COMP1003 – Coursework 01 - Final document

Team Name: SegFault

1) Textual Analysis (Actors and use cases)

We've been approached by a major bank, WhatNest, for an interesting new app for customers – it's for personal finance management, using data directly from their accounts, but in a different app. They've found out that many clients, especially families or those with several accounts, use spreadsheets to manage their tight budgets. They want to know how much they really spend on different categories, and how much goes to fun casual spending for different things. Equally, they also want to know how much money they have left each month for fun and casual spending, so they don't accidentally spend money needed for bills. Some clients who are 'savers' do this too, but to maximise how much they can move into savings at the end of a month. Some clients that are not worried about budgets might not be as worried about categorising everything, but just want to see what's free to use (because it knows what bills are still to come).

Some customers they spoke to (even single-account-single-customers) use spreadsheets to see a total of how much money is exactly fixed every month for bills. They also use these spreadsheets to see which categories are definitely scheduled to go out, but are variable (like a phone bill). For these monthly variable payments, they put in an 'average' or 'usual cost' for them that's the same every month, and update the spreadsheet with an exact amount when it has gone out of their account. Then this changes the 'spare money' column, positively or negatively. Some clients also create a standard amount that is 'set aside' for e.g. food or gifts or for going out, or indeed 'for savings', so that their spare money column doesn't include those amounts. As they spend on these categories, they subtract it from the set amount for that category. All this helps them calculate an available spare budget, which means, of course they also put in their income into the spreadsheet, and those that have extra income sometimes add it to the month's income.

Some customers say they copy every expenditure into a separate sheet, give it a date, and categorise it, so that it comes out of the different categories (like the set aside categories), or just so they can see a total 'for all money spent on clothes'. I guess in the app they could categorise a shop the first time it comes up in the app, and then, by default, automatically categorise future spending at the same shop. However, customers pointed out that something might go in a different category (like a clothing item being a gift, rather than going under the clothing category). People's categories vary from customer to customer, but all have similar types of categories - they all seem to be of type: fixed, variable, set aside, flexible (and maybe unknown). So rent category might be of type: fixed, and savings and clothing and going-out budgets, might all be of type: set-aside. They like to see totals for categories (e.g. 'car'). And they like to see totals for types (e.g. 'set-aside').

Multi-account-users might want to also see the above information as a single summary that calculated across all accounts, while still seeing a summary for each individual account. They might want to check that there is enough money left in one specific account for the plan for that account. But if they don't have multiple accounts, we don't the app to show confusing and irrelevant functionality. Joint-account users might want to see who has spent money – need to find out more.

No.	Candidate Class	Extracted Text	Type
1	Joint-account users	Joint-account users	Actor
2	Multi-account-users	Multi-account-users	Actor
3	clients	clients	Actor
4	customers	customers	Actor
5	families	families	Actor
6	single-account-single-customers	single-account-single-customers	Actor
7	categorise	categorise	Use Case
8	check that there is enough money	check that there is enough money	Use Case
9	copy every expenditure into a separate sheet	copy every expenditure into a separate sheet	Use Case
10	create a standard amount	create a standard amount	Use Case
11	know how much money they have left	know how much money they have left	Use Case
12	know how much they really spend	know how much they really spend	Use Case
13	maximise how much they can move into savings	maximise how much they can move into savings	Use Case
14	put in an 'average' or 'usual cost'	put in an 'average' or 'usual cost'	Use Case
15	see a total of how much money	see a total of how much money	Use Case
16	see a total 'for all money spent on	see a total 'for all money spent on	Use Case
17	see totals for categories	see totals for categories	Use Case
18	see what's free to use	see what's free to use	Use Case
19	see who has spent money	see who has spent money	Use Case
20	seeing a summary for each individual account	seeing a summary for each individual account	Use Case
21	single summary	single summary	Use Case
22	subtract it from the set amount for that category	subtract it from the set amount for that category	Use Case
23	use spreadsheets	use spreadsheets	Use Case

Notes/Explanations/Unanswered Questions/Most Important Details:

Notes

- Actors are highlighted in yellow, types of actors in magenta and use-cases in light green.
- Customers and clients are the same thing. Family is just a type of multi account user.
- The actors highlighted in pink aren't actors but types of actors (types of users). So multi-account-users, joint-account-users and single-account-users are all used as actors to improve the use case diagram.
- Many use cases can possibly be combined as one but we left several of them in to give us the option to remove any unnecessary ones in the future.

Unanswered

- Need to know what else do users want to do. Joint-account-users probably also want to know other things such as how much money is in each account and/or where did they spent it.
- Will the app have any impact on the user accounts (i.e set a hard limit on spending within a certain category)? Does it have access to accounts or is it purely a read-only to see their spending.

Assumptions

- We assumed that the app is only for statistics. The clients can't send/receive money through the app.
- Assumed the app has access to certain details from the users banking app i.e money movement within their account(s).

2) Diagram Chosen: User Story

Reason for choice:

Looking at the brief given, there are a large number of varying types of user, and they all have different reasons for tracking their finances. User stories ensure that we keep these wide number of use cases in mind during specification, development and onwards, and do not forget an important use case/reason for using the system

Diagram(s):

- As a customer, I want to be able to get overviews on how much I have spent on different categories, as it lets me know if I have to balance my spending on a particular section of my lifestyle.
- As a customer, I want to know how much money I have left over after upcoming expenditures as it lets me know if I have extra spending money or not.
- As a customer, I want to add my spending to the tracking sheet so that the sheet is kept up to date and there aren't any issues with me running out of money. (budget)
- As a customer, I want to automatically have expenditures categorized where possible because it means the process is faster for me, as it is one less piece of information for me to fill in.
- As a customer, I want my spending categorized so that I can easily maintain a balance between different expenditures such as groceries, clothing, etc.
- As a customer, I want to be able to add upcoming expenditures to the tracking sheet so that they are accounted for in how much money I have left over, preventing overspending.
- As a customer, I want to be able to track future variable spending by providing average costs because it means that I can get an estimate of what is left over.
- As a customer, after I know the exact amount of my variable spending I may want to update it in the sheet so that I know more accurately what I have left.
- As a customer, I want to be able to add new custom categories because I may have different spending habits to the average person.
- As a customer, I may not want to categorize spending at all, because I find it has no benefits to my budgeting abilities for the time spent.
- As I customer I want to quickly be able to check how much money I have to spend after money for bills goes out of my account.
- As a multi-account-user I want to be able to categorize spending between multiple accounts - bills can be coming out of multiple accounts.

- As a multi-account-user I want to be able to see my total expenditure between my accounts as it helps me see how much money I'm spending.

- As a multi-account-user I want to be able to see a summary for each individual account such that I can find out where the money was spent.
- As a joint-account user I want to be able to see how much total money we have as a family (and how much is able to be saved monthly) in order effectively plan for a summer vacation.

Notes/Explanations/Unanswered Questions/Most Important Details:

How are secondary income streams like mileage/business expenditure handled? For example, if they spend £50 on fuel for a business trip but they are going to be given that money back, how would the system know that it shouldn't be taken out of their budget, or does it?

How does the current system know their income? This may change depending on the type of employee, for example self-employed, hourly and salaried jobs all have wildly different types of income and may need to be handled differently.

What should be tracked for joint-account users. How do you know who spent what, is it an honour system or is there another method at play? Should you be able to change the spender or have it as a shared expenditure rather than a discrete expenditure for one person? For example, if there were Two people living together and the sink broke, would they be able to have it as a shared expenditure between the two of them or would it be marked down as being an expenditure of the person who paid the plumber?

Should the customer be able to create their own categories? If they want a "hobby" category, or similar. Should the software come pre-built with a wide variety of options, or have the ability to have custom "create-your-own" style?

Will the software be able to categorize based on who spent money in a joint-account? If card x spend £xyz vs if card y spent £xyz.

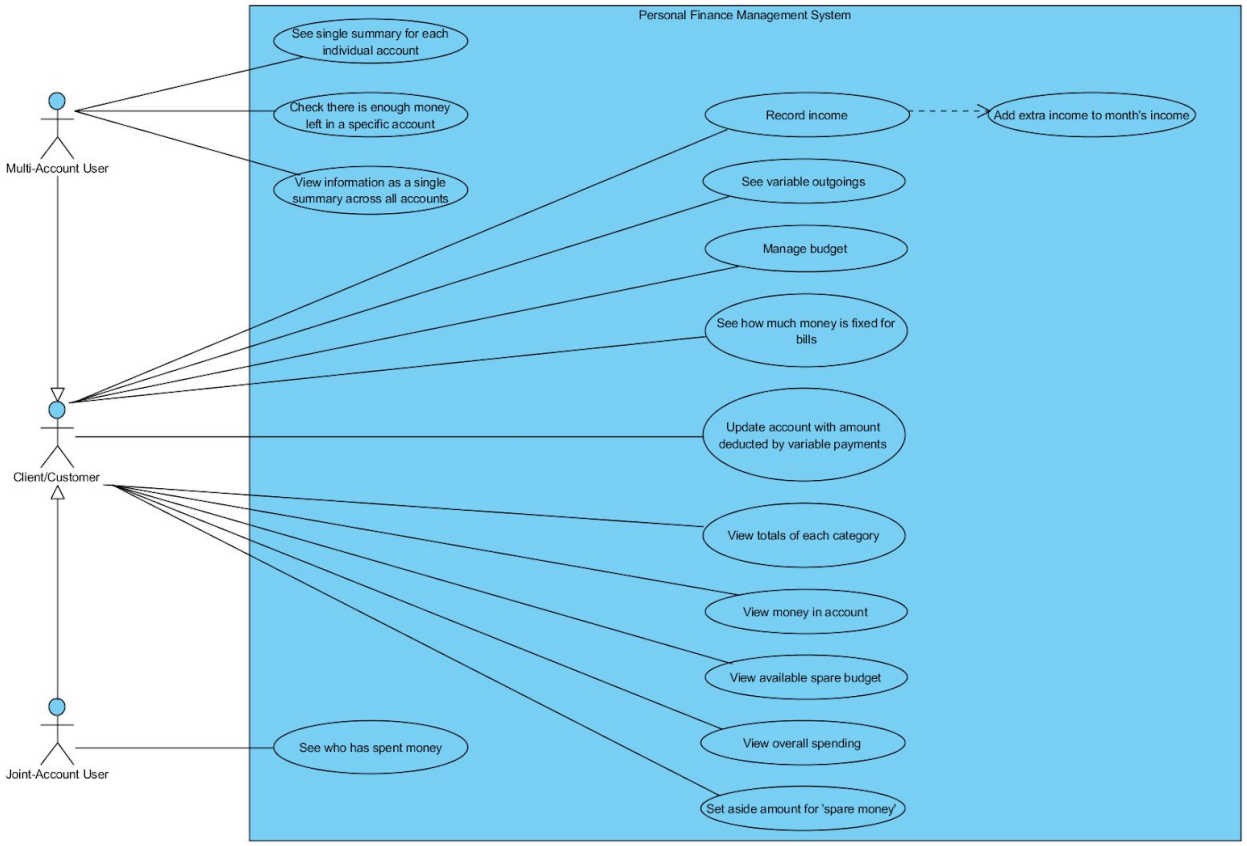
3) Diagram Chosen: Use case diagram

Reason for choice:

We chose to use a use-case diagram because there are a large number of actions that are done by multiple actors. Furthermore, some actors are supersets of others, and as such inherit actions. Rather than repeating ourselves, we decided to use a diagram that allows for us to see this inheritance.

In addition to this, it gives us very discrete and separated requirements that can be easily tabulated further down the line.

Diagram(s):



Notes/Explanations/Unanswered Questions/Most Important Details:

- We assumed that the system would be able to record income as it is essential for budgeting and calculating spare money. Different types of income may need to be handled differently, how should this be done? It has been left intentionally vague so as to allow extrapolation in further discussions with the client.
- We have represented a single-account-single-user by labelling the actor as a ‘Client/Customer’. Other ones have the same functionality as this type of account, with additional features.
- We assumed that joint-account users can see who spent how much money

- How does the current system know their income? This may change depending on the type of employee. For example, self-employed, hourly and salaried jobs all have wildly different types of income and may need to be handled differently.