

Initial Project Plan – Personal Finance Manager

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Module Name: *One Semester Project*

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Credits Due: *40*

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1. Project Description

Managing your own money can be a difficult task. A task that without proper organisation, management and budgeting can easily lead to losing track of your finances or worse, incurring debts. The majority of people have multiple bank accounts, whether it is a current account, an ISA or a credit card. Having these multiple accounts means people's money is spread out and this makes it harder to see an overview of how much money they have. With about 79% of people owning one or more credit cards (Credit Reporting Agency Ltd, 2015), they need special attention to ensure they are paid off in time and to avoid extra charges and interest. Bank statements are key in helping view your previous transactions but it can be hard to identify what you are actually spending your money on. For example picking out answers to these questions can be difficult: "How much you are spending on eating out each month?" and "How much are you spending on subscription service's like Netflix?" Another factor that makes managing your money harder is having loans. You need to keep a close eye on what you receive from a loan company and the dates that repayments need to be made.

For a student heading to university, this could be the first time they have the independence and the responsibility to look after their own money. With 673,040 students applying for university in the 2015 cycle (UCAS Analysis and Research, 2015) and Student Finance Company also reporting that 1.08 million students received some form of support from them in the academic year 2014/15 (The Student Loans Company, 2015). That is a large number of new students who may never have managed their own money before and a lot of students receiving loans that need to be recorded and eventually paid back. My aim is to create a web application to streamline this process of managing their personal finances. My proposal is to provide the user with a means of entering a record of their financial transactions, both income and expenditure. Most if not all of the major banks provide a method of exporting a statement on their online banking websites; they can be downloaded into formats such as OFX and QIF for Money and Quicken Software, and CSV for use in spreadsheets. I envisage the user being able to upload these exported documents and then be able to review the uploaded material. Paper copies of statements or individual transactions will have to be entered manually through the user interface. There must also be an appropriate method to remove individual transactions in case they are irrelevant or incorrect.

The other main aspect of my system will be to tag, classify, summarise and review the user's transactions that have been uploaded. I imagine this will be done during the upload process, where the user will be able to select a tag from a predefined list or create a new category. Example classifications include 'Household Utilities', 'Food', 'Personal', 'Loans', 'Work', 'Travel', 'Tax' etc. With sub-classifications such as 'Gas', 'Water', 'Eating Out', 'Phone Bill', 'Tuition Fee', 'Income Tax', etc. Summarising and reviewing the users transactions

will take the form of tables and charts populated with the financial data they have uploaded or from a range selected from this data. An example of such charts would show the total income and expenditure on a pie chart, also showing the sub-classifications within the income and expenditure records.

The last main consideration is how to deal with taxed income. A generic payslip displays the total taxable pay and the various tax deductions. I suspect that this can be easily integrated into my system by simply entering the total taxable pay and tax deductions separately, and tagging them accordingly. Therefore, when it comes to summarising data, a user will be able to see a breakdown of their income and how much tax was paid. I could also integrate a budgeting platform for a user to plan ahead for any big investments, or in the case of a student, be able to budget for the rest of the academic year.

I envisage that my system will have various use cases. Mainly to be used by anyone that needs a tool to aid managing their money. More precisely being a useful tool for students as they are likely to be kept to a strict budget, my system will aid them in managing their money and planning for the rest of the academic year. A self-employed working professional could also find it particularly useful. They could use my system to manage and track their income and tax related to their business and also budget for their personal life.

I believe this proposal for my project will allow me to explore various programming and design techniques to tackle an interesting problem that is relevant to a wide variety of people. Being able to produce a product that is not only useful for myself but potentially could be useful for the general public, being students, working professionals, etc. At this stage, I am planning to develop a web application with an easy to use interface. Implementing this in a responsive layout will allow access from multiple devices and screen sizes. I will have to draw on both front-end and back-end development techniques. The front-end will address an easy to use interface for the user, where I will use languages such as HTML, CSS and JavaScript. While the back-end will address the issue of storing and querying uploaded data, PHP and MySQL will be utilised in this process. Comparing my proposal against other existing products will allow me to pinpoint key differences that can be improved upon.

2. Project Aims and Objectives

Based on my project description I have set out a list of aims and objects to address. I have split these up into three categories; Essential (Must Have) requirements for the project to be considered a success, Desirable (Should Have) requirements that while being considered secondary, are still important for the project to be a success, Additional (Could Have) requirements that are not necessary but will add to the value of the project and could be implemented at a later stage.

Essential ‘Must Have’ aims and objectives: -

- A way to upload a user’s financial transactions, being income or expenditure.
- Be able to add pre-defined ‘Tags’ to classify the uploaded records.
- A user should be able to delete any uploaded transaction.
- A method to display a summary of uploaded data, in the form of charts and graphs.
- The user should be able to register, log in and delete their account and thus deleting all of their uploaded data.

Desirable ‘Should Have’ aims and objectives: -

- Be able to add bulk transactions from exported data i.e. from a CSV document exported from an online bank statement.
- A user should be able to edit any uploaded transaction and tag assigned to it.
- Should be able to display a comparison/summary of uploaded data by selecting a range within this set.
- A way to customise the data displayed in the summary/comparison.
- Implementing a responsive layout with CSS to provide access across multiple devices.

Additional ‘Could Have’ aims and objectives: -

- A way to allow the user to budget for future dates, i.e. rest of academic year.
- Be able to log in using social media i.e. Facebook, Google+, etc.
- Create new ‘Tags’ to classify transactions that do not fall into pre-defined ‘Tags’.
- Provide a wide variety of plots and graphs for summary/comparison of data.
- The system could recognise records that are similar to previously uploaded records, and thus suggest a tag accordingly.
- Future development could provide ‘Pro’ features that are accessible to paid members. This could be included at a later date to provide income for the project.

3. Ethics

Referring to the Ethical guidelines set out by Cardiff University (Spasic, 2015) I have decided that I do not need to seek Ethical Approval. During my project I will not be conducting any interviews and any data I use will either be my own personal data or fabricated test data. If I do decide to implement using social media to log into my platform then I will need to follow the guidelines set out by their respected API’s. I am not currently implementing this, so at this stage I feel that the scope of the project does not warrant the need for me to seek ethical approval. However as the project progresses this may change, therefore I will be reviewing the ethical guidelines throughout my project.

4. Work Plan

Below is a week-by-week plan that will set out the deliverables for each week and includes any meetings with my supervisor. This can also be seen in the Gantt Chart provided in appendix A. I can see the project being split into 4 main sections, research, design, implementation and the final report; each of which will have certain deliverables that need to be met before progressing to the next section. The schedule I have drawn up is likely to change as the project progresses.

Week-by-Week Plan

Week 1, 25 January 2016

- Hand in initial plan [Due: 31/01/16].
- Begin researching similar products and assess what my product will improve on.
- **Deliverables:** Initial Plan [Due: 31/01/16].

Week 2, 01 February 2016

- Continue Research of the best tools to use for design and implementation.
- Research Back End technologies and understand how these technologies interact with the server.
- Start Risk Assessment for the rest of the project.
- **Deliverables:** Established what tools and technologies I will be using to design and implement my project and have a good understanding how Back End technologies interact with the server [Due: 07/02/16].

Week 3, 08 February 2016

- Finalise Risk assessment [Due: 09/02/16].
- Begin design process by designing the database that will be used to store users transactions and the rest of the system.
- Design UI for the log in page, the main home page and the adding transactions page.
- **Deliverables:** Research completed [Due: 09/02/16], Final database design and most of the UI designs finished [Due: 14/02/16].

Week 4, 15 February 2016

- Design UI for rest of the system; edit transactions and review/summary data pages.
- Design structure of the system with UML diagrams and decide on a colour template.
- Create Unit test templates to be used during testing of the final system.
- **Deliverables:** Finished Design phase. Database, UI, UML diagrams and Unit Test designs completed [Due: 21/02/16].

Progress Review Meeting, 22 February 2016

- Meeting with Supervisor to discuss project so far and adjust the plan if necessary.

Week 5 - 8, 22 February 2016

- Create initial prototype. The basic functionality of the system will be implemented [Due: 06/03/16].
- Develop prototype with further functionality and generic front-end designs/styles [Due: 20/03/03].
- Testing to be carried out during these processes.
- **Deliverables:** Final Prototype to be completed with the majority of functionality and basic styles implemented [Due: 20/03/03].

Easter Break, 21 March 2016

- Use Easter holidays to tidy up front end styles, and begin final development.

Progress Review Meeting, 11 April 2016

- Meeting with Supervisor to discuss project development over the Easter break and demonstrate the prototype. Adjust plan if necessary.

Week 9, 11 April 2016

- Complete final development to produce a working product [Due: 17/04/16].
- Finish testing based on previously designed unit tests [Due: 17/04/16].
- **Deliverables:** Final development completed providing a web app that meets the aims and objectives set out above [Due: 17/04/16].

Week 10 - 12, 18 April 2016

- Produce an initial draft of my final report [Due: 25/04/16].
- Finalise my report and produce a final version to be submitted [Due: 06/05/16].
- **Deliverables:** Final report to be completed and ready for the deadline on 6th May 2016.

References

Credit Reporting Agency Ltd (2015) *2014 banking and credit card survey*. Available at: <https://www.checkmyfile.com/content/downloads/BankSurvey2014.pdf> (Accessed: 27 January 2016).

UCAS Analysis and Research (2015) *Deadline applicant statistics: June (2015 Cycle)*. Available at: https://www.ucas.com/sites/default/files/mr_june_150630.pdf (Accessed: 27 January 2016).

The Student Loans Company (2015) *Statistical First Release of Student Support for Higher Education in England 2015*. Available at: <http://www.slco.uk/media/6669/slcsfr052015.pdf> (Accessed: 27 January 2016).

Spasic, I. (2015) *Research Ethics - Cardiff University School of Computer Science and Informatics*. Available at: <http://users.cs.cf.ac.uk/I.Spasic/ethics/> (Accessed: 27 January 2016).

APPENDIX A

