



School of Information Technologies
Faculty of Engineering & IT

ASSIGNMENT/PROJECT COVERSHEET - INDIVIDUAL ASSESSMENT

Unit of Study: COMP5703 Information Technology Capstone Project

Assignment name: Individual Report

Tutorial time: WEND 16:30-18:30

Tutor name: Dr. Martin

DECLARATION

I declare that I have read and understood the [University of Sydney Academic Dishonesty and Plagiarism in Coursework Policy](#), and except where specifically acknowledged, the work contained in this assignment/project is my own work, and has not been copied from other sources or been previously submitted for award or assessment.

I understand that failure to comply with the the *Academic Dishonesty and Plagiarism in Coursework Policy*, can lead to severe penalties as outlined under Chapter 8 of the *University of Sydney By-Law 1999* (as amended). These penalties may be imposed in cases where any significant portion of my submitted work has been copied without proper acknowledgement from other sources, including published works, the internet, existing programs, the work of other students, or work previously submitted for other awards or assessments.

I realise that I may be asked to identify those portions of the work contributed by me and required to demonstrate my knowledge of the relevant material by answering oral questions or by undertaking supplementary work, either written or in the laboratory, in order to arrive at the final assessment mark.

Student ID: 460094203

Student name: Zhiliang Wang

Signed  Date 12/04/2018

An Online Web-Streaming Service for Bitcoin-Exchanges

Individual Report



THE UNIVERSITY OF
SYDNEY

Information Technology Capstone Project
COMP5703

Group 28
Zhiliang Wang (460094203)

School of Information Technologies
Faculty of Engineering and Information Technologies
The University of Sydney
2018

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1. Roles and Responsibilities

Our project is to build a web application for collecting and visualizing data from cryptocurrency trading among different exchange websites. The application could visualize real-time data based on the real-time trading running on the global cryptocurrency market. For me, I will be responsible for part of job in front-end programming (including sign up and login modules, materialize.js framework and map bubble in amchart.js) and unit testing.

2. Individual Achievements

First of all, I have found out a nice web deployment tool, named web server for chrome, which can be used for setting up Web server without any complex operations. It will save us so much time working on webserver like apache2.



Figure 1 How to use web server for chrome.

Secondly, I will do some part of front-end programming in the second stage. I will code on sign in and login modules (As shown in figure 2). This will help our users save historical trading data and some important and personal alerting for bitcoin exchanges information.

Sign In

Email

Password

☐ Remember me Sign In

[Forgot password?](#) ·
 [Don't have an account?](#) ·
 [Sign up](#)

Figure 2 Sign up and login modules

The user will give some part of authentication to our web server. After that our developers can get access to their personal trading data (As shown in figure 3). I will cooperate with my team mate “Jiyang Li” to complete the logic design and data format job in this part.

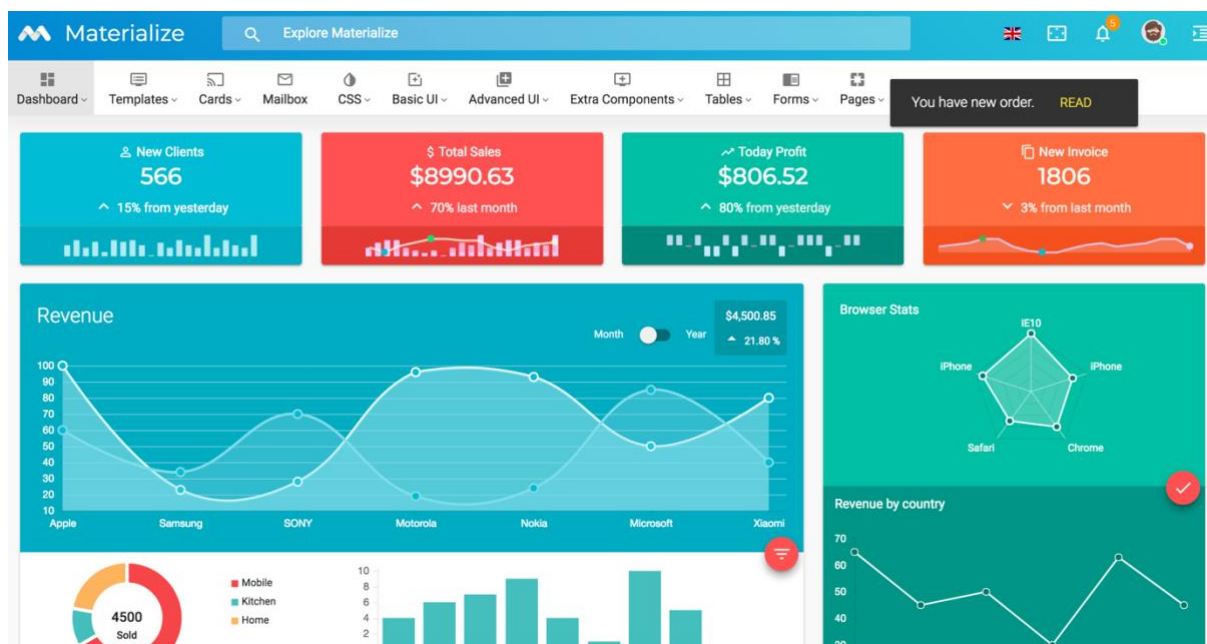


Figure 3 Some of charts and functionality modules on the website.

Through real-time data obtaining process and back-end caculation, I will use amchart.js to show real-time ratio of trading frequency all the world (As shown in figure 4).

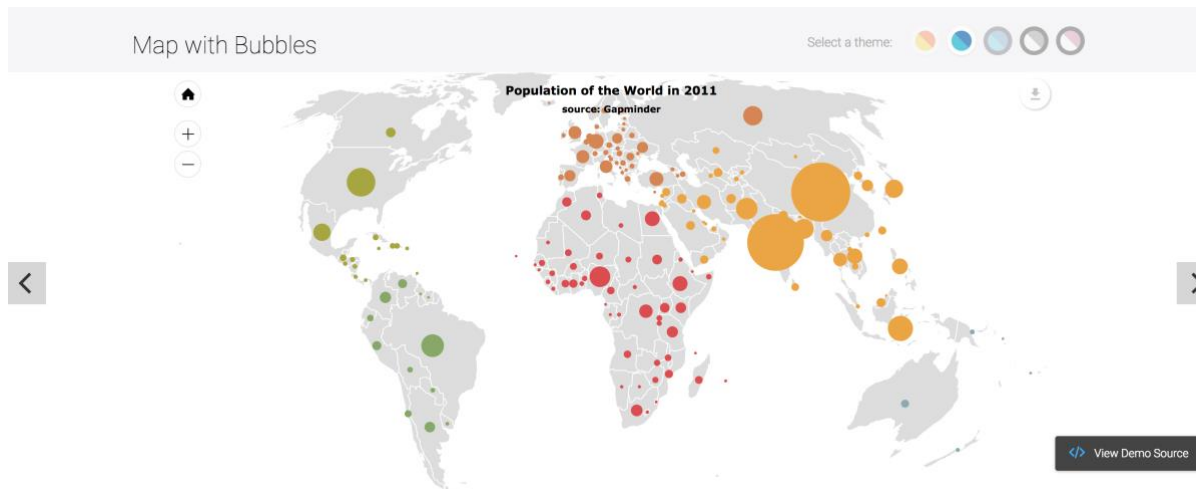


Figure 4 Map with bubbles in amchart.js.

Thirdly, I will be responsible for web application testing which includes functionality testing, usability testing, compatibility testing, performance testing, security testing.

3. Group Collaboration

Firstly, I am an information digger in our group. For example, sometimes I would like to share some good blog or technical essays for team members, which would give some useful advices from these articles(As shown in figure 5&6).

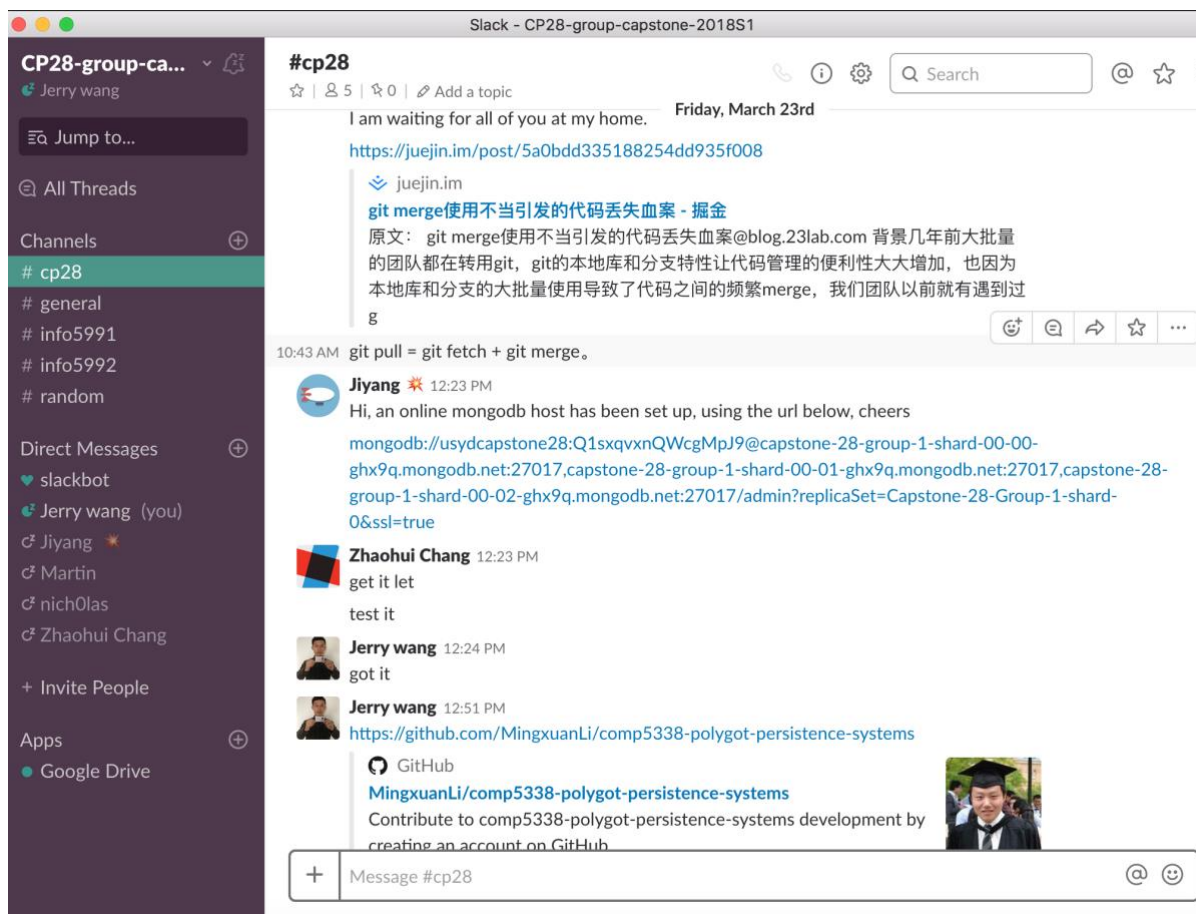


Figure 5 How to use “git pull” correctly and share a github project on MongoDB.

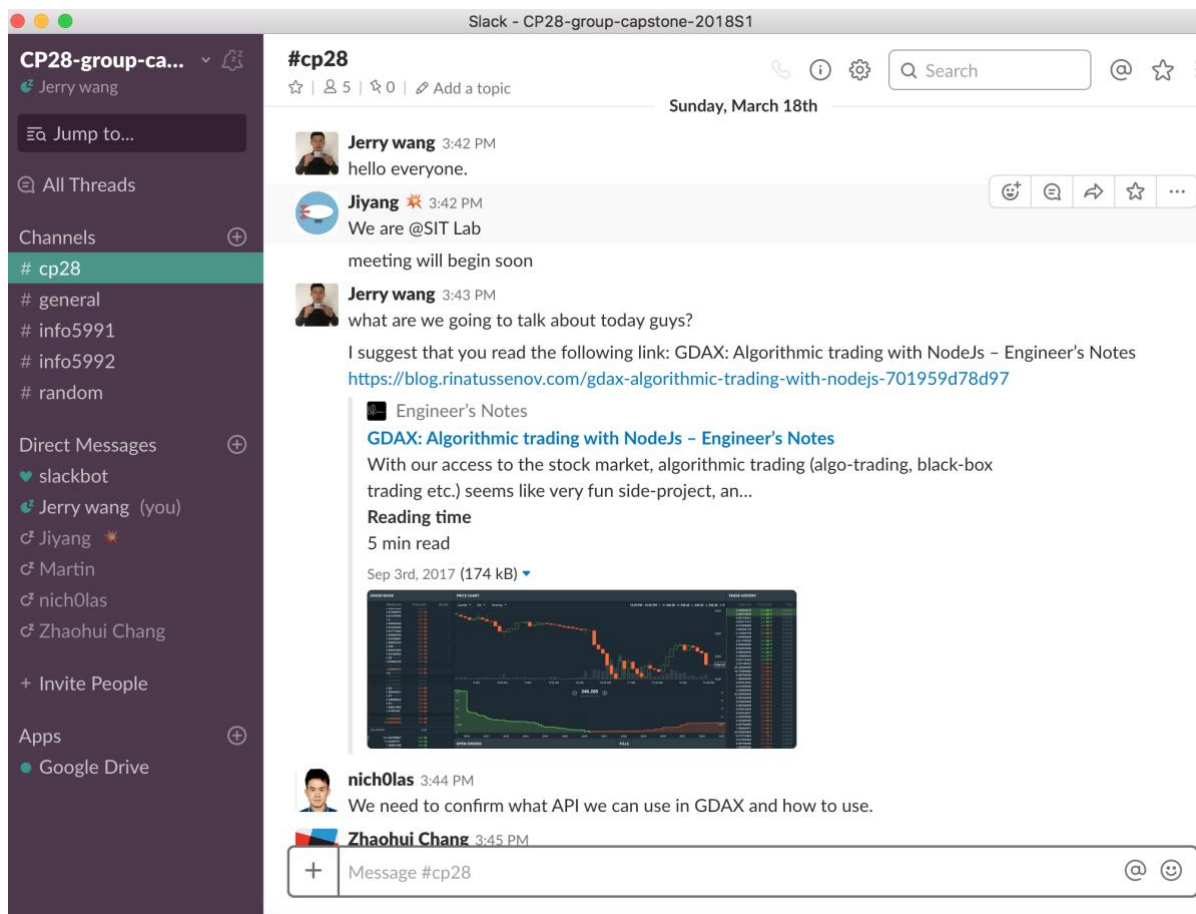
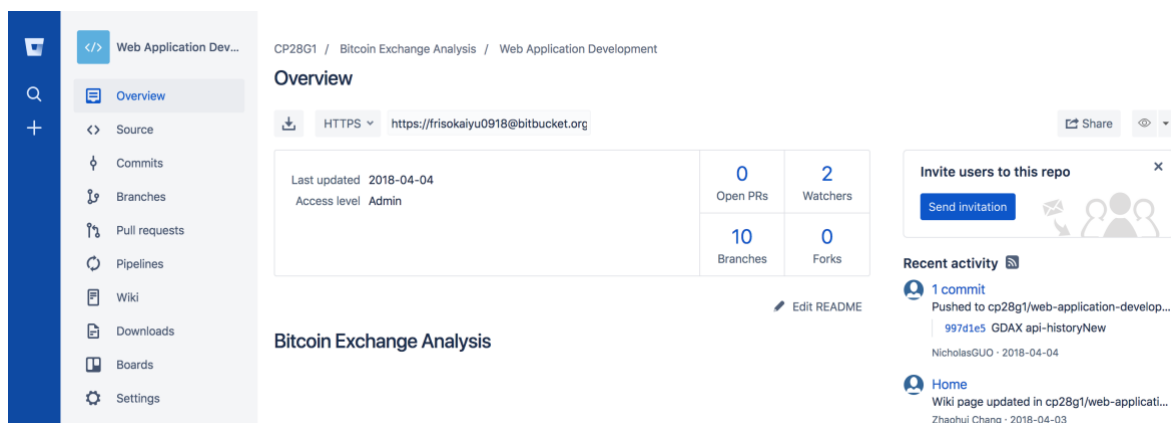


Figure 6 A web note talked about “GDAX: Algorithmic trading with NodeJs”.

Secondly, as a group, we will share our latest code to bitbucket which is convenient for us to communicate with coding issues, especially wiki functionality in bitbucket (As shown in figure 7). The address is <https://bitbucket.org/cp28g1/web-application-development>.



CP28G1 / Bitcoin Exchange Analysis / Web Application Development / Branches

jerry

Check out View source Merge ...

Change destination

Create pull request

No restrictions edit

Diff Commits Merged pull requests

Author	Commit	Message	Date	Builds
15 commits behind master. Sync now.				
zhiliang wang	14bf49f	zhiliang -d web-program	2018-03-23	
zhiliang wang	72b6d3d	zhiliang auth commit	2018-03-23	
zhiliang wang	a83a875	jerry first commit	2018-03-18	

Figure 7 Our project and my commits on bitbucket.

Our project timeline is separated into two lines. The first timeline is from the very beginning to mid-semester and the second timeline is from mid-semester to final presentation. Furthermore, most backend task will be finished in the first timeline and most front-end job will be completed in the second timeline.

Unit of Study	COMP5703
Group name	CP28/1
Project Name	An Online Web-Streaming Service for Bitcoin-Exchanges
Project start date	Starting from 07/03/2018
Project point person	Martin Brian McGrane

Quick description	We will retrieve, store, and visualize data from various cryptocurrency exchanges for customers and also employ data modelling techniques to find suitable data-structures to represent order books of exchanges, will store them in a relational database, and visualize them via a web-interface using Materailize.js and NodeJs.
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Project Status Report	#01	Day of the week, 10/03/2018
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Status item	Status up to last week	Planned for this week
Major deliverables	The first thing I have done this week was forming a group with those who are very interested in Bitcoin technologies. Bitcoin is a famous implementation of black chain technology, so I learnt the inner value of this breakthrough from Youtube videos.	Next week, I need to meet my group members twice a week. Then we need to discuss the main purpose of our capstone project and figure out some creative ideas on this project.
Planned delivery date	13/03/2018	20/03/2018
Major issues	First of all, at the beginning, I cannot get the points about understanding the value of block chain because I get used to living in a centralized world. Like banks, government, and other variable third-party agencies. I feel the current mechanism is nice for me. However, after I leant some scenarios I know we need block chain to store our private information.	Quickly understand the principle of block chain and how to trade within bit coins.
Major risks	None	Unknown
External dependencies	Google search tools and Team members	Google search tools and bitcoin exchange websites
Estimated effort (h)	12 hours	16 hours
Recorded effort (h)	16 hours	18 hours
Status (RYG)	Green	Red

This project status report is limited to one page. Details on subsequent pages will not be considered.

Unit of Study	COMP5703
Group name	CP28/1
Project Name	An Online Web-Streaming Service for Bitcoin-Exchanges
Project start date	Starting from 14/03/2018
Project point person	Martin Brian McGrane

Quick description	We will retrieve, store, and visualize data from various cryptocurrency exchanges for customers and also employ data modelling techniques to find suitable data-structures to represent order books of exchanges, will store them in a relational database, and visualize them via a web-interface using Materilize.js and NodeJs.
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Project Status Report	#01	Day of the week, 21/03/2018
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Status item	Status up to last week	Planned for this week
Major deliverables	This week, my group members have discussed more detailed things on this project. Firstly, I read the GDAX API documents and got familiar with the parameters and methods in it. Secondly, I studied the current bitcoin exchange website such as https://www.btcmarkets.net/ , https://www.bitstamp.net/ , https://localbitcoins.com/ .	Next week, I need to clarify the CSS files that we are going to use in this website, and learn to use a popular CSS frame called Materilize.css.
Planned delivery date	13/03/2018	20/03/2018
Major issues	First of all, we found that when registration on GDAX website is super annoying, and the website forbid us to use the some important public data because they only allow the user has USA passport or Australian passport. So we cannot get the full data from GDAX.	Quickly to learn different frameworks online. I have to master how to use js, and css.
Major risks	None	Unknown
External dependencies	Google search tools	Google search tools
Estimated effort (h)	18 hours	18 hours
Recorded effort (h)	18 hours	18 hours
Status (RYG)	Green	Yellow

This project status report is limited to one page. Details on subsequent pages will not be considered.

Unit of Study	COMP5703
Group name	CP28/1
Project Name	An Online Web-Streaming Service for Bitcoin-Exchanges
Project start date	Starting from 07/03/2018
Project point person	Martin Brian McGrane

Quick description	We will retrieve, store, and visualize data from various cryptocurrency exchanges for customers and also employ data modelling techniques to find suitable data-structures to represent order books of exchanges, will store them in a relational database, and visualize them via a web-interface using Materailize.js and NodeJs.
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Project Status Report	#03	Day of the week, 20/03/2018
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Status item	Status up to last week	Planned for this week
Major deliverables	The first thing I have done this week was getting familiar with how to use git tools named bitbucket and gitkraken. The second thing was thinking about our website layout.	Next week, I need to meet my group members twice. Then we need to discuss the main purpose of our capstone project and figure out some creative ideas on this project.
Planned delivery date	20/03/2018	27/03/2018
Major issues		Quickly understand the principle of block chain and how to trade within bit coins.
Major risks	None	Unknown
External dependencies	Google search tools and Team members	Google search tools and bitcoin exchange websites
Estimated effort (h)	18 hours	20 hours
Recorded effort (h)	20 hours	20 hours
Status (RYG)	Green	Yellow

This project status report is limited to one page. Details on subsequent pages will not be considered.

Unit of Study	COMP5703
Group name	CP28/1
Project Name	An Online Web-Streaming Service for Bitcoin-Exchanges
Project start date	Starting from 07/03/2018
Project point person	Martin Brian McGrane

Quick description	We will retrieve, store, and visualize data from various cryptocurrency exchanges for customers and also employ data modelling techniques to find suitable data-structures to represent order books of exchanges, will store them in a relational database, and visualize them via a web-interface using different Materailize.js and Reactjs.
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Project Status Report	#04	Day of the week, 27/03/2018
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Status item	Status up to last week	Planned for this week
Major deliverables	The first thing I have done this week was forming a group with those who are very interested in Bitcoin technologies. Bitcoin is a famous implementation of black chain technology, so I learnt the inner value of this breakthrough from Youtube videos.	Next week, I need to meet my group members twice a week. Then we need to discuss the main purpose of our capstone project and figure out some creative ideas on this project.
Planned delivery date	27/03/2018	04/04/2018
Major issues	First of all, at the beginning, I cannot get the points about understanding the value of block chain because I get used to living in a centralized world. Like banks, government, and other variable third-party agencies. I feel the current mechanism is nice for me. However, after I leant some scenarios I know we need block chain to store our private information.	Quickly understand the principle of block chain and how to trade within bit coins.
Major risks	None	Unknown
External dependencies	Google search tools and Team members	Google search tools and bitcoin exchange websites
Estimated effort (h)	18 hours	20 hours
Recorded effort (h)	20 hours	20 hours
Status (RYG)	Green	Yellow

This project status report is limited to one page. Details on subsequent pages will not be considered.

Unit of Study	COMP5703
Group name	CP28/1
Project Name	An Online Web-Streaming Service for Bitcoin-Exchanges
Project start date	Starting from 07/03/2018
Project point person	Martin Brian McGrane

Quick description	We will retrieve, store, and visualize data from various cryptocurrency exchanges for customers and also employ data modelling techniques to find suitable data-structures to represent order books of exchanges, will store them in a relational database, and visualize them via a web-interface using different Materailize.js and NodeJs.
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Project Status Report	#05	Day of the week, 03/04/2018
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Status item	Status up to last week	Planned for this week
Major deliverables	The first thing I have done this week was that I finished group report, individual report and peer review. The second thing is that we determined our functional modules and layout design.	Next week, I need to meet my group members twice. Then we need to discuss the how to implement all designs and layout in our web application.
Planned delivery date	04/04/2018	11/04/2018
Major issues	Midterm is very busy because I have to spend some time to take part in a very important job interview, so I felt a little bit tired.	To code in front end part.
Major risks	None	Unknown
External dependencies	Google search tools and Team members	Google search tools and bitcoin exchange websites
Estimated effort (h)	20 hours	22 hours
Recorded effort (h)	22 hours	22 hours
Status (RYG)	Red	Red

This project status report is limited to one page. Details on subsequent pages will not be considered.

SID 4 6 0 0 9 4 2 0 3 Name Zhiliang Wang
Student identification number First name (Preferred first name) Family name

The submission of the deliverables up to this week required the application of the following three software development, project management and team work activities from each colleague in your team:

- Contribution to the design and implementation of the current sprint user stories.
- Contribution to the full range of software development activities (including requirements capture, analysis and design, coding, testing and documentation).
- Contribution to group work and sharing of work.

Based on the overall combination of the contribution above, rate your teammates' performance in the activities up to and including week 5.

IMPORTANT: You *must* assess all your teammates. Use only whole numbers addressing the criteria below:

1 [0 – no contribution]	2	3	4	5
Below satisfactory in 3 criteria or very poor in any activity	Satisfactory in 1 criteria and poor in 2 activities (none very poor)	Good in at least 2 criteria and activity in 1	Excellent in at least 1 activity and good in 2 others	Excellent in all 3 activities

Student ID	Name	Rating 0 to 5 *no fractions*	Reason for rating
460269052	Lida Guo	5	He is responsible for different types of API in cryptocurrency exchanges website using RESTful method. He is always passionate and share everything for other team members.
460061928	Jiyang Li	5	He is responsible for front-end programming with me. But the most important thing is that he is a fan of block chain technology. All the time he share the news and techniques with other members. Thus I feel fulfilled when I learnt new things from him.
460477129	Zhaohui Chang	5	He is responsible for back-end programming in our group. He works very hard and proficient in nodejs coding. So all of us feel he is reliable person in this group.

Comments: I am in a very cooperative and passionate team. I feel very encouraged when all team members are positive to discuss issues we encountered in the project. Although we do not have much experiences in developing a web application about bitcoin exchanges, we still have courage and confidence to submit a satisfied job.