Criterion B: Record of Tasks

Task number	Planned action	Planned outcome	Time estimated	Target completion date	Criterion
1	Make a survey to determine popularity of product among stakeholders (students)	A survey comprised of one question with 'yes', 'no', or 'neutral' answers to gauge popularity of product	20 min.	24-3-2019	A
2	Organise a meeting with client	A discussion of the current situation and the problems that exist (Appendix A, **Communication with client (Mr. Vorlow)**)	30 min.	22-3-2019	A
3	Send survey to students via email and analyse results	Sharing the survey with economics students, and waiting to get the responses	4 days	25-3-2019	A
4	Analyse observations of survey	Spend time making diagrams to analyse the observations and note what was observed in detail (Appendix A, **Survey**)	5 hours	2-4-2019	A
5	Come up with ways to solve the current problems	Brainstorming ideas and using the observations and survey to think of the optimal solution	4 days	3-4-2019	A
6	Consider all possible alternative approaches to problem	Make sure that there is no alternative solution that would work best for this program (Appendix A, **Summary and Assessment of alternative approaches**)	1 day	7-4-2019	A
7	Organise interview with client, to discuss proposed solution	Meeting at Ms. Metaxa's office to discuss the proposed solution that has been thought (Appendix A, **Interview with Mr. (Vorlow)**)	1 hour	10-4-2019	A
8	Create success criteria	Write down a series of success criteria to meet the requirements of clients	3 hours	10-4-2019	A
9	Check success criteria with client	Discuss success criteria with client and make sure that it meets his requirements	1 hour	11-4-2019	A
10	Begin thinking about the design of the program	Think of what the program should do and note it	2 days	11-4-2019	B
11	Decide what file formats to use	Make sure that I know how data will be written (online, or offline)	1 day	13-4-2019	B
12	Consider the data structures to be used	Decide which data structures would work best for the program and learn how they work	3 day	14-4-2019	B

13	Outline of the UML Diagram	Design the basic relationships between all the classes of the program	3 hours	17-4-2019	B
14	Make the USE case diagram	Think of the connections between all the users in the program and the program	2 hours	18-4-2019	B
15	Create flowcharts and diagrams to understand the functionalities	Create flowcharts and diagrams to depict the program's logic, and have a clear understanding of how it will work	2 days	19-4-2019	B
16	Create flowcharts and diagrams to understand the functionalities	Create flowcharts and diagrams to depict the program's logic, and have a clear understanding of how it will work	2 days	22-4-2019	B
17	Finish the design of the UML diagram	Refine all the details of the relationships between the classes and methods of the program	2 days	24-4-2019	B
18	Make a top-down design	Create a top-down design to make the coding process easier later on	30 mins	26-4-2019	B
19	Make a first prototype of the programs	Creation of a prototype that fully meets the success criteria and has the desired functionality	3 days	27-4-2019	B
20	Thinking about extensions to the solution	The programs are going to be made in a way that will allow developers in the future to extend it	3 hours	1-5-2019	B
21	Make a schedule of when each coding task will be executed	Make a detailed plan of when each sub-function and code will be completed to be on track	3 hours	3-5-2019	B
22	Create a test plan	Make a table showing how each criterion will be tested during the making of the programs	4 hours	5-5-2019	B
23	Creation of the interface of the stock market resource/game	Design the user interface of the log-in screen of the app that the students will use to log-in	1 hour	7-5-2019	C
24	Creation of the interface of the student's register screen	Design the user interface of the register screen of the app that the students will use to register and initialise their portfolios	1 hour	10-5-2019	C
25	Write method to check if the username and password are correct	Create a method that will check if the username and password are correct (from database)	30 mins	12-5-2019	C
26	If username or password is wrong display error message	If the username or password input is wrong, display an error message	20 mins	15-5-2019	C
27	Research about what encryption to use	Learn about encryption methods and which one would be best for the students' data	1 day	16-5-2019	C

28	Debugging encryption method and test that users can log-in correctly	Fix any problems of the encryption, and make sure that students can only log-in when preconditions are met.	1 hour	18-5-2019	C
29	Find a way to add new user to local database	Criterion 4 checked. Create a method that will initialise a new user's portfolio by creating a new record in local database	2 hours	22-5-2019	C
30	Debugging and testing method created	Make sure that the method created creates new user correctly	1 hour	24-5-2019	C
31	Research and Understanding of AlphaVantage stock market API and JSON file formats	Find out how to use JSON files to retrieve stock values and the AlphaVantage documentation	1 day	27-5-2019	C
32	Find a way to get a time series of historical stock prices	Criterion 5 checked. Write method that gets the price of stocks between two specified dates	2 hours	30-5-2019	C
33	Testing and debugging the method that gets historical stock time series	Make sure that the data is accurately retrieved in chronological order in the form of a linked list of stock values from the JSON file	1 hour	2-6-2019	C
34	Find a way to enable the user to buy stocks	Criterion 2.1 is checked. Student can enter the name of the company and the volume of stocks to be bought.	1 hour	5-6-2019	C
35	Debugging and testing of method to buy stocks	Make sure that the student cannot buy more stocks that the value of his portfolio	20 mins	7-6-2019	C
36	Find a way to enable the user to sell stocks	Criterion 2.2 is checked. Student can enter the name of the company and the volume of stocks to be bought.	1 hour	5-6-2019	C
37	Debugging and testing of method to sell stocks	Make sure that the student cannot sell more stocks that the volume in his portfolio	20 mins	7-6-2019	C
38	Find a way to display user's portfolio	Criterion 3 Checked. Make sure that the user's portfolio is displayed in a jtable format with an updated value of the value of the user's portfolio	1 hour	10-6-2019	C
39	Find a way to create a visualisation of a company's historical stock data	Criterion 6 checked. Create a method that will display historical time series on a graph using the JFreeChart library	2 hours	15-6-2019	C
40	Debugging and testing of method to display historical data	Make sure that the historical data is plotted on a line graph	20 mins	18-6-2019	C
41	Find a way to model market volatility in future stock price projections	Criteria 1.1, 1.2, 7, 9, checked. Create a method that uses historical data time series and implements the moving average, geometric brownian motion algorithm for calculating a stochastic projection	3 hours	22-6-2019	C

42	Debugging and testing method	Ensure that the output of stochastic analysis has a similar profile to geometric brownian motion path (Appendix A, **Geometric Brownian Motion Illustration**)	30 mins	22-6-2019	C
43	Write method to display frequency distribution of future stock prices upon an iteration of multiple projection, in a manner similar to a Monte Carlo simulation	Criterion 8 checked. Create a method that will display probability distribution to determine future stock price with highest probability	2 hours	22-6-2019	C
44	Debugging and testing method	Distribution matches profile of skewed normal (lognormal) probability distribution and that both pre and postconditions are met	1 hour	23-6-2019	C
45	Find a way to incorporate social media posts to inform students of current trends	Criterion 10 is checked. create a method that will enable users to type in a query and view relevant messages, analogous to a twitter feed. this was achieved using the Twitter4j, API.	2 hours	23-6-2019	C
46	Debugging and testing method	Check that relevant and accurate twitter messages are displayed when a search query is entered by the user.	10 mins	23-6-2019	C
47	Creation of main interface of Mr. Vorlow's program	Create the user interface of the home screen of the program where the main menu interface is located	30 mins	25-8-2019	C
48	Testing main interface has all features	Ensures that the user is able to view and manage portfolio, analyse statistics and use social media tool.	40 mins	27-8-2019	C
49	Creation of interfaces for user to manage their portfolio	Design the user interface of the windows that will allow the users to enter preconditions and manage their portfolios	1 hour	29-8-2019	C
50	Creation of interfaces for user to analyse statistics	Design the user interface of the windows that will allow the users to enter company name and future and/or past dates and visualise statistics	1 hour	5-9-2019	C
51	Creation of interfaces for user to access social media tool	Design the user interface of the windows that will allow the users to enter queries and view feed	1 hour	10-9-2019	C
52	Create an exit button	Make a button that will close the program	10 mins	14-9-2019	C

53	Testing of all the functionality of the program	All of the success criteria are tested against the test plan	4 hours	12-10-2019	C
54	Documenting the code used for all programs	Explaining how the code works, techniques and methods	2 hours	14-10-2019	C

55	Continuing the documentation	Explaining how the code works, techniques and methods	2 hours	16-10-2019	C
56	Continuing the documentation	Explaining how the code works, techniques and methods	2 hours	21-10-2019	C
57	Create the video showing programs	Make a video that shows the functionalities of the program and how the success criteria are met	1 hour	1-11-2019	D
58	Edit video and make improvements	Check that all success criteria are explained in the video and that functionality requirements are met	1 hour	4-11-2019	D
59	Install the programs on the client's computer	Install Mr. Vorlow's program on a computer in the Economics classroom	20 mins	10-11-2019	E
60	Have the client test the programs (User acceptance testing)	Get the client to use the program for a few days and test all the parts of the programs	30 mins	15-11-2019	E
62	Process the feedback from the client	Reading and analysing the feedback from the client, making notes to write evaluation	10 mins	19-11-2019	E
63	Write the evaluation of the program	Considering the testing of success criteria, feedback from Mr. Vorlow and own evaluation, write evaluation	1 hour	21-11-2019	E
64	Final submission	The development of the program is finished, and the development cycle is complete	-	22-11-2019	E