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İoT Based Garden Monitoring System

Project Team Info

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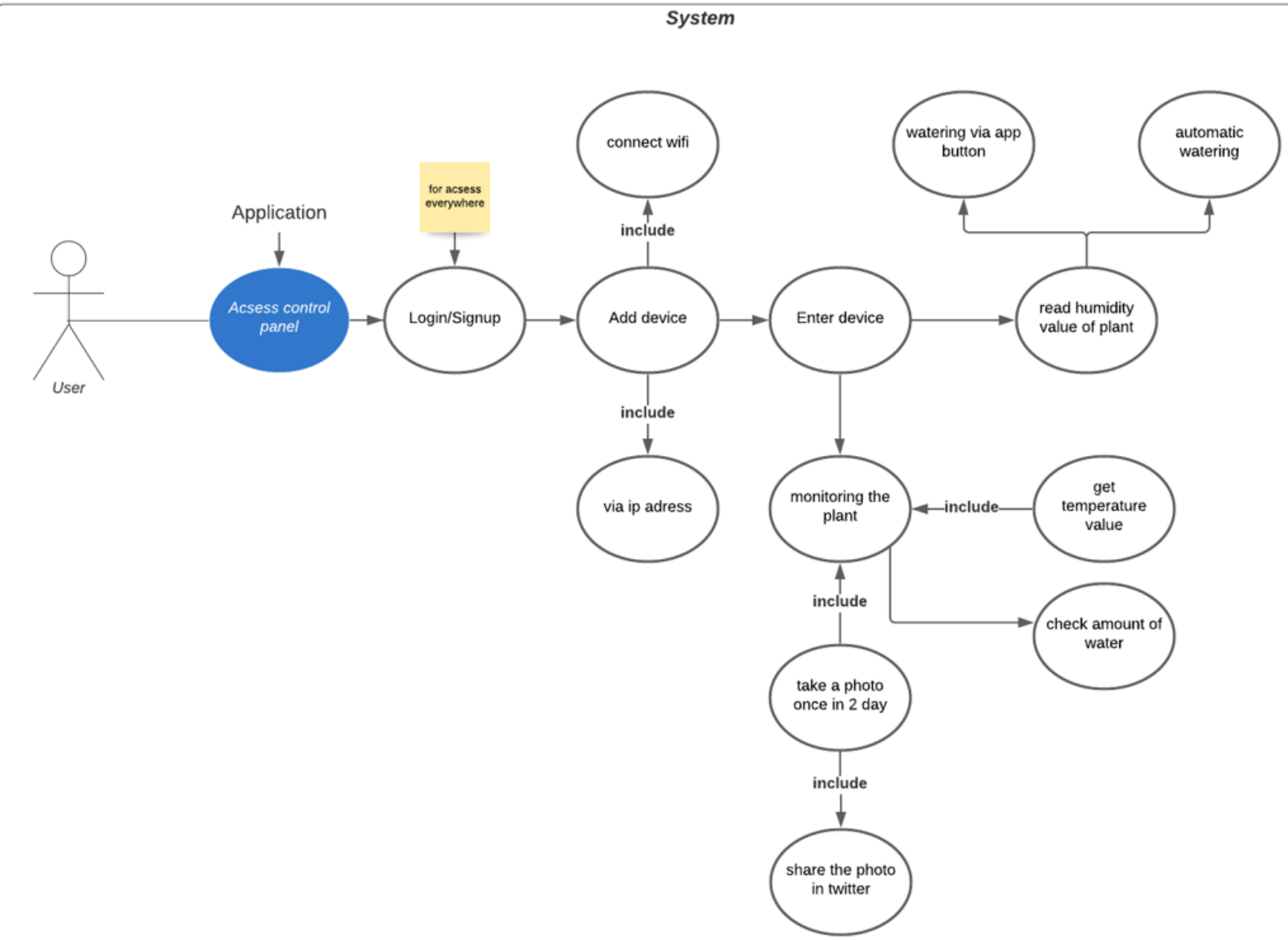
System's Functional Requirements

İoT Based Garden Monitoring System is basically an plant monitoring system. Generally there will be application and users accsess their device an plants for control and monitor status of the plants.

Use Case Diagram:



Primary Actors: User.
The description of each use case is given below.

Acsess to control panel: User must install the water gardening application via google play store for control all the features.

Login/Signup: User must sign up/Login for acces from anywhere and see their devices.

Add device: User must add device for controlling. Device added by ip address

Connect wifi: Application should be connected to the Internet for real time monitoring.

Via ip adress: Every device has a ip address and the system allows to add several devices for single application.

Enter device: If there several device in the control panel then user must select the one of them and enter the device for monitoring this.

Monitoring the plant: Monitoring running by sensors which is temperature, Humidity, and the camera

Take a photo one a …: Camera take a plant photo every several hours/day

Share the photo in twitter: Taken photo sended to the User or tweet on the twitter

Read humidity value of plant: Sensor read the humidity value and show us the value.

Watering via app button: In the app there be button for manual watering. When the press the button plant will be watering.

Automatic watering: Watering according to the humidity value or temprature

Get temperature value: The sensor will be placed near the plant and will measure the temperature of the light from the sun.

Check amount of water: It will measure the amount of water in the water tank with the sensor and notify us when the water is low.

 # Camera monitoring allow to see real time plant growing and health.

System's Nonfunctional Requirements.

#Application must be simultaneous
#Controlling must be understable and easy.

User Stories, Pre- and Post-Conditions are listed below.

EPICS	STORIES	CONDITIONS
Epic 1: As a user, I want to monitor the my plants. .	Story 1- As a user, I want to acces my plant everywhere and anytime for monitoring.	Pre-contition: Application must be installed.
		Post-condition: Monitoring hass been done successfully
	Story 2- As a user, I want to login and use multiple account for several devices.	Pre-contition: Sign up with email and set password.
		Post-condition: The system confirmed login and allow accsess devices.
	Story 3- As a user, I want to see my plants status, humidity, temperature and.etc	Pre-contition: To enter the application.
		Post-condition: The system shows value synchronously.
	Story 4- As a user, I want to see my plants visually and check.	Pre-contition: Camera take a photo
		Post-condition: Sended/Tweeted to the user successfully.
Epic 2: As a user, I want to control the plants.	Story 1- As a user, I want to watering my plants by manually	Pre-contition: Press the “watering” button
		Post-condition: Plants successfully watered
	Story 2- As a user, I want to watering my plants by automatically by humidity level.	Pre-contition: Humidity level if under 50% then watering.
		Post-condition: Watering done by automaticly. Humidity level increase.
	Story 3- As a user, I want to check y water tank level	Pre-contition: get water level in the tanker
		Post-condition: Notify user if water level under 50%

Epic or not?

-As seen in the user story list above, we have a total of 2 epics. Each of these epics is composed of a combination of multiple user stories, and each user story is written to represent a use case.