



TECHNOLOGY & INFORMATION SYSTEM

LOW FIDELITY PROTOTYPE PROJECT

ARTIFICIAL INTELLIGENCE

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Our Great Team

We are K-tech and We will try our best in doing this project in order to make all of our client satisfied in the end.



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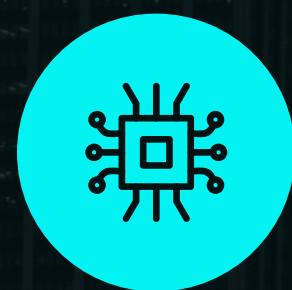
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AWS Designer

Introduction

Technological advancements in several domains have made possible the modernisation that the world is witnessing today. Jobs are less dangerous and more efficient now that new tools are accessible. This needed improvement also including the farming industry for the task such as harvesting, planting, watering, fertilizing and pruning.



**Advanced
Machine**

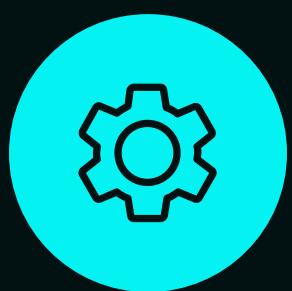


**Artificial
intelligence**



Problem Statement

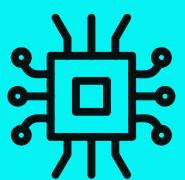
The main client for this project is the farm company that has such problems. This low-fidelity project is still in prototype and can be used in some major function that can help the task. For the briefing, our project consists of autonomous robots that can be controlled and accessed via application on the user's smartphone. With this, our client can manage their productive farming task base on their own.



Progress
87%



Ability
95%



when he is not around or on an outstation or on vacation. The plants will be left unwatered and unfertilized for days or weeks



The autonomous robot encompasses of:

Smart Camera

A smart camera is a self-contained, standalone vision system with built-in image sensor in the housing of an industrial video camera

Water Tank

A water tank is a container for storing water. Water tanks are used to provide storage of water for use of watering the plant



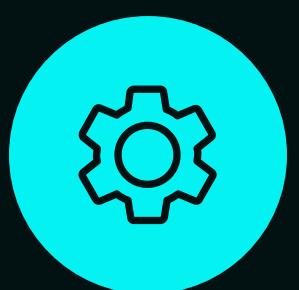
Arduino Kit

The Arduino Kit consists of all the components used for building digital or electronic devices

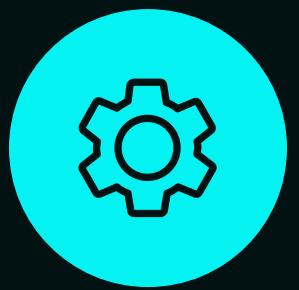
Robotic Claw

Robot claws are one of the simplest types of gripper. They are popular among hobbyists, who are attracted to the simple design and functionality of these gripper types.

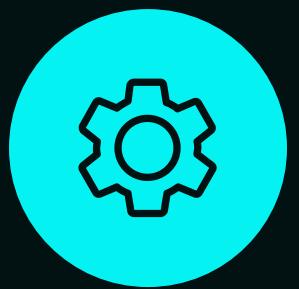
Autonomous robot functionality based on client needs:



Water plant with water
tank and spray



Fertilize plant in a
measured time



Harvest plant using smart
claw sensors



ARCHITECTURE PLANNING AND DESIGN

Harvest.my Robotic Farmer



we will be using Amazon Web Service to serve and solve clients' needs. AWS is a collection of several cloud computing products and services. The services can provide a company with resources like processing power, database storage, and content distribution. AWS's major offerings include EC2, Amazon's virtual machine service, S3, Amazon's storage system and Glacier, a low-cost cloud storage service. AWS has grown so huge and pervasive in the computer industry that it has far outperform its competitors.

Amazon Web Services (AWS)

Description

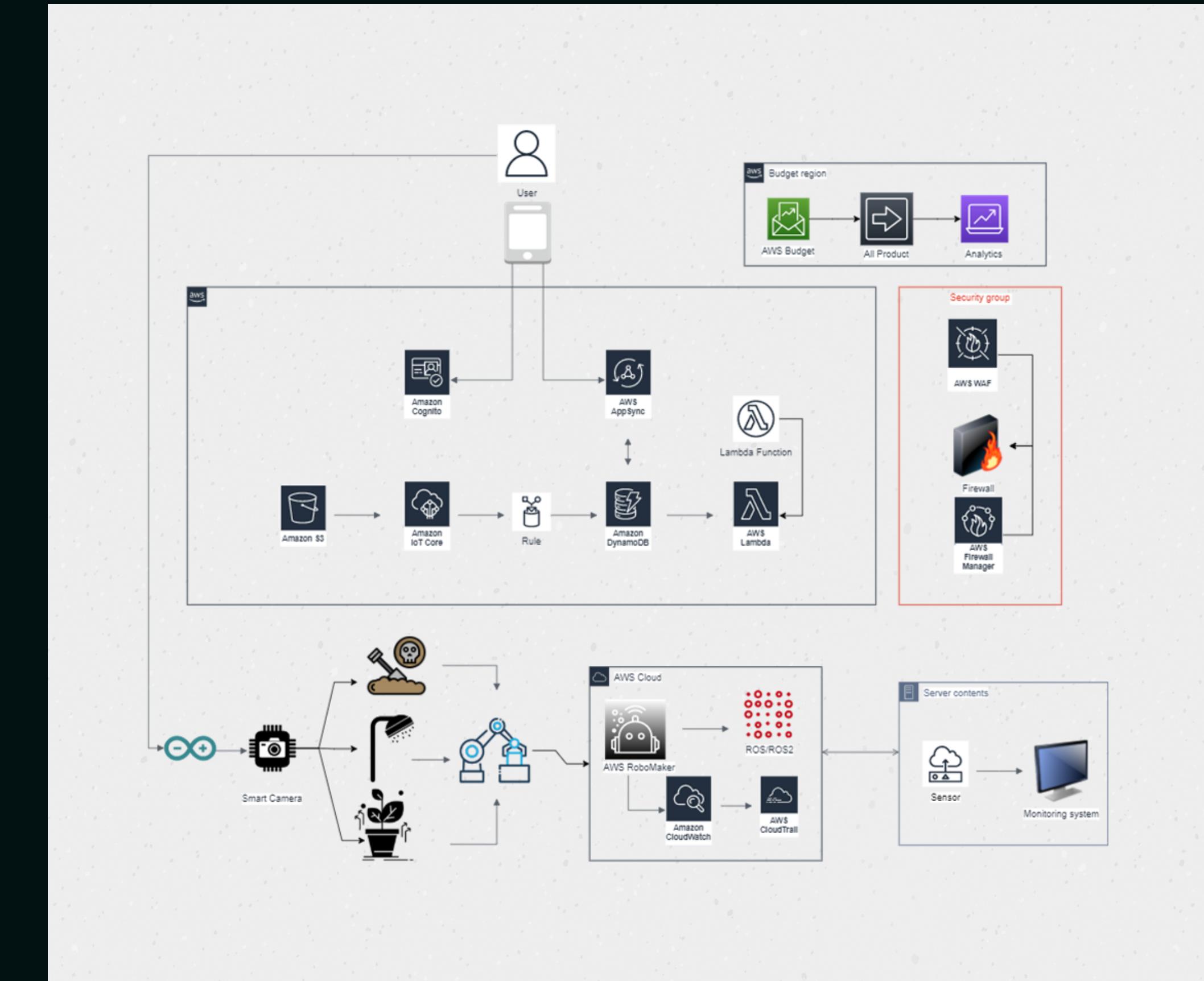
We have implemented Amazon Web Services (AWS) for our clients' needs and problems. We also use compatible application software called Harvest.MY. to control the robot. In this application, it will provide users with a minimum and maximum water intake for plants per day. The combination of smart claws and smart cameras can utilize the maximum yield in a short period of time.



Architecture diagram

Description

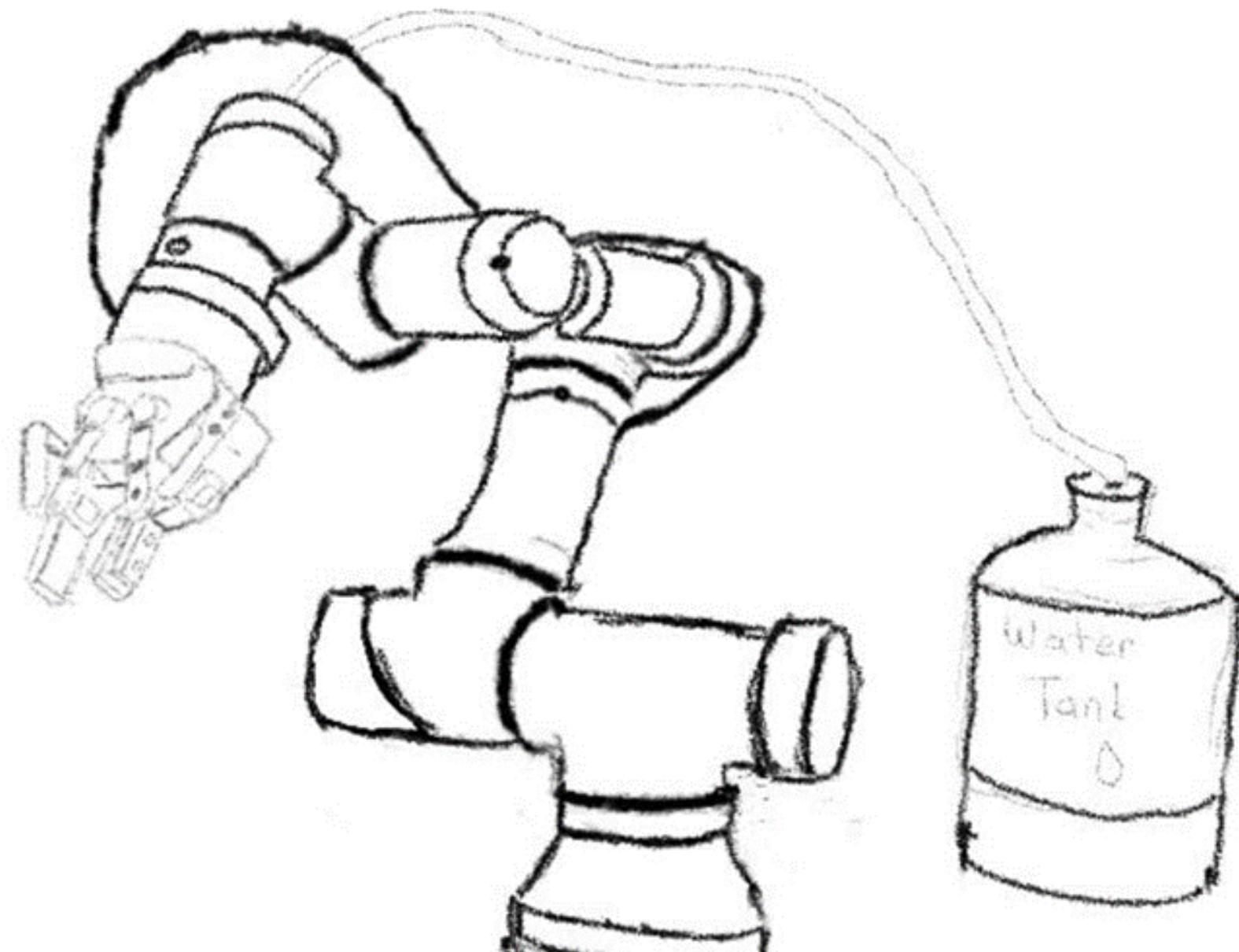
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Prototype sketch diagram

Description

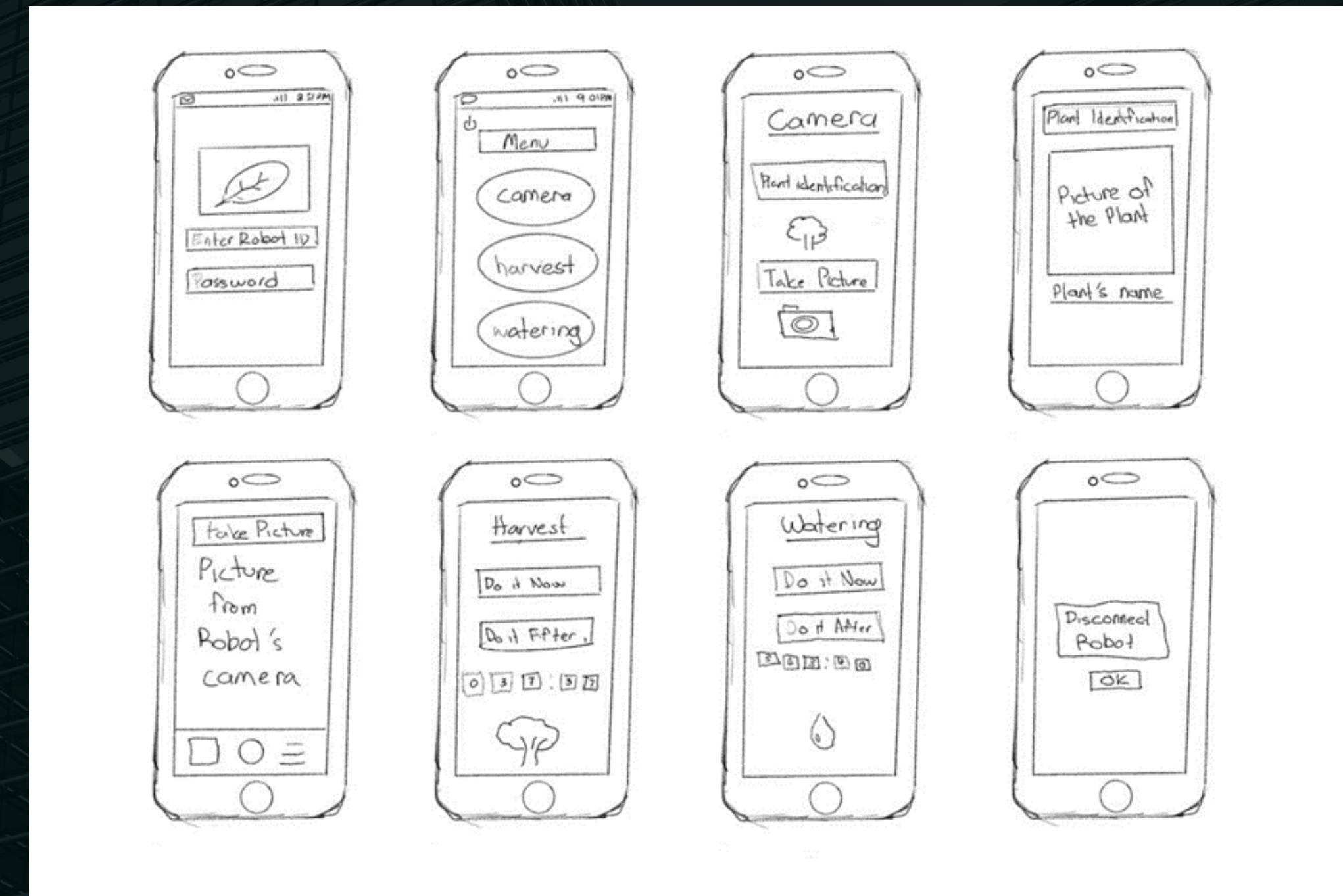
A prototype is a design tool used to help create a new product, much like a model. This is the Prototype drawing by one of our group members on how the robot will look like



Application Software

Description

In information technology, an application (app), application program or application software is a computer program designed to help people perform an activity. In this case, we are using this app which we name it Harvest.My to control the app from mobile phone



BENEFITS AND CHALLENGES

Challenges

Despite the benefits from this project, there are a few challenges that we might face throughout the project, which include an insufficient amount of power supply, as this prototype works on heavy duty and most likely runs out of battery in a flash.

Meanwhile, not all clients are able to use the prototype and software with full experience because they may lack the knowledge of how to operate the system for optimum service.

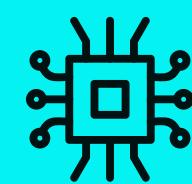
Benefits

Most of the benefits lie with AWS Lambda, which only pays for the compute time and does not charge when the code is not running. It also supports multiple programming languages, and in terms of payment and cost, it will rely on "pay as you go." Additional benefit of cloud-based services that should be considered is the variety of data centres and how much they can assure a company's online activities keep running without interruption. Above all, many have mistaken the performance of AWS, in which AWS is the quickest service provider accessible.



Conclusion

In conclusion, This project can help the farmer multitask in handling their plants and also how its flow to work via AWS cloud computing. Furthermore, this can improve their creativity and then lead to new innovation without relying on other people to increase their effectiveness in farming and it seem that the world full of knowledgeable farmers in technology will be real. Last but not least, we hope that from this project, it can also contribute to the increase of farming industry productivity in our country, not just ease the farmer's burden.



Robotics and other combinations will make the world pretty fantastic compared with today



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K-Tech

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Thanks For Watching

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