**Deliverable 1**

**Personas, Epics, User stories, Acceptance Tests & Story points**

**Car payment calculator**

**1.**   **Persona**

Sunny Weatherman is a 28-year-old music producer/DJ situated in Calgary, Alberta.  He is relatively new to the music industry but has been able to make a noticeable impact with his talent and hard work. He lives alone and comes from a wealthy family, but does not want any sort of financial help from his parents. He can be usually found performing live music/DJ-ing at the local bars and clubs on the weekends. Apart from music, Sunny also enjoys walks by the river, watching movies and anime. He is adept at logic pro x, the music production software that he uses and loves any software that allows him to be productive in his daily life, such as notion. Lately, other cities in the country have been noticing him, and are offering good money for his skills. His current goal is to buy a car so that he can travel to these cities and perform, but is frustrated as he finds himself unable to properly manage his finances and also by the vast number of websites and none of them being able to cater to his needs. He wants to be able to properly and efficiently manage his expenses so that he can buy the car that he needs using an easy-to-use car payment calculator. He is motivated to be productive and focus on his goal, without having to worry about managing his finances.

**2.**   **Epic**

Car payment calculator:

As Sunny Weatherman, I want a hassle-free and easy-to-use car payment calculator so

that I can manage my finances and payments for the car I want to buy.

**3.**     **User stories**

Car payment calculator features:

1. As Sunny Weatherman, I want to see what the payment frequency options look like

 (biweekly, monthly, etc.).

1. As Sunny Weatherman, I want to have an option for entering a down payment for the

car I want.

1. As Sunny Weatherman, I want to have an option for entering the interest rate and

calculating based on that.

**4.     Acceptance test**

  How to make sure the feature works as intended:

1. User Story: payment frequency options for car.

 i.     Make sure the correct price is displayed based on the various frequency options, and

validate using various numbers, both negative and positive.

1. User Story: option for adding down payment for car.

i.     Make sure after entering the down payment, the math works out correctly. Validated

  using various numbers, both negative and positive.

1. User Story: option for entering interest rate for car.

i.     Make sure the math for interest rates checks out and the correct value is displayed.

Validated using various numbers, both negative and positive.

**5.     Story points**

How difficult or how long each user story will take to be implemented:

1. User story: payment frequency options for car = 3 story points
2. User Story: option for adding down payment for car = 3 story points
3. User Story: option for entering interest rate for car = 3 story points

**Mortgage Calculator**

1 Personas

Tony Smith is a 28-year-old man. He has just finished his philosophy undergraduate degree at the University of Saskatchewan. He has been working as a hotel janitor at the Venture Inn Hotel in Saskatoon making minimum wage ($14/hour). Tony has been living in his parent's basement throughout his entire life. Tony spends his free time working on his model airplane collection. He does not believe in smartphones as he thinks they are just another way for the government to spy on him. He also has been trying to save up for a house for the past 3 years and his goal is to have a 10% down payment for a 1-bedroom apartment in the next 3 years. Since finishing his degree, he has been looking at getting a financial advisor but he does not trust the bank. So, he is looking for a financial management system where he can have a rough idea of how much he needs to save and see what his monthly payment on the house will be. He wants the software to work on his desktop through a website that offers sign in capabilities as a guest, so that it does not steal his data.

2 Epics

As Tony Smith I want to be able to calculate my mortgage payment so that I will have a rough idea of how much money I need per month.

User Stories 1 - **Story Points**(2)

* As Tony I want to be able to adjust my down payment on the property I'm looking to buy so that I know how much I need to save up for my down payment to get to my deserted monthly payments.

Acceptance tests 

* Test with the right number to make sure it subtracts from the total payment of the house.
* Test with the wrong number like a negative number to make sure the software is able to tell if it is a valid entry.

User Stories 2 **Story Points**(3)

* As Tony, I want to be able to see what the property taxes would be for whichever province I’m in. So that I know which provinces have the lowest taxes

Acceptance tests

* Have the dropdown with all the provinces. We will test this by making sure the right province taxes are applied to the calculations.

**Vacation spending calculator**

**Persona, Michael Vegas**

Michael Vegas is 25 years old and works as a financial advisor at Scotiabank. He graduated in 2022 with a bachelor’s degree in finance from the University of Saskatchewan. He lives alone. His father is a Professor at the University of Saskatchewan, and his mother is a musician. His goal is to gift his parents a vacation package for their anniversary, and he needs to make a budget for that. He can use our website to accomplish his goal by using a vacation spending calculator. He wants to see his parents enjoying some peaceful days on the bay of water with a margarita in one hand, getting some tan and making some memorable memories reminding them of their youth. Making a vacation budget comes with a lot of problems and issues making one experience a frustrating situation, in this case, it is like one needs to make a lot of small calculations and needs to keep a record of that which becomes troublesome when you do it on paper as you might lose some data in that case. Using our feature, it should be helpful to manage small chunks of information and perform the calculations needed efficiently. Jamie has many different hobbies - he likes to go to the gym, go for a small run from time to time, golfing, surfing, skiing, and ice skating during the winters. He is quite familiar with modern technologies, and he even knows a bit of Python as he took a few classes in computer science during his university period. He can troubleshoot independently when something is wrong with his computer and mobile phone.

**Epics**

* As Michael Vegas, a dedicated financial advisor at Scotiabank, I want to use the website’s vacation spending feature so that I can precisely and methodically create a budget for my parent's anniversary vacation as a gift from my side. The goal of this vacation is to give my parents a relaxing experience where they can enjoy cruising the bay, sipping some margaritas and making some cherishable memories. Achieving this task by doing some on-paper calculations would be frustrating. I am quite comfortable with computers and modern technology, so I think I would be able to use this feature to perform most of the calculation work and make a streamlined budget for this trip without needing any assistance from paper. Which makes my work quite efficient and easy. My main aim to use this feature is to gift my parents an unforgettable anniversary which they truly deserve.

**USER STORIES**

**1)** **VACATION BUDGETING (4 story points)**

As Michael Vegas, I want to get an accurate budget for my parent's anniversary trip by inputting various inputs such as the cost of accommodation, flight tickets and all other expenses during their stay.

**ACCEPTANCE TEST:**

* Checks for a valid input don’t add up an incorrect input to the existing total.
* Displays a message when an incorrect input is given and asks the user for the correct input.

**2)** **BUDGET LIMITING (4 story points)**

As Vegas, I want a feature such that when I enter the limit for my vacation It doesn’t allow me to overspend it.

**ACCEPTANCE TEST:**

* The feature should not let me add any more expenses when I set a budget limit, and the total is crossing the budget limit.
* Displays a message that the user has crossed the limit and asks them to increase the limit, or they want to stick to their old limit and want to cut off their newly added expense**.**

**Debt calculator**

**Persona: Barbados Bob**

Barbados Bob is a 47-year-old grain elevator technician working in Allan, Saskatchewan. He is a single man and always has been as he refuses to be tied down and loves to snowbird out to the Caribbean. Bob is looking to retire to Barbados by the time he is 60 with enough money that he can live comfortably on the beaches of Barbados while sipping sangria and sailing schooners (not concurrently). Unfortunately for Bob, he has spent too much money on his previous snowbird vacations and has racked up a substantial amount of debt that he has been struggling to pay off. As such, his number one priority is to repay his debt (ideally by the time he’s 52) so he can begin pouring into his retirement fund, but he is overwhelmed by creditors and is trying to find a tangible way to visualize how he can pay off his debts without being hassled on the phone. Bob is pretty good with his laptop as he enjoys playing Age of Empires with his friends but gets frustrated easily with websites that are ambiguous or confusing. He wants everything that he needs to be easily accessible and not too difficult to use.

**Epic: Debt Repayment Calculator**

* As Bob, I would like to be able to access an online debt repayment calculator in order to have my debt paid off by the time I’m 52. I want to be able to look at it in a few different ways to try to hypothesize how I can best pay off my debt while still living the lifestyle that I’ve grown accustomed to (within reason). I also want to see the effect that making lump sum payments would have on my overall debt load and the difference that would make in my overall interest statements.

**User Story: Debt Repayment Calculator After Expenses - Story Points: 3**

* As Bob, I want to be able to enter my total debt, and when I want the debt paid off, how much I have left a month after expenses, and the interest rate on my debt to get an idea of how much I should be trying to pay off every month starting now so I can be debt free in Barbados faster.

**Acceptance Test:**

* A page where the user can input the total debt amount, how much is left after expenses, and the target time when the user wants to get the debt paid off and get a result that estimates how much the user would need to pay monthly.
* Calculator should calculate time until paid off from the current date.
* A function that gets the result of how many users should be paying every month given their budgetary constraints as listed above.
* The function should restrict the user from entering string values and negative numerical values.

**User Story: Difference in Interest After Lump Sum Payment - Story Points: 4**

* As Bob, I want to see how much making lump sum payments would decrease my monthly or annual interest accrual on my total amount owing with different interest rates.

**Acceptance Test:**

* A page where the user can enter their desired lump sum payment, their total amount owing, and their interest rate.
* An option to select annual or monthly interest accrual.
* function that gets the result of how much of a difference would be made in their interest payments per month or year as desired by the user.
* Page should preferably be on the same page as all the other debt calculator options.
* Invalid input such as strings or negative numerical values should not be allowed by the system.

**Saving money for items**

1. **Persona:**

* SaveMoney Steve is a middle-aged financial advisor who is single and has no life outside of helping people inform themselves on financial responsibility. His whole life, he's had only one goal and that is simply to help you be more responsible with your money. He is motivated by the lavish glee of all the people spending money responsibly. He is also frustrated by the sight of people going into unnecessary debt from preventable causes, so he helps you view spending in a more critical way. I also heard he is a fan of online websites that help you live a more stress-free life at no additional cost.

1. **Epics:**

* As SaveMoney Steve I want to have access to an easy-to-use tool that will give me the ability to plan my purchases ahead of time and will help me get a better understanding of how much I need to save to afford my luxuries.

1. **User Stories:**

* **(3 Story Points)** As SaveMoney Steve I want a feature which will helps me plan out my purchases ahead of time. It needs to let me input a price for an item and a preferred date of purchase so I can know how much to save per month.
  + **Acceptance test:** Only valid real numbers for all prompts.
  + **Acceptance test:** Only valid dates for purchase date prompt.
* **(3 Story Points)** As SaveMoney Steve I want a feature that will let me enter my monthly expendable income and will let me know how much I need to save per month to be able to comfortably afford my item as well as let me know how soon I can get my hands on the desired goods.
  + **Acceptance test:** Only valid (non-negative) integers for all prompts.
  + **Acceptance test:** Fields cannot be left empty, otherwise function will not let you calculate.

**Track your daily and monthly spending.**

**Persona:**

Jane Kimber is a secondary school teacher, working at SVJD Secondary School, for the last 5 years. As a dedicated employee, she has a strong knowledge of Computers and mathematics. She is the head of the computer department at her school. Jane’s husband is an administrative assistant at Rezon Tech Company. Jane has responsibility of her 75-year-old mother and her 10-year-old daughter.

Their small family has been living in the rented apartment for the last 5 years after they moved to Brooklyn. Jane and her husband want to save to buy a new house for their family in the Murray Hill area. But Jane wants to make sure the family’s necessary expenses such as groceries, medicines, and education will be prioritized, and unnecessary spending will be controlled. So, she is looking to keep track of her spending and her savings.

**Epic:**

As Jane Kimber, I want to keep track of my daily and collective monthly spending and savings, so that I can do saving for my dream house by controlling unnecessary spending and prioritizing necessary family expenses.

**User Stories:**

1. As Jane Kimber, I want to be able to enter my spending and categorize it into different types such as grocery, medicine, rent, entertainment, etc., so that I can manage my spending according to priorities. **(4 Story Points)**

**Acceptance Test:**

  Test with proper alignment of categories within the tab

Test with a valid number of categories within the given limit

Test with valid type of input data (positive floating number)

2.  As Jane Kimber, I want to be able to see the comparable visualization of my daily spending for the running month as well as the last month’s total spending, so that I get an idea of how much I spent every day and how much I spent monthly on different necessities. **(5 Story Points)**

**Acceptance Test:**

Test with proper visualization of a bar graph showing spending of a given day’s range.

Test with proper visualization of last month’s categorized spending

3.  As Jane Kimber, I want to add each spending with proper date and time, so that I can keep a proper log of my spending. **(4 Story Points)**

**Acceptance Test:**

Test with the addition of spending with default current time and date

  Test with the addition of spending with user-chosen date and time

4. As Jane Kimber, I want to be able to see my spending history, so that I can look for specific spending in the future if needed.

**Acceptance Test:**

Test with proper addition of each spending to the history log

Test with the proper sequence of spending in the history log

5.      As Jane Kimber, I want to be able to enter my income and add my spending eventually, so that I can see my remaining balance each time of adding spending to my account. **(4 Story Points)**

**Acceptance Test:**

Test with the valid type of input data for spending and income (Positive floating number)

Test with a valid number of the remaining balance (Positive or Negative floating number)

**Calculator**

**Persona:**

James QuickMaths, is a 45-year-old, highly regarded financial advisor with a decade of expertise. Armed with a master's degree in finance, James adeptly manages diverse client portfolios and investment strategies, conducting an average of 15 client meetings weekly. Precision is paramount in this dynamic field, and James prides himself on swift and accurate calculations when navigating personal finance intricacies. In client presentations, he seamlessly integrates numerical data into reports, often requiring efficient copy-and-paste functionality in a calculator. With a bustling schedule and a diverse client base, James values the history tracking feature for ongoing financial plans.

**Epic:**

As James QuickMaths, I want a handy calculator in the web app that I use for financial planning so that I can try out different money scenarios quickly from anywhere in the app without interference with the pages that are open on the app.

**User Stories 1:** (**Story points 4**)

As James I want the calculator to accurately carry out basic math operations and give a precision of at least 4 decimals. I also want the shortcut to the calculator to be accessible from anywhere in the app regardless of what feature I am using in the app and should not interfere with those features, making it easy to quickly figure out quick calculations regarding mortgage planning, plan for retirement, and budget for fun stuff.

**Acceptance test:**

• Test if the user has entered a string/character rather than a valid real number.

• Test if the user has performed an invalid operation such as division by zero or trying to put multiple operators between two real numbers.

**User Stories 2:** (**Story points 4**)

As James I want to see the history of my calculations of the current session so that I can compare the different finance scenarios that I have calculated. Also, I need to be able to copy the results by a single click to save me time since most of the time I would need to note those values in my personal notes.

**Acceptance test:**

• What if the user tried to copy the answer before performing any calculation.

• What if the user closes a session and then tries to view the calculation history.

**Contribution and Action Plan**

**Everyone Contributed in equal amount as each person picked a feature and did the** Personas, Epics, User stories, Acceptance Tests & Story points for it independently.

* **Karan** did the Car payment calculator. Contribution: 14.29%
* **Anmol** did the Mortgage Calculator. Contribution: 14.29%
* **Aman** did the Vacation spending calculator. Contribution: 14.29%
* **Preston** did the Debt calculator. Contribution: 14.29%
* **David** did the Saving money for items. Contribution: 14.29%
* **Prajakta** did the Track your daily and monthly spending. Contribution: 14.29%
* **Waleed** did the Calculator. Contribution: 14.29%