CITY CROP

Team Members

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PROBLEM STATEMENT

The lack of urban farming in Addis Ababa has made the city dependent on the rural hinterland for food supply.
GCGO : Urbanization and agriculture

This problem matters because it increases the city's vulnerability to food shortages and price fluctuations, posing a risk to food security and the well-being of its residents.

USER PERSONA

Name: Sara Tesfaye

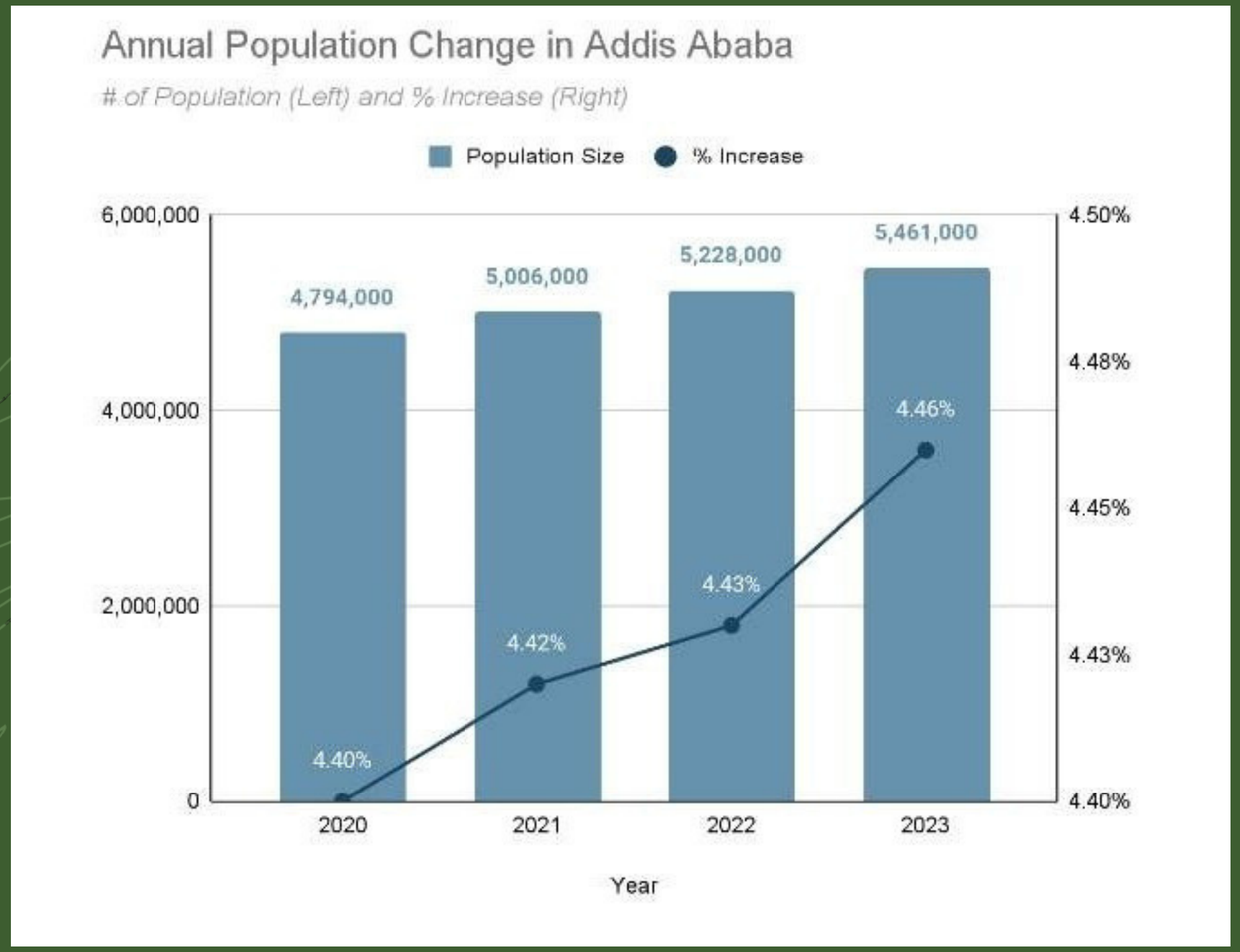
Sex: Female

Age: 27

Occupation: HR

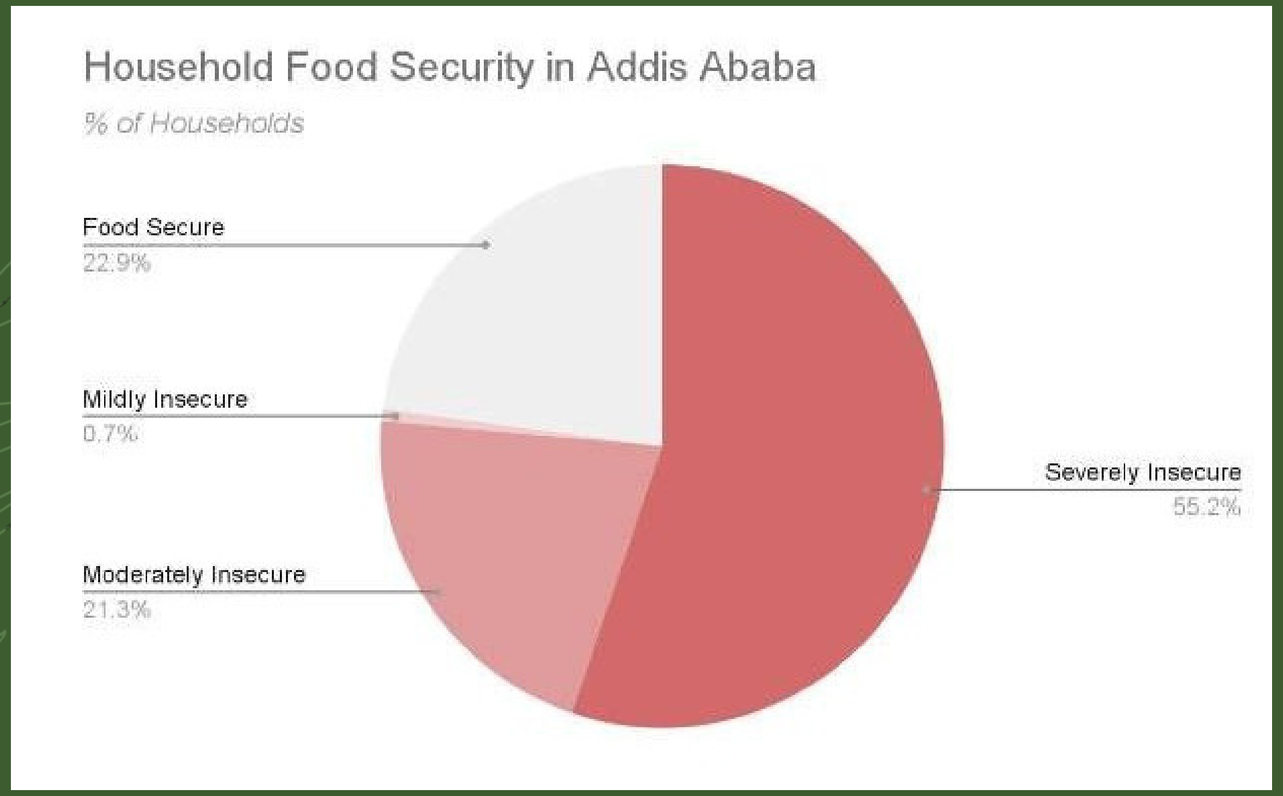
Location: Recently moved to Addis Ababa

ANNUAL POPULATION CHANGE



The population of Addis Ababa currently exceeds 5.4 million people, and it is predicted to increase by 4.4% annually, as per the United Nations World Population Prospects.

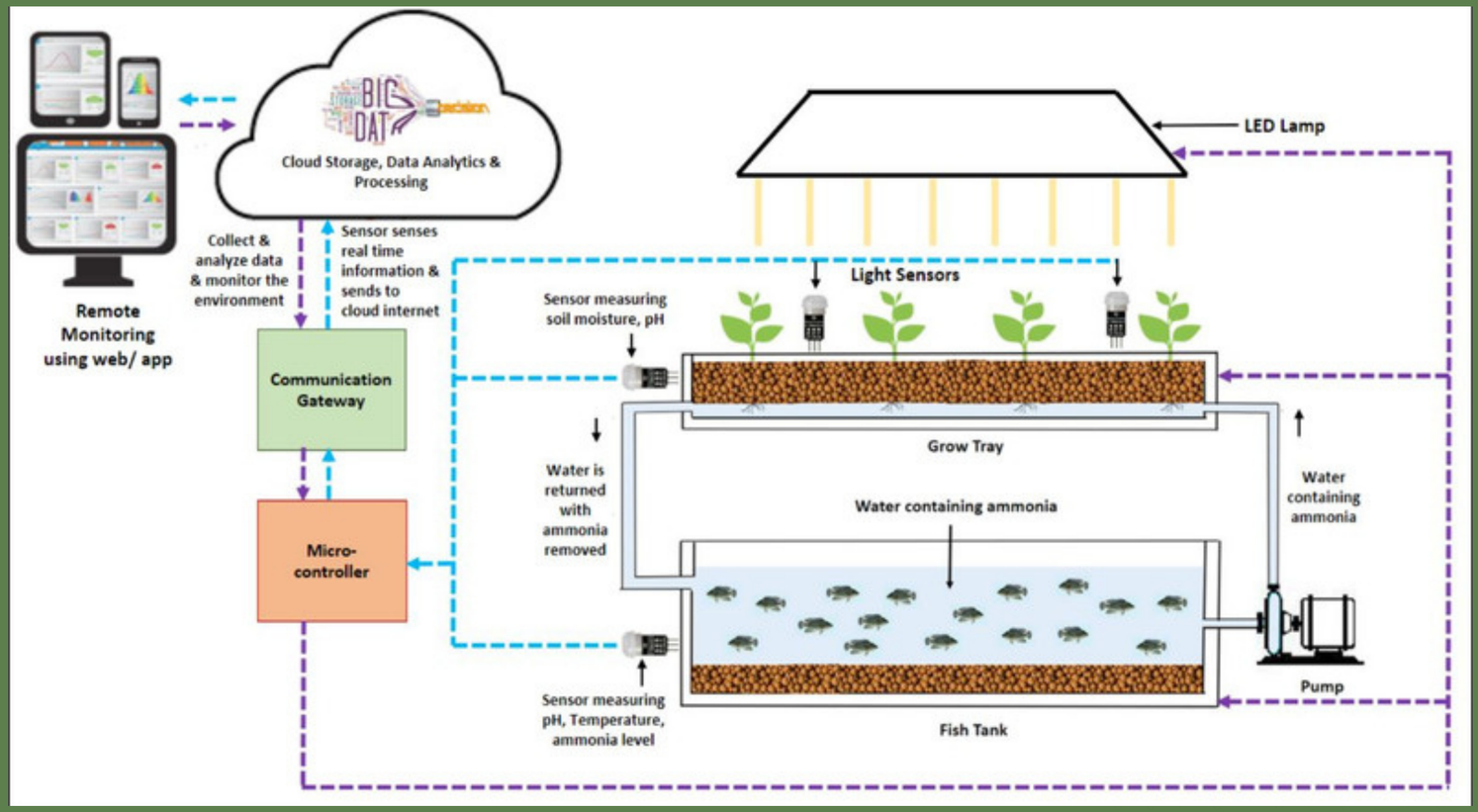
HOUSEHOLD FOOD INSECURITY



As of June 2019, only 22.9% of the population is considered food secure. In contrast, 0.7% are classified as mildly insecure, 21.3% as moderately insecure, and a majority of 55.2% as severely insecure, based on Plus ONE Food Insecurity Status.

SOLUTION

The proposed solution is vertical farming integrated with IoT



SOLUTION....CONT'D

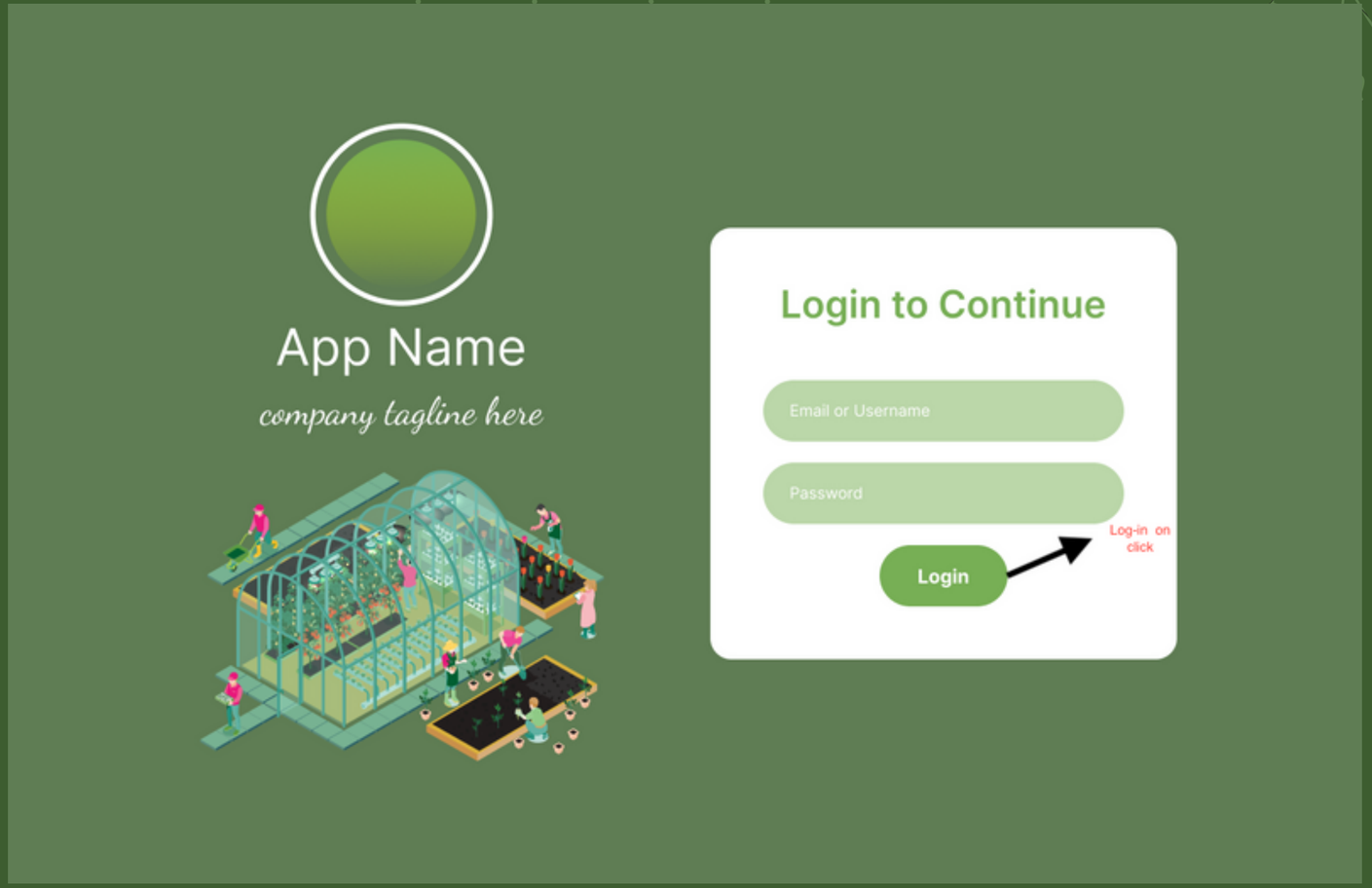
Why?

Vertical farming with IoT integration can enhance food production and sustainability in urban areas like Addis Ababa. By maximizing land use, reducing transportation costs, and utilizing precise monitoring and control via IoT technology, this solution offers a feasible way to overcome limited urban space and reliance on rural areas for food supply.

WIREFRAME

Our solution is designed to automate the vertical farming system

LOGIN PAGE



WIREFRAME

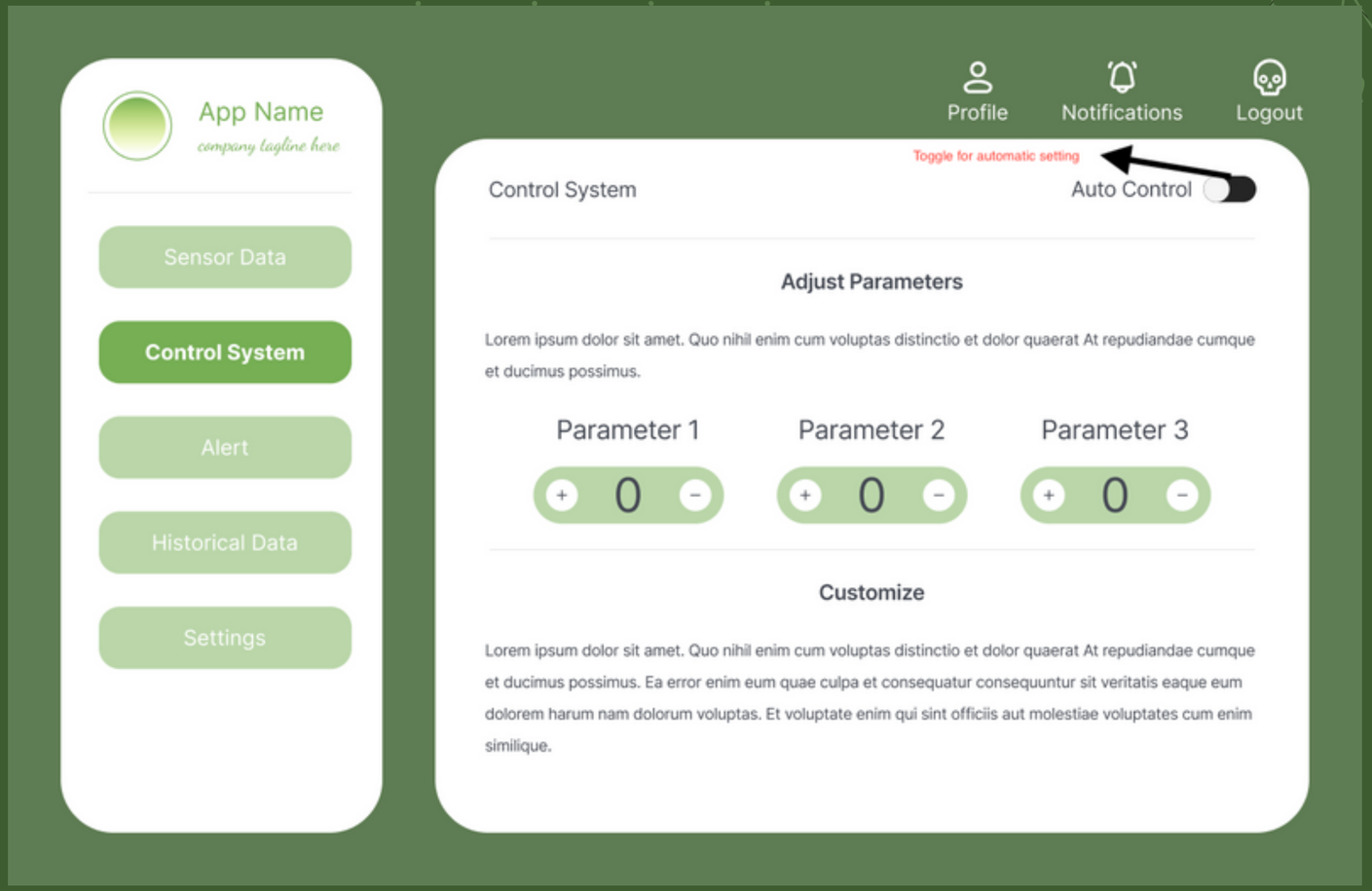
In this page you get to see the readings from the IoT devices

SENSOR DATA

WIREFRAME

On this page, you get to control the different parameters of the system

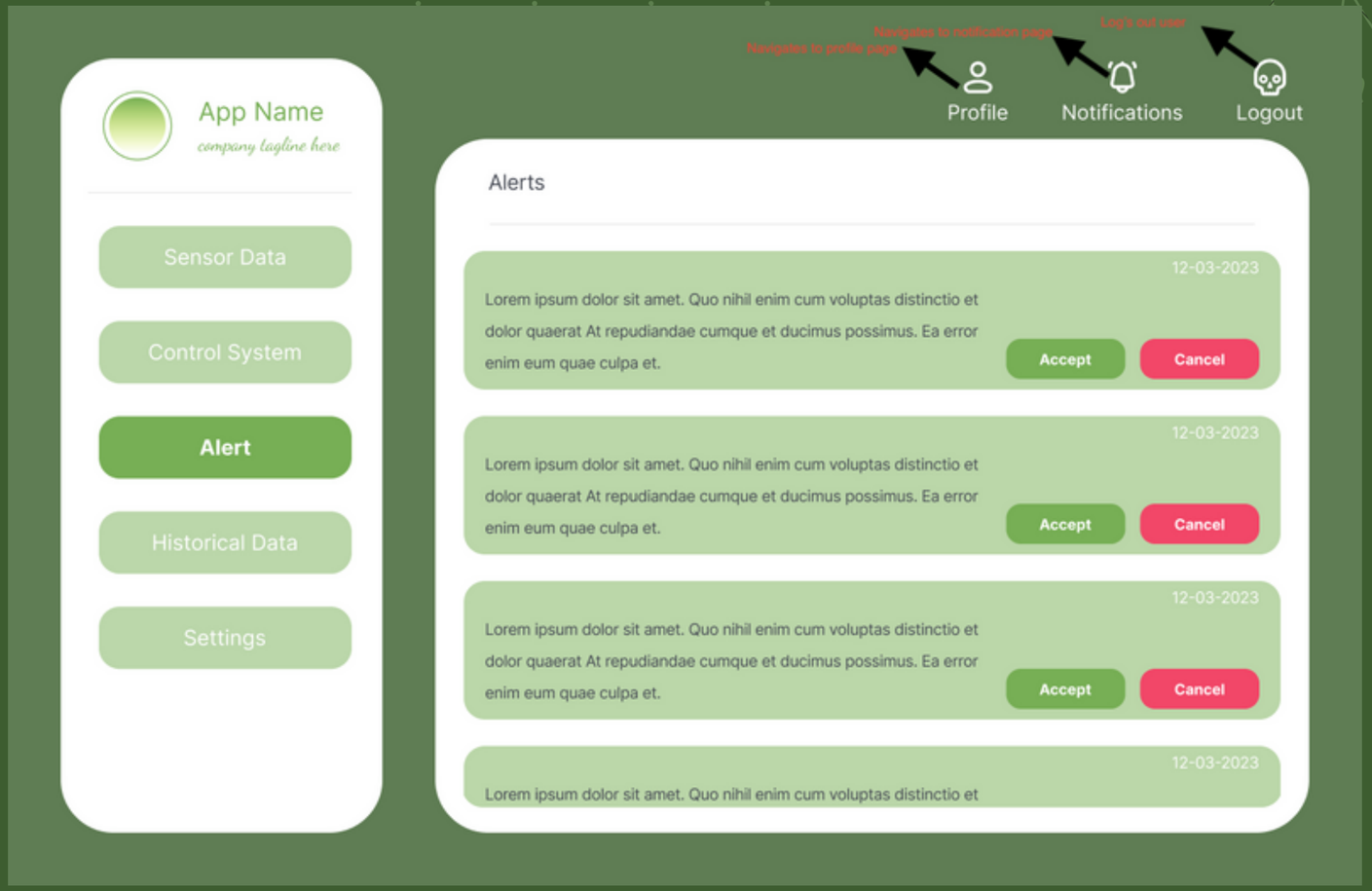
CONTROL SYSTEM



WIREFRAME

On this page, you get important alerts that need immediate action.

ALERT



WIREFRAME

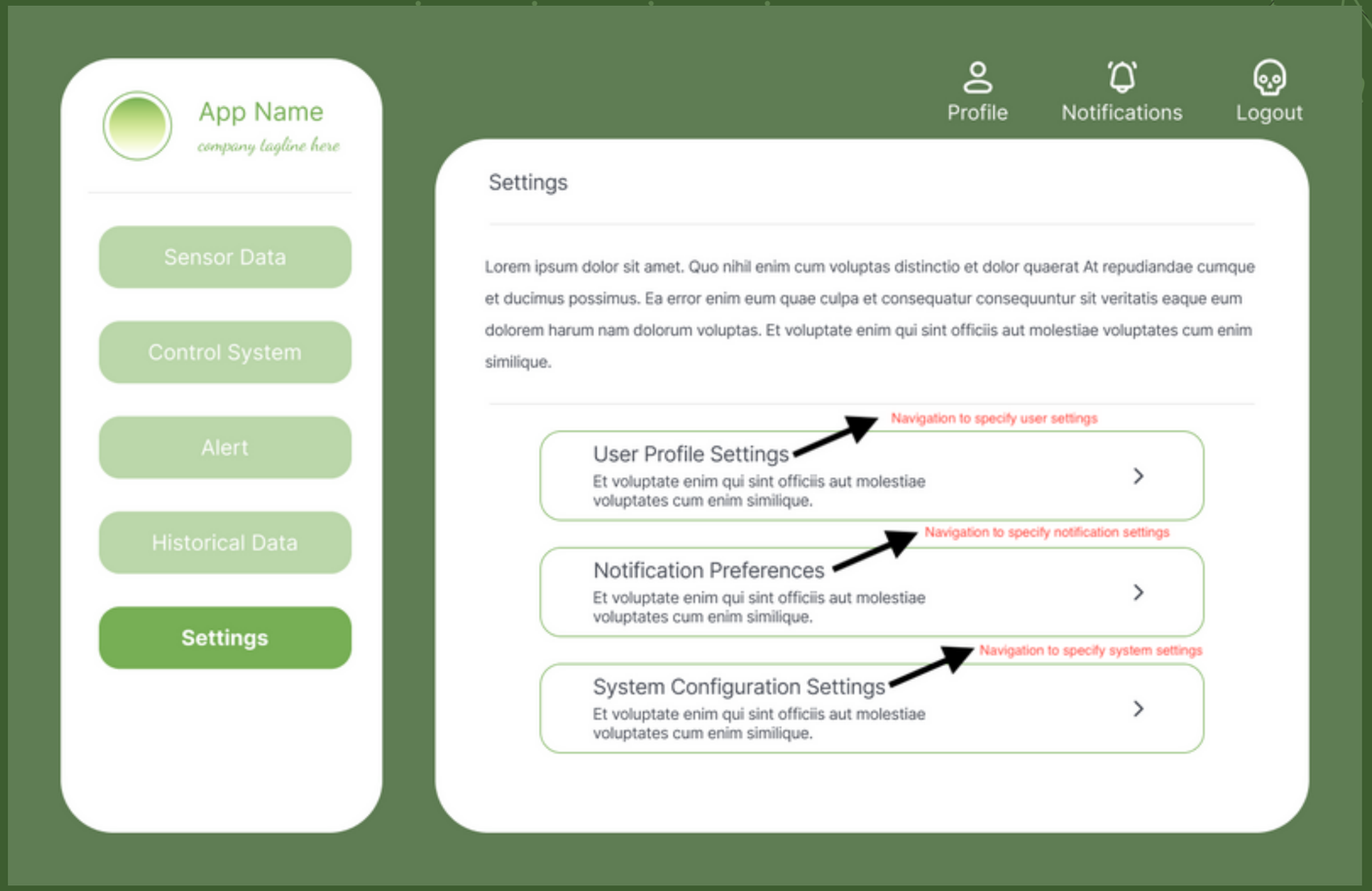
On this page, you get the historical data of the fish and plants that are in the system.

HISTORICAL DATA

WIREFRAME

On this page, you get to control the settings of the system.

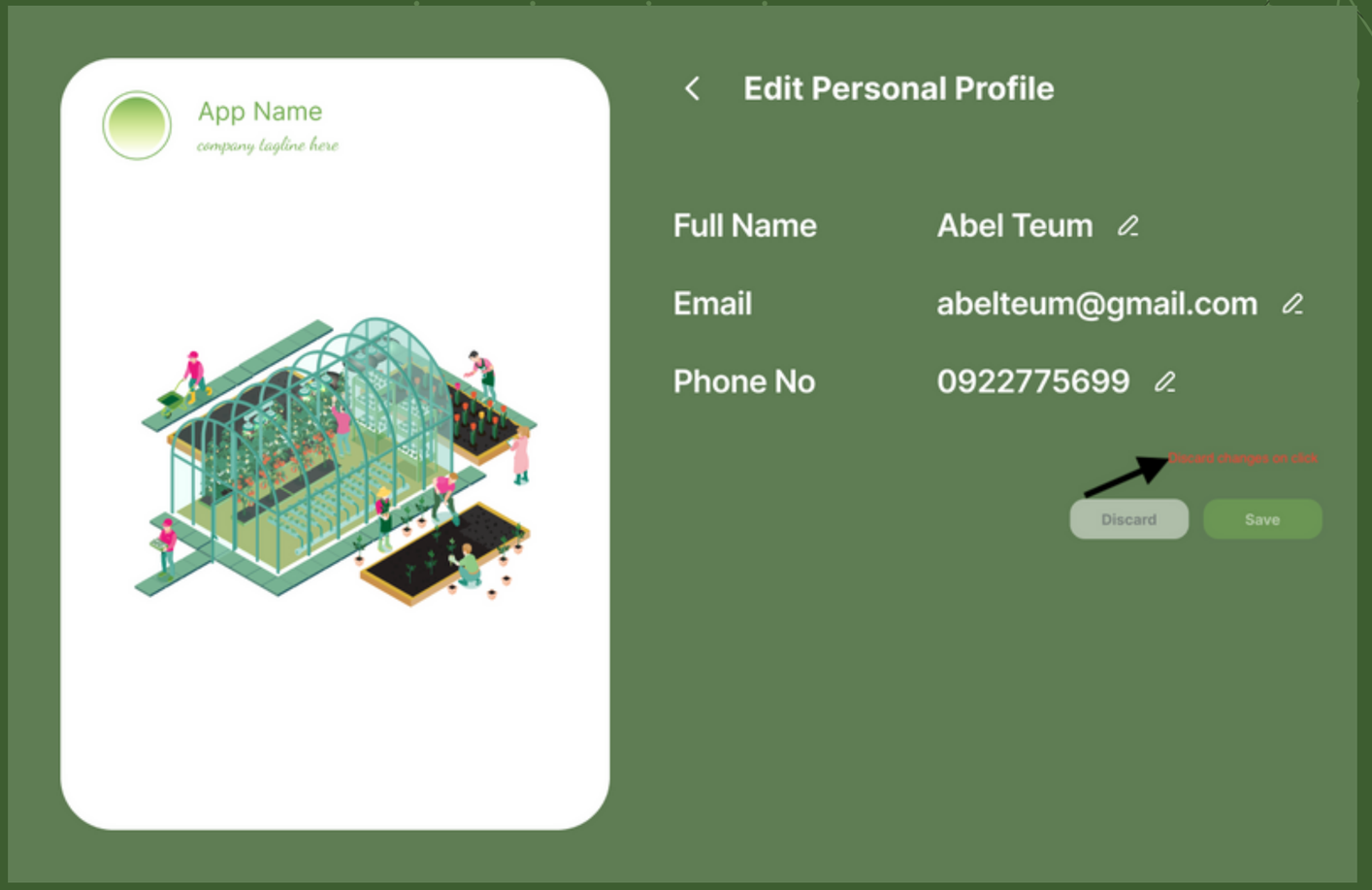
SETTINGS



WIREFRAME

On this page, the user gets to control the set up their profile and security.

PROFILE SETTINGS



NEEDS AND PAIN POINTS

- The wireframe needs a section that explains vertical farming in a simple way for people who may not be familiar with it.
- The wireframe should include a help section for people who have questions and maintenance requirements.
- It would be an improvement if the system offered a feature for users to buy and sell what they produced.
- The wireframe should provide guidance on achieving optimal pH levels, electricity needs, humidity, and other key factors in vertical farming to enhance the quality and healthfulness of the resulting crops.

USER FEEDBACK

- Providing guidance on crucial factors like pH levels, electricity, and humidity will enhance crop quality and yield. This will secure success for farmers in their vertical farming operations.
- The vertical farming IOT web app needs a help section for users to get support and maintenance guidance. It'll enhance their experience and enable them to address any issues easily

IF FUNDED

- conduct research to find suitable locations
- collaborate with experts to design infrastructure
- establish partnerships with stakeholders
- cultivating crops using vertical farming techniques
- establish distribution channels

WHY THIS PROJECT

Vertical farming with IoT integration can enhance food production and sustainability in urban areas like Addis Ababa.

Overall, with funding, we can execute a comprehensive plan that integrates vertical farming with IoT technology, addressing the lack of urban farming in Addis Ababa and promoting sustainable, locally sourced food production.

SIMILAR SOLUTIONS

AeroFarms, based in the United States, have achieved high crop yields and reduced water usage by up to 95% compared to traditional farming methods.

SIMILAR SOLUTIONS

Sky Greens, located in Singapore, has developed vertical farming systems that utilize IoT sensors to monitor and control factors such as temperature, humidity, and nutrient levels.