

IOT FARMING



Team Members:

Berk Öz doruk

Erdoğan Yağız Şahin

Ömer Levent Durdalı

Oğuzhan Özkan

Project Supervisor:

Dr. Cüneyt Sevgi

ROADMAP

1. About
ELIXIR

2. Competitors

3. Functional
Requirements

4. Non-Functional
Requirements

ROADMAP



5. Software
Development
Environment

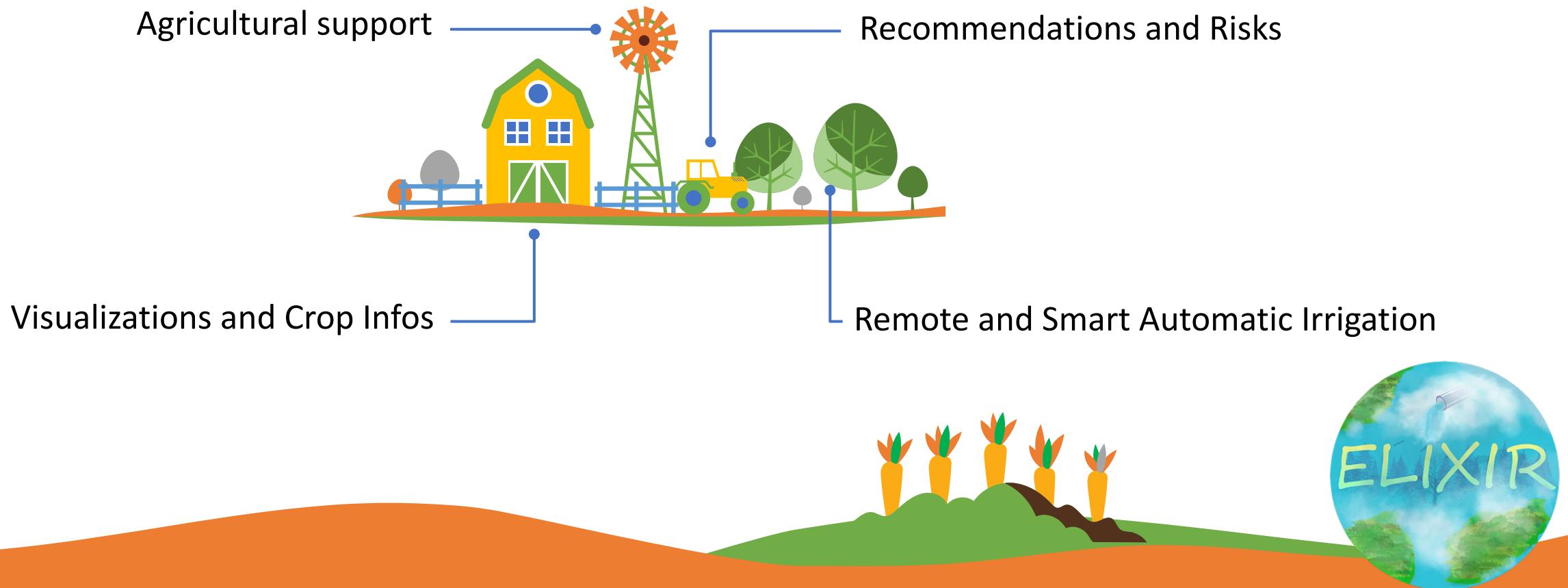
6. Schedule

7. Software
Architecture

8. Demonstration

What is ELIXIR?

Elixir is an automated smart irrigation and agriculture system designed to provide agricultural support and automate irrigation.



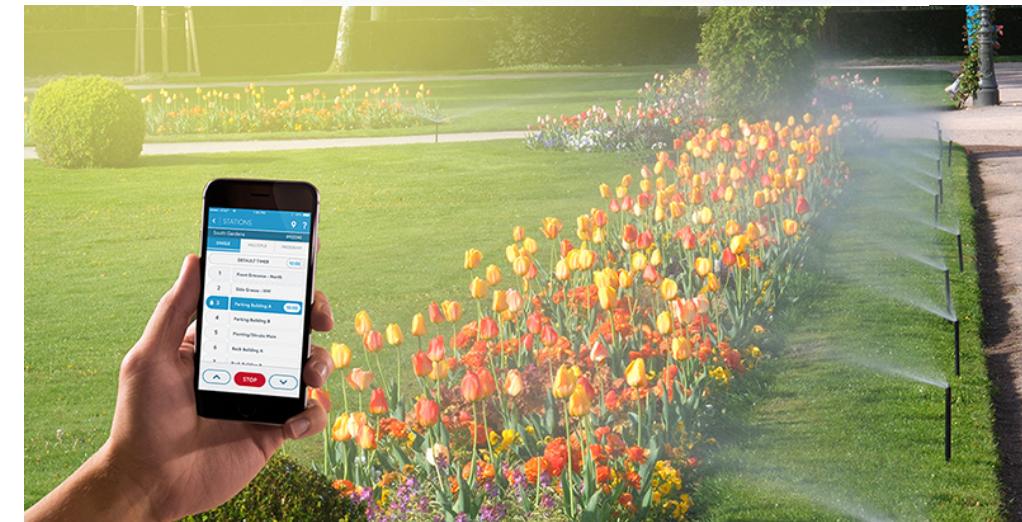
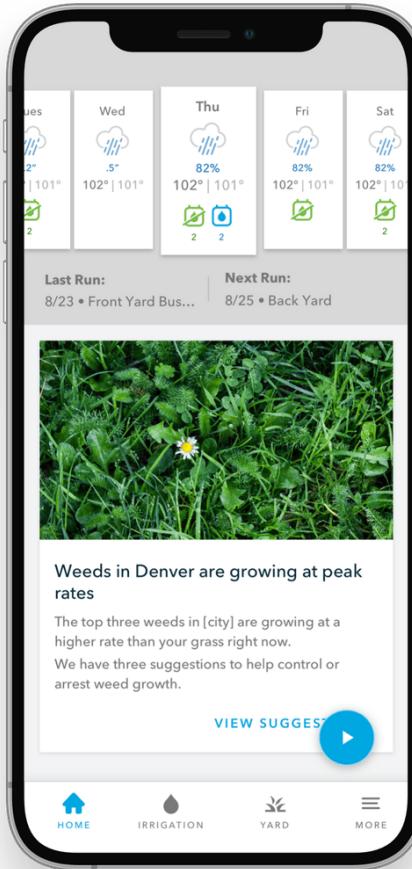
Competitors

We have 2 different types of competitors.

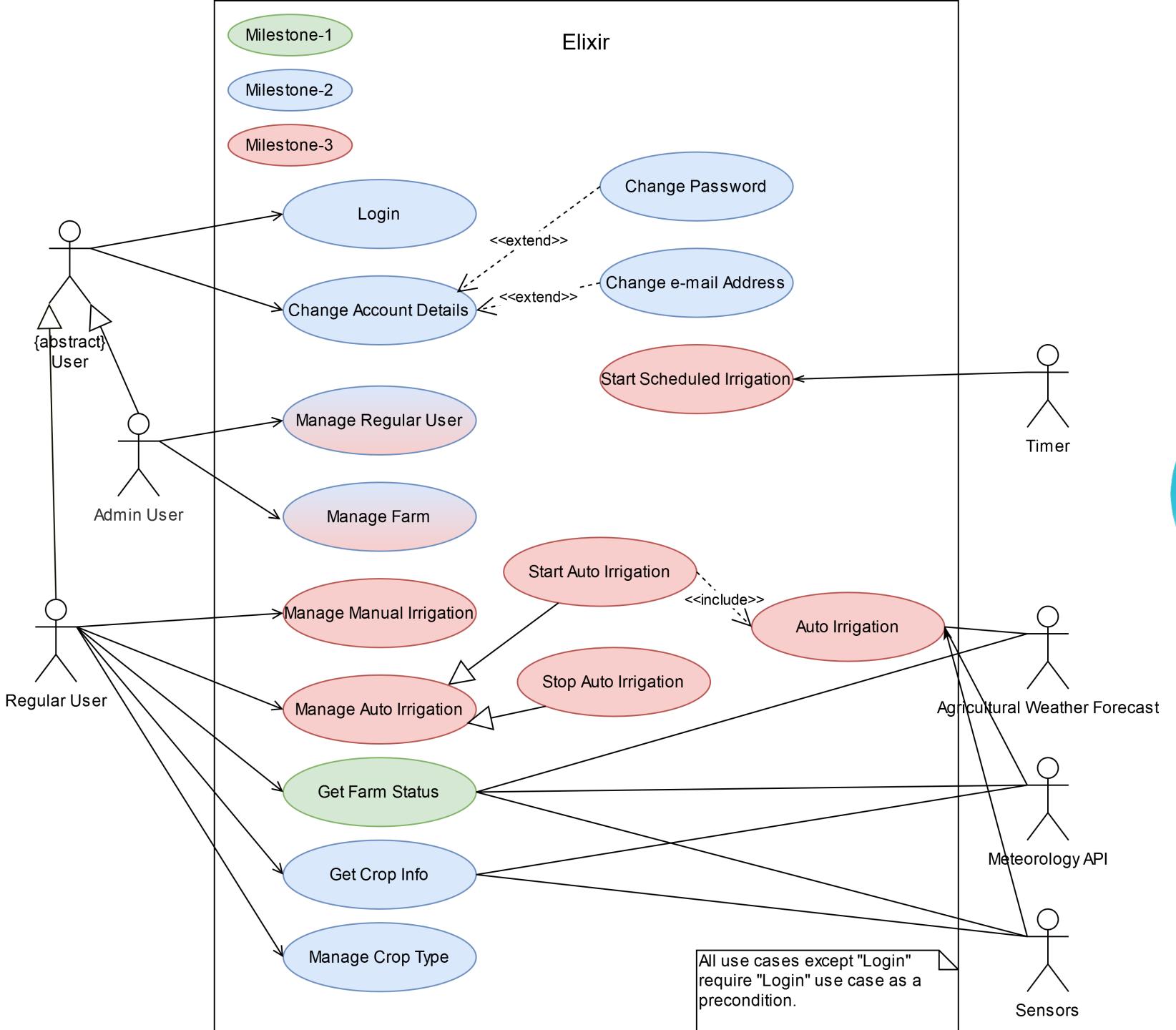


Competitors

We have 2 different types of competitors.



Use-Case Diagram



All use cases except "Login"
require "Login" use case as a
precondition.

Performance



System shall display the visualized output to the user in less than 3 seconds.

1

Geographically closer virtual machines!

2

MQTT protocol!

3

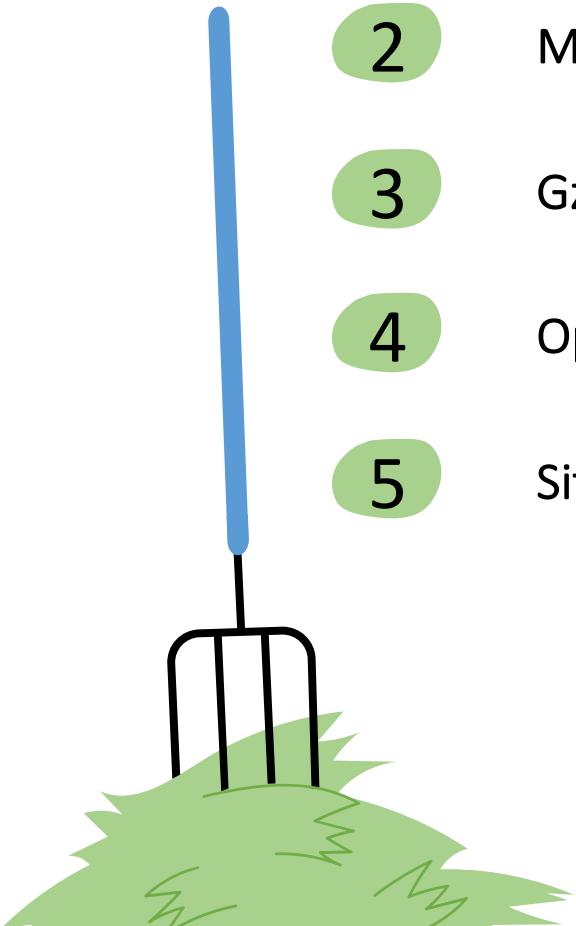
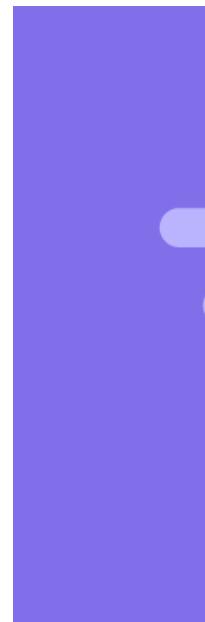
Gzip compression!

4

Optimized and minimized API queries!

5

Sitespeed.io!



Software Development Environment

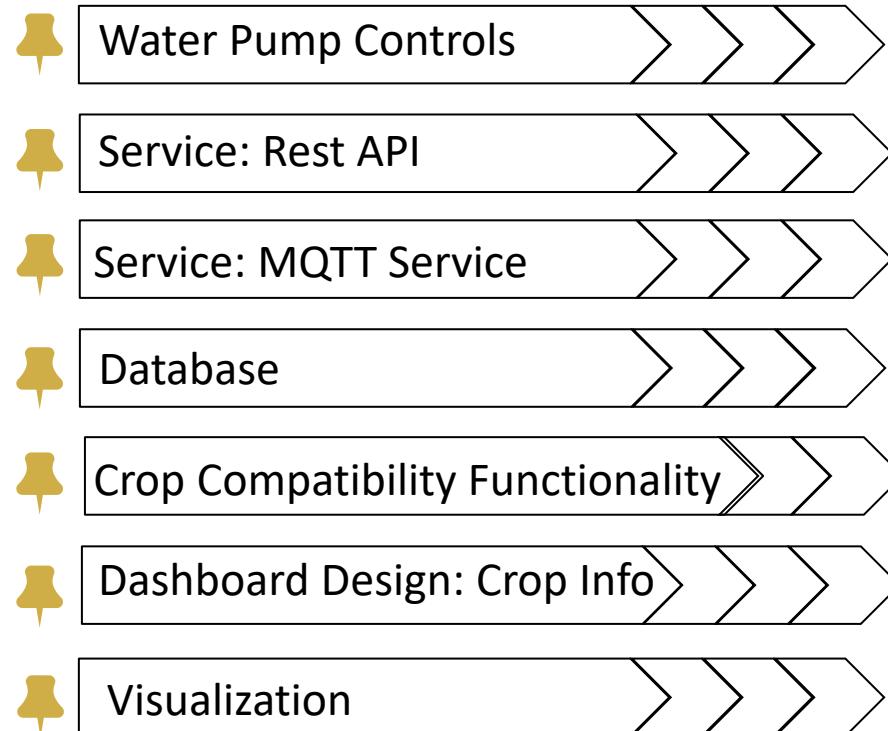
Category	Tool	Version	Description
Programming Languages	JavaScript	ES6	Programming language
	Python	3.9.0	Programming language
Runtime Environments	Node.js	14	JavaScript runtime environment
Web Frameworks	React.js	16.13.1	JavaScript web framework
APIs	OpenWeatherMap API	-	Weather forecast API
Databases	MongoDB	4.4	NoSQL database
	InfluxDB	2.0.1	Time series database
Cloud Services	Azure Virtual Machines	-	Virtual machine service
	Google Cloud Platform Compute Engine	-	Virtual machine service
Version Management	Git	2.29.2	Version control system
V&V	Jest	26.6.3	JavaScript testing framework
	unittest	3.9.0	Python unit testing framework
	SonarQube	8.5.1	Continuous inspection tool
MQTT	Eclipse Mosquitto	1.6.12	MQTT broker
	Eclipse Paho	1.5.0	MQTT client library

Gantt Chart & Responsibilities

2nd Increment

March 17,
2021

Tasks



Responsible

Levent
Erdoğan & Oğuz
Erdoğan & Levent
Berk
Berk & Erdoğan & Oğuz
Berk & Levent & Oğuz
Erdoğan & Levent

Use Cases

- Login
- Change Account Details
- Change Password
- Change E-Mail Address
- Manage Crop Type
- Get Crop Info
- Create Regular User
- Create Farm

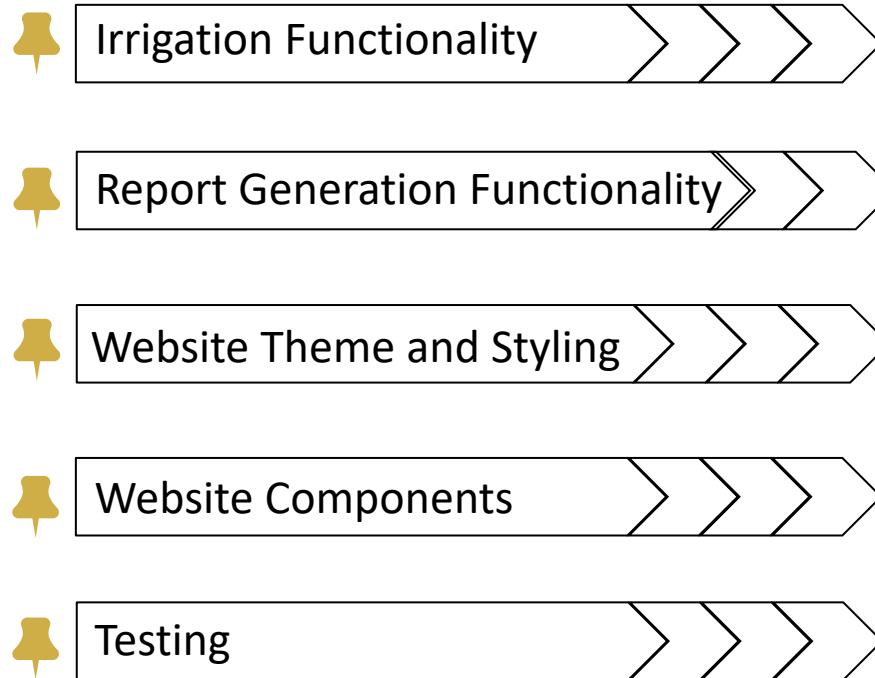


May 5,
2021

Gantt Chart & Responsibilities

3rd Increment

Tasks



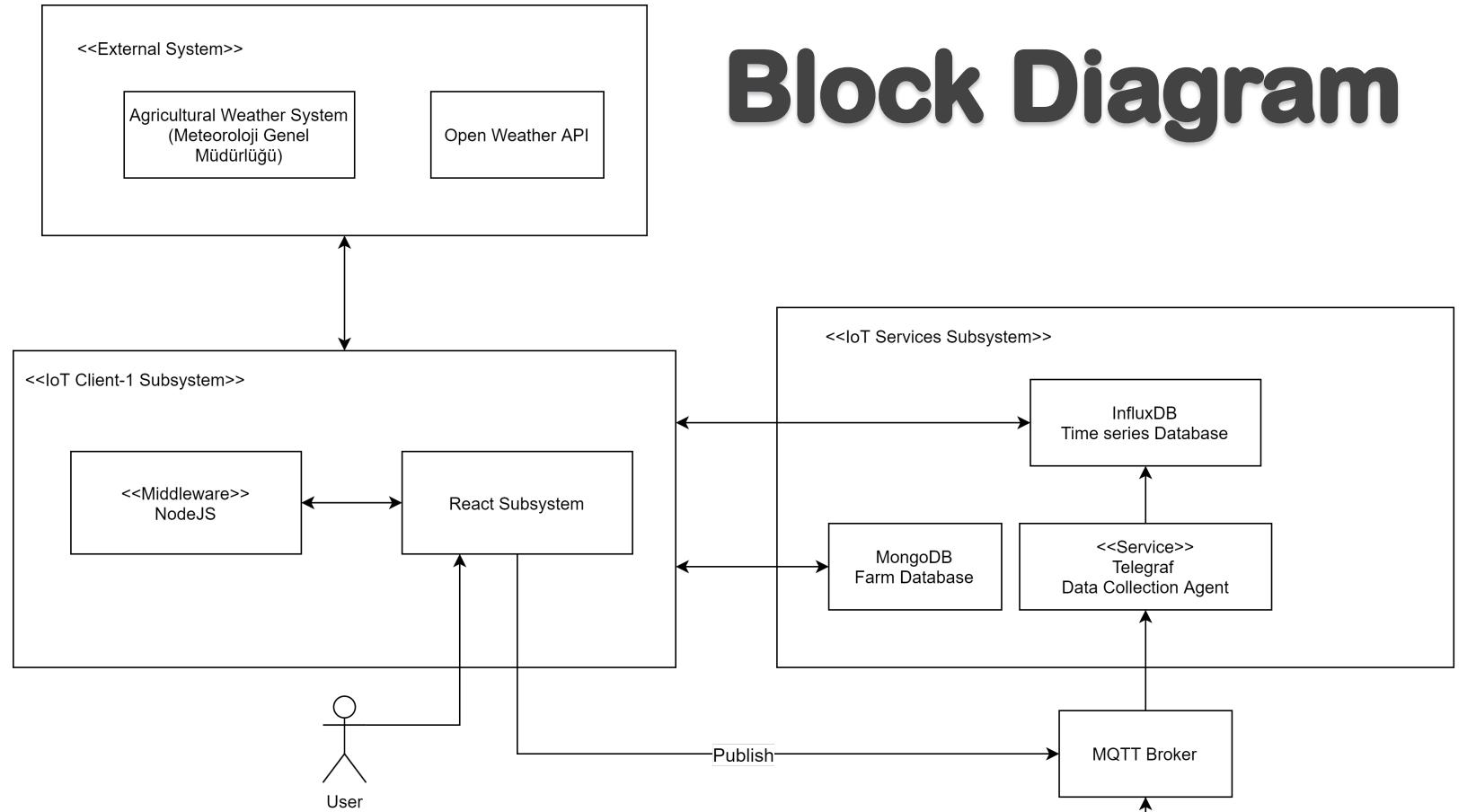
Responsible

Use Cases

- Manage & Edit & Delete Regular User
- Manage & Edit & Delete Farm
- Manage Manual Irrigation
- Start & Stop Irrigation
- Schedule Irrigation
- Manage Auto Irrigation
- Start & Stop Auto Irrigation
- Auto Irrigation
- Start Scheduled Irrigation



Block Diagram



Demonstration



Thank you for
listening!

