AGRICROWD

Agricultural Crowdfunding Application

TeamID 202305

Team Members

- Emirhan GÖKOĞLU 201911027
- Mustafa YILMAZ 201911075
- Enes Ramazan AKDAMAR 201911002
- Adil Ayberk TÜKENMEZ 201911063
- Mustafa Eren BURUK 201911017

What is Agricrowd?

The agricultural crowdfunding platform is to empower agricultural initiatives, facilitate investment opportunities, and ensure transparency among all participants

PURPOSE

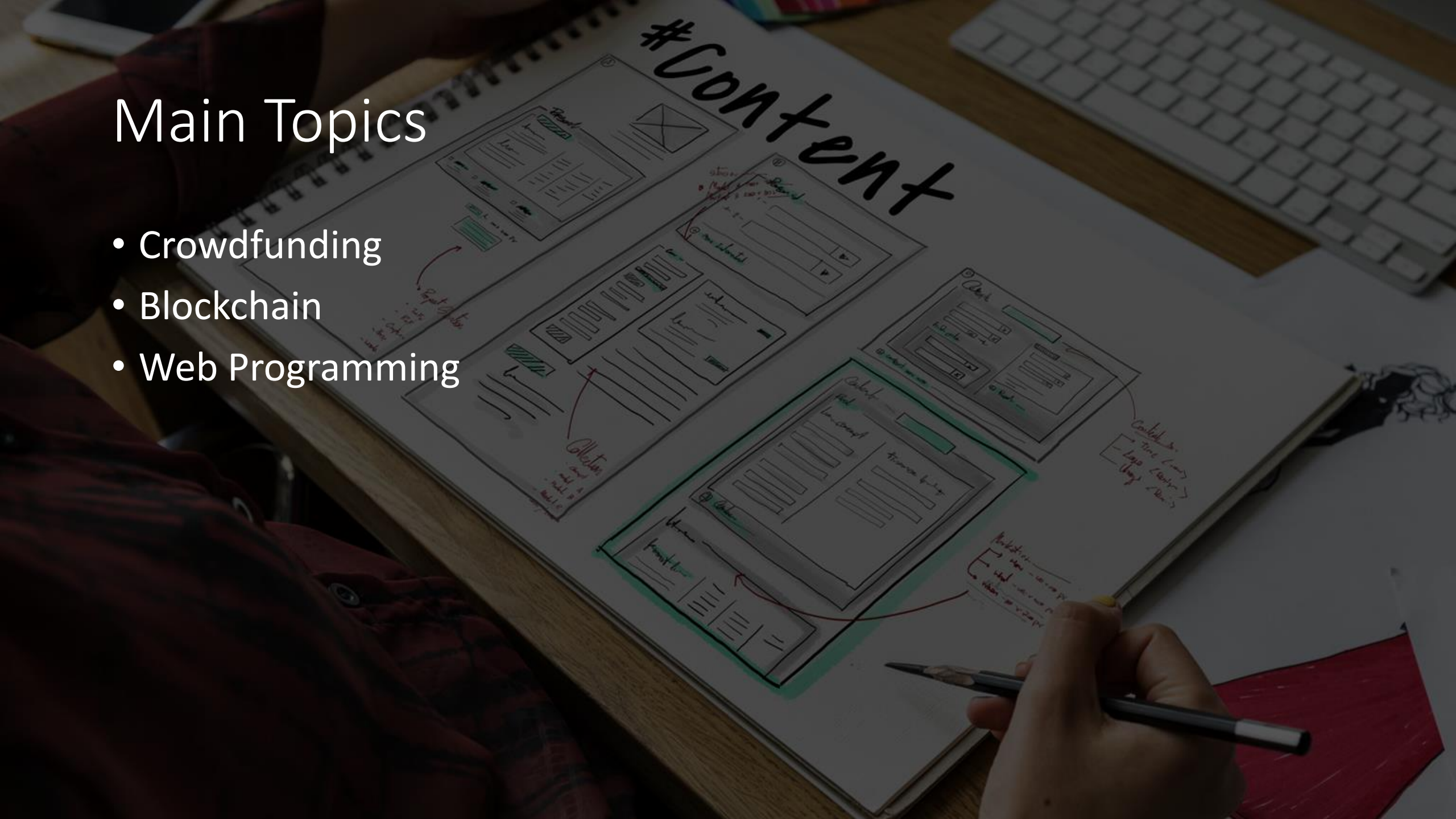
The platform serves as a dynamic online hub, allowing farmers, agricultural entrepreneurs, and potential investors to showcase ventures, seek financial support, and establish collaborations within a global network. With innovative features, secure payment processes, implementation of smart contracts, and blockchain-based traceability, the platform acts as a catalyst for sustainable progress in the agricultural sector.

Target Audience

- The platform aims to target a broad audience, including farmers, agricultural entrepreneurs, investors, and donors interested in supporting innovative agricultural initiatives.

Main Topics

- Crowdfunding
- Blockchain
- Web Programming



What is Crowdfunding?

- Crowdfunding is the funding of a project or company by the "crowd" instead of a few significant investors.

Purposes of Crowdfunding

- Encouraging creativity
- Supporting innovation
- Facilitate financing of projects and businesses

CROWDFUNDING MODELS

DONATION

REWARD

DEBT

EQUITY

Pros of donation-based crowdfunding	Cons of donation-based crowdfunding	Pros of reward-based crowdfunding	Cons of reward-based crowdfunding
No repayment or equity exchange	Limited appeal	No equity sacrificed	All-or-nothing funding
Support for social causes	Lack of guaranteed funding	Market validation	Fulfilling rewards
Community engagement	Public exposure	Pre-sales and marketing	Unpredictable success
	Platform fees	Community building	Public exposure

Comparision of Popular Crowdfunding Apps

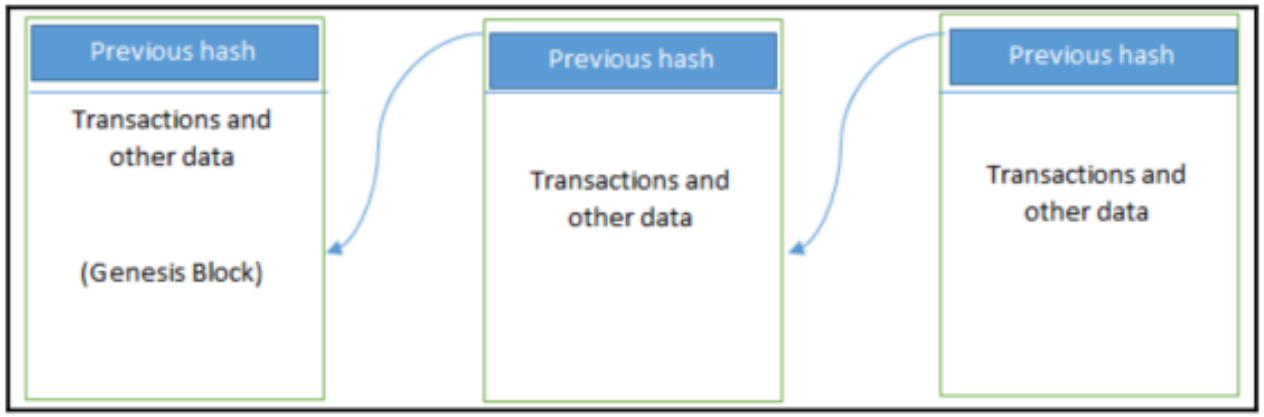
Comparison of popular crowdfunding applications is as follows

Applications → / Features ↓	Agricrowd	Kickstarter	Indiegogo	Patreon	GoFundMe	Ideanest	Arıkovanı
Mutual Financing Reward-Based Crowdfunding	✔	✔	✔	✘	✘	✔	✔
Locality	✔	✘	✘	✘	✘	✔	✔
Ongoing Support	✔	✔	✘	✔	✔	✘	✘
Support Duration Limitatitons	✘	✘	✔	✘	✔	✔	✔
Donation For Personal Purposes and Charties	✔	✔	✔	✔	✔	✔	✔
Project Type Restriction	✔	✘	✘	✘	✘	✘	✘
Fund Approval Tracking	✔	✔	✘	✘	✘	✔	✘
Partial Fund Payment	✔	✘	✘	✔	✘	✘	✘
Vote System	✔	✔	✔	✘	✘	✘	✘
Fund Tracking	✔	✔	✔	✔	✔	✔	✔
Need to Achieve Fund Goal	✘	✔	✘	✘	✘	✔	✘
Debt Based	✔	✘	✘	✘	✘	✔	✘
Project Filtering System	✔	✔	✔	✔	✔	✔	✘

Figure 1 Comparison of popular crowdfunding applications

What's The Blockchain

- **Blockchain** is a data structure; it is basically a linked list that uses hash pointers instead of normal pointers. Hash pointers are used to point to the previous block. The Structure of a generic blockchain can be visualized with the help of the following diagram



Generic structure of a blockchain

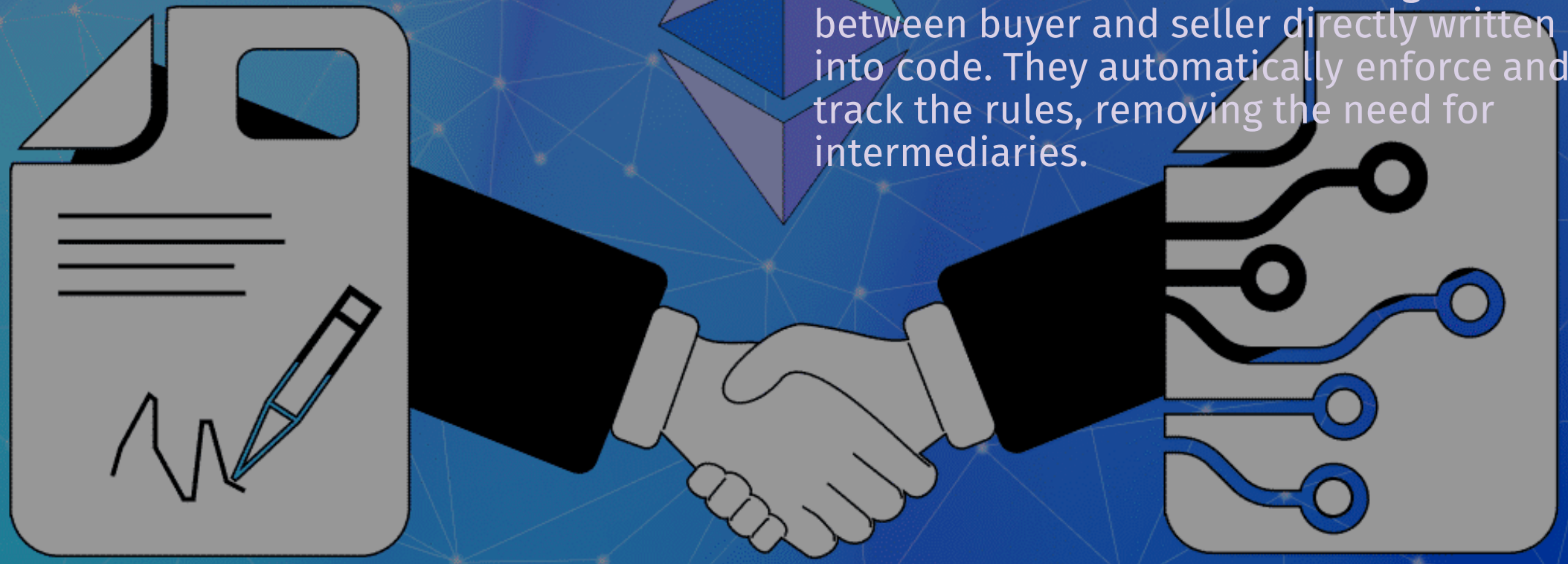
Blockchain in Crowdfunding Systems

Blockchain technology has a big potential to help donation overcome numerous obstacles.

1) **Decentralized:** Blockchain networks are not under the authority of a single entity, preventing a single point of failure and the takeover of the network by a selected few users.
2) **Transparency:** Data recorded in a blockchain is accessible to the general public and is visible to all network participants.
3) **Immutability:** Data entered into the Blockchain cannot be altered after it has been saved.
4) **Security and Privacy:** The cryptographically secure process in the Blockchain is one of its key aspects because it aids in boosting privacy and security.

What are Smart Contracts?

Smart Contracts



Smart contracts are self-executing contracts with the terms of the agreement between buyer and seller directly written into code. They automatically enforce and track the rules, removing the need for intermediaries.

Benefits of Smart Contracts

1 Efficiency 🚀

Smart contracts automate processes, reducing the need for manual oversight.

2 Accuracy 📈

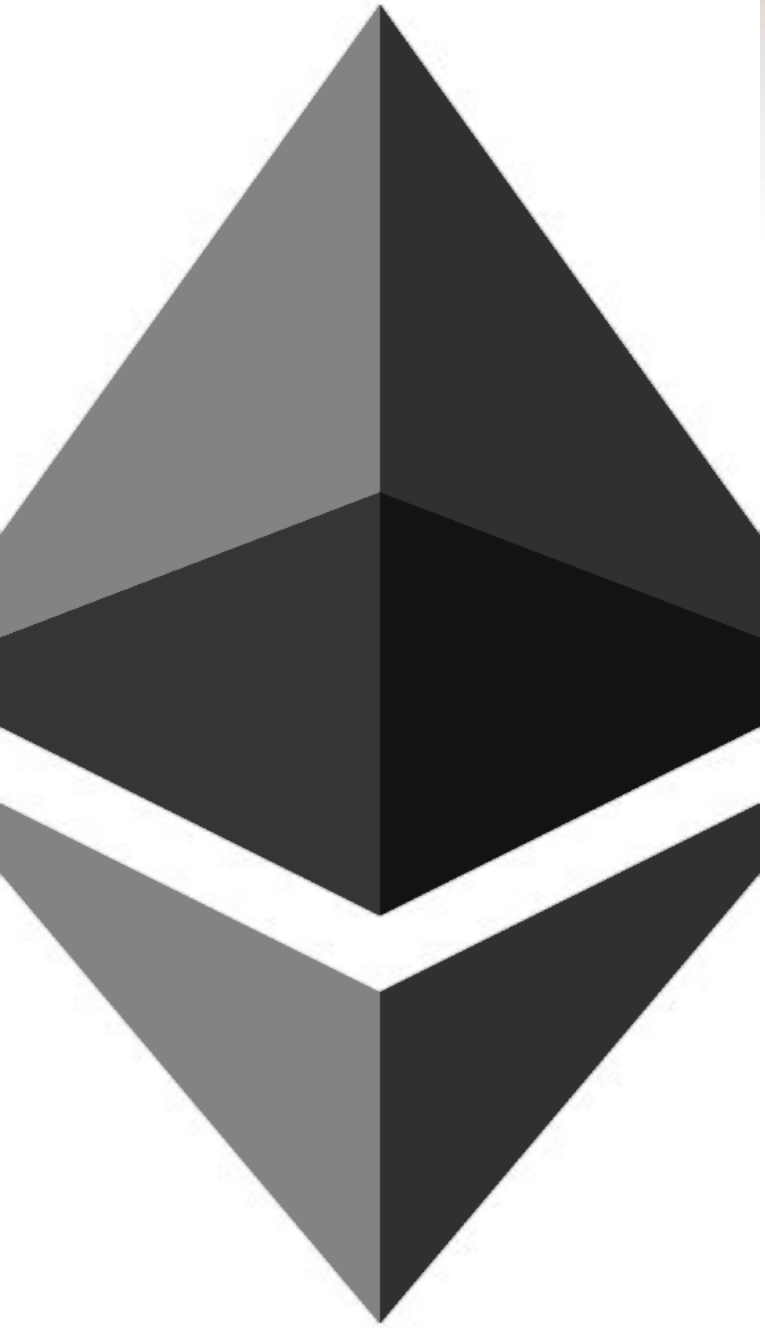
Eliminates errors and ensures agreements are executed precisely as agreed.

3 Transparency 🌐

Transactions and terms are recorded on a decentralized ledger, enhancing transparency.

Cryptocurrency Wallets

Cryptocurrency wallets are digital tools that allow users to securely store and manage their digital assets. These wallets utilize blockchain technology to provide a secure and decentralized storage solution for various cryptocurrencies.



Advantages of Using Metamask

1 **User-Friendly Interface**

Metamask offers an intuitive and user-friendly interface, making it easy for new users to adopt and understand.

2 **Enhanced Security**

It provides enhanced security features and enables users to have full control over their digital assets.

3 **Integration with dApps**

Metamask seamlessly integrates with decentralized applications, allowing the execution of smart contracts and other decentralized functions.

4 **Multi-Currency Support**

It supports various cryptocurrencies, providing flexibility for users with diverse digital asset portfolios.

Connecting Metamask with Smart Contracts

1. **Selection**

   Choose your preferred smart contract or dApp after connecting Metamask with a supported browser.

2. **Authorization**

   Authorize transactions and interactions with smart contracts using Metamask’s secure interface.

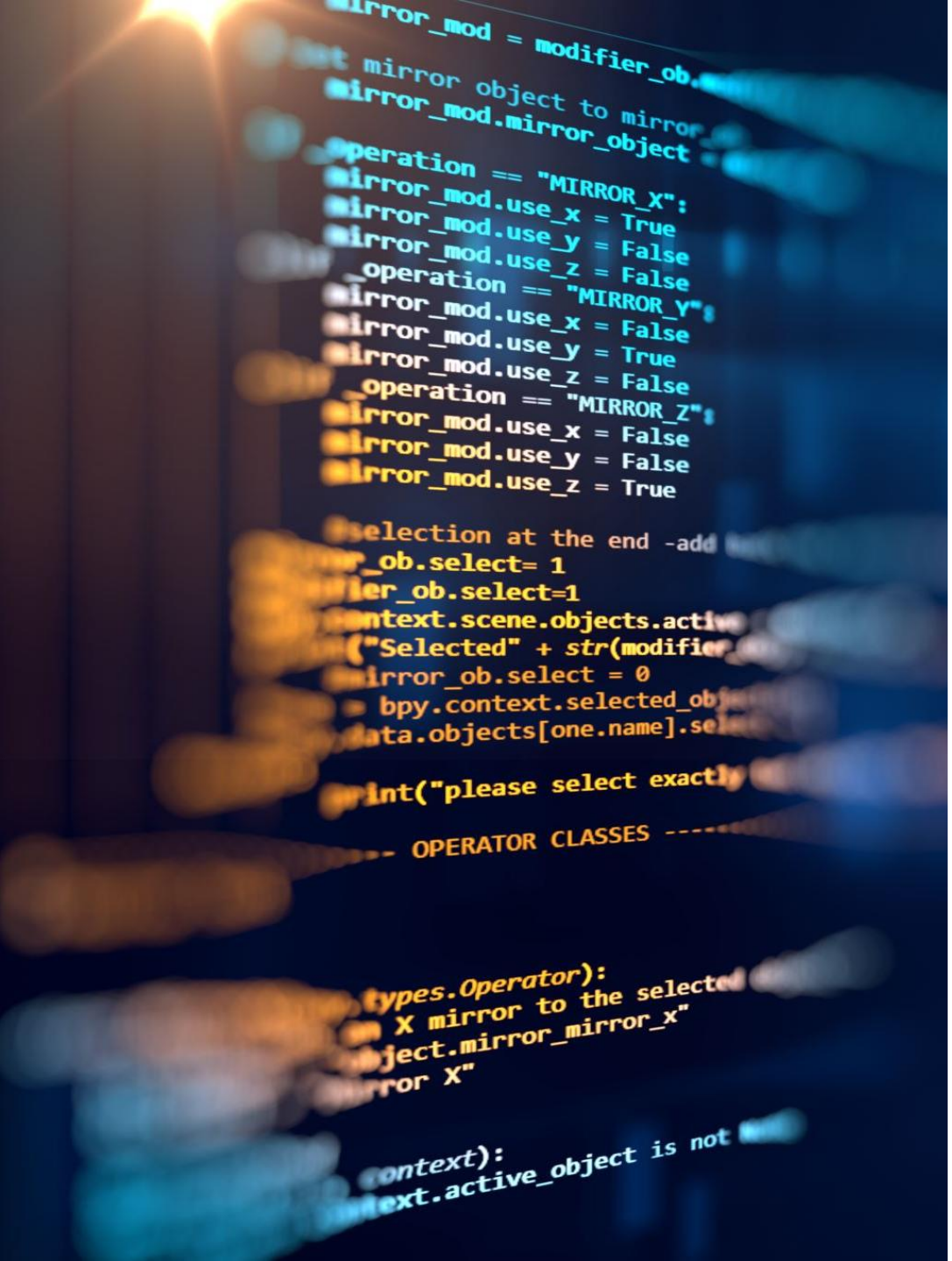
3. **Execution**

   Execute smart contracts and transactions through the connected wallet with ease.

Web 2.0

- The project focuses on establishing a strong interaction with users by using the interactive features offered by Web 2.0. Web 2.0 provides a dynamic experience to our users through various features integrated into our project's website, and thanks to these features, users have more opportunities to understand the basis of our project, participate, and be included in our community.

- Our project's website adopts the pioneering principles of Web 2.0 to provide a user-friendly interface and easy usability. Thanks to the website, users can publish agricultural ideas and projects that they want to invest in, and investors can access content and details that interest them.

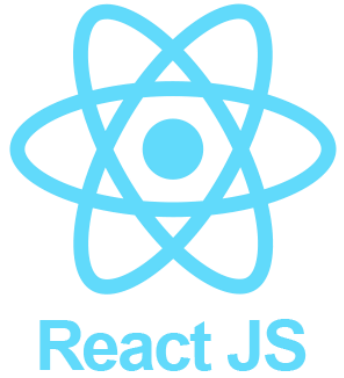


Tech Stack

In the part of the project to create a website that will interact with the user, some technologies will be used to make it user-friendly, fast, accessible, and efficient. The website basically consists of 2 parts:

1. **Frontend part (client-side)**
2. **Backend part (server-side)**

1. Front-End Programming



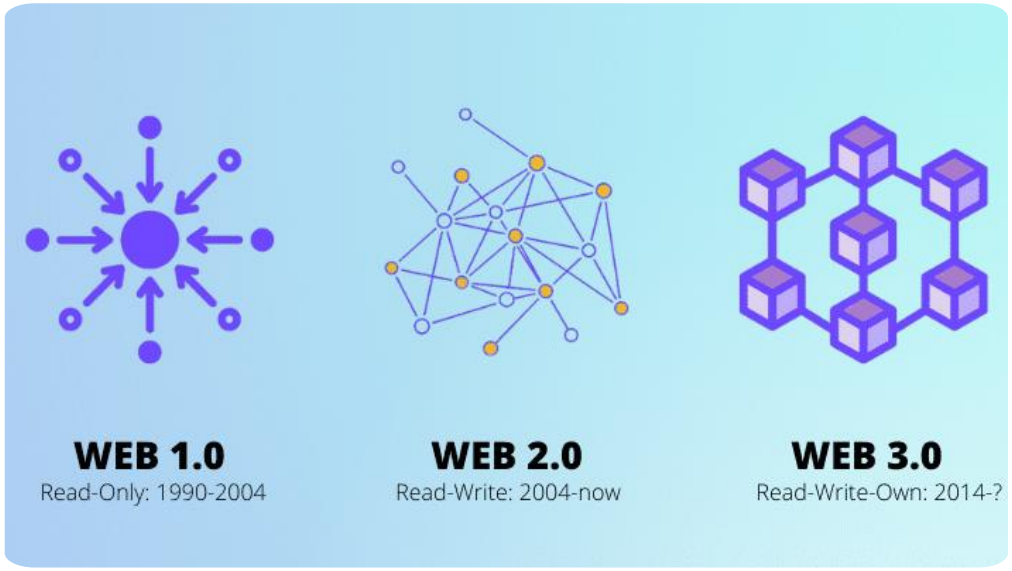
The part of a website with which the user interacts directly is referred to as the front end. It is also known as the application's client side.

Frontend includes core technologies such as HTML, CSS, and JavaScript. While HTML is used to create web pages, CSS stylizes and organizes HTML elements. JavaScript is used to add dynamic and interactive features. Apart from these basic components, various tools and libraries are also used to meet the needs of modern web development.

2. Back-end Programming

The server side of a website is called the backend. It is a part of the website that users cannot see or interact with. It is associated with the database, and various data and tables are stored there.

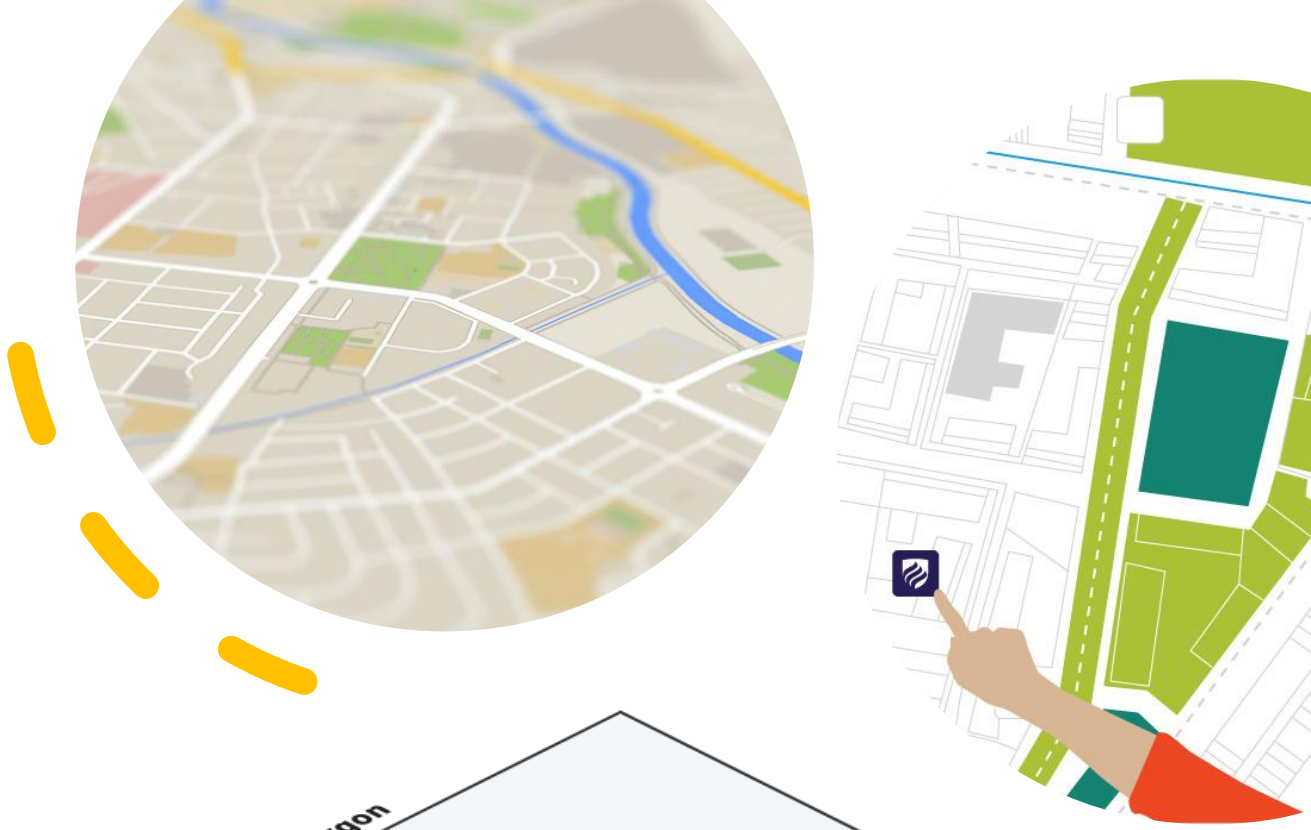
Web 3.0

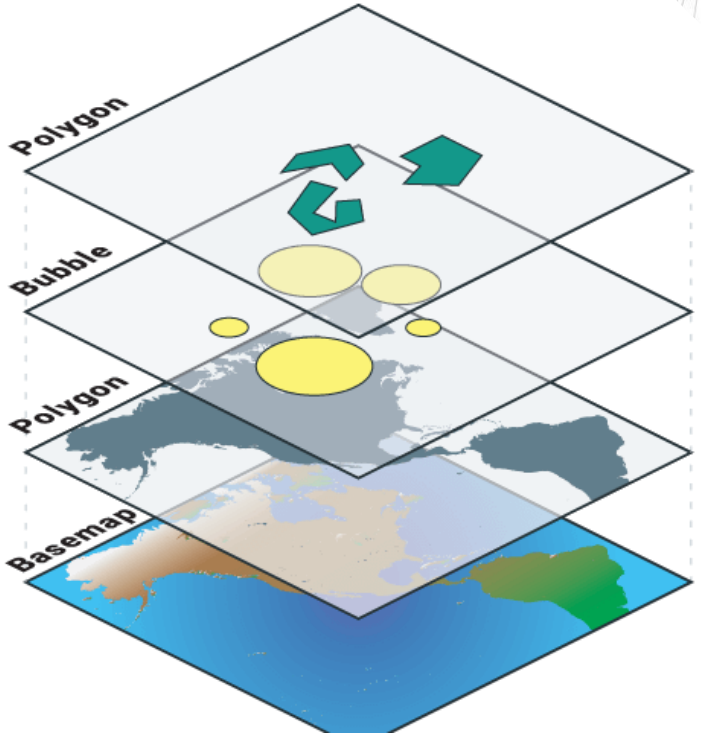


- Web 3.0 represents an evolving phase of the internet and aims to deliver a smarter, connected, and semantic web experience. It has features such as semantic links, distributed ledger technologies, machine learning, and artificial intelligence integration. This evolution enables the sharing of more meaningful and relevant information through the ability to understand and relate content.
- For agricultural crowdfunding projects, Web 3.0 offers benefits in reaching wider audiences, secure financing, automated transactions, big data analysis, and increasing community engagement. Blockchain technology enables secure and transparent financing, smart contracts facilitate automated transactions, and semantic connections strengthen community participation

What is GIS Mapping?
(Geographic Information System)

- Geographic Information System (GIS) Mapping is a computer system used for capturing, storing, checking, and displaying data related to positions on the Earth's surface.

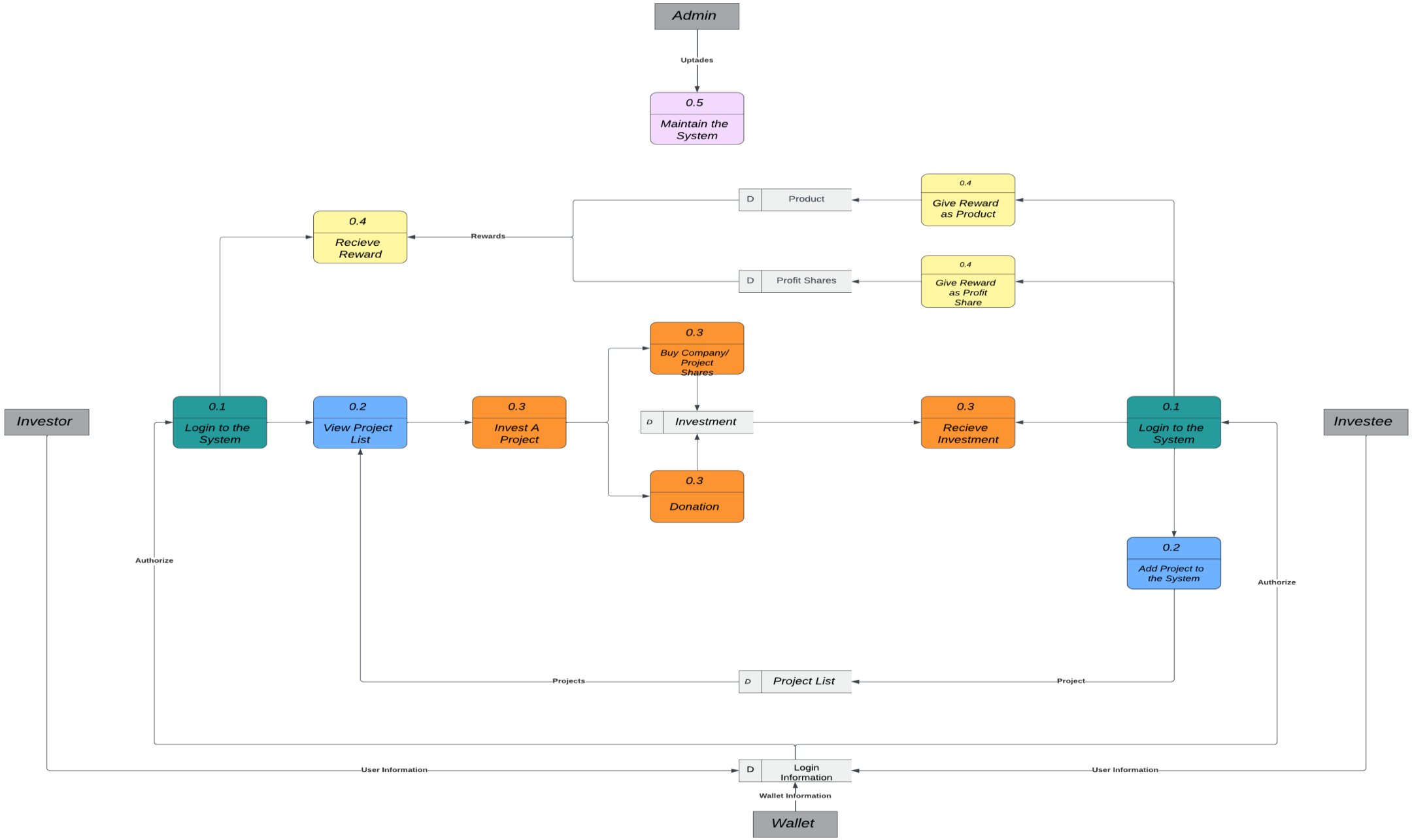




Agricrowd User Characteristic

Investee	Investor	Admin
Investee must upload details of the own project.	Investors should be able to thoroughly examine the details of projects.	The Admin must have the capability to schedule maintenance operations within the system to ensure its smooth functioning
Investee must enter the progress of the project into the system in detail.	Investors should have the option to either contribute donations or engage in reward-based funding for projects.	The Admin should regularly review system performance and apply necessary updates or fixes to enhance functionality and security.
The investee should distribute the profits generated from product sales back through the system, particularly in a reward-based system.	Investors should have the option to either contribute donations or engage in reward-based funding for projects.	The Admin may need to oversee the system's infrastructure to optimize for performance and cost-efficiency.
		Additionally, the Admin should monitor user activities for compliance with platform policies and take appropriate action when necessary.

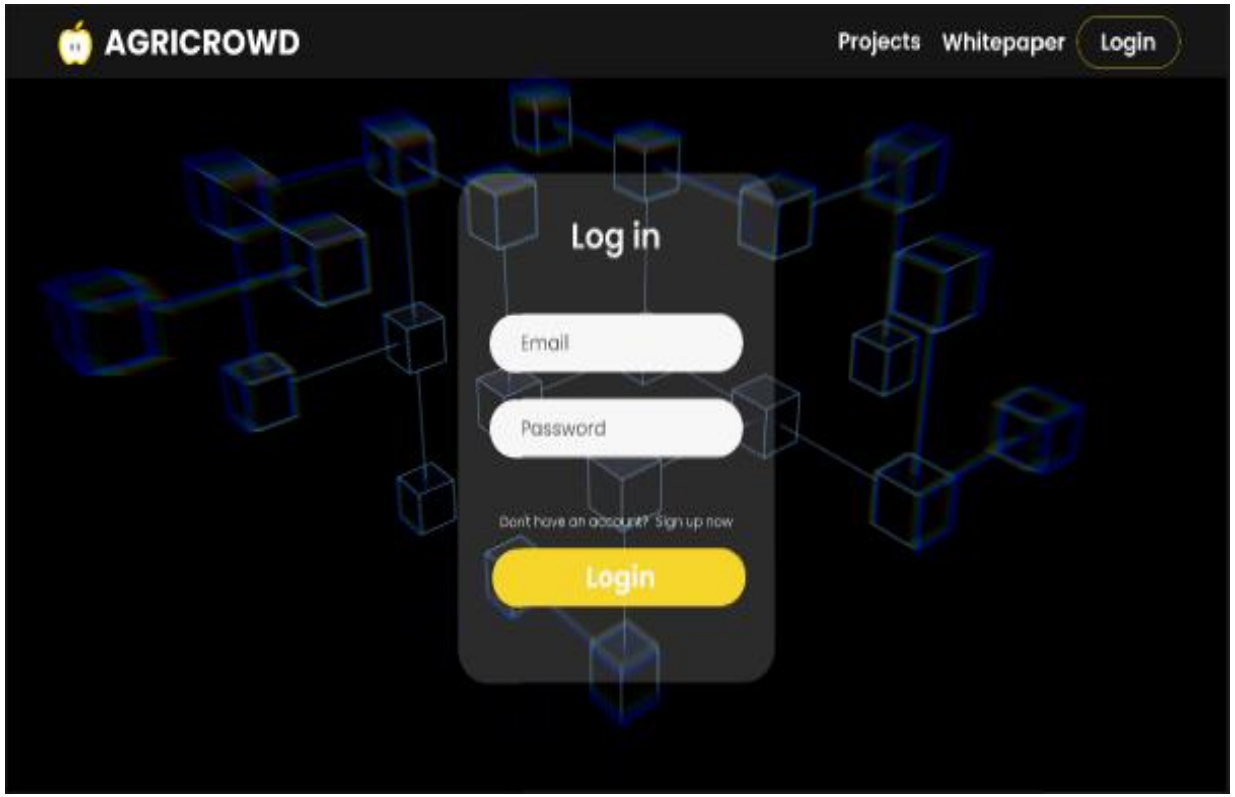
System Design



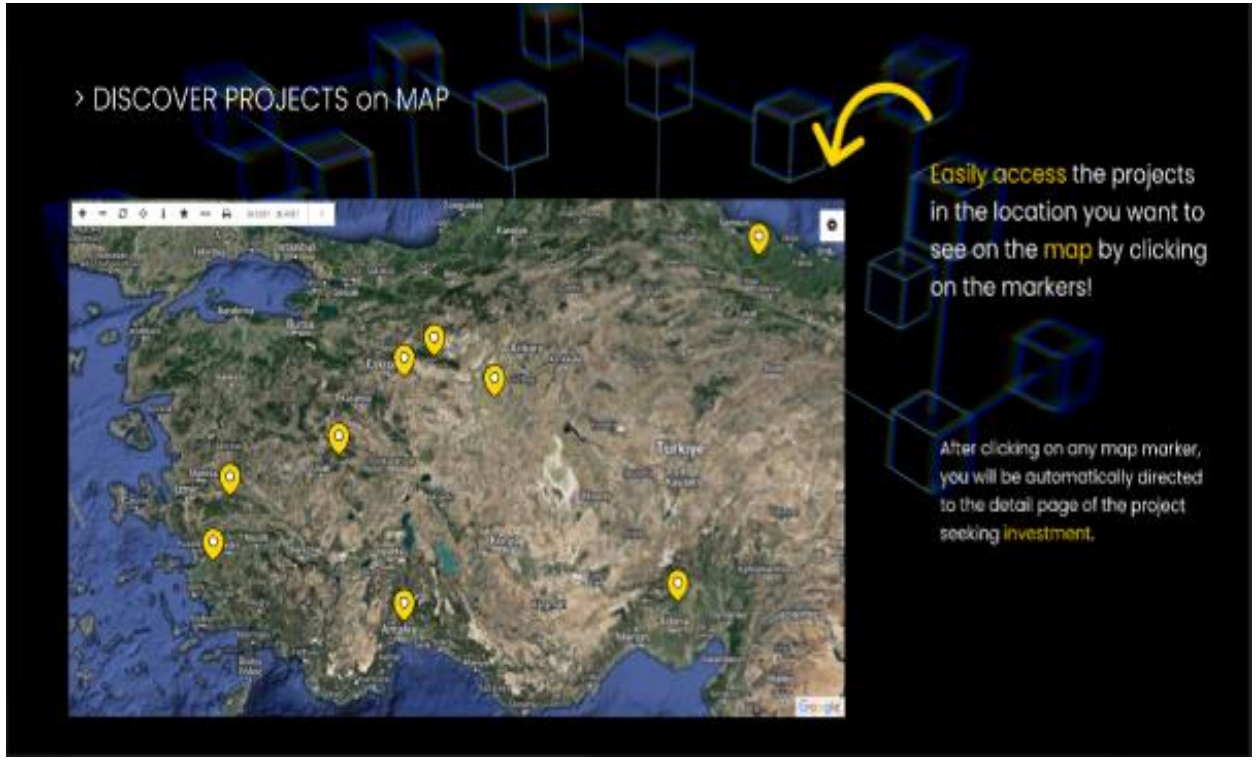
User Interface Design

Home Page

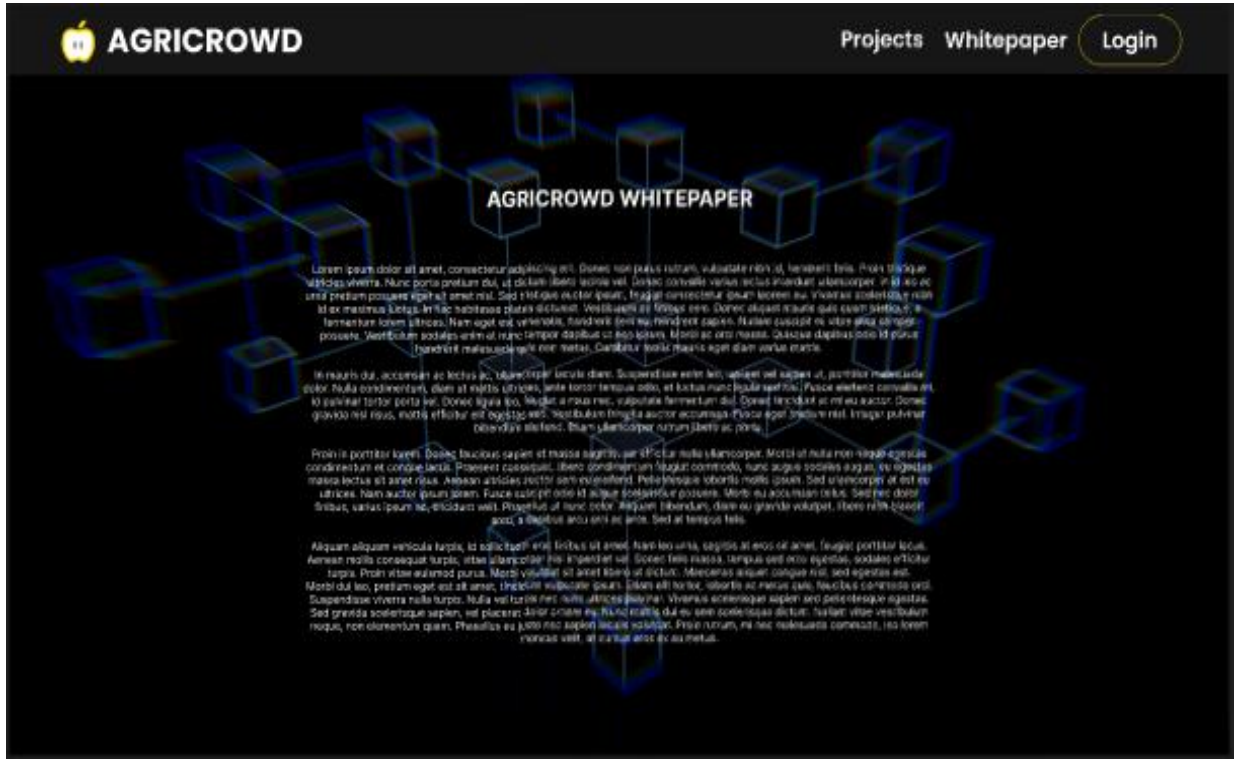
Login Page



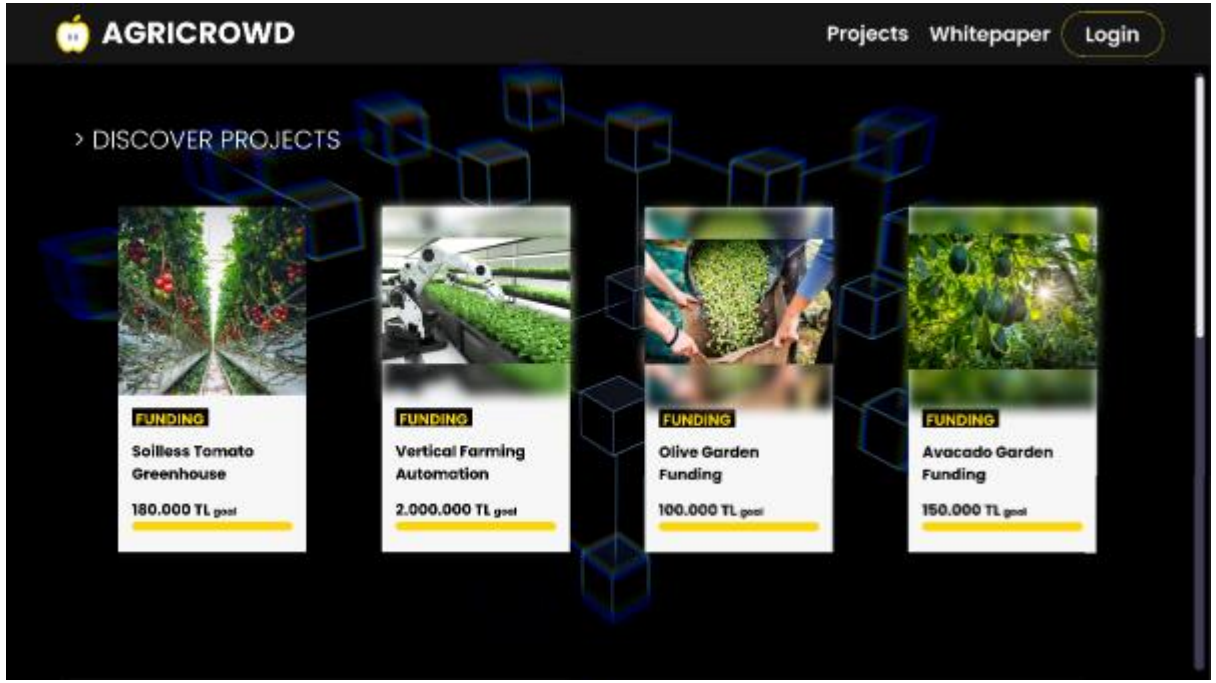
Mapping System

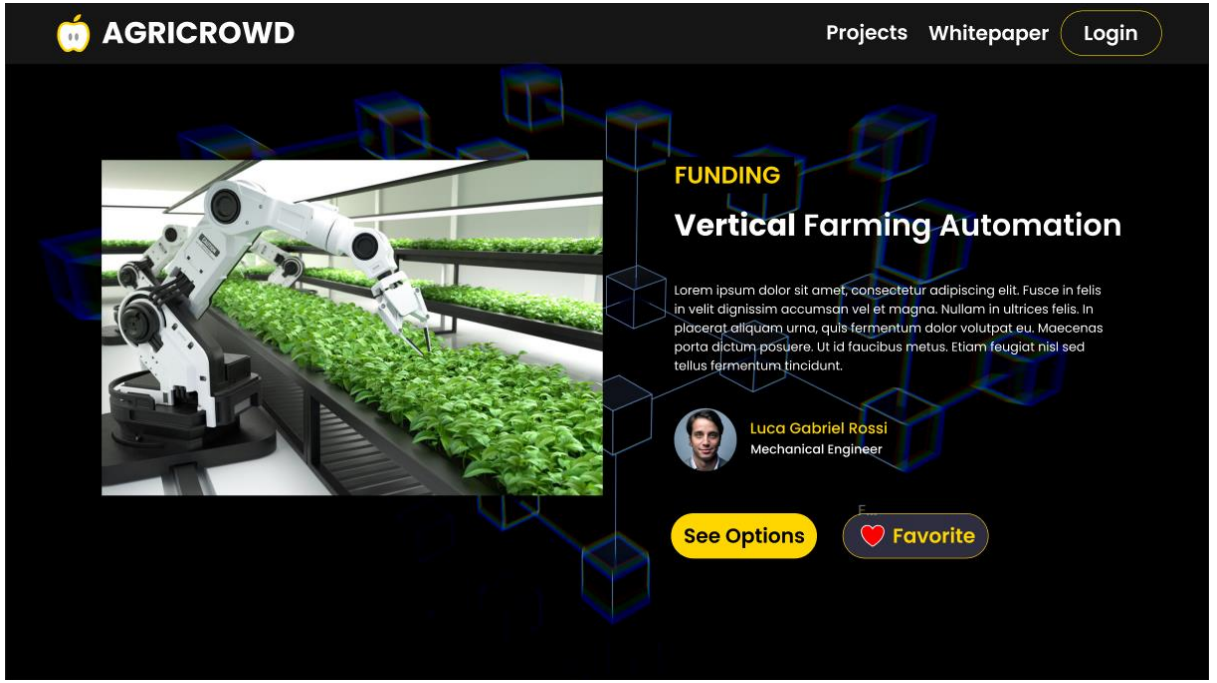


Whitepaper



Project View and Details





We would like to thank our teachers Alper Ateş, Mustafa Bilal Demirkan and our esteemed instructor Gül Tokdemir for their support.

Questions