Term 2: Bi-Weekly Report 2

Atos Blockchain Team 3

George Pîrlea, Alexis Enston, Danish Alvi

January 30, 2017 – February 10, 2017

1 Overview

Over the last two weeks, we debugged and improved the smart contracts, integrated the API with the main contract, added IPFS and encryption support to the API and developed a basic local caching solution for IPFS content. We also had a call with our client and a meeting with our supervisor.

2 Meetings

Jan 31: Lab team meeting

Attendees: George Pîrlea, Danish Alvi

- Reviewed work
- Discussed scheduled meetings on Thursday, February 2nd:
  - 11 am meeting with supervisor
  - 12:45 pm call with client

Feb 2: Call and meeting rescheduled

Attendees: George Pîrlea, Danish Alvi, Alexis Enston

- Call with client rescheduled for Friday, February 3rd
- Meeting with supervisor rescheduled for Friday, February 3rd

Feb 3: Call with client

Attendees: George Pîrlea, Danish Alvi, Alexis Enston, John Paul Moore

- Updated client on progress
- Client wanted to look at website and see a demo

- **TODO**: send video
- Next meeting scheduled for: March 3rd

Feb 3: Meeting with supervisor

Attendees: George Pîrlea, Danish Alvi, Alexis Enston, Dr. Antoaneta Serguieva

- Planned joint meeting with client on March 3rd, at 9:30 am
- Need to confirm submission of code for marking is OK with client
- Need to update website with requirements and user guide
- Submit short paper to conference:
  - Need to prepare slides for next meeting with idea, implementation, originality
  - Focus on originality

Feb 7: Lab meeting

Attendees: George Pîrlea, Danish Alvi, Alexis Enston

- Assigned tasks:
  - **George**: IPFS for contract fields, localStorage caching
  - **Alexis**: integrate API with main BitKariero contract, other contracts
  - **Danish**: unit testing for contracts

3 Completed tasks

- Implemented IPFS integration, with localStorage caching
- Implemented public-key encryption/decryption for content
- Integrated contracts into API
- Debugged and improved smart contracts

4 Plan for the next two weeks

- Write slides required by supervisor
- Send video to client
- Implement secure storage for keypairs
- Start integrating with UI

5 Individual Reflection

George: Over the past two weeks, I've worked on the BitKariero API. First, I added support for IPFS decentralised storage and retrieval of files. On top of this, I've implemented a basic caching system built on HTML5 localStorage. More recently, I have implemented helper functions for public key encryption and decryption, built on top of the HTML5 WebCrypto API. These can be used to ensure all content stored in IPFS is encrypted.

Alexis: In the past two weeks I have focused on the BitKariero API. I have started work on integrating the various contracts Danish created into the embark-based API, and making them work together with the main BitKariero contract. I ran into some issues getting embark to work on the public Ethereum Ropsten testnet, since it has the gas price and limit hard coded, and worked around this by modifying the bundled embark code in the build script.

Danish: Over the course of the past two weeks I have been working on debugging, enhancing and improving the reference and identity contracts and have been testing them manually - and over the remaining course of the week will be improvising automatic unit testing using Embark.