

Team 16: Biweekly Report 1 - Wednesday October 12th 2016

Applications of Blockchain in the Internet of Things - Atos

Team members: Sadir Abdul Hadi, Kristelle Feghali, Alexandru Chiriac

Overview

This week has been mainly a week of research and understanding of the core concepts of our project: Blockchain and Internet of Things. We did some research as a group during our first lab, where we shared the information we found, some useful links, and videos.

The tricky part was to figure out the link between it and the Internet of Things (IoT) and how one can contribute to the other, and we're going to research this further.

Furthermore, we got a brief description of the project from the client, and we knew we have to think ourselves about an **interesting application of the Blockchain technology in the Internet of Things (IoT)**. After this week, we believe the project and the concepts we need to use are clearer.

Meetings

Meeting #1 - October 5th 2016

Attendees: Sadir, Kristelle, Alexandru

In this informal meeting, we got to know each other, and discuss our interests and past projects. We also decided that we will distribute the team roles once we get a clear vision of the project and its requirements. Finally, we decided on the communication channels our team will use, and we established a whatsapp group as well as a Google Drive folder.

Meeting #2 - October 6th 2016

Attendees: Sadir, Kristelle, Alexandru

During this meeting, we were provided with our client's contact details, and we promptly emailed him to request a meeting. Unfortunately, Mr Smith was not available for a face-to-face meeting, but he scheduled a skype conference for all the teams working with Atos. We received a very broad description of the project, and hence immediately started our research, as none of the team members had an idea about what Blockchain is.

Meeting #3 - October 10th 2016

Attendees: Mike Smith, Atos Blockchain Teams, Atos Coaches

Mike Smith introduced us to our contact in Atos, Andy Wallace. Later, he told the 4 Atos Blockchain teams more about Atos and its IT Challenge, in which we are all automatically competing.

Lastly, Mike gave us a glance about Blockchain, its advantages and disadvantages, and provided us with some materials to start our research from.

Tasks Completed

- Got to know each other's strengths by discussing past projects
- Established communication channels within the team, and with Blockchain teams
- Contacted and met our client via Skype
- Acquired a broad understanding of Blockchain and Internet of Things (IoT), and a clearer vision of the project we'll be working on
- Researched some platforms we can use, such as Ethereum

Problems

- We haven't been provided with a clear description of our project yet, probably because our client wanted us to get acquainted with the Blockchain and IoT technologies

Plan

- A meeting is scheduled with Andy Wallace, our main contact in Atos, on the 13th of October. We're going to try to get a more detailed description of the project.
- We're going to start listing the project's requirements and negotiate with the client
- We hope to dive into the technical aspect of the project after having understood the key concepts required

Individual Section

Sadir Abdul Hadi

Last week, I've mainly been doing research about the technologies we are supposed to use, but I mainly focused on the link between IoT and Blockchain. And hence, I understood that the aspect we might need to think about is the "decentralisation" of the network which links the different IoT devices, by creating connections between the devices themselves without passing by the server. The securisation of these connections can be made thanks to Blockchain. However, this idea has to be researched further, and might be modified or invalidated.

Furthermore, I was responsible of contacting the client and scheduling meetings.

Kristelle Feghali

During this week, I did a lot of research on Blockchain and more particularly on bitcoins. I started by watching youtube video explaining what Blockchain is and how bitcoins work. I proceeded to read about how secure it is: I did some research about the miners who solve the blocks to verify the transactions and the puzzles they have to solve. Then, I read about the systems used to make sure it is safe such as the proof of work system and the hashcash system, the main concept being: the miners have to solve a puzzle that will hash to a number that should be lower or equal to the target number -which is a very large number shared by all bitcoin clients- for the transaction to be approved. I also watched a course on lynda.com called "Up and Running with Bitcoin" that helped me understand the concept more. My plan for the following week is to find some ideas that would serve the purpose of the internet of things.

Alexandru Chiriac

During the past week I have been researching about Blockchain to get a better understanding on how it can integrate within an Internet of Things application. I've joined the blockgeeks.com forum and browsed through some of the topics which were quite helpful in understanding what Blockchain is all about. Furthermore, I read articles about Filament and their take on the challenge and how they manage to deliver efficient and cost reducing wireless networks through Blockchain. I've also read a bit about the Ethereum platform which I think might help us in the development of our app. My plan for the future is to do further research on Ethereum and start working on an idea for the front end of our app.