

Progress Report 5 DP-37

Project Title: Decentralized application to lock NFTs.

Names, Student IDs, Emails:

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Project Advisor:

Dr. Majid Babaei, McGill - Faculty of Engineering (majid.babaei@mcgill.ca)

Group Meetings/Meetings with Advisor:

Meeting 11 (Students and Advisor): February 2nd:

- Mid-project presentation with the advisor and professor
- Talked about our progress so far and future plans for the semester that need to be completed

Meeting 12 (Students): February 2nd:

- Discussed presentation feedback, i.e., security concerns and others
- Talked about Solidity and creating NFTs using a Youtube tutorial we found very helpful

Meeting 13 (Students): February 9th:

- Went over our supervisor's email with feedback and additional comments for our project
- Split up tasks according to his email and what else needs to be accomplished
- Discussed the security of our application such as potential breaches or hacks

Recent Progress:

Since the last progress report, we have finished our mid-project presentation and presented it. We received some feedback and questions, and we met up to discuss that feedback and questions. Our supervisor has provided us with some tasks to be done that address those questions. These include looking at previous blockchain-based applications that used model-driven engineering to enhance security and reliability for our project. We are also looking into how BPMN can be helpful for our project. We have split up these ideas into two, one being security and whether or not model-driven engineering can be beneficial in our implementation, and the second being how BPMN can be useful for our project. We have also all made significant progress in learning Solidity to create NFTs; we now have some NFTs minted on the Goerli Ethereum test network and are looking forward to beginning implementing our applications smart contract.

Future Plans:

For the following report, we expect to have more Solidity knowledge as well as more NFTs minted on the Goerli test network. We also expect to have our final design and architecture of our smart contract as well as how we will implement it, whether or not model-driven engineering tools will be used, as well as what techniques from MDE we can apply to our application. Ezra and Michael will be researching more in-depth on the security aspect of our application as well as how or if MDE can be useful for our application. Dominic and Ege will be investigating how BPMN can be useful for our application and gain users' trust in using our application.

Professionalism:

Our main goal still remains from the first half of our application, in which our application is very transparent in terms of the smart contract being available to everyone. This will allow for users' trust to know exactly how our smart contract works and what they are signing on. Although due to the fact that our code will be published, it is our responsibility to make sure that nothing can go wrong and people do not lose their valuable assets; this is why we have taken feedback and will be spending some more time discussing security for our project as mentioned above. Furthermore, we will strive to provide regular updates to the interface and user experience of the application, which will help to ensure a consistent, professional image for the application. To ensure we are working professionally on the project, here are a few things we have tried to abide by. Firstly, we have clearly defined the project scope, what we aim to achieve, and what is out of scope. This helps with planning and setting expectations. Next, we monitor progress closely and adjust as needed. We try to communicate any issues or problems as soon as they arise. Lastly, we will try to familiarize ourselves with the industry's best practices and follow them wherever applicable. Overall, working professionally and efficiently on a project means setting the correct expectations, anticipating potential issues early, and having excellent team communication.