





Development of IoT-based Irrigation System for Multiple Crop Farming

Charles Mzigo Kajanja¹, Wiktoria Sarzyńska², Charles Kagiri³, Samuel Macharia^{*3}

¹Agricultural Engineering Departmenht, Sokoine University of Agriculture, Morogoro - Tanzania

²Faculty of Electrical Eengineering, Automatics, Computer Science and Biomedical Engineering, AGH University of Science and Technology, Cracow – Poland

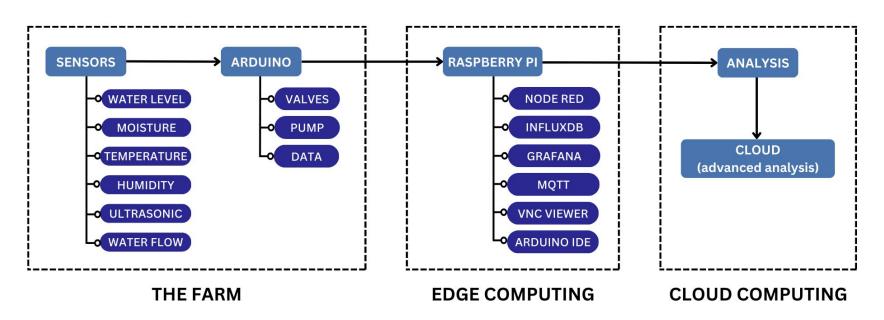
³Mechatronic Department, Dedan Kimathi University of Technology, Nyeri - Kenya.

*Correspondence: samuel.macharia@dkut.ac.ke

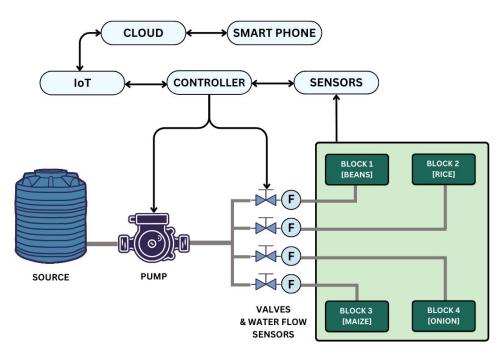
Table of contents

- Project overview
- Project schematic
- Embedded system programming
- Project implementation
- Data analysis
- Project documentation
- Plans for the future

Project overview



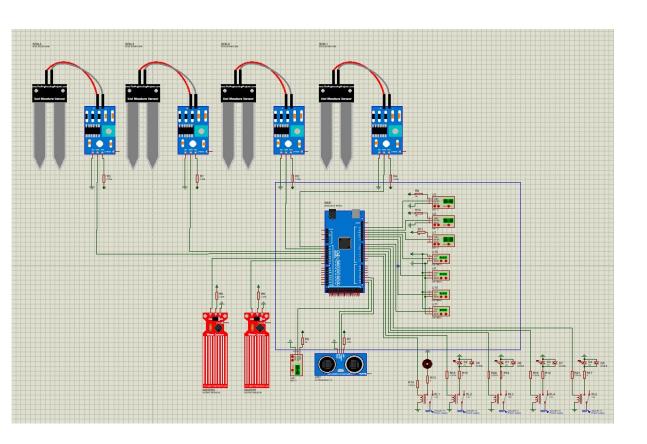
Project overview



Project overview

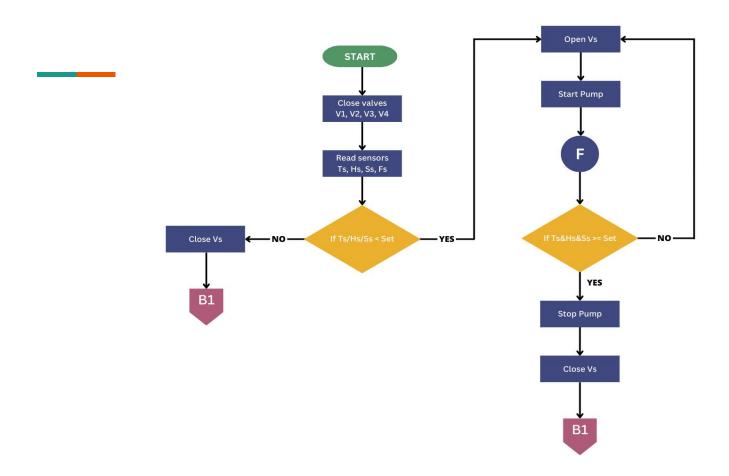
Raspberry Pi MESSAGE BROKER DATA BRIDGE DATA STORAGE CHARTING UI MQTT NODE RED INFLUXDB GRAFANA

Project schematic



- Proteus 8 Professional
- Sensors in our system
- Pump and valves

Embedded system programming



Project implementation





Data analysis



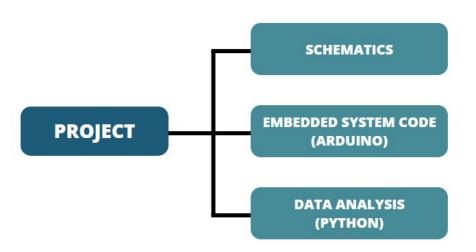
Data analysis



Data analysis

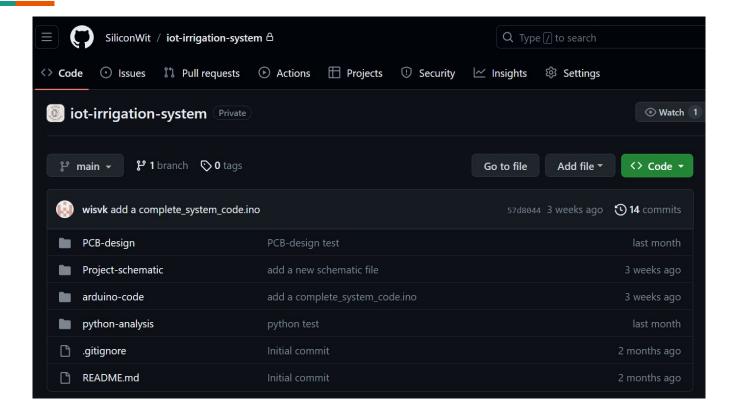


Project documentation



- GitHub what is it?
- Github version control
- GitHub and teamwork

Project documentation



Plans for the future

- Continue collaboration research for this project
- Improve project documentation
- Perform more advanced data analysis
- Release the publication in a scientific journal