

AGROSENSOR

Automated Plant Monitoring System

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PURPOSE AND BACKGROUND

Our goal is to ease the difficulties for farmers as they maintain the conditions a plant grows in. To do this, we have designed an automated sensor system that will send alerts to a mobile app when conditions are unfavorable and risk the plant's health.

CONCLUSION

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We were able to successfully relay the plants data to the database, and finally to the application for the user to view, along with alerts when the plants are at non optimal health

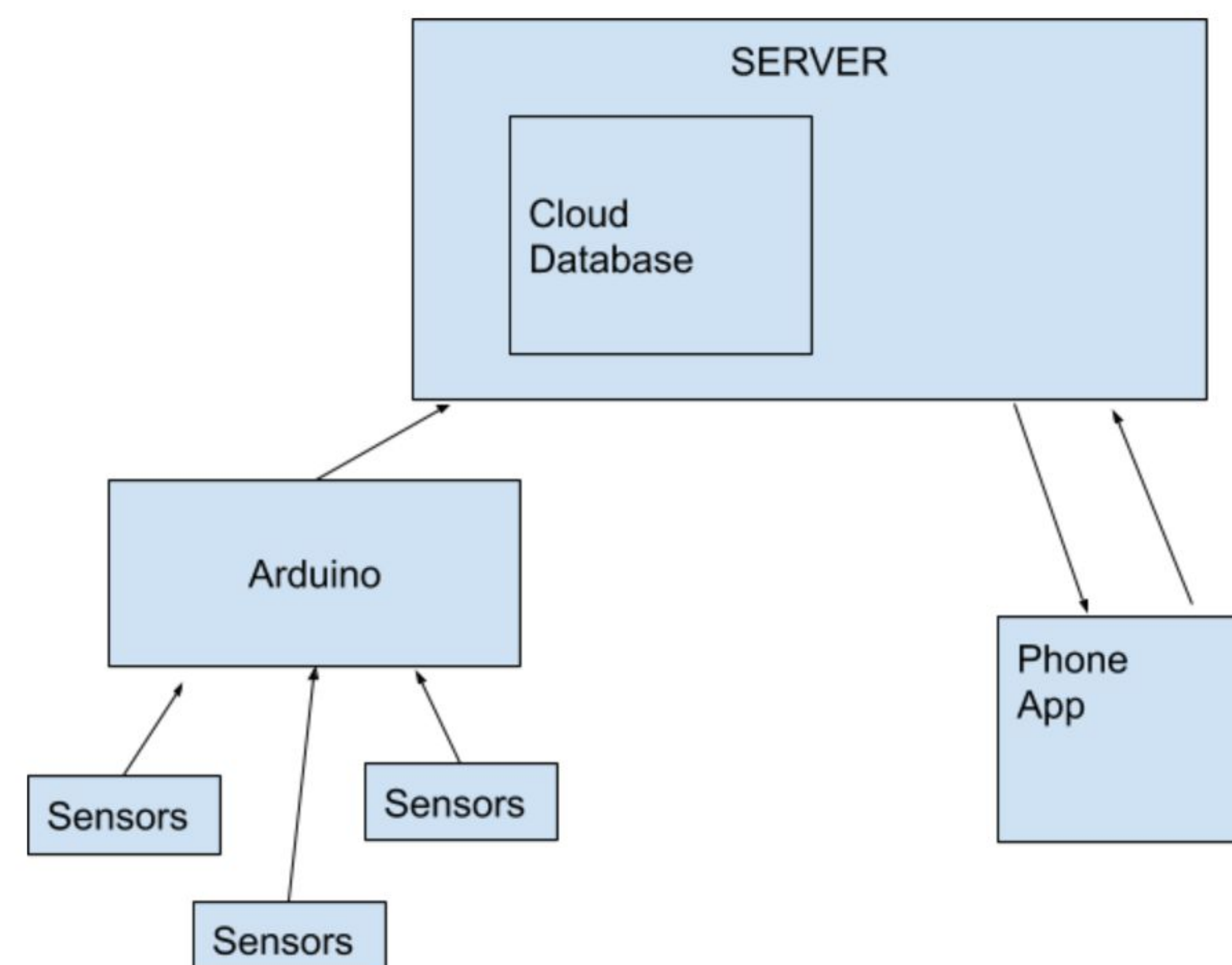
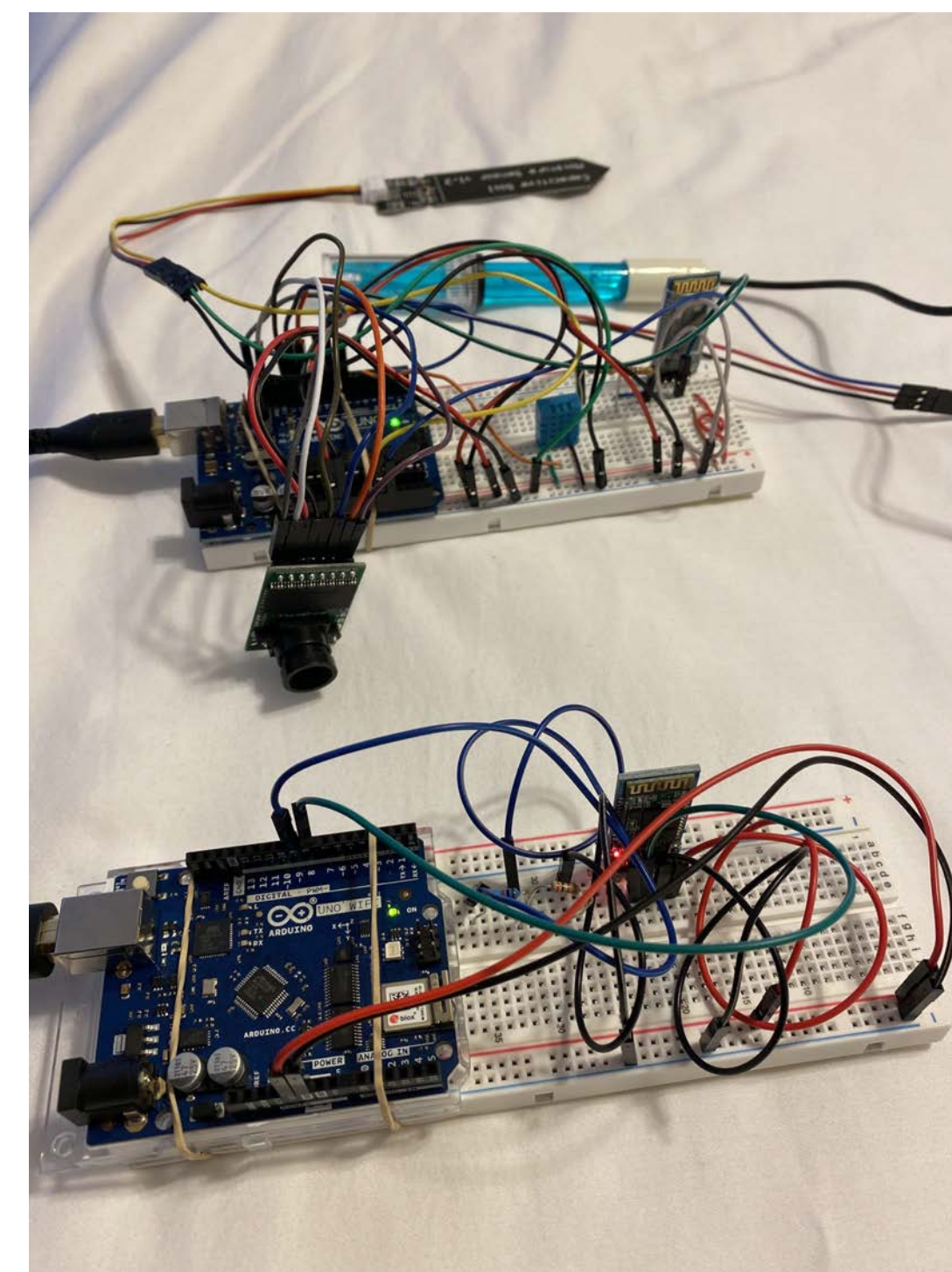
ACKNOWLEDGEMENTS

Dr. Shrestha was our key advisor for this project, we would like to thank him.

SOLUTION

We will provide the following services through our mobile app:

- Plant health history
- Instant alerts to user notifying them when plant conditions need to be changed and how
- Ability to track multiple plants



IMPLEMENTATION

GATHERING DATA

We gathered our data with a variety of sensors. DHT22 temperature-humidity sensor, Gravity Analog pH sensor, Arducam mini module camera shield, and VH400-2M soil moisture sensor.

NETWORKING TO SERVER

Arduino boards were used to collect data from the sensors and send it to the server. Arduino Uno REV3 collects data and sends it via bluetooth to the Arduino Uno Wifi REV2, the master Arduino, which sends the data to the server.

SERVER

Nginx Ubuntu server programmed via PHP to automatically store data in the database and send alerts if needed.

APP

Programmed via Android Studio to pull user's plant data and receive alerts from server if plant is unhealthy



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