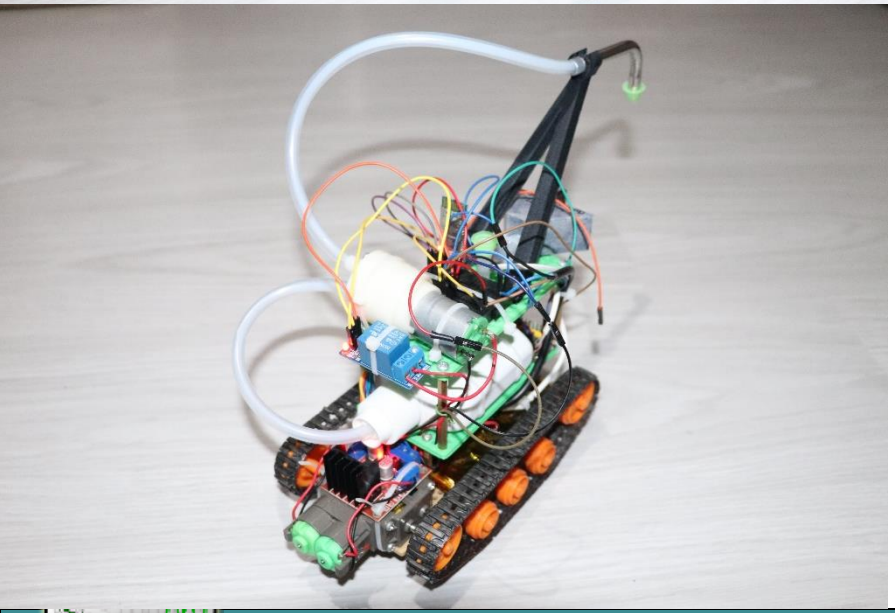


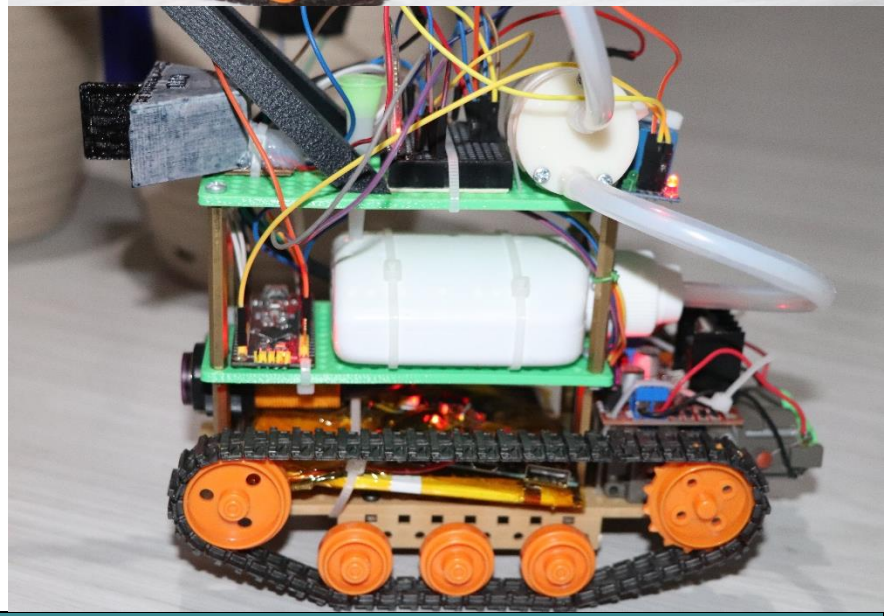


3.Presantation Images









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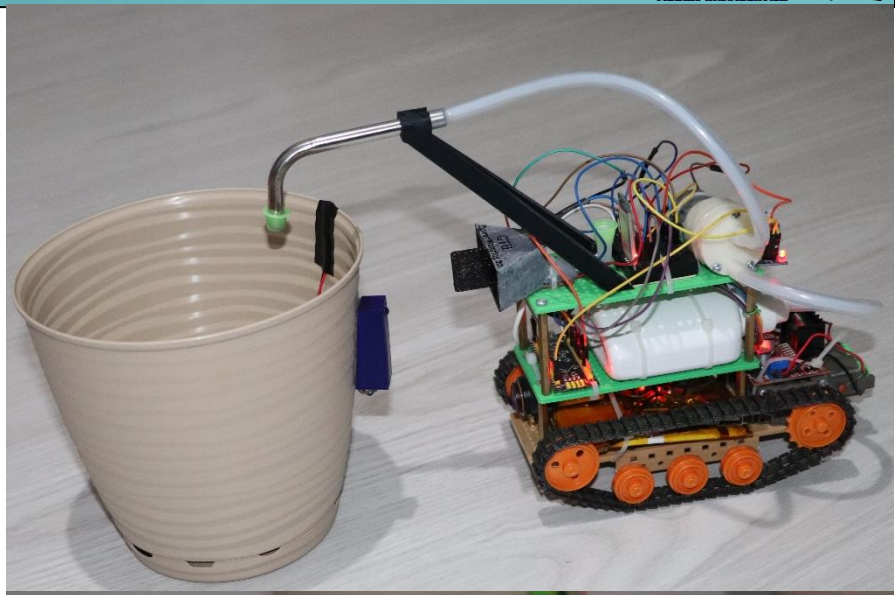

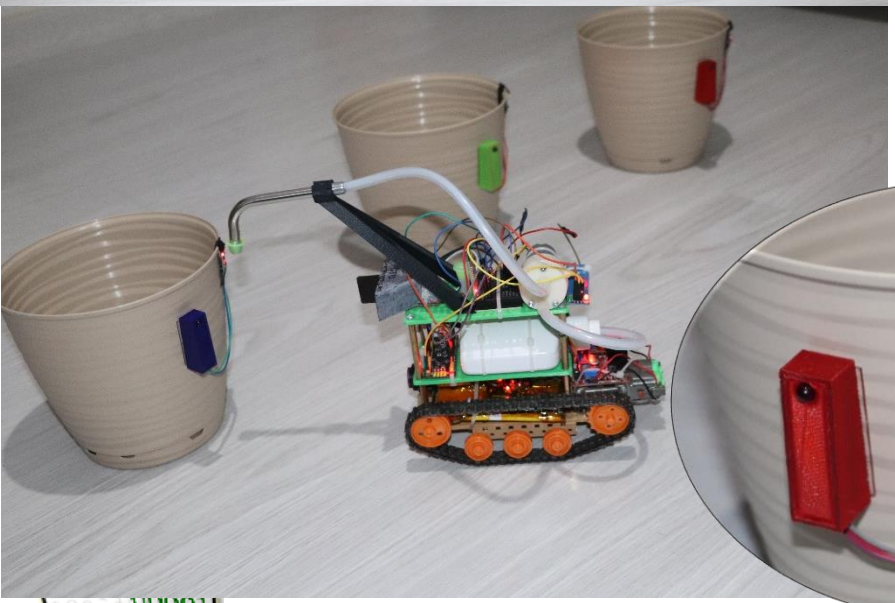

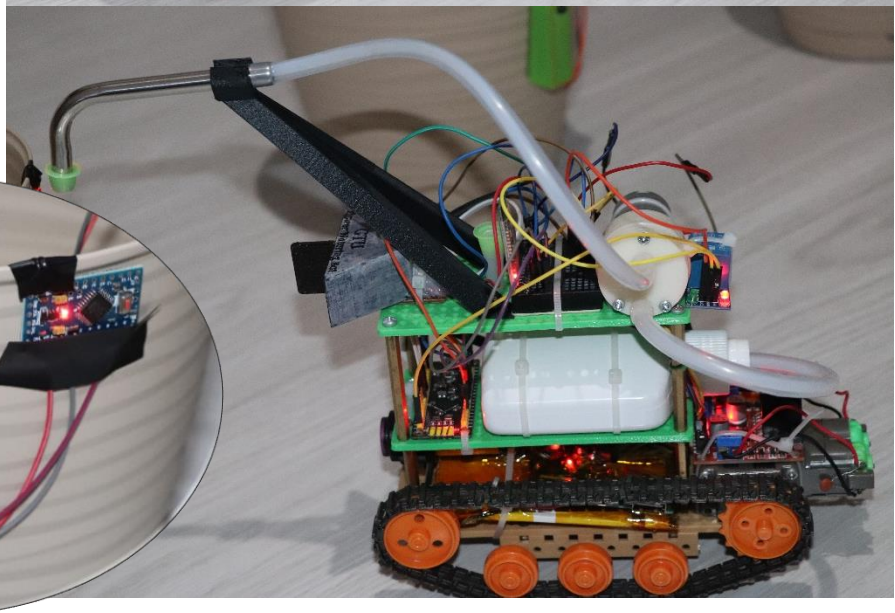

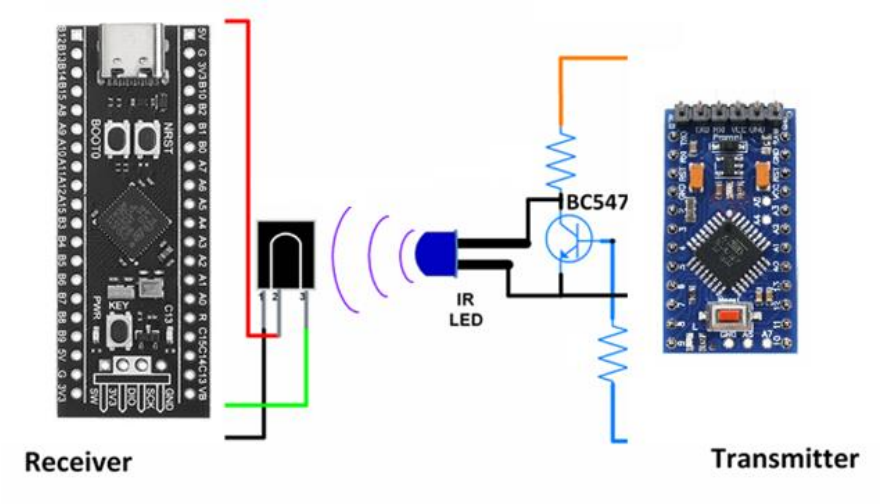

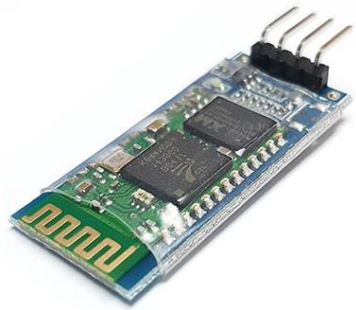

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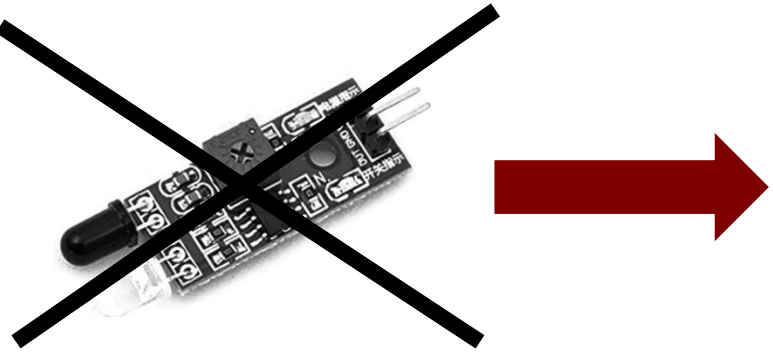

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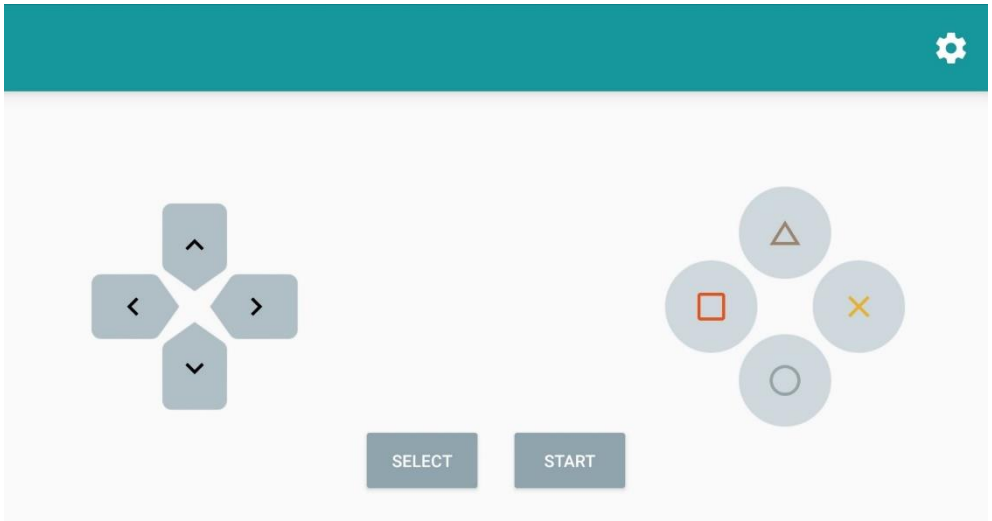
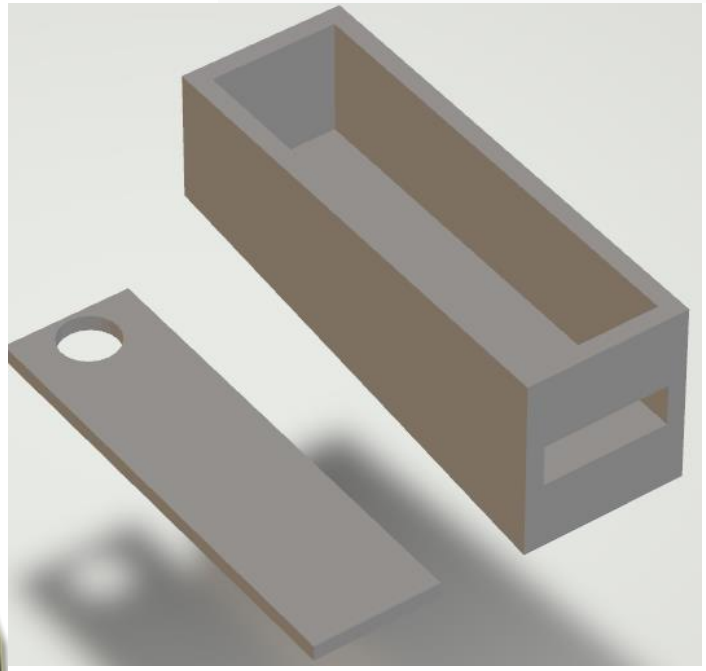
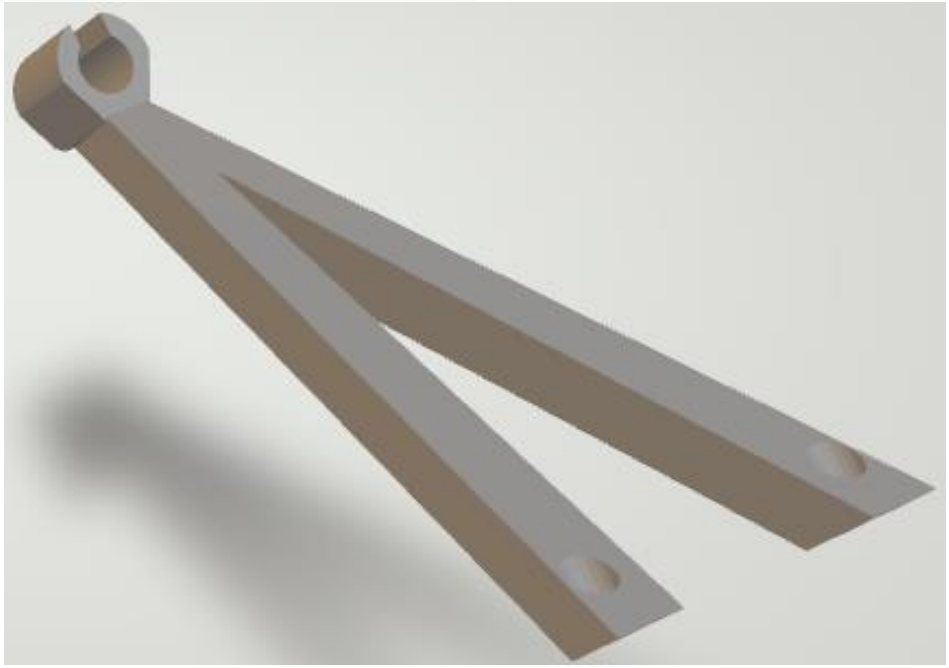
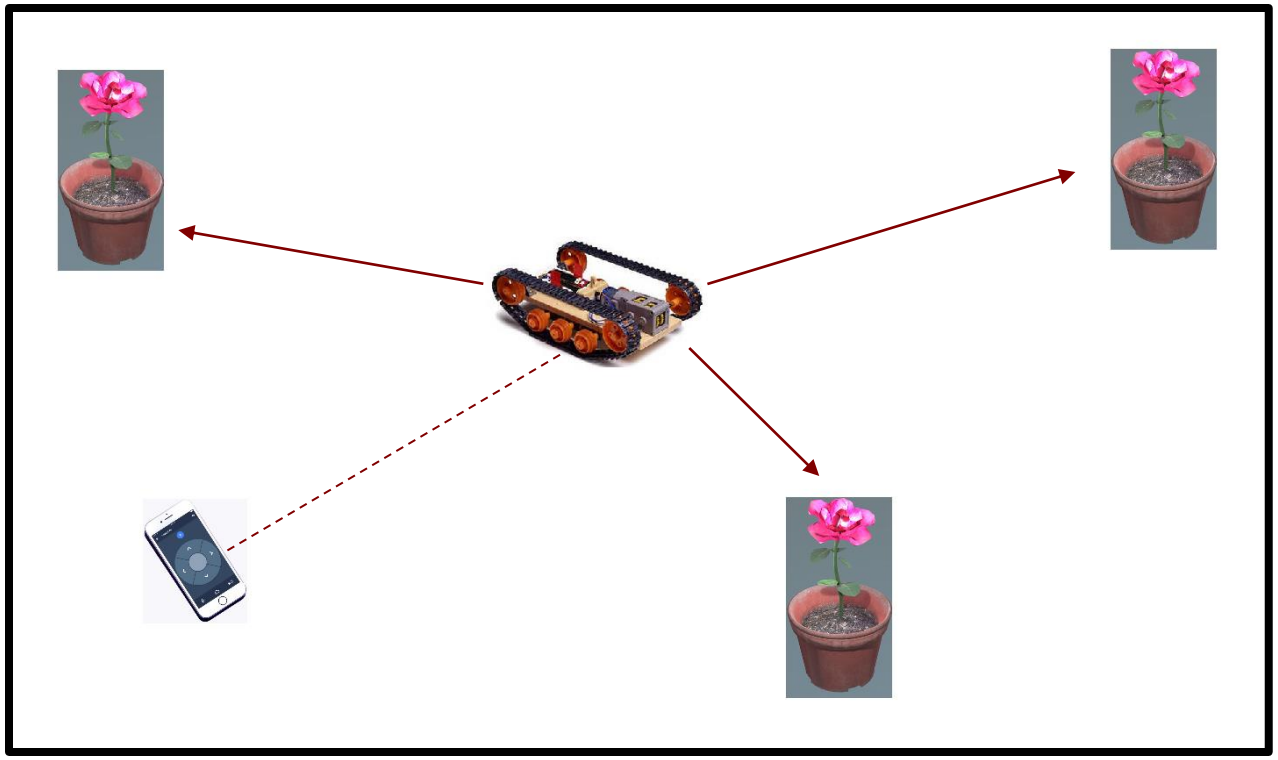
Water Pump


SELECT
START



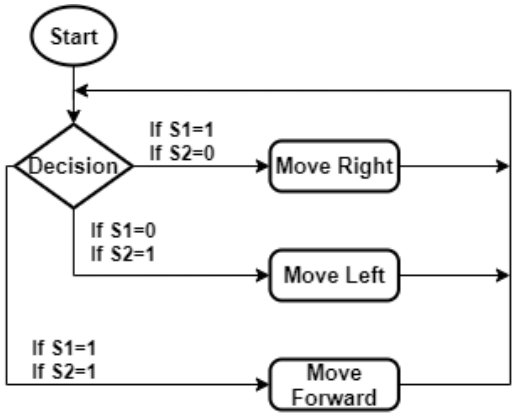


Scheme and Description of the Project

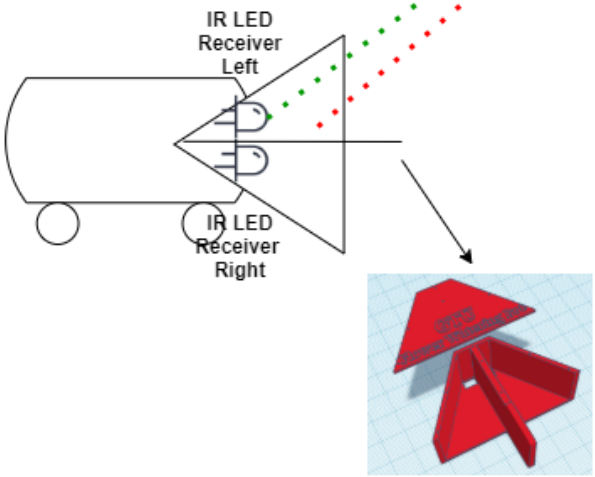


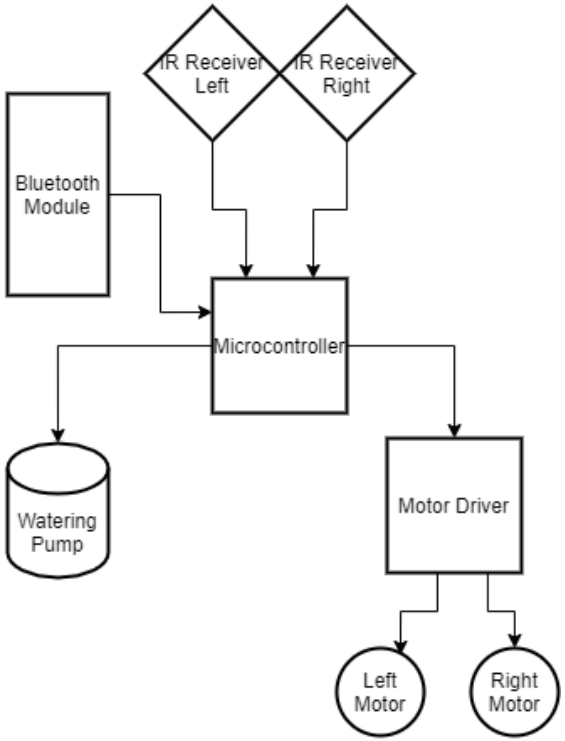
- In this project, a robot will be designed that can water the flowers in the house.
- Water amount and periods will be controlled via an android application.
- The robot will be able to automatically find the flowers and give water. In addition, manual control and watering will be possible through the application.

Project Design Plan



S1= IR Receiver 1
S2= IR Receiver 2
1=HIGH Signal
0=LOW Signal
When S1 & S2 = 0
Then Stop

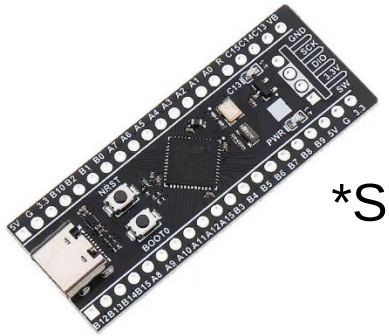




Project Requirements

- All parts of the robot must be put together.
- A system should be developed for flowers to send IR signals.
- An algorithm should be developed for the robot to move forward with the incoming signals.
- A system should be developed to find the desired flower by means of IR signals with the robot.
- An algorithm should be developed for Bluetooth communication.
- Android application should be developed for robot control.
- A system should be designed for water pump control.

Project Requirements



Hardware Requirements

*Robot Body *Motors *Motor Driver *Battery

*STM32FXXX Microcontroller *Bluetooth Module

*Water Pump *IR Receiver-Transmitter

Developing Requirements

*STM32CubeIDE for STM32F4 Microcontroller

*Android Studio IDE for Mobile App

Success Criteria

1. **The flower to be watered must be found by the robot in a 30m^2 environment.**
2. **The watering period and amount must be adjusted via Bluetooth by application.**
3. **The flowers must be distinguishable by the device and be watered differently period and amount.**
4. **It must be controlled manually via the application. (forward, backward, right, left)**
5. **The pump must be controlled manually via the application.**

Timeline

- 20.10.2021 - 10.11.2021 2.Presentation

  ~~Combining equipment.~~

  ~~Starting the hardware is the first tests.~~

  ~~Performing the operation of finding a flower.~~

- 10.11.2021 - 8.12.2021 3.Presentation

  ~~The presence of more than one flower separately.~~

  ~~The process of watering the flowers.~~

  ~~Design of mobile application, communication with hardware.~~

- 8.12.2021 - 19.01.2022 4.Last Presentation

  Control via mobile app.

  Watering process via mobile.

  Watering amount and period setting.

Resources

1. *FOLLOW ME ROBOT USING INFRARED BEACONS* Salman Afghani, Muhammad Ishfaq Javed Army Public College of Management and Sciences, Rawalpindi, PAKISTAN ISSN-L: 2223-9553, ISSN: 2223-9944 Vol. 4 No. 3 May 2013