FTGP Group [Group Number]: Sprint 2 Report (19th April)

Sprint 1 Review (Sprint duration 22nd March – 19th April):

This should summarize your sprint review meeting. The meeting should be done at the end of each sprint. You need to identify which tasks from your sprint backlog were completed, which were altered, and which were not completed. Please also use this process to reflect and improve your next sprints.

Completed work, i.e. which tasks were complete and by who:

During Sprint 1, our team divided the work into two main phases. We completed brainstorming on April 5 and then proceeded with the development of our MVB until April 19.

1. During the brainstorming session, we considered various sectors within the financial domain that involve transaction-based DApps, such as financing, consumer spending, lending, and gambling. Each team member generated at least three innovative and viable DApp ideas, along with at least three user stories for each idea. We ultimately decided to develop a P2P lending platform . As a distinctive feature, we introduced *a credit scoring mechanism* as our innovation. This mechanism scores users based on the number of historical transaction events, transaction values, and payment delinquencies, which then adaptively adjusts their borrowing limits. This decision was collaboratively finalized by all team members.

2. For the development of our MVB, we implemented the basic front-end structure using React and CSS, a task accomplished by Yuxiang Ge. We also implemented simple transaction functionality, allowing different accounts to conduct mortgage operations under varying interest rates, which was integrated with the corresponding front-end components. This part was jointly implemented by Junyi Tang and Jingzhou Hu. Additionally, the establishment of the credit scoring criteria was carried out by Yangshu Wang.

Changes, i.e. tasks that have changed/not completed and why:

We changed our project during Sprint 1 to develop a lending platform based on a credit scoring system. Here's the detailed process and reasons for this change:

During Sprint 1, we initially considered two project ideas: a blockchain marketplace similar to eBay, enabling cryptocurrency transactions, and a decentralized ticketing platform like Ticketmaster for secure ticket sales and resales. Our brainstorming session revealed that both the dating app and the eBay-like platform would require databases with a significant amount of non-textual information, primarily images. Storing such image data directly on the blockchain would be inefficient and could compromise decentralized privacy protections due to the blockchain's limitations on handling large data volumes.

Additionally, our team members expressed a strong interest in developing a DApp within the financial sector. Out of twelve potential options, we decided to pursue a lending platform based on a credit scoring system. This credit scoring system is intended to be our main innovation. We plan to leverage the Etherscan API to access a user's recent transaction history, including details like transaction amounts and timestamps. Using our proprietary scoring system, we will assign a base credit score to users, which will be adjusted downwards in cases of defaults, such as delayed repayments. This adjustment will directly impact the users' borrowing limits and could affect their collateral. This pivot

in our project focus underscores our adaptation to the practical challenges and technological constraints encountered during the initial development phase.

Agreed weekly "Equity share", i.e. how this sprint's work was split:

Equity share: Jingzhou Hu(1), Junyi Tang(1), Yuxiang Ge(1), Yangshu Wang(1)

As mentioned in Sprint 1 Review, each member of our team had clear responsibilities. Jingzhou and Junyi were in charge of developing the smart contracts and corresponding front-end integration. Yuxiang was responsible for the front-end development, and Yangsu was tasked with establishing the standards for the credit mechanism.

Sprint 2 Planning (Sprint duration 22nd – 26th April)

This should summarize your sprint planning meeting. The meeting should be done at the beginning of each sprint. You must specify your sprint vision and select which items from the product backlog you plan on completing during the next sprint (sprint backlog). Additionally, you must select the product owner and the scrum master.

Product Owner:

Jingzhou Hu, responsible for defining the product direction, managing the product backlog, and ensuring that the team understands and executes the tasks.

Scrum Master:

Jingzhou Hu, responsible for ensuring the team follows agile and Scrum practices, assisting team members in removing impediments, and facilitating communication and collaboration within the team.

Sprint Vision:

During Sprint 1, we have completed the development of the lending function and the borrowing function, including the collateral and the corresponding front-end components, and have conducted tests. This part was completed before April 19. Moving forward, we will focus on developing the credit scoring system, which will be divided into three phases: feasibility validation, development, and testing. These phases are scheduled to be completed before April 20, April 22, and April 24, respectively. This is just an initial plan, which we can adjust according to our real progress.

Sprint Backlog:

Phase 1 (Apr 18 – Apr 20): Feasibility validation

After our preliminary research, we've determined that it's not feasible to directly access transaction records from MetaMask because it does not offer an API for this functionality. Instead, we propose using the Etherscan API to retrieve recent transaction details of an account, such as transaction times and values, and then return this data to the blockchain. We need to write a simple smart contract to verify the feasibility of this function. Junyi will primarily handle this part. On April 18th, we will meet offline to further discuss and refine the specific plans for the credit system.

Phase 2 (Apr 20 – Apr 22): Design & Development

1. After completing our verification, we have outlined two preliminary design options. The first option involves using manually set criteria to weight transaction records, such as awarding points

for large transactions and frequent transactions with high ratings. These criteria are provisional and may be refined later. The second option, which is still under discussion, involves integrating AI to provide intelligent scoring. This would entail building our own dataset to train a deep learning model, then deploying the model via Chainlink to perform API calls and push the data results to the blockchain. The development of this dataset and further specifics will be discussed among our four team members.

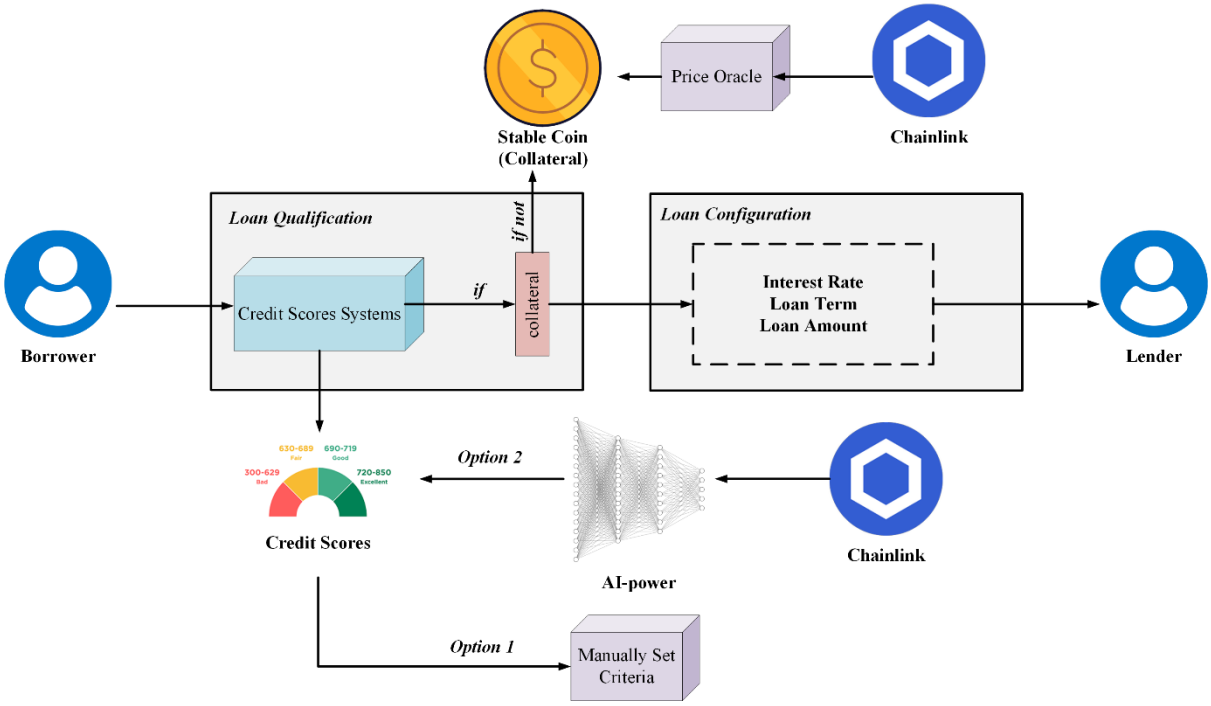
2. We will proceed with the development based on Option 1, focusing on building the framework and making improvements while ensuring completeness. Specifically, Junyi and Jingzhou will handle the development of this part of the contract. The front-end page development will be conducted by Yuxiang.

Phase 2 (Apr 22 – Apr 24): Testing

On April 24, we will conduct offline discussions and platform testing. By the end of this phase, our platform will have implemented several key features:

1. The ability to offer loans with varying interest rates and durations.
2. The functionality to handle collateral.
3. The implementation of an intelligent credit scoring system.

Anything else you would like to share:



We have sketched out the mechanism of our lending platform, where users are categorized as Borrowers and Lenders, each handling Loan Review and Loan Settings, respectively. A key innovation in our platform is the implementation of Credit Scores. We are considering two options: Option 1 involves manually setting criteria for scoring, and Option 2 involves building our own dataset to train a model, which would be encapsulated and integrated using Chainlink to import API results. Additionally, we have opted to use a stable currency (pegged to the US dollar) as collateral. The above is a brief demonstration and description of our platform's functionalities. We would greatly appreciate any feedback.