

# PART 3.1: SYSTEM PROTOTYPE

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## Project Description

EcoBridge is a digital platform designed to bridge the gap between the youth, particularly millennials, and the agriculture sector in the Philippines. By providing a comprehensive interface, the system aims to educate the youth about agricultural practices, empower farmers with access to vital information and technology, and support the general public's interest in sustainable farming and local produce. Key features include educational resources, an interactive marketplace, and forums for knowledge sharing, all tailored to enhance engagement and participation in the agricultural sector.

## Requirements Summary

Software Specification Table

		Android	IOS
Minimum Requirements	Processor	Single Core	Apple A9
	OS	Android 4.4 (KitKat)	iOS: 10.0
	RAM	2 GB	2 GB
Recommended Requirements	Processor	Quad Core	Apple A11 Bionic
	OS	Android: 8.0 (Oreo)	iOS: 13.0
	RAM	4 GB	2 GB
Other requirements	Permission	Notifications and Storage	

The app is designed to work with Apple and Android phones to reach a wider audience. The minimum requirements were set to allow the app to work with older models but also it maintains necessary functionalities.

However, a smoother user experience is expected for devices with the recommended specs.

### *Prototype Specification*

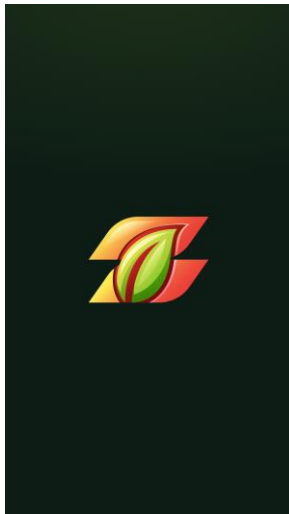
1. Accessibility – The system must be usable by individuals with varying levels of technological literacy.
2. Educational Resources – Provide high-quality, regularly updated educational videos and articles on modern farming techniques, sustainable practices, and technological advancements.
3. Communication and Knowledge Sharing – Implement robust forums where farmers and agricultural experts can share knowledge, ask questions, and provide advice.
4. Marketplace Feature – Develop an efficient marketplace for buying and selling agricultural products, ensuring a user-friendly interface for seamless transactions.
5. Reliability and Accuracy – Ensure that all information provided within the app is accurate, reliable, and sourced from credible agricultural experts and institutions.
6. Localized Content – Tailor content to reflect the diverse agricultural practices and needs across different regions of the Philippines.

## **Prototype Description**

### *Overview*

EcoBridge is an application designed to bridge the gap between the youth and the agriculture sector in the Philippines. This prototype focuses on providing educational resources, real-time information, a direct marketplace, and community building features to make agriculture more appealing and accessible to younger generations, while also empowering farmers with technology. Figma was used to create the prototype due to its ability to be easily distributed to testers via links provided by the developers. The link to the prototype is as follows: <https://bit.ly/EcoBridgeApp>

## EcoBridge Prototype Design



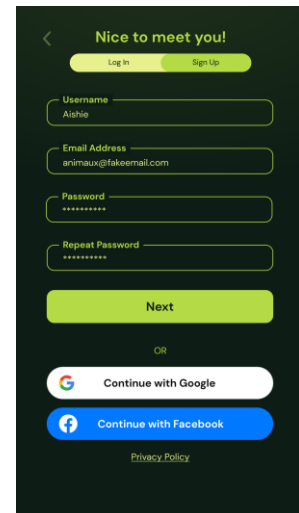
### Splash Screen

The initial screen displayed while the app is loading, featuring the app logo and branding.



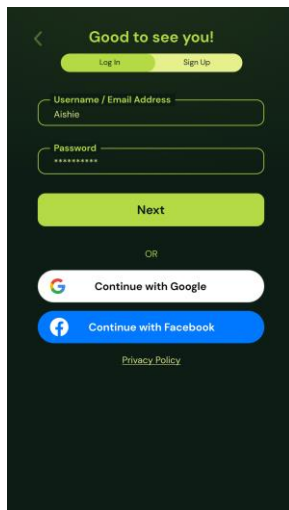
### Title Screen

The screen showing the app's title and options to either log in or sign up.



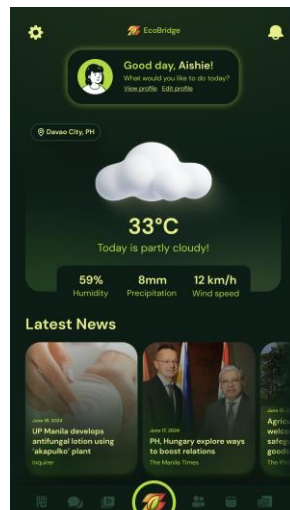
### Sign Up Screen

The screen where new users can create an account by entering their details.



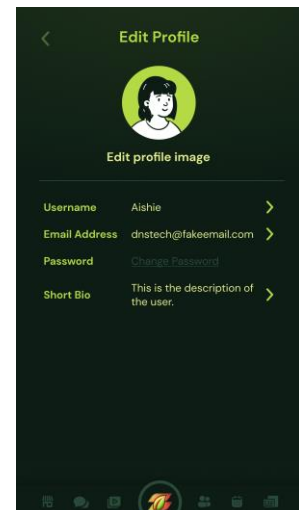
### Log In Screen

The screen where existing users can enter their credentials to access their account.



### Home Screen

The main screen that provides an overview of the app's features and quick access to different sections.



### Edit Profile

The screen allowing users to update their personal information and profile settings.



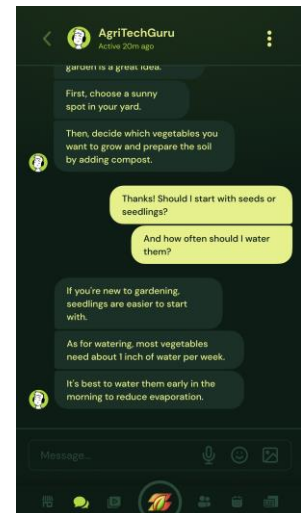
## Marketplace

The screen where users can browse, and purchase products listed by other users.



## Chat Inbox Screen

The screen displaying a list of all chat conversations and messages.



## Chat Screen

The screen where users can send and receive messages in a specific chat conversation.



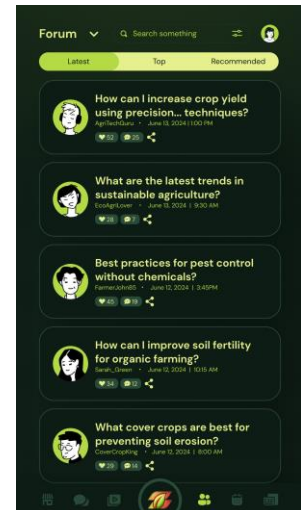
## Videos (Following)

The screen showing a feed of videos posted by users that the current user is following.



## Videos (For You)

The screen presenting a personalized feed of videos based on user preferences.



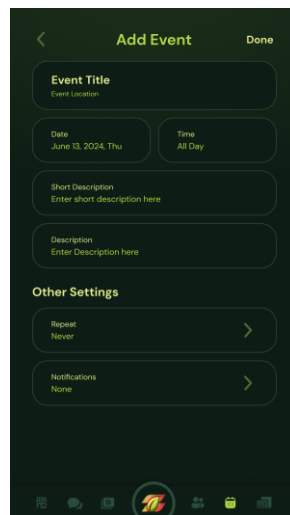
## Forum Screen

The screen where users can participate in discussions and post questions or comments.



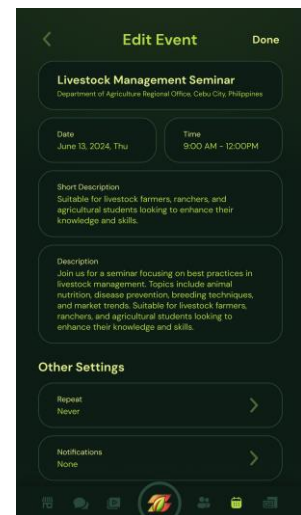
## Calendar Screen

The screen showing a calendar view with upcoming events and appointments.



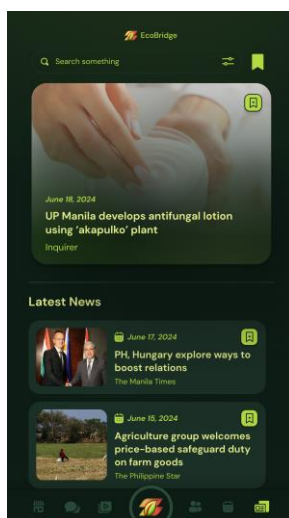
## Add Event Screen

The screen where users can create a new event and add it to their calendar.



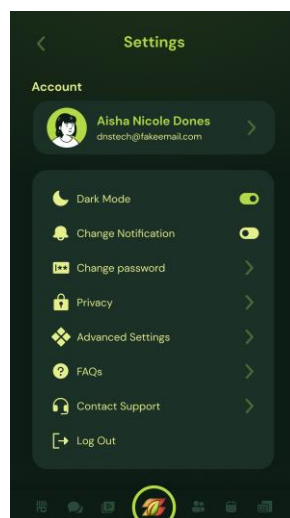
## Edit Event Screen

The screen allowing users to modify details of an existing event.



## News Screen

The screen providing the latest news and updates relevant to the users.



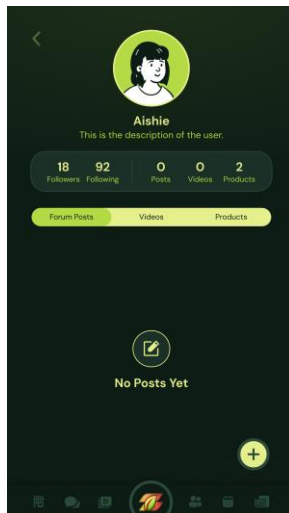
## Settings Screen

The screen where users can adjust app preferences and configure their account settings.



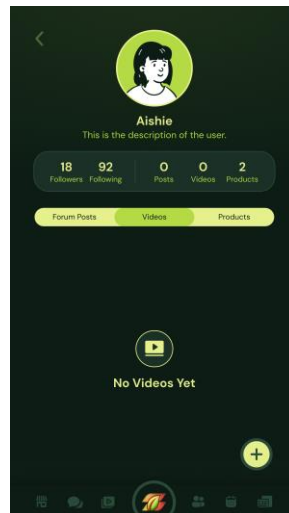
## FAQs Screen

The screen offering answers to frequently asked questions and user support information.



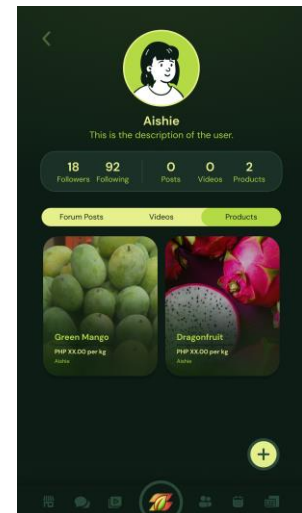
### Profile (Posts)

The screen displaying all posts made by the user.



### Profile (Videos)

The screen showing all videos uploaded by the user.



### Profile (Products)

The screen listing all products the user has posted in the marketplace.

## User's Perspective Scene

Nadine, a 25-year-old professional living in Manila, has always been interested in sustainable living but never had the chance to learn about agriculture. She downloads EcoBridge after hearing about it from a friend. Upon opening the app, she is greeted by a sleek, modern interface that feels inviting. She easily signs up using her Google account and fills out her profile details.

Nadine is particularly impressed with the educational resources section, where she finds engaging videos and articles about urban gardening and sustainable farming techniques. She joins a community forum where she connects with like-minded individuals and even some local farmers. Through the marketplace feature, Nadine orders organic vegetables directly from a farmer in her province, ensuring she gets fresh produce while supporting local agriculture.

### *Rationale*

The prototype design is inspired by different established layouts from known social media platforms to create an interface that feels familiar to users, making it user-friendly. This reduces the app's learning curve as users won't need extensive tutorials to navigate and use the app's features. Users can also apply their existing knowledge on other social media apps leading to a smoother user experience. This familiarity also makes users feel more confident and comfortable navigating the interface. Furthermore, as familiar layouts minimize cognitive load, users can focus more on the contents rather than figuring out how to use the app.

### *Changes to the Requirements*

There were no changes when it comes to the system requirements during development as all requirements that were initially mentioned were included in the prototype design.

## Initial Evaluation Plan

The initial evaluation plan is designed to comprehensively assess the user interface (UI) of the system through a multi-faceted approach. This plan includes usability testing based on the 5 E's of usability: Effective, Efficient, Engaging, Error Tolerant, and Easy to Learn. These tests measure task success, ease, satisfaction, error management, and learning curve. Additionally, user surveys will be conducted to collect demographic data, 5-point scale ratings, and open-ended feedback, capturing detailed user insights. A heuristic evaluation is also employed to identify usability issues based on established principles. This multi-faceted approach ensures a thorough understanding of the UI's strengths and areas for improvement, guiding future design enhancements by the developers.

### Usability Testing Based on the 5 E's

Criteria	Description
Effective	Measures how well users can achieve their goals using the system. An effective interface allows users to complete their tasks accurately and completely.
Efficient	Assesses the speed and resourcefulness with which users can complete their tasks. An efficient interface minimizes the time and effort required to achieve user goals.
Engaging	Evaluates the overall satisfaction and interest users experience when interacting with the system. An engaging interface is visually appealing and enjoyable to use, keeping users interested and motivated.
Error Tolerant	Measures the system's ability to prevent errors and help users recover from them. An error-tolerant interface reduces the amount of user errors and provides clear guidance for correcting mistakes.
Easy to Learn	Assesses how quickly new users can learn to use the system effectively. An easy-to-learn interface minimizes the learning curve, allowing users to become proficient with minimal guide and effort.



## Heuristic Evaluation

1. Visibility of System Status – The app should always keep users informed about what's happening through clear and timely feedback.
2. Match between system and the real world – The app uses language that is familiar to the user.
3. User control and Freedom – Users should be able to move in and out of features and parts of the app with ease.
4. Consistency and standards – The app should have consistency in layout, terminology and behavior across different parts.
5. Error prevention – The app has measures to prevent errors from occurring in the first place. It includes input validation, confirmation prompts, and clear instructions.
6. Recognition rather than recall – Users should not have to remember complex procedures in a page.
7. Flexibility and efficiency of use – The app caters to users with different skill levels from beginners to frequent users.
8. Aesthetic and minimal design – The app is clean and visually appealing, and it focuses on elements that support functionality.
9. Help Users Recognize, Diagnose, and Recover from Errors – The app contains clear error messages that guide users towards the solution.
10. Help and documentation – The app includes a comprehensive help section with instructions on how to use all its features.

## User Survey and Feedback

Question/Statement	Data Gathering Method
<b>Part 1: Demographic Information</b>	
Name (optional)	Demographic Profiling
Age	
Gender	
Digital Literacy	

Part 2: UI/UX Design Evaluation	
Layout of the interface is well-organized and easy to understand	5-Point Scale
Color scheme and typography are neat and work well together	
Visual elements (icons, buttons) enhance the understanding and use of the interface	
It is easy to find specific features or information within the interface	
The interface is visually consistent across different sections and screens	
Navigation within the interface feels natural and intuitive	
The interface efficiently minimizes the number of steps to complete a task	
There are hardly any features or elements that I found particularly difficult or confusing	
The input methods are easy to use and efficient for completing tasks	
It is easy to recover from errors (undo actions, error recovery steps)	
Part 3: Screen-Specific Evaluation	
Title Screen	5-Point Scale
Sign In Screen	
Log In Screen	
Home Screen	
Marketplace Screen	
Chats Screen	
Videos Screen	
Forum Screen	
Calendar Screen	
News Screen	

<b>Part 4: User Feedback</b>	
What do you like most about the user interface?	Open-ended
What do you like least about the user interface?	
Do you have any suggestions for improving the user interface?	
Would you recommend this system to others based on your experience with the user interface?	

#### *5-Point Likert Scale Survey Interpretation*

<b>Scale</b>	<b>Range Value</b>	<b>Interpretation</b>	<b>Classification</b>
5	4.50 – 5.00	Highly Acceptable	Satisfactory
4	3.50 – 4.49	Acceptable	
3	2.50 – 3.49	Moderately Acceptable	Somewhat Satisfactory
2	1.50 – 2.49	Fairly Acceptable	Not Satisfactory
1	1.00 – 1.49	Not Acceptable	