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Project Update

Project Recap

To sum up my project, I've elected to spend this semester working on decx.press, a decentralized way to transmit content using blockchain technologies. It's a project I originally conceived and pitched last semester to some peers in the program and gained a group of 6 total members. We made very little progress on it last semester, so using it for the professional development course has given me more time and focus to dedicate to it, as well as regular updates to ensure I'm staying on track.

It's a huge project and I ambitiously set some goals for myself that fall into 3 categories: Building the Infrastructure, Building a Proof of Concept, and Marketing & Positioning. Realistically, I will only accomplish the first 2 categories this semester, as Marketing & Positioning are a different skill and much harder to gauge the success of in this course.

I've spent the first part of the semester Building the Infrastructure and now I will spend the remaining portion of the semester Building the Proof of Concept. It will be a minimal command line interface which will allow users to press content using `decx press "string"` which will reduce the content into an encrypted `finalHash` and store it on Ethereum. Another user will be able to retrieve the content with `decx release finalHash privateKey` to decrypt and view the content using the original presser's private key. It's a small application, and honestly not incredibly impressive, but I can hopefully iterate on this core functionality and give it more tangible use cases, such as web or mobile app based.

Accomplishments

In the project plan, I listed the completion of these three features as what I would gage the success of this project by:

1. Developed, well-tested and deployed smart contracts for pressing content
2. Developed and well-tested API to retrieve content
3. Developed and well-tested CLI to press and retrieve content

If I could accomplish the above, I'd view this semester a wild success for my own goals, as well as the belief in my own capabilities.

What I've actually accomplished so far:

1. Developed smart contracts for pressing content
2. Well-tested smart contracts for pressing content
3. Developed API to retrieve content
4. Well-tested API to retrieve content

This leaves me with the deployment of the smart contracts, and the items required for building out the CLI. I do believe these final items are bigger than I originally conceived, but I do think everything is within grasp to make it to the end of the semester with a working proof of concept.

Reflection

This project has had some unexpected turns, but when plotting any project, that can be the only true expectation. As the famous quote goes, "Plans are worthless, but planning is everything." Or put another way, "Everyone has a plan until they get punched in the mouth." I set out on this project with the vision set to the end goal, but knowing as I hacked through the jungle to find my way there, I'd discover chasms that needed bridges and other perilous hazards along the way. My focus was never on trying to guess what these hazards may be, but more on a mindset of being willing to change my approach to stay true to the goal.

Although this is a group project, this is my passion project and I want to be clear about that. It's been helpful for me to be able to work toward a common goal with other people, but it's due to my thinking, my planning, and a majority of my work. It's been incredibly fulfilling to have members of the team push code and move into "contributor" status, but I do want to make it clear that I'm not doing this for them, as brutally selfish as that sounds. A huge benefit to doing this in a group setting is I always need to be considering the plan, how to communicate a decision and how to get others involved if they want to be. I'm getting a ton of tangible experience in many roles because of this. I'm the Product Owner, who needs to understand where the product is now and how to get to the next achievement through adequate communication and documentation; I'm the Lead Engineer, as I'm often the one building out the features and ensuring the flexibility of adding future features on top; I'm the Project Manager, as I'm moving the timeline along and finding ways for us to communicate as a team; I'm the CEO, as I'm constantly haunted by visions of what may be when this is complete and how to communicate these visions to the world.

From an implementation standpoint, the world of building applications using blockchain technologies is new to me. I've never used Solidity (the language used in Ethereum applications) nor have I heavily considered the cost of computing any functionality I've built outside of Algorithms. This project has given me some tangible, hands on experience with encryption algorithms as well, as I needed to develop an elliptical curve integrated encryption scheme using AES encryption underneath. This is the first time since the RSA project in Discrete Structures that I've come back to encryption. I'm also needing to explore several different data structures for storage and lookups, so reaching for a DAG or trie has been helpful from my experience with them in Data Structures. To top this off, working in a group setting has harkened back to the core project of the Software Tools & Methods class.

I went into this entire CSPB program knowing who I started as and who I ended at would be different people. I'm fortunate to be taking this class and have this project in my final semester, because the version of me who started this program would have never attempted something like this. Having these tangible reminders of the things I've picked up along the way has been a good gauge to mark my own personal progress.

I'm excited to see where I end up with decx.press by semester's end. I'd love to deploy a version of it, either on the actual mainnet Ethereum or on a testnet and allow other students in the class to stress test it.