Plutos

Requirements Elicitation Report

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1 Elicitation Plan & Instruments

This section will describe the user/stakeholder groups, and the elicitation methods and instruments that we will be using to gather information about our users.

1.1 Description of User/Stakeholder Groups

User/stakeholder group: Undergraduate university students
Rationale: Students new to university or living off campus may face the most challenges as they navigate around living independently from parents for the first time. They may not have much experience managing financial decisions regularly at this stage of life.

Information we want to gather:
1. How the users currently manage their budgeting/finances (or if they do not)
   - We want to gain an understanding of other applications or methods that people are currently using, and a quantitative measure of how many people are managing their finances in the first place. If users are not currently using a tool, we also want to learn what is deterring them from doing so.
2. What they like about their method & what they think is a pain point in their method
   - This is to gather information on the perks and annoyances of their current method, to determine what would be suitable to include or overcome in our project. We would like to include features that users find valuable and enhance features or fix bugs that are pain points.
3. How often they track their budgeting/finances & if they think it is effective
   - This is to understand how much effort users currently spend on budgeting and finances, how satisfied they are with their current method, and whether they are seeking to improve their habits (either by making it more efficient, more frequently, or to gain more insights) or not.

Purpose: To determine how students currently manage their finances (e.g., groceries, rent, supplies), as well as what they think about these practices and potential areas for improvement.

1.2 Elicitation methods

1.2.1 Selected Elicitation Methods

We have selected the following two elicitation methods:
1) Surveys/questionnaires
2) Interviews

Survey/Questionnaires
- **What:** Ask users to complete a survey containing both open-ended and closed-ended questions about their financial management practices.
- **Why:** Surveys provide both quantitative and qualitative insights, enabling us to analyze trends within our user group. The anonymous and straightforward nature of this method also encourages honest feedback and allows us to reach a large target audience efficiently in terms of cost and time.
- **Expected duration**: ~5-10 minutes per person

Semi-Structured Interviews
- **What**: Ask users open-ended questions about their financial management process. Ask questions from a question bank, but choose them based on the flow of the conversation.
- **Why**: Interviews can collect more detailed user feedback compared to surveys. The direct interaction with users often also encourages more honest and elaborative responses.
- **Expected duration**: ~20-30 minutes per person

We wanted to survey our users and conduct interviews because that was the most efficient way to obtain our data elicitation goals. Many undergraduate university students have limited time, making longer data collection methods impractical and inconvenient. Surveys offer an efficient way to gather data at scale to help us obtain our data-gathering goals. However, we also wanted to gain a deeper insight into our user groups and listen to their thoughts about their budgeting experience, which is why interviews are also included in our process.

1.3 Process Summary for Elicitation Methods

1.3.1 Survey

Goal: To determine how undergraduate university students currently manage their finances (e.g., groceries, rent, supplies), as well as what they think about these practices and potential areas for improvement.

User recruitment process: Share the survey on our socials. Mention that the target audience for the survey is undergraduate university students.

Session setup: Remote. Surveys do not need an in-person component.

Data recording method: Google forms; we can export the data onto a Google sheet for review and analysis.

Instruments
General Introduction
- Do you currently track your expenses/budget? [Select]
    - Yes/No
- If yes, how do you track your expenses? [Multi-select]
    - Budgeting app
    - Excel/google sheets
    - Notebook
    - Other [expand]
- How often do you review your spending habits? [Select]
    - Daily
    - Weekly
    - Monthly
    - Rarely (every few months)
    - Never
- How satisfied are you with your current budgeting app? [Slider, 1-5]
- What challenges do you face when it comes to managing your finances? [Short text response]
- How do you feel about your current budgeting habits? [Select]
    - Very confident
    - Somewhat confident
    - Not confident

- What are your main financial goals over the next year? How do you plan to achieve them? [Short text response]
- Do you feel like you spend too much, too little, or just the right amount each month? [Short text response]
    - Too much
    - Too little
    - Just the right amount
- Have you ever used a budgeting tool? [Select]
    - Yes/No – Answering No skips section 2 (issues with current solutions)

Issues with current solutions
- What tool did/do you use? [Select]
    - Google Sheets/Excel
    - Banking Apps
    - GoodBudget
    - PocketGuard
    - Other [expand]
- How satisfied are you with your current budgeting tool? [Slider, 1-5]
- What challenges do you face with your current budgeting method? (e.g., complexity, time consuming, lack of features) [Short text response]
- What features do you wish your current budgeting tool had? [Short text response]
- Have you ever encountered any technical issues while using your current budgeting app? If so, please describe. If not, please write "NA". [Short text response]

__Expectations for new solutions__
- What features do you think are necessary for budgeting/expense-tracking apps? [Multi-select]
  - Spending metrics
  - Predicting future spending habits
  - Suggesting spending habits to meet financial goals
  - Other [expand]
- What types of insights would you like the app to provide about your spending habits? [Short text response]
- How would you prefer the app to notify you about budget updates? [Multi-select]
  - Push notifications
  - Emails
  - Weekly reports
- What type of financial goals do you want the app to help you track? [Multi-select]
  - Achieving a specific savings amount
  - Paying off debt
  - Investments
  - Budgeting for monthly expenses

__User experience preferences__
- What budget categories do you usually have? [Multi-select]
  - Groceries/Meals
  - Rent
  - Transportation
  - Education
  - Entertainment
  - Health and fitness
  - Savings
  - Miscellaneous
  - Other [expand]
- What kind of help or guides would you find useful when you first start using the app? [Short text response]
- Would you find it helpful to have a summary of your financial health on the app? [Select]
  - Yes/No
- What additional tools or features do you think would help make your daily budgeting easier? [Short text response]

1.3.2 Interview

Goal: To determine how undergraduate university students currently manage their finances (e.g., groceries, rent, supplies), as well as what they think about these practices and potential areas for improvement.

User recruitment process: Recruit candidates on campus, focusing on the target audience of undergraduate students.

Session setup: In person. Ideally on campus.

Data recording method: One person will ask the questions, while another will record the interviewee's answers.

Instruments
From the following list, pick a few questions to ask and continue the interview like a conversation (i.e., as it flows):
- Do you currently track your expenses/budget? (what do you currently use?)
- What challenges do you face when it comes to managing your finances?
- How do you feel about your current budgeting habits? Where do you feel you struggle the most?
- What are your main financial goals over the next year? How do you plan to achieve them?
- Have you ever used a budgeting tool? If so, what tool did/do you use?
- How satisfied are you with your current budgeting tool?
- What features do you wish your current budgeting tool had?
- Have you ever encountered any technical issues while using your current budgeting app? If so what issues?
- What features do you think are necessary for budgeting/expense-tracking apps?
- What types of insights would you like the app to provide about your spending habits?
- How would you like a budgeting tool to help you stay on track/notify you about your budget?
- What type of financial goals do you want in a budgeting tool?
- What financial accounts would you want to connect to this app? (if none, expand on why)
- What tools or features do you think would help make your daily budgeting easier?
- What other features outside of budgeting and expense tracking would you like to see integrated with a budgeting solution?

2 User Requirements Elicitation and Report

This section summarizes our data elicitation process and discusses the results and insights gained from our responses.

2.1 Summary of Data Elicitation Process and Conduction

Goal: To determine how undergraduate university students currently manage their finances (e.g., groceries, rent, supplies), as well as what they think about these practices and potential areas for improvement. These include the following:
- What features would users want in a budgeting application (innovative features, features missing from current solutions, any other features)
- What challenges do users currently face when tracking expenses / what are pain points or lacking in current solutions
- What do users' financial goals look like and how can we quantify that/track them in an app
- How the app can keep users updated regarding their budget/keep them on track
- Security concerns regarding having an app that can track your expenses

Who: Undergraduate university students that are living off campus. Rationale behind our choice of user group can be found in Section 1.1.

Elicitation Methods and Instruments

#	Elicitation method	Instruments
1	Surveys	**How**: Ask participants to fill out this [Google Form](#) **What are we looking for**: Answers/responses to the questions on the form **How to record**: Google form saves the responses, which can then be exported to a Google sheets for review and analysis
2	Interviews	**How**: Recruit participants for an interview **What are we looking for**: Answers/responses to the questions on the document **How to record**: One member of the team will ask questions, and another member will be taking notes through the process

Rationale for selected elicitation methods

The rationale for the elicitation methods we chose, as well as the alternative methods considered but not selected for our project, is described in Section 1.2 above.

2.2 Review of Method 1: Survey

Survey participants will be referred to using identifiers in the form "SP[id]" in following sections.

Total number of participants: **14**

Participant demographic:
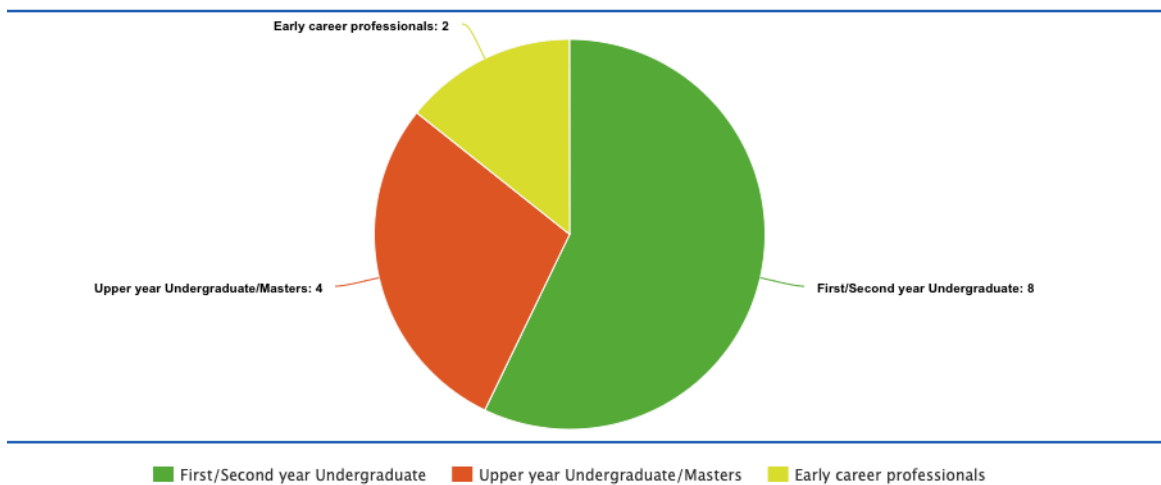
Figure 2.3a. A graph representing the demographic for our survey results.

2.2.1 Raw Data

Figure 2.2b. A screenshot of the raw survey data. For a more comprehensive response set, please consult the survey responses spreadsheet.

2.2.2 Summary of Data

How often do you review your spending habits?

Daily
12.5%

Monthly
50.0%

Weekly
37.5%

Figure 2.2c. Pie chart of how often survey participants review their spending habits.

How do you track your expenses?

i don't
12.5%

Bank statement
12.5%

Notion
12.5%
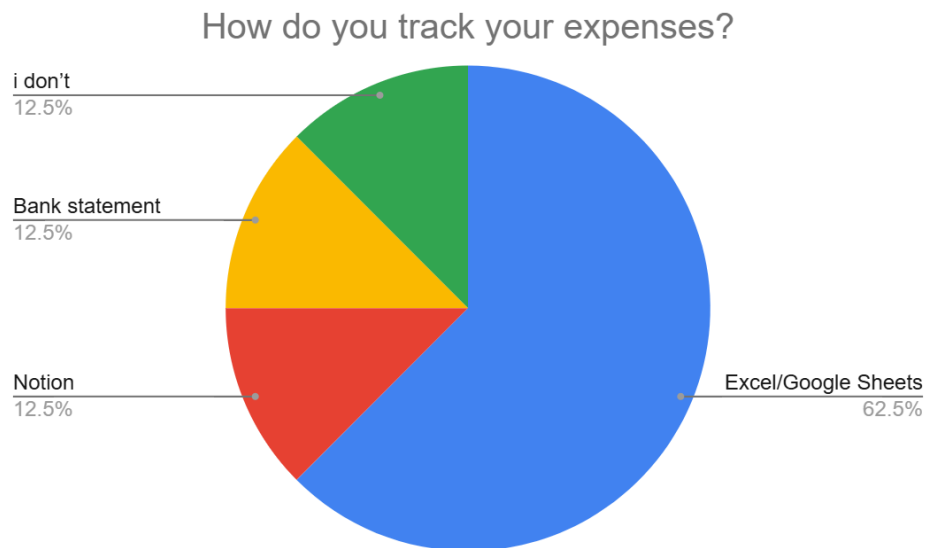
Excel/Google Sheets
62.5%

Figure 2.2d. Pie chart of how participants track their expenses.

Do you feel like you spend too much, too little, or just the right amount each month?
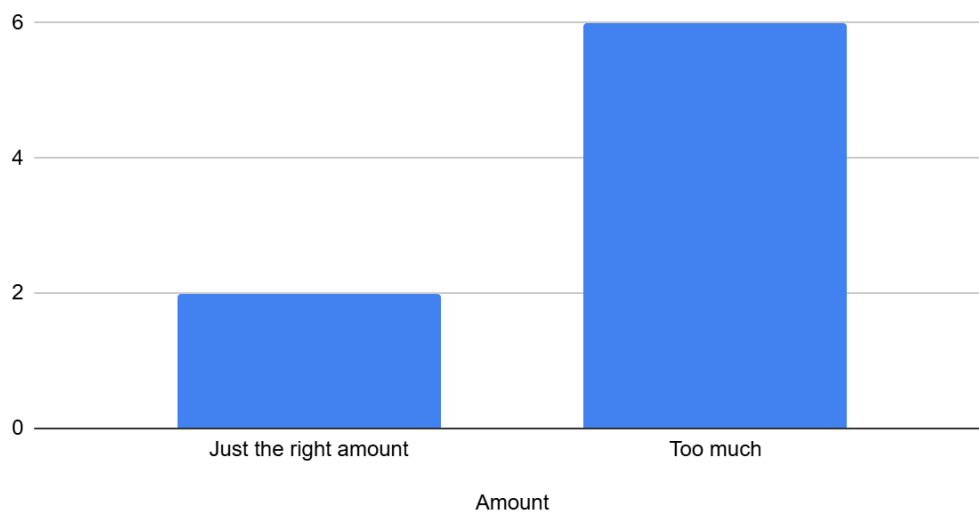
Figure 2.2e. Bar chart of how much participants feel like they spend each month.

From the survey, it looks like the majority of participants use Google sheets or Excel and manually input their expenses. SP6 responded that a main challenge they experience with their current method is that it is time consuming, and 75% of participants reported spending too much money each month. All participants reported that spending metrics are necessary for budgeting, and the majority would also like to have suggestions for spending habits to meet financial goals or the ability to predict future spending habits.

Challenges that participants face when it comes to managing finances could be grouped up into the following categories:

- Figuring out budget allocations/categorizations:
  - SP4: "Figuring out how much to allocate to each part of budget"
  - SP5: "Knowing how to categorize certain transactions + amortize large purchases"
  - SP7: "Knowing what's an appropriate amount to budget for certain things like food and leisure"
- Financial literacy:
  - SP1: "Determining what investments to make and whether they are the right investments"
  - SP6: "[...] I need to be more organized with my finances though like Im not horrible at budgeting but i wish there was somewhere where people could learn about financial literacy easily. Like a website or smt"

To make budgeting easier:
- SP6 mentioned that they would like "Graphs instead of fat numbers in [their] face"
- SP7 mentioned that "[they] personally think it's cool to know how you stack up to other people in your demographic [-- are they] spending more or less than 22 year old males in [their] tax bracket?"
    - This could be an interesting feature to include in our design – the ability to see how an individual compares to someone else in their demographic
- SP8 mentioned that they would like to see "direct bank account connection and automatic categorization"

2.3 Review of Method 3: Interview

Interview participants will be identified as IP[id] in following sections.

Number of participants: **3 undergraduate university students**

2.3.1 Raw Data/Notes

IP1 notes:
- "I usually try budgeting towards the start of the year but I get overwhelmed the more the term progresses"
- "I find it difficult to always allocate time to records my expenses and budget especially if I go out grocery shopping every week or sometimes twice a week"
- "budgeting becomes especially more difficult if I have a lot of midterms to study for and the least I want to think about are expenses during that time"
- "Dude it would be so helpful if I could budget but not spend hours every week into it"
- "I think budgeting also becomes a lot more difficult if I have friends paying for meals and then I ET them back cause then I'll lose track of what those expenses are for, I just assume that the number is correct and don't ask for a breakdown every time"

IP2 notes:
- "even though I input my expenses, I often lose track of them, and often end up overspending still"
- "I often split bills amongst friends which results in credits and debits with multiple friends. As a result, it's hard to keep track of my budget because keeping track of how much money I'm owed and how much I owe whilst updating their budget correspondingly is difficult"
- "Honestly though I stop budgeting after a while since it got too exhausting; now I just guestimate how much my I should keep my expenses under in a month"
- "If I say that I'll spend less than 500 this month, I'll just try to keep under that amount despite the expenses being needs"
- "Sometimes ⅗ of those expenses are entertainment and like ⅖ are food related expenses which isn't too good"
- "If i was more conscious of my spendings, I would maybe allocate it to different categories better but not spending past my monthly allowed limits is somewhere to start I guess; but yeah it would be helpful if I can get some sort of easy budgeting app to manage these and let me know of my spendings instead of doing a ballpoint estimate"

IP3 notes:
- "I've been budgeting for a while but I can see it becomes very time consuming the more expenses I get in a month"

- "I currently use a budget template excel spreadsheet which has been pretty good so far but I still have to manually input my entries every time, which can be very time consuming"
- "I like how there are tags that I can use in my excel spreadsheet that shows me visually the breakdown of expenses; sometimes I'll see I have a lot more green tags than blue"
  - Green tags = entertainment, blue = necessities
- "Sometimes I wish that my bank accounts can be all linked to one app which automatically calculates my expenditures for me throughout the month"
- "It would be nice for them (the bank?) to automatically classify my expenses so I can visually see it instead of in one long spreadsheet"

2.3.2 Summary of Data

- All participants expressed that budgeting is a goal at the beginning of the year but ends up taking a lot of time so they become less consistent (with school work rolling around + other chores)
- Participants expressed wanting to spend less time on manual inputting
- Two participants expressed splitting expenses with friends and having challenges remembering how much they owe others or are owed – they rely on some estimations and sometimes forget
- IP3 uses excel and tags to denote categories, and would like some sort of automatic classification. Potentially with bank connections all linked to one view so they could track everything in one place

2.4 Learnings from Results

Each participant budgets and manages their finances in their own way. It was interesting to witness each individual's technique because even though they are all essentially accomplishing the same goal, their process and therefore pain points varied. For example, while NP1 was narrating their processes, they mentioned how they "input [their] expenses into Excel though it usually takes [them] a long time and [they] usually don't finish it in one sitting". While watching them input their expenses, it seemed that their pain point was the process of inputting their expenses, however, for IP2, they struggled with actually keeping up with their budget. They mentioned in their interview that "even though [they] input [their] expenses, [they] often lose track of them, and often end up overspending still".

The predominant theme around the issues the participants brought up was efficiency and consistency. The two core issues that users brought up were struggling with inputting their expenses seamlessly and losing track of their budget. However, a couple of small suggestions that users brought up was having a centralized place to track all of their spendings while seamlessly updating their budget and spending metrics. These two suggestions made up almost 100% of our survey results (all users requested spending metrics) and multiple users also brought it up in interviews. For example, IP2 said that they often split bills amongst friends which results in credits and debits with multiple friends. As a result, it's hard to keep track of their budget because keeping track of how much money they are owed and how much they owe whilst updating their budget correspondingly is difficult.

Taking into account our user suggestions and struggles, some considerations we will make for the project are ensuring that the expense documentation process is quick and seamless, while also keeping users' budgets and users updated regarding their spending limits. Additionally, to deliver an intuitive experience for displaying spending metrics, we will design a clean, user-friendly interface that presents essential spending insights clearly and concisely.