

Initial Plan Report



Title: Evaluating the feasibility of Blockchain applications

Author: Fadi Zoghbi

Student ID: C1444076

Supervisor: George Theodorakopoulos

Moderator: Philipp Reinecke

Degree: BSc Business Information Systems

Module Title: One Semester Individual Project

Module Code: CM3203

Credits: 40

Project Description:

Nowadays due to the continuous evolution of technology, new technologies are constantly emerging. Blockchain is one of these technologies that has been labelled by many as “innovative” and “transformative”. It is the technology that underpins Bitcoin. The bitcoin system was the first instance of distributed ledgers (databases) that was designed for the purpose of peer-to-peer bitcoin transactions [1]. Specifically, the system allows payments to be sent between users without having necessarily a central authority like a bank to validate the transaction. It is created and held electronically since bitcoins do not have a physical form but rather a digital form, as they are produced by computers all around the world using publicly free software [2]. Bitcoins are the first example of cryptocurrencies, a growing asset class that shares some characteristics of traditional currencies, with verification based on cryptography. The reason why bitcoin is so popular is because it allows fast, secure and global transactions between two or more parties, verified by mass collaboration of the bitcoins users and not a central authority. There are many industry areas and applications where Blockchain technology can have large business and societal impact due to its main characteristic which is recording transactions securely, stably and in a scalable way. Such applications could be in areas like: smart contracts (e.g. Healthcare, Music Industry and Government), financial services (e.g. Asset Management, Insurance, Global payments), prediction market, smart property, elections management. Moreover, Blockchain technology can be crucial in applications like: digital voting, digital identity, distributed cloud storage [3].

The aim of this report is to clarify what type of applications can genuinely benefit from implementing the Blockchain technology. Firstly, I will describe non-technically what Blockchain technology is and its advantages-disadvantages. Then I have to consider whether Blockchain can be implemented in general or in specific cases in order to be profitable and suitable for its cause of use. Furthermore, I will need to identify successful implementations of Blockchain technology in applications and determine their characteristics. Finally I will reach to the conclusion of what type of tasks would realistically benefit from the implementation of Blockchain technology by presenting the similarities and relationships of its characteristics and the characteristics of already successful applications of Blockchain.

I hope to provide a detailed report on Blockchain technology by collecting information and researching from a variety of sources such as: online journals/articles, library books, discussions with lecturers. Ultimately the main purpose of the report will be to identify the characteristics of applications that could benefit from implementing the Blockchain technology as well as provide information for the sub-objectives mentioned above.

References:

[1]: <https://medium.com/@sbmeunier/blockchain-technology-a-very-special-kind-of-distributed-database-e63d00781118> [Accessed: 03/2/2018]

[2]: <https://www.coindesk.com/information/what-is-bitcoin/> [Accessed: 03/2/2018]

[3]: https://www.huffingtonpost.com/ameer-rosic/-5-blockchain-applications_b_13279010.html [Accessed: 03/2/2018]

Project aims and Objectives:

This section consists of aims and objectives that I hope to achieve successfully by the end of the project.

1) Aim: Understand how Blockchain technology works from a non-technical viewpoint.**Objectives:**

- Research what Blockchain technology is.
- Brief description of Blockchain features.
- Identify its advantages and disadvantages.

2) Aim: Identify successful implementations of Blockchain technology and areas where it can be applied in the future.**Objectives:**

- Determine and briefly describe few applications where Blockchain technology has been implemented (e.g. Bitcoin, Smart Contracts).
- Ascertain the advantages and disadvantages of each application.
- Identify areas of interest for Blockchain technology (e.g. Digital Voting) and briefly describe them.
- State the benefits regarding the implementation of Blockchain technology in those promising areas.

3) Aim: Point out the characteristics of applications where Blockchain technology has been implemented successfully.

Objectives:

- Detect and describe those characteristics.
- Identify the application's common characteristics (if any) and describe their importance.

4) Aim: Assess whether Blockchain technology should be implemented for general purposes or specific tasks.

Objectives:

- Conduct research on the Blockchain technology applications and conclude whether the technology is used for specific tasks or it is an emerging technology that can be used in general.
- Justify the conclusion.

5) Aim: Identify what kind of characteristics/purposes, applications must have in order to benefit from the Blockchain technology.

Objectives:

- Research and briefly describe what type of characteristics, tasks could have to benefit from Blockchain.
- Examine the characteristics of applications where Blockchain has been implemented and identify the most frequent* in order to reach to a conclusion.
- Suggest the kind of characteristics an application should have based on frequency of occurrence and justify why Blockchain is a suitable technology to support them.

*(By most frequent I mean if for example in four out of six blockchain application's anonymity and security are common characteristics then Blockchain technology is more suitable for applications that have those requirements or characteristics.)

6) Aim: Write a final report, summarizing the whole project with a conclusion and a self-reflection section.

Objectives:

- Produce a report, outlining the final project that consists of the research carried out, background information, recommendations and a conclusion.

Ethics:

Being aware of the ethical guidelines of Cardiff University, School of Computer Science that are required sometimes for the final year projects and after discussing with my supervisor I concluded that the research that I have to carry out for this project does not need ethical approval.

Work Plan:

This section consists of a time plan stating what and when I am working on during each phase of the project. I chose to use the Agile Development Methodology because it is the one I think fits the project best. The main objective of the project is closely related to at least two sub-objectives so in order to produce a well written report I should be able to go back and forth between the objectives to adjust them accordingly and adapt with ease to any changes that may occur. I made sure the plan is carefully designed and enough time is allocated for each task as well as including the Easter Recess period in case I need more time to work on a certain part or tackle unplanned events that could affect my progress. Moreover, after the first meeting with my supervisor we decided to have weekly meetings to have the opportunity to ask any questions if I may have and ensure am working to the right direction. Apart from weekly meetings we will have four review meetings as well in *Week 5*, *Week 2* of Easter Recess, *Week 11* and *Week 12* where we will review the project from a broader perspective.

Week 1 (29 January – 4 February):

- First unofficial meeting with supervisor, discussing and deciding on project aims and meeting days/time.
- Create Initial Plan for project.
- Produce the Initial Plan report for the project.
 - **Deliverables:** Initial Plan report
 - **Milestone:** Submit Initial Plan report

Week 2 (5 February – 11 February):

- Carry out research for Blockchain technology from non-technical viewpoint.
- Understand how it works.
- Conduct research for background of Blockchain.

Week 3 (12 February – 18 February):

- Research Blockchain technology.
- First meeting with supervisor to review progress.
- Understand how it works.
- Conduct research for background of Blockchain.
- Coursework for module Project and Change Management is handed out.

Milestone: Supervisor agrees that the Aims and Objectives are accurate and feasible for the project.

Week 4 (19 February – 25 February):

- Identify successful applications of Blockchain.
- Find potential areas of interest for Blockchain.
- Work on Project and Change Management coursework.

Week 5 (26 February – 4 March):

- Identify successful applications of Blockchain.
- Find potential areas of interest for Blockchain.
- 1st Review Meeting (Date to be arranged with supervisor).
- Work on Project and Change Management coursework.

Week 6 (5 March– 11 March):

- Determine the characteristics of applications where Blockchain was implemented.
- Find potential areas of interest for Blockchain.
- Work on Project and Change Management coursework.

Milestone: Finish coursework and review it.

Week 7 (12 March – 18 March):

- Assess if Blockchain technology can be implemented in general or for specific tasks/applications.
- Find potential areas of interest for Blockchain.
- Determine the characteristics of applications where Blockchain was implemented.

Deliverables: Submit Coursework of Project and Change Management module.

Week 8 (19 March – 25 March):

- Identify the characteristics of applications that could potentially benefit from Blockchain technology.
- Assess if Blockchain technology can be implemented in general or for specific tasks/applications.

Milestone: All objectives of the project have been assessed but still need improvement.

Easter-Recess Week 1 (26 March – 1 April):

- Review of the research I have conducted so far and find more detailed information for parts that still need enhancement.
- Identify the characteristics of applications that could potentially benefit from Blockchain technology.

Easter-Recess Week 2 (2 April – 8 April):

- 2nd Review meeting with supervisor, most likely via Skype.
- Review of the research I have conducted so far and find more detailed information for parts that still need enhancement.
- Identify the characteristics of applications that could potentially benefit from Blockchain technology.
- Fix any issues or obstacles that might have occurred regarding the report (e.g. misunderstanding of objective, answers too vague)

Milestone: Characteristics of applications that could benefit from Blockchain implementation have been identified and assessed.

Easter-Recess Week 3 (9 April – 15 April):

- Fix any issues or obstacles that might have occurred regarding the report (e.g. misunderstanding of objective, answers being too vague)
- Review of the research I have conducted so far and find more detailed information for parts that still need enhancement.
- Start writing the Introduction and Abstract of Final Report

Milestones:

-All necessary research and collection of information should be finished by this week. Researching more information is necessary and will be carried out only for enhancement of the report rather than writing it and gathering additional information.

- All problems that have occurred have been solved.

-Finish Introduction and Abstract sections of Final Report.

Week 9 (16 April – 22 April):

- Start writing the Background, Acknowledgement section of Final Report.
- Start gathering all the relevant information and adding them to the report (i.e. main body of report).

Milestone: Finish Background and Acknowledgement sections of Final Report.

Week 10 (23 April – 29 April):

- Start gathering all the relevant information and adding them to the report (i.e. main body of report).
- Find solutions to any problems that might have occurred.
- Review report.
- Start writing Conclusion, References, Reflection and Glossary sections.
- 3rd Review meeting with supervisor to ensure my work is on the right track.

Week 11 (30 April – 6 May):

- Finish gathering all the relevant information and adding them to the report (i.e. main body of report).
- Review report.
- Finish writing Conclusion, References, Reflection and Glossary sections.
- Fix any issues regarding the report structure.
- 4th Review Meeting with supervisor to ensure the report is appropriate and ready to be submitted.
- Write table of contents section.
- Produce a draft of Final Report.

Milestone: Draft of Final report is completed.

Week 12 (7 May – 11 May):

- Review Final Report.
- Fix any issues regarding the report structure.
- Write and finalise table of contents and glossary sections.

Deliverables: Final Project Report

Milestone: Submit Final Project Report

Week 13 – Viva date (12 May - N/A):

- Preparation for the Viva of the Final Year Project.

Milestone: End of Final Year Project

Gantt Chart:

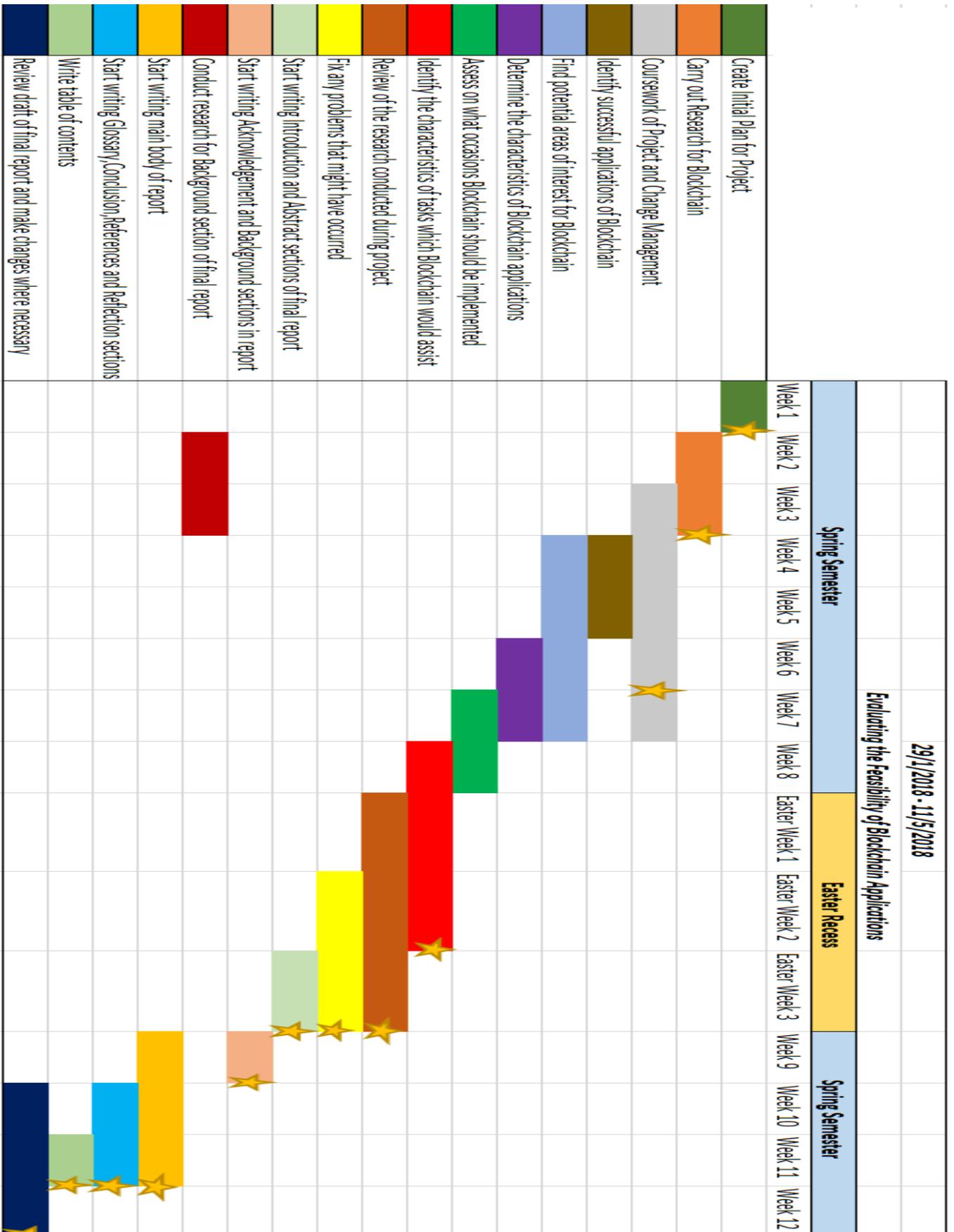


Figure 1 : Gantt Chart of my work plan (Stars imply achievement of milestone)