IoT based Automated Irrigation System & Mobile App for Tea Garden

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Computer Science & Engineering

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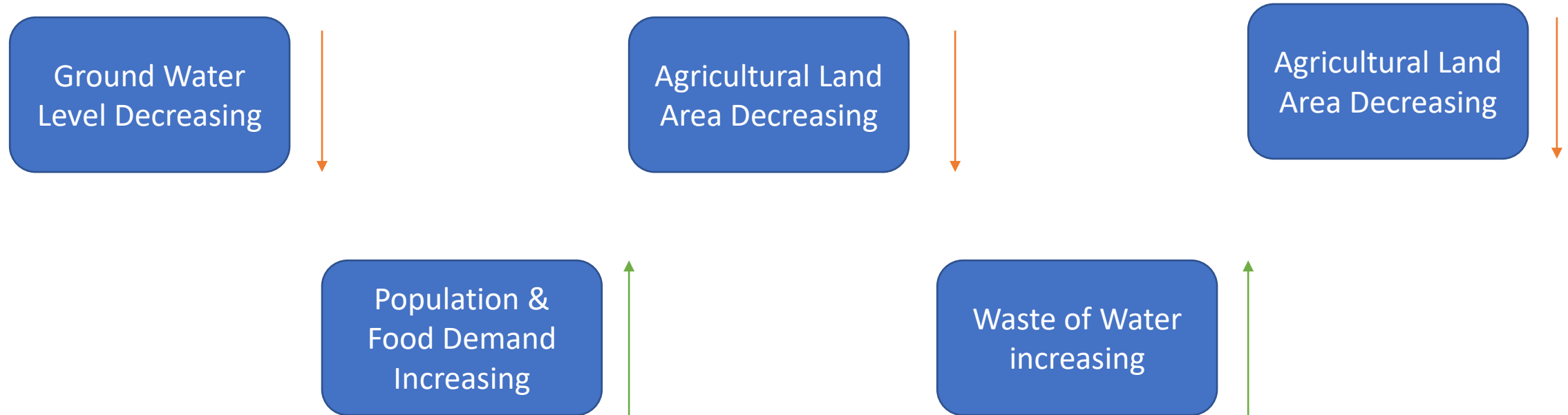Dr. Mohammad Sanaullah Chowdhury

Professor

Computer Science & Engineering
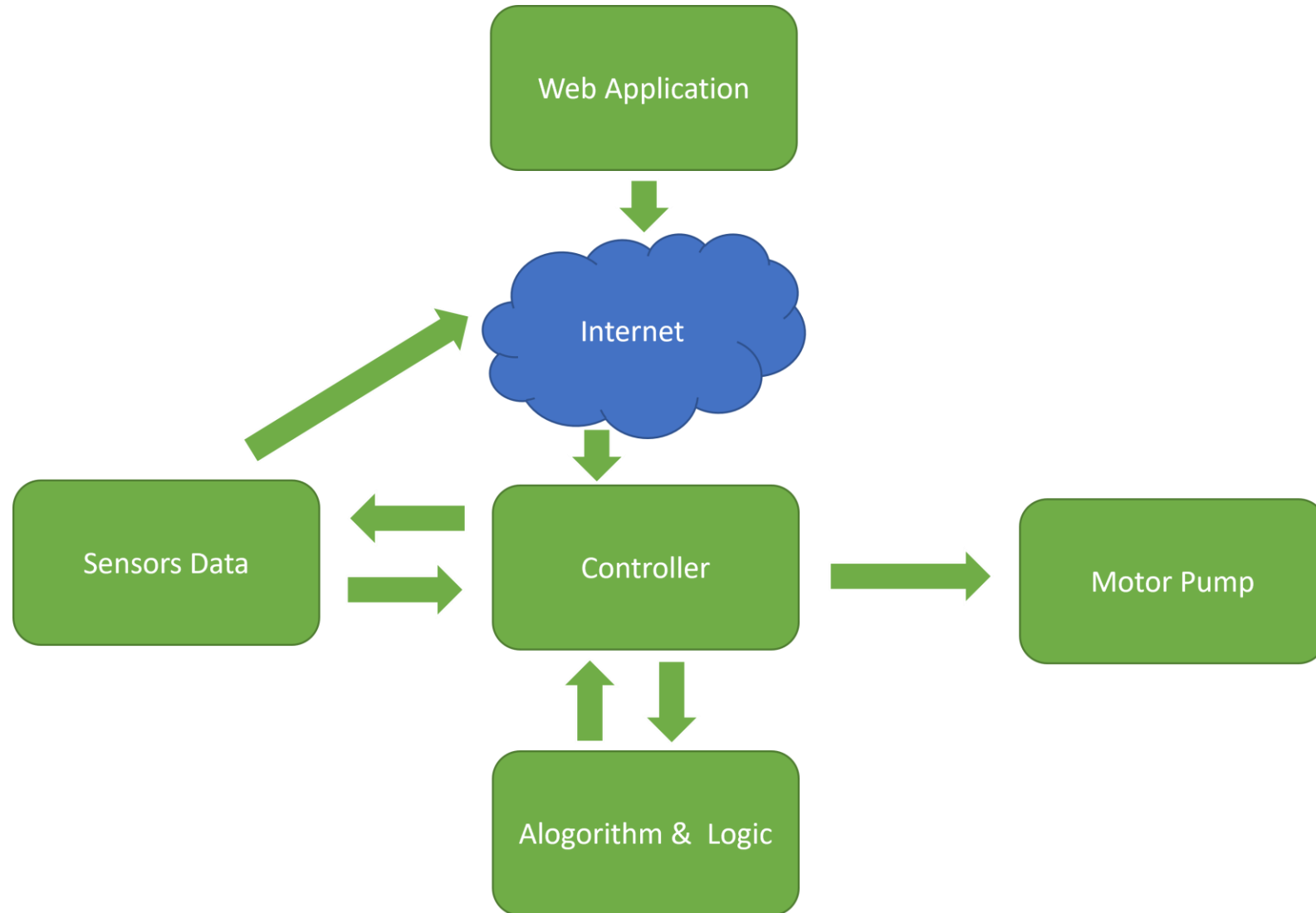
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Outline

- Problem Statement
- Motivation & Objective
- Related Work
- Limitations
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- Experiment & Evaluation
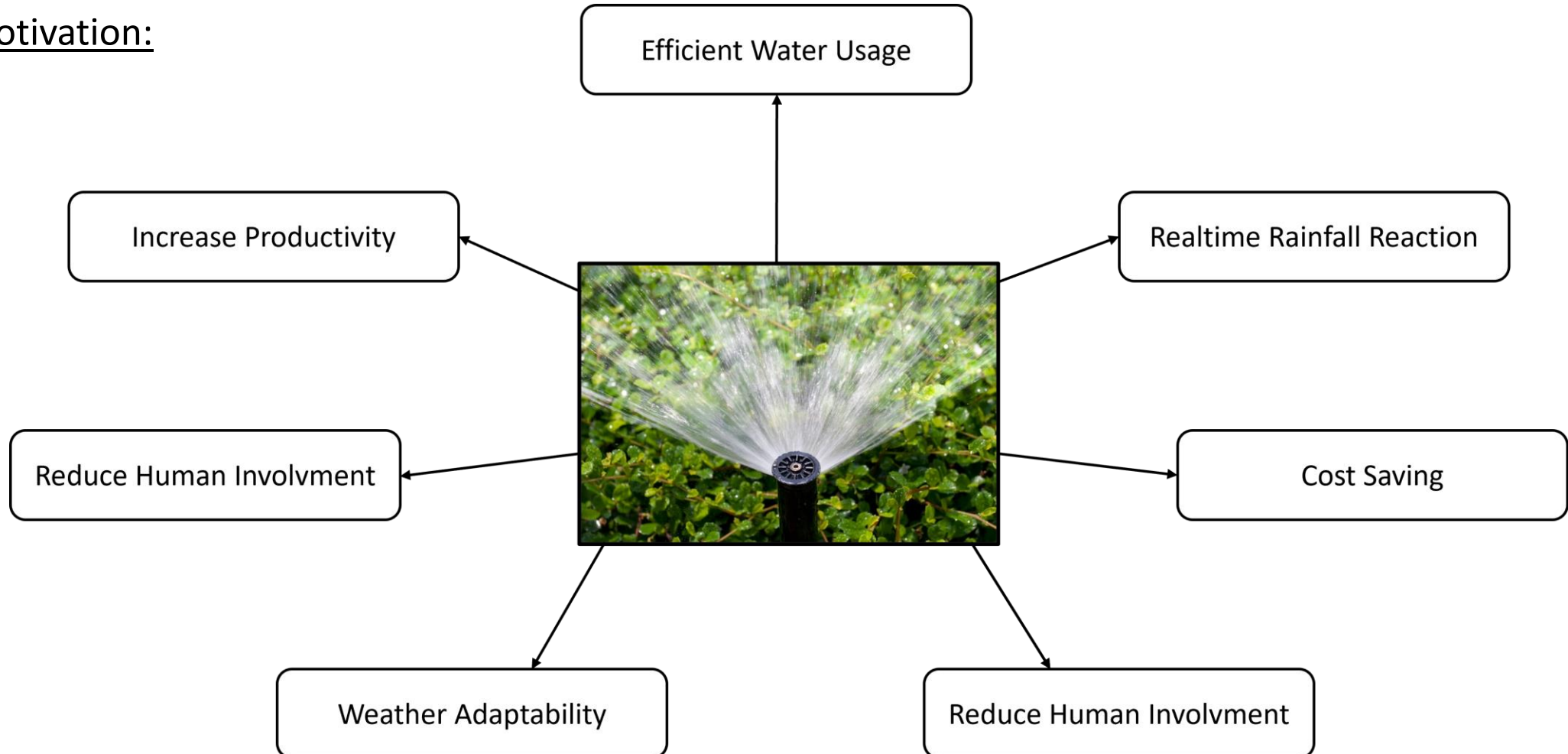- Conclution & Future Work

Problem Statement

Ground Water Level Decreasing

Population & Food Demand Increasing

Agricultural Land Area Decreasing

Waste of Water increasing

Agricultural Land Area Decreasing

Problem Statement

Motivation & Objective

Motivation:

Efficient Water Usage

Increase Productivity

Realtime Rainfall Reaction

Reduce Human Involvment

Cost Saving

Weather Adaptability

Reduce Human Involvment

Motivation & Objective

Objective:

- To develop IoT based Irrigation System in Tea Garden
- Analysis of Irrigation Data using IoT
- To Increase monitoring efficiency in irrigation
- To Reduce Workload in agriculture
- To ensure lesser effort and greater profit

Related Work

- Iot based smart crop-field monitoring and automation irrigation system by R. N. R. a. B. Sridhar in 2nd International Conference on Inventive Systems and Control, 2018.

- IoT based smart irrigation system by S. Rawal in International Journal of Computer Applications, 2017.

- Intelligent irrigation system an IoT based approach by S. A. a. V. V. K. M. N. Rajkumar in International Conference on Innovations in Green Energy and Healthcare Technologies, 2017.

Limitations

- One Time Cost
- 24/7 Power Supply
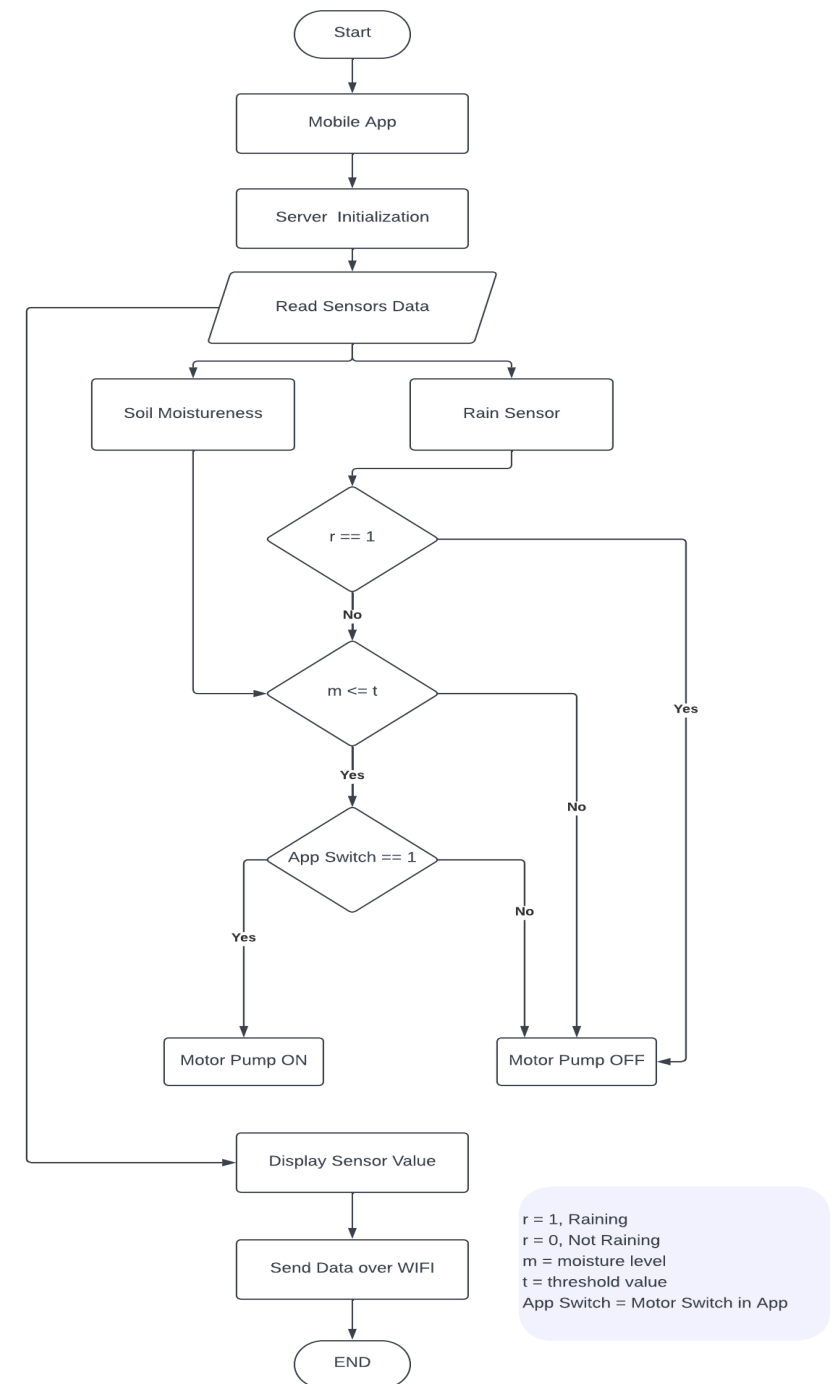- Do not Predict rain, only check rain status.
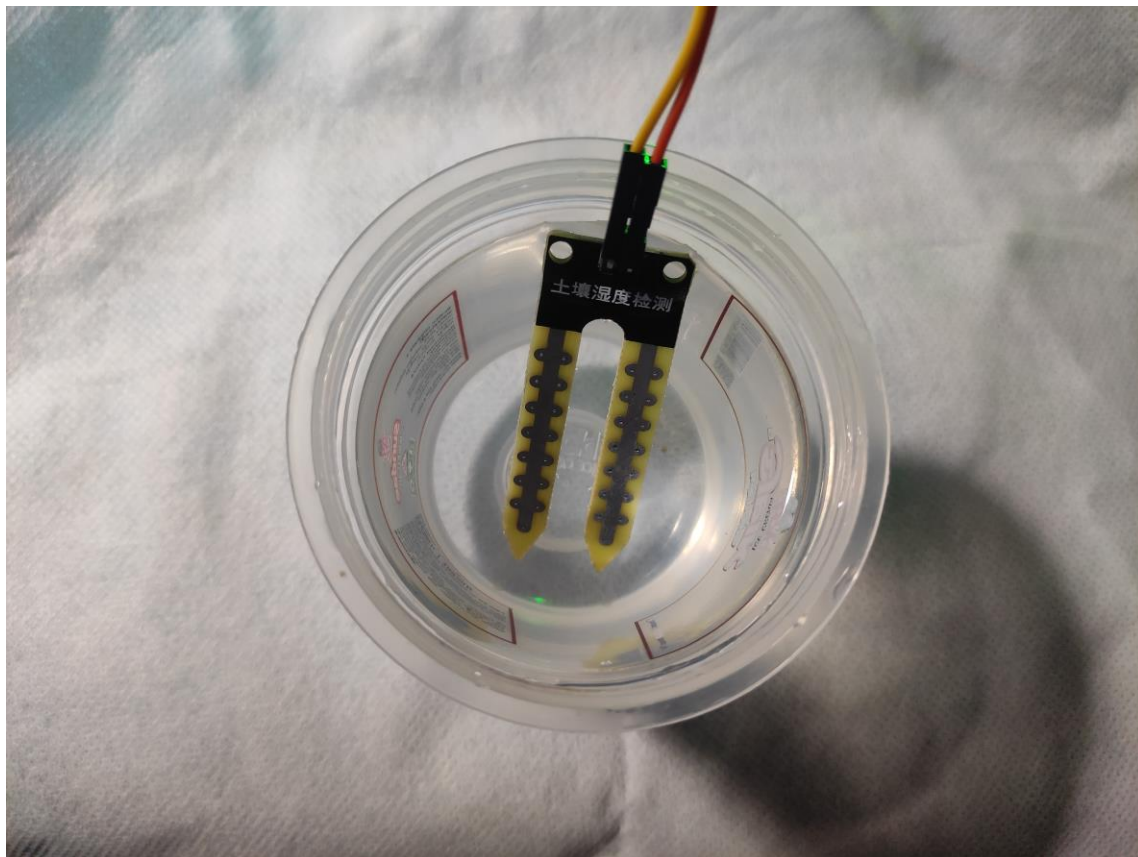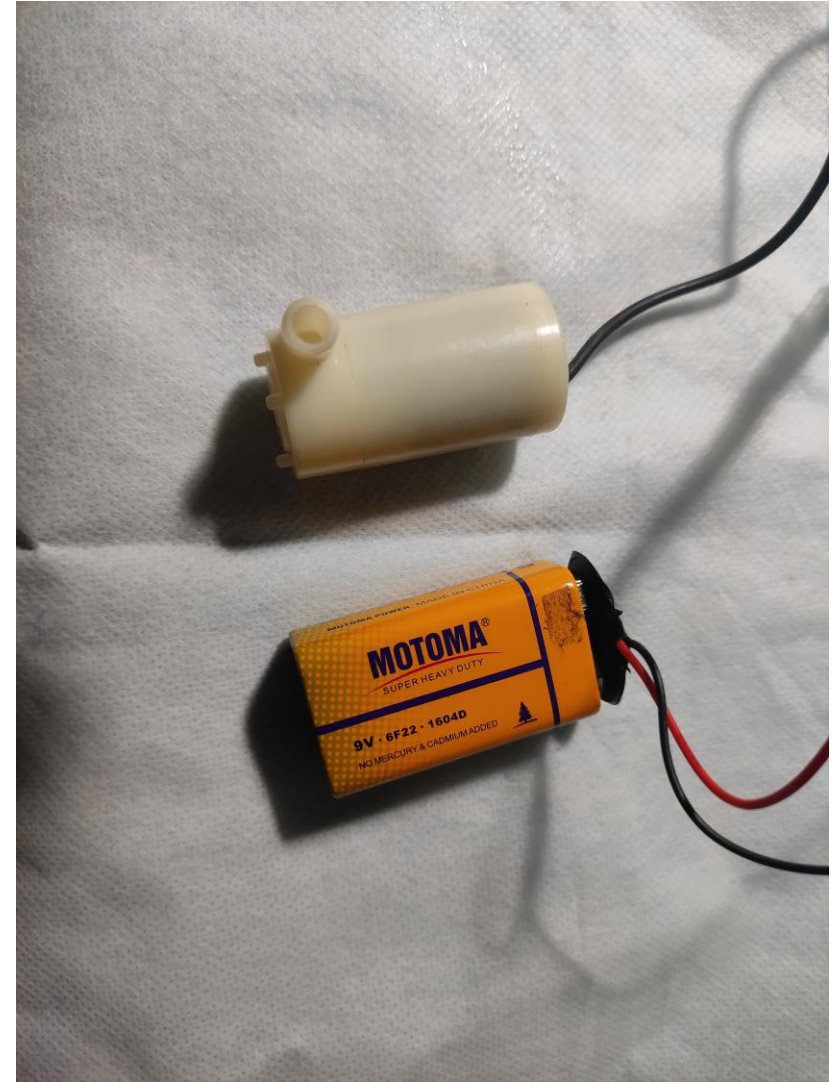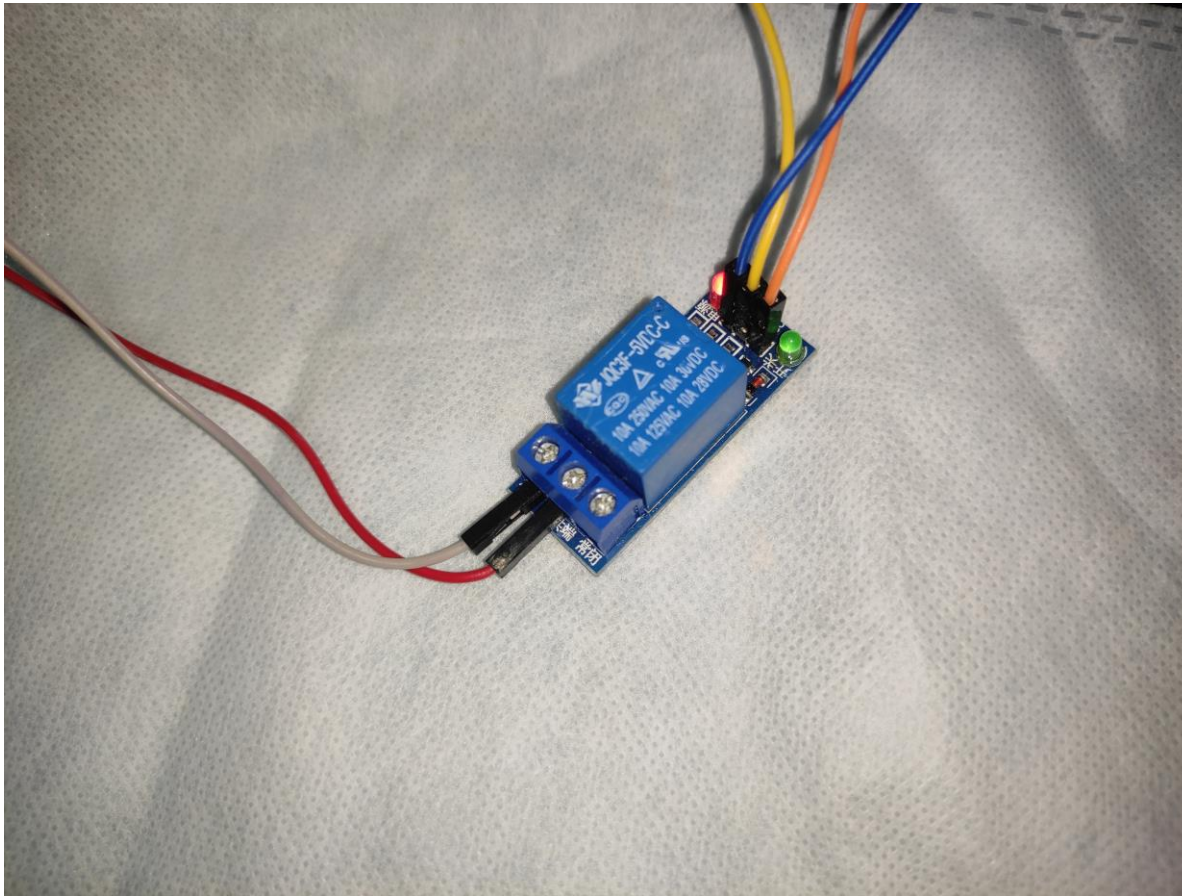
Methodology
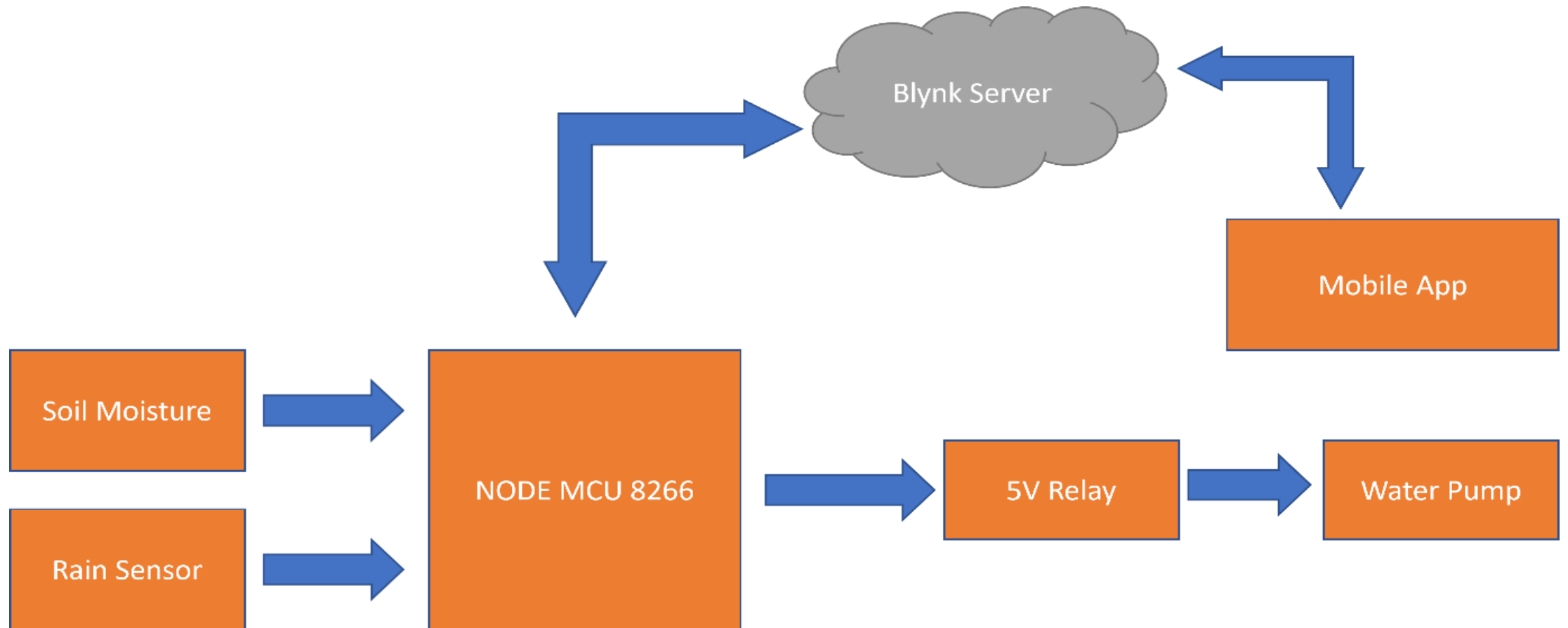
Methodology

- NodeMCU runs program in Arduino code

- Soil Sensor and Rain Sensor sense and send data to server

- Server Returns the decision for motor to be ON or OFF
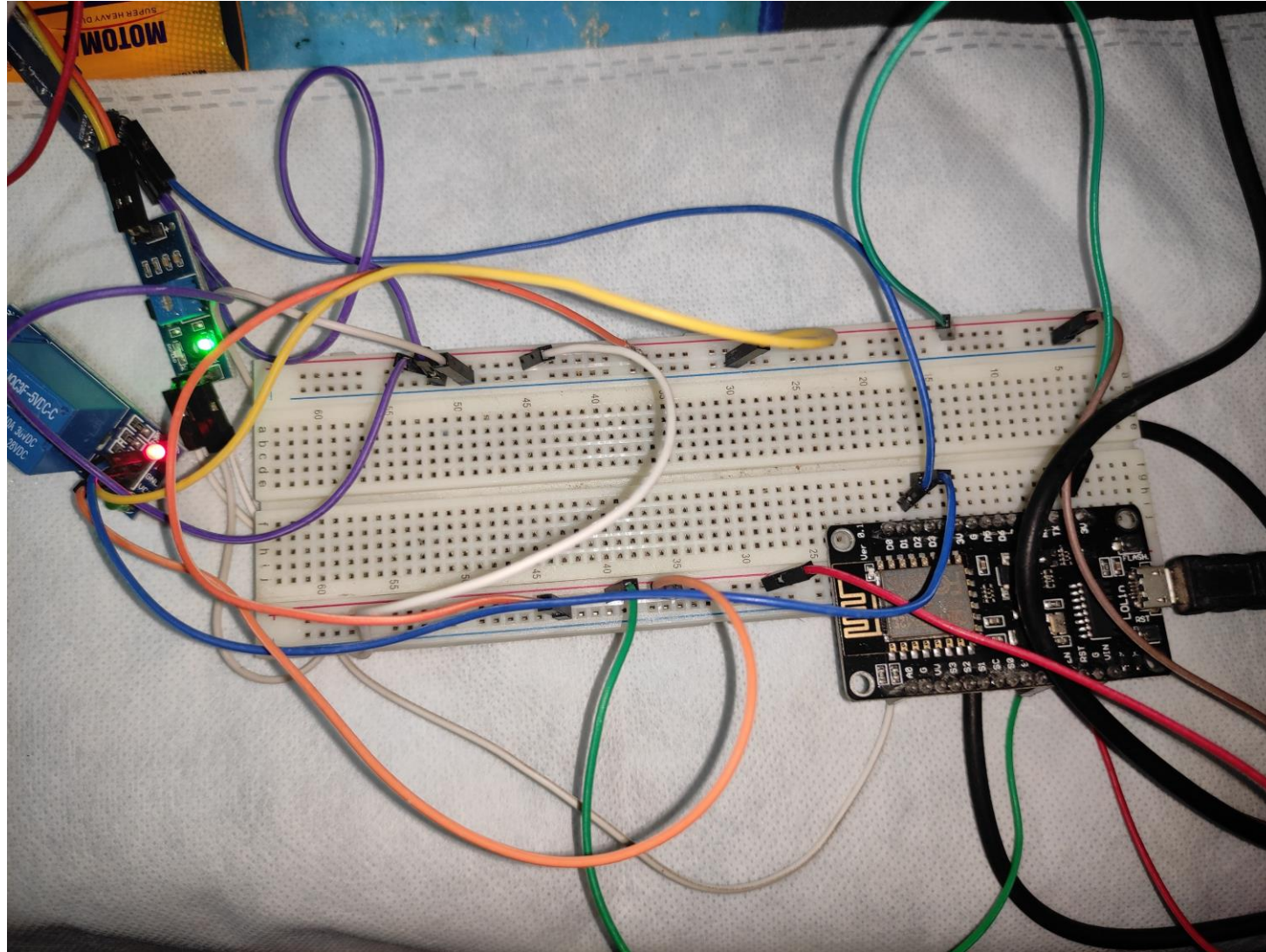
Experiment & Evaluation

Experiment & Evaluation

Experiment & Evaluation

Conclusion & Future Work

- Conclution:
  - The System will reduce the traditional workload of irrigation and automates the whole irrigation system.
  - Connect the agriculture with the huge sector of IoT.

- Future Work:
  - Machine Learning will be included in the system
  - Other sensor will also be included

THANK YOU