MONTHLY BUDGET PLANNER

README File

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STUDENT NUMBER: 20117913

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Description

Task 1

The Monthly Budget Planner is an application that receives data (Income, expenses, and other information), performs budget calculations, and displays the result of an Income & Expense report. It determines whether the user will be left in a surplus or deficit of cash once all deductions have been made. It will also determine if the user wants to purchase a property, whether they qualify for a loan, then determines the monthly loan repayment.

Task 2

Following the general idea from Task 1, the Monthly Budget Planner now allows the option for users to purchase a vehicle. If the user decides to purchase a vehicle, they are required to enter certain information. It now alerts the user once the expenses reach or exceed 75% of their gross income. Lastly, it will display a report of the users' expenses in descending order, in which it totals all the expenses and then displays them in descending order. The Monthly Budget Planner, is more user friendly, now has multiple forms making it more appeasing, and allows for easy navigation back and forth through forms.

POE

Following the same project requirements from task 2, the Monthly Budget Planner now allows for the option for users to have a savings account. This option will require the user to enter the required information for the program to determine what their monthly saving amount is, for them to reach their goal. The POE requires the project to be built in WPF or UWP. I used WPF to build the Monthly Budget Planner. The app is now properly functional as the scaling issues are resolved. The app now has real-time validation to ensure the user enters the correct information, a more logical approach to inheritance and an option to save and print the users Income & Expenditure Report. The app now shows which fields are incorrect, with many little features such as moving to the field when tab or enter is clicked.

Prerequisites

- Visual Studio 2019

Computer requirements:

- 1.8 GHz or faster processor. Quad-core or better recommended.
- 2 GB of RAM; 8 GB of RAM recommended
- Hard disk Space: Minimum of 800MB up to 210 GB of available space.

To successfully run this application, you will require Visual Studio 2019 on your device with the following Workloads attached: .NET desktop development & Universal Windows Platform development.

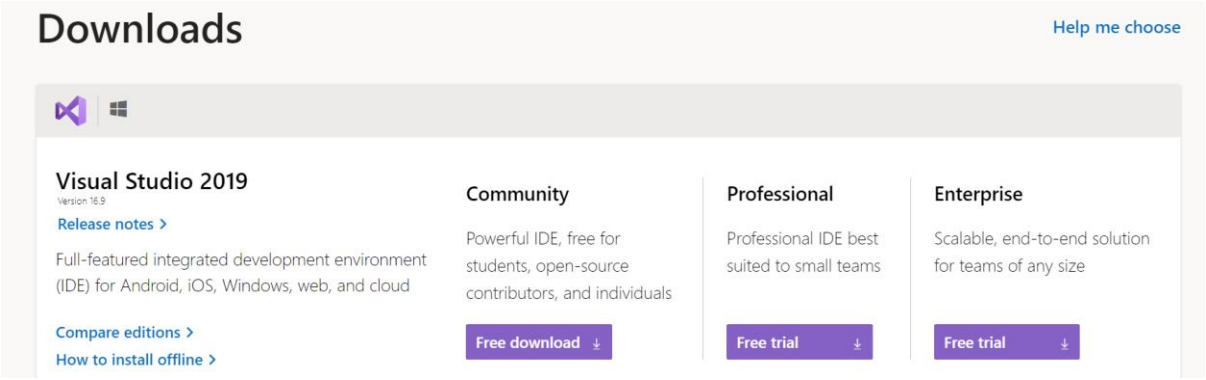
- It is required to run the application on 1920 x 1080 Display resolution, at 100% scaling. However, the application will not appear correctly on smaller resolution screens.
- Please note when running the application on some computers the icon error may appear. To overcome this, please comment the line by using "//". On some devices it does not recognize the icon.

Installation

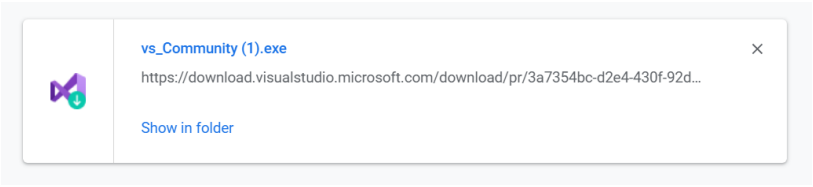
Link for the installation for Visual Studio 2019 : https://visualstudio.microsoft.com/downloads/

Link for the installation tutorial for Visual Studio 2019:
https://www.youtube.com/watch?v=FBo5Cso-ufE

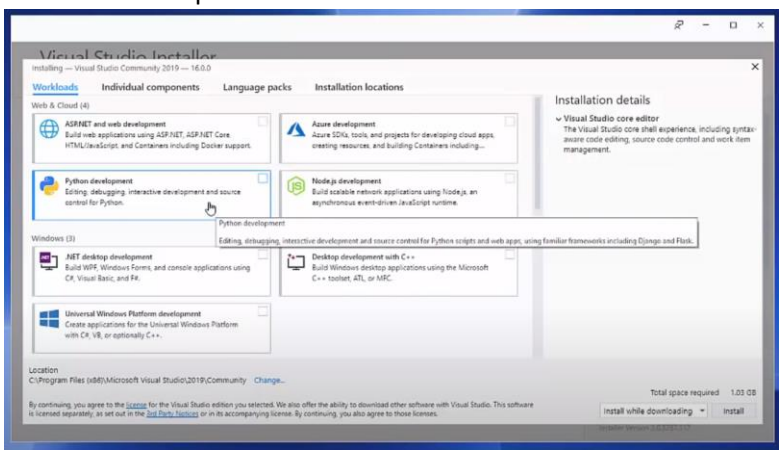
- Once you have clicked the above link, it will redirect you to the Microsoft Visual Studio 2019 downloader.
- Please select between the three download options. (The community version is preferable).



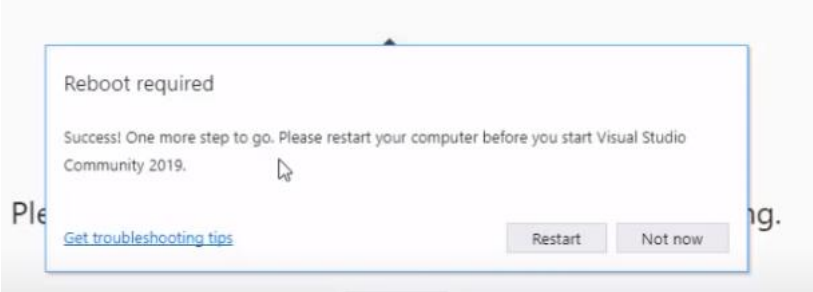
- Save the file and wait until the file has been installed.
- Run the .exe installation file.



- Wait until the process for configuration is completed.
- Please select the following workloads: .NET desktop development & Universal Windows Platform development. Once selected click install.



- Once the installation is complete, it will prompt you to restart/reboot your computer.

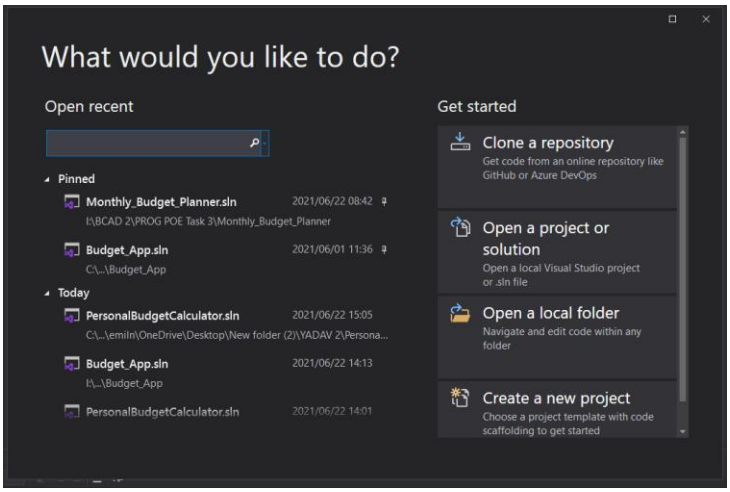


- Reboot your computer.
- Once rebooted, you can open Visual Studio 2019.

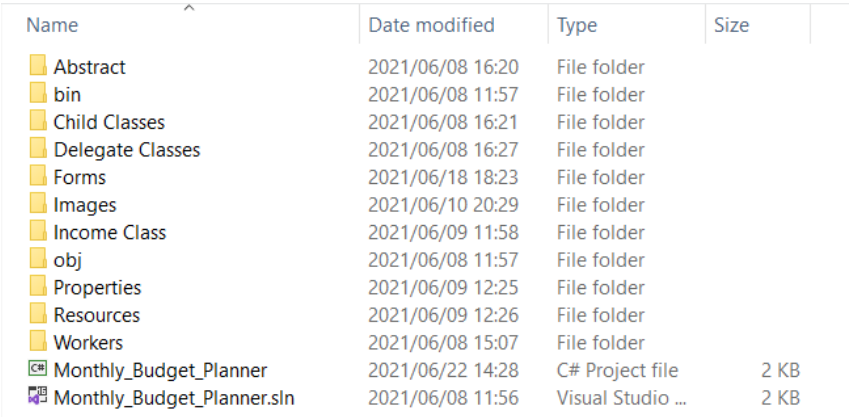
Deployment

Method 1

- Open Visual Studio 2019.
- Click “Open a project or solution” and locate the project folder

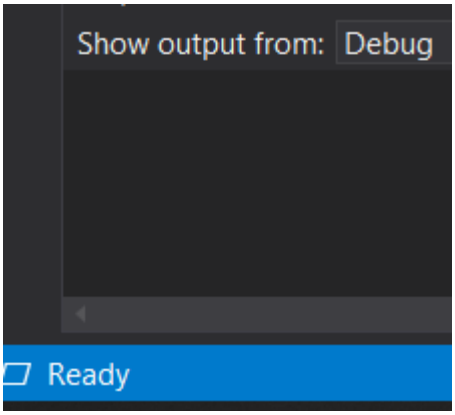


- Open the project folder. Click “Monthly_Budget_Planner.sln”

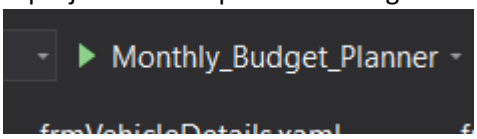


Name	Date modified	Type	Size
Abstract	2021/06/08 16:20	File folder	
bin	2021/06/08 11:57	File folder	
Child Classes	2021/06/08 16:21	File folder	
Delegate Classes	2021/06/08 16:27	File folder	
Forms	2021/06/18 18:23	File folder	
Images	2021/06/10 20:29	File folder	
Income Class	2021/06/09 11:58	File folder	
obj	2021/06/08 11:57	File folder	
Properties	2021/06/09 12:25	File folder	
Resources	2021/06/09 12:26	File folder	
Workers	2021/06/08 15:07	File folder	
Monthly_Budget_Planner	2021/06/22 14:28	C# Project file	2 KB
Monthly_Budget_Planner.sln	2021/06/08 11:56	Visual Studio ...	2 KB

- Wait until the project has successfully loaded. (In the bottom right, it will say Ready)



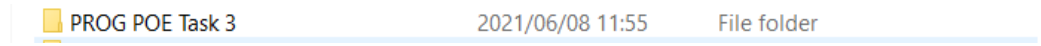
- The project is now open. Click the green triangle button “Monthly_Budget_Planner”



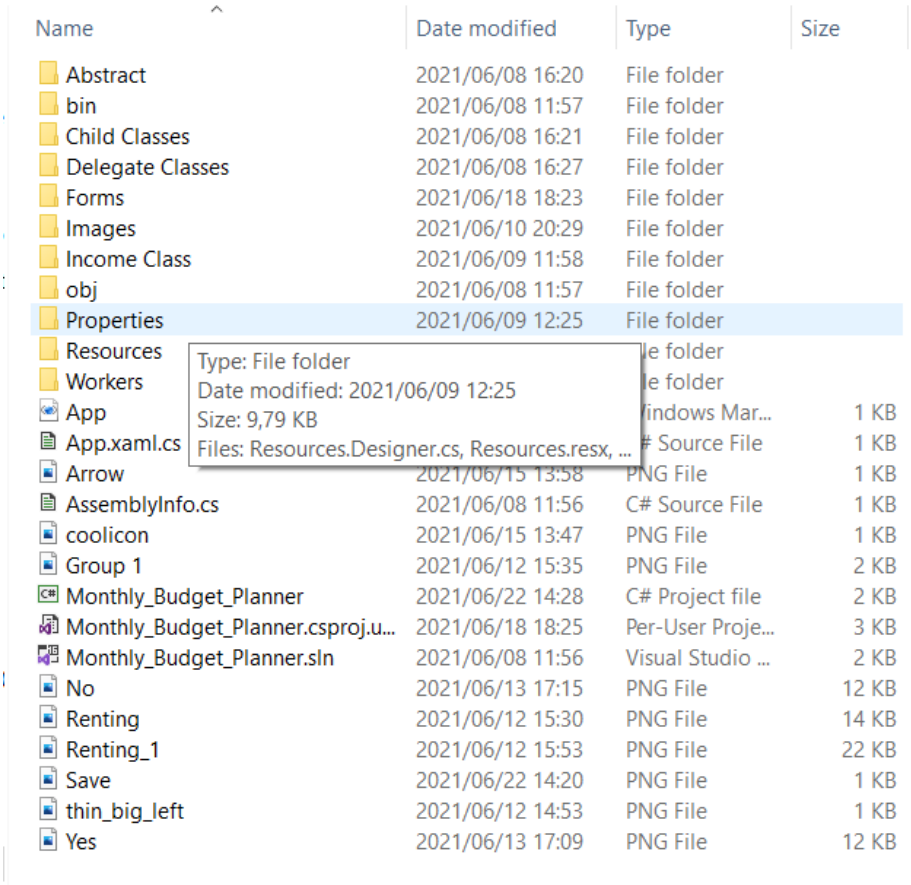
- The project will now run.

Method 2

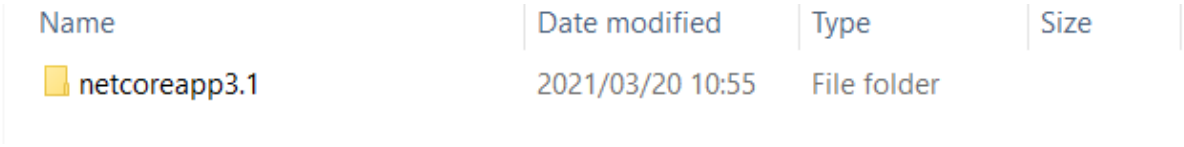
- Open the project folder.
-



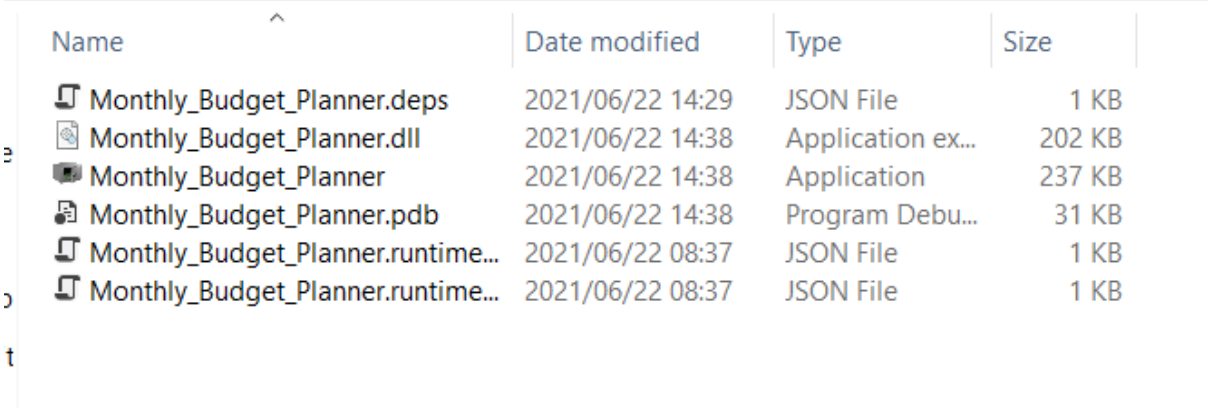
- Open the file “Monthly_Budget_Planner”



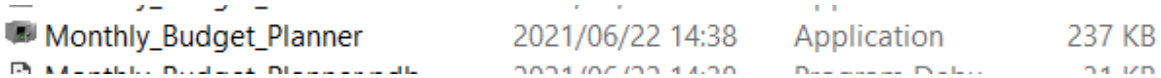
- Open the “bin” folder following the “debug” folder.



- Open the “netcoreapp3.1” folder.

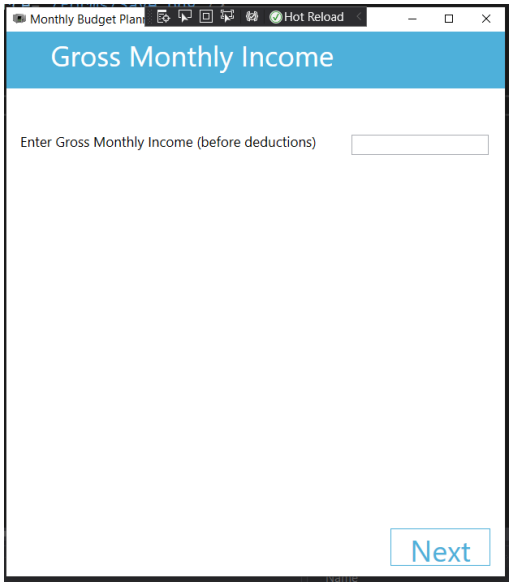


- Run “Monthly_Budget_Planner” file of type Application to open the project.

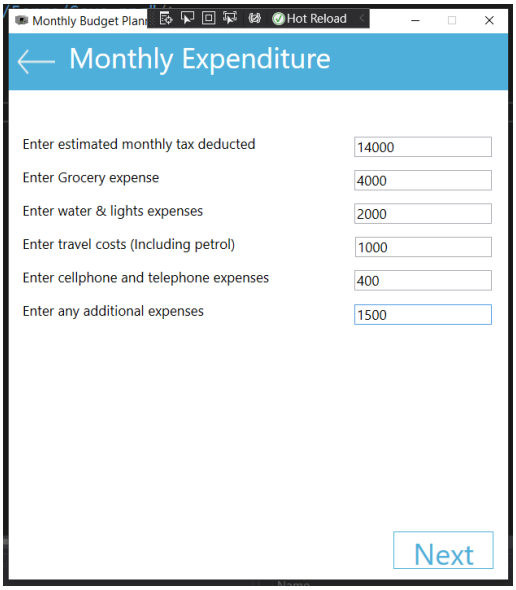


How to use the application

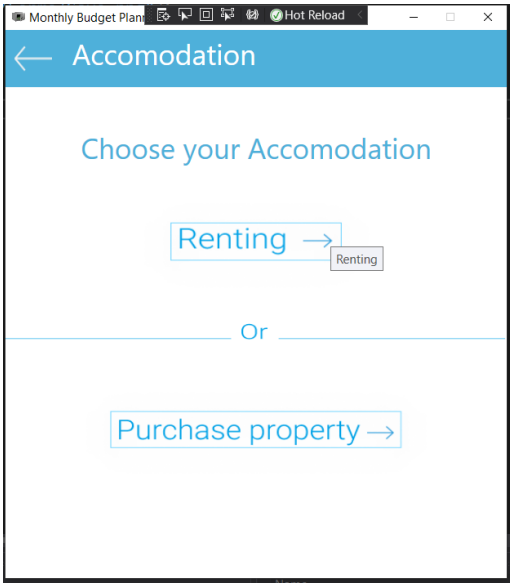
- Run the Application



- Once the application runs, it requires you to enter your gross monthly income. Once the income is correctly entered, please click the “Next” button at the bottom right to proceed to the next form.

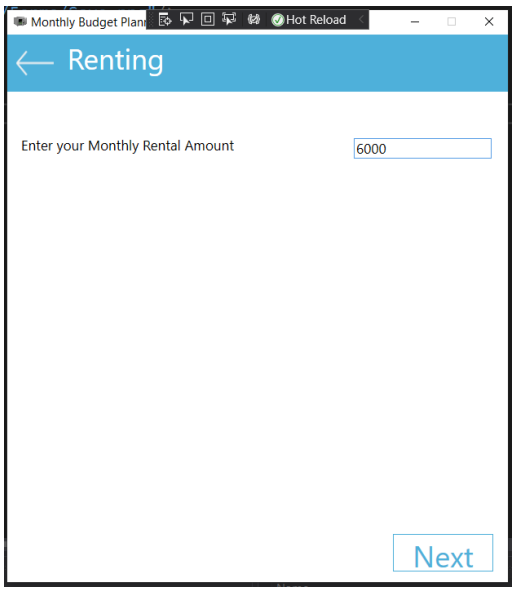


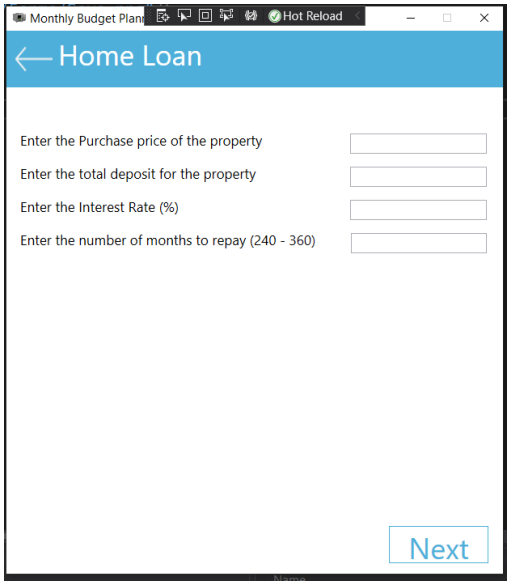
- The monthly expenditure form will now appear. It requires you to enter your monthly expenses. Once all the information is correct, proceed to click Next.



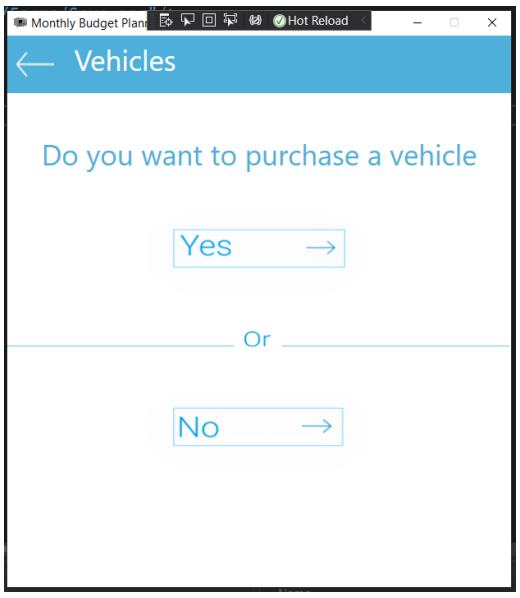
- After you click next, it will show the accommodation form. This form requires you to choose between renting and purchase property.

- If the renting option is selected, the renting form will appear. It requires you to enter the rental value. Once entered correctly, proceed to click “Next”.

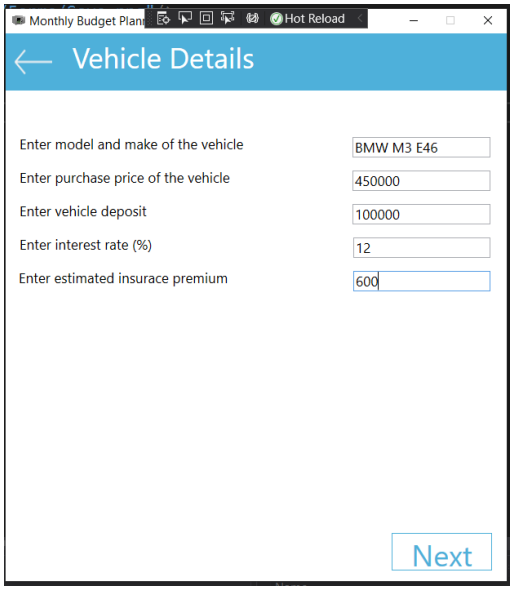




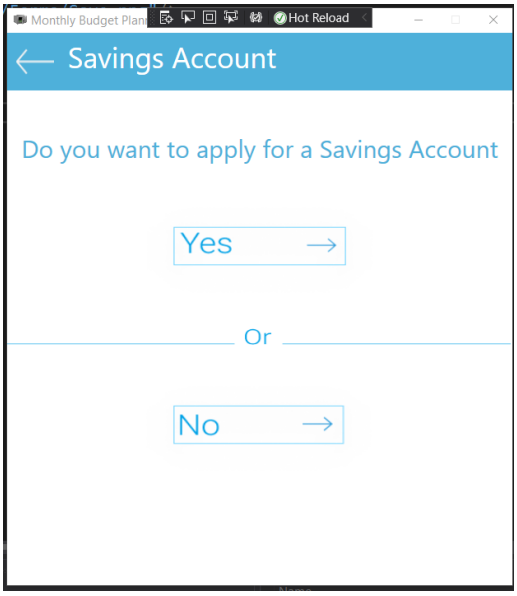
- If the property option was selected, the home loan form will appear. It requires you to enter the details and values for this property. Once entered correctly, proceed to click “Next”.



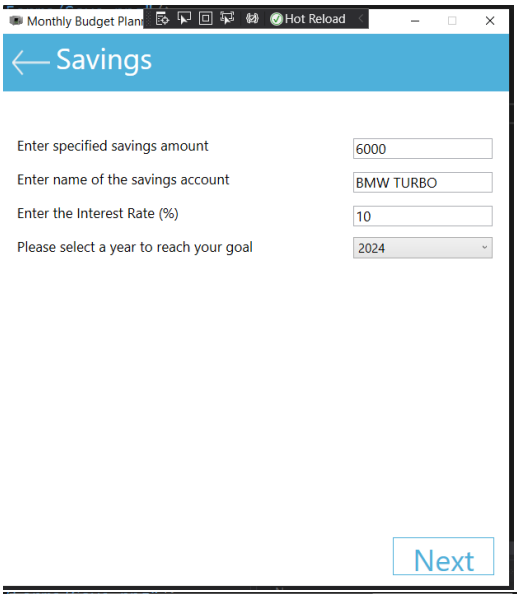
- Once the “Next” button is clicked on either home loan or renting the Vehicles form will appear. This form requires you to select an option if you want to purchase a vehicle. If the user selects “No”, it will display Savings Account

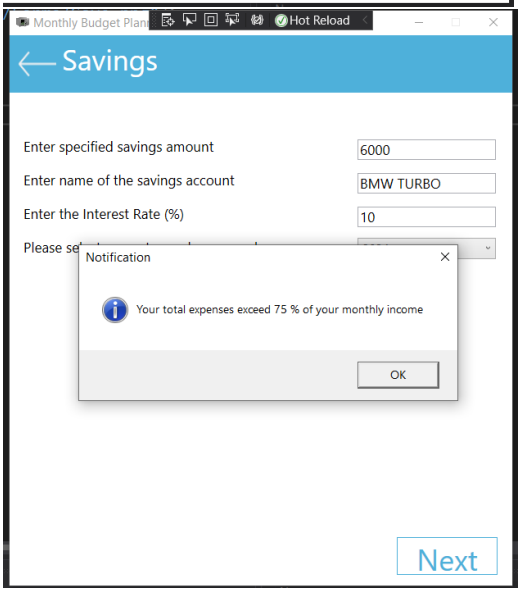


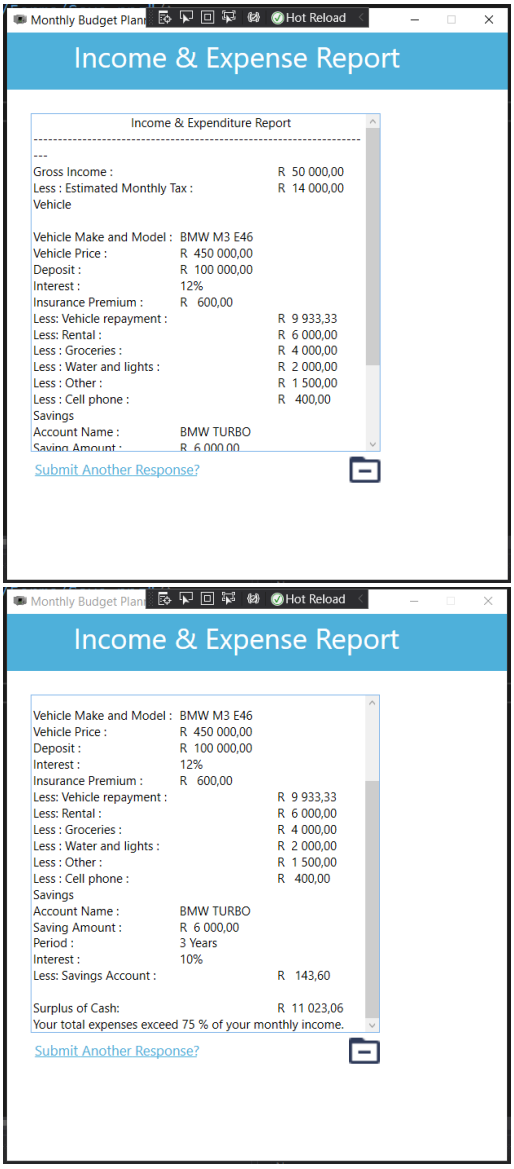
- If “Yes”, was selected. It will require you to enter related values and information about the vehicle. Once all fields are entered correctly, proceed to click “Next”.



- You are required to choose if you want a savings account. If Yes, it will display the savings account form, else, it will display the Income & Expenditure Report.



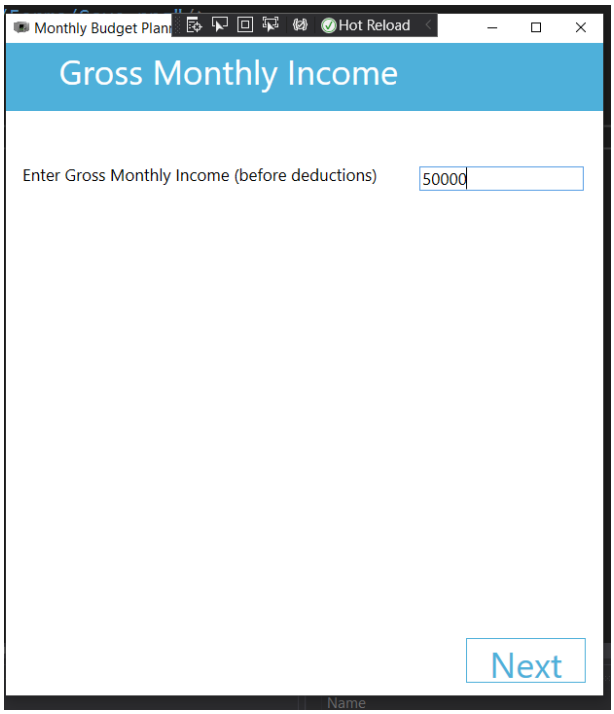


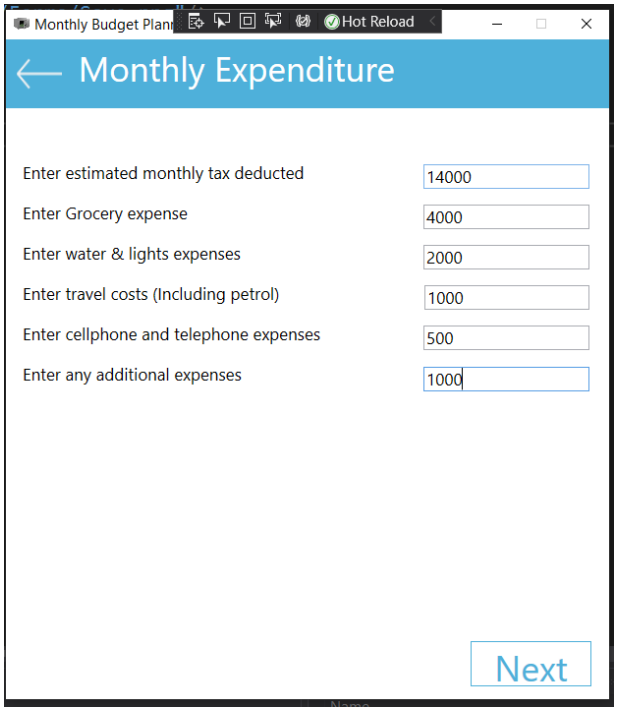


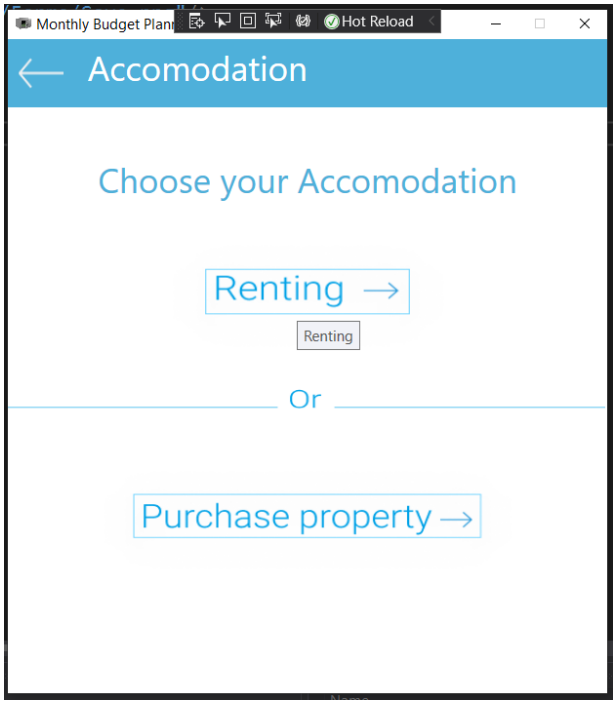
- Once “Next” is selected in the Savings form or “No” is selected in the “Savings Account” Form, it will display a report.
- This report showcases a summary of expenses, will prompt you if your expenses are more than 75% of your Gross income, and will alert you if your approval for a home loan is accepted. The report displays each expense of the user in descending order.
- From here, you can close the application, print the report, save the report, or click “Submit another response”, which will start the budget process again.
- Through each form it allows you to move back to the previous form.
- It will alert the user if a field is invalid with a *.

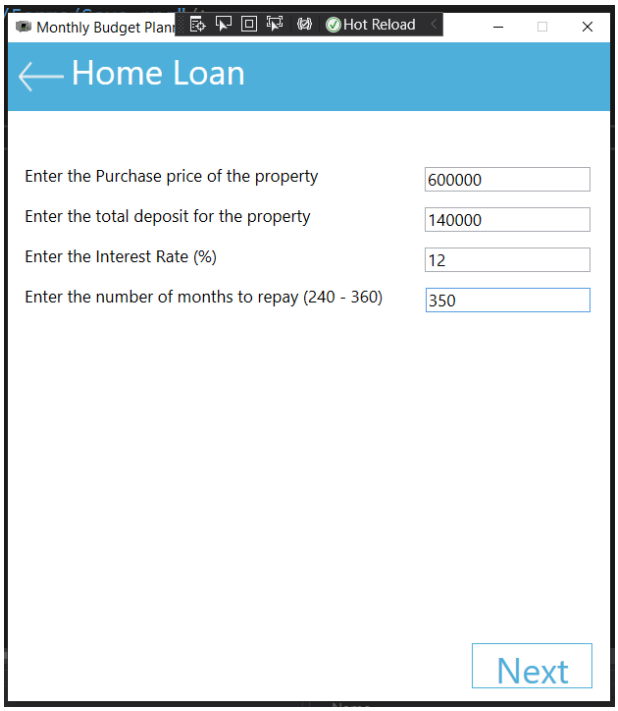
Usage

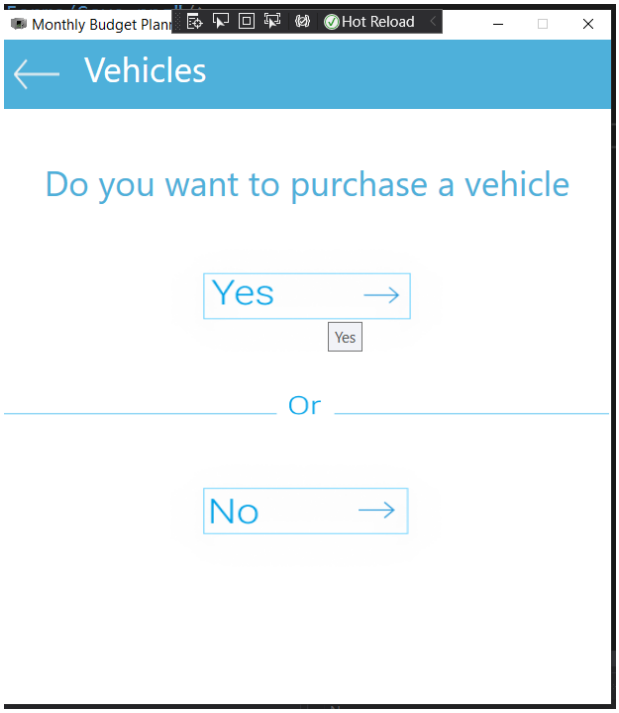
An example of the same input and the result.

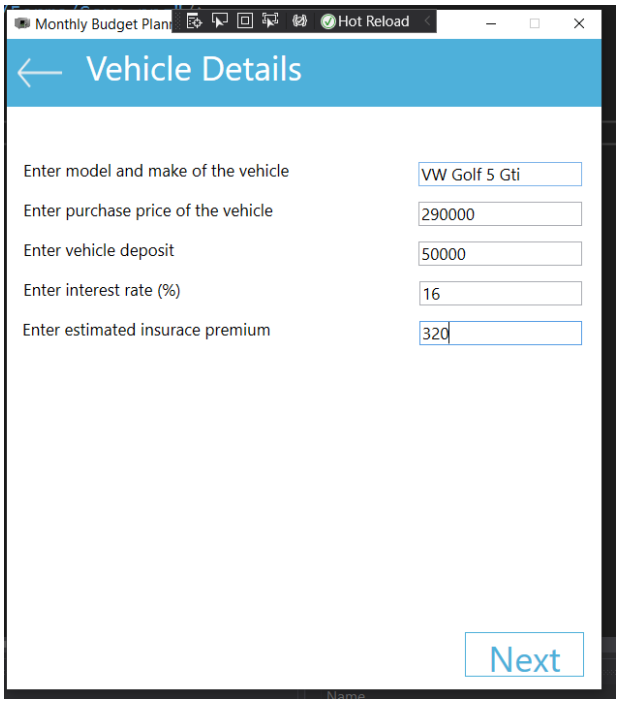


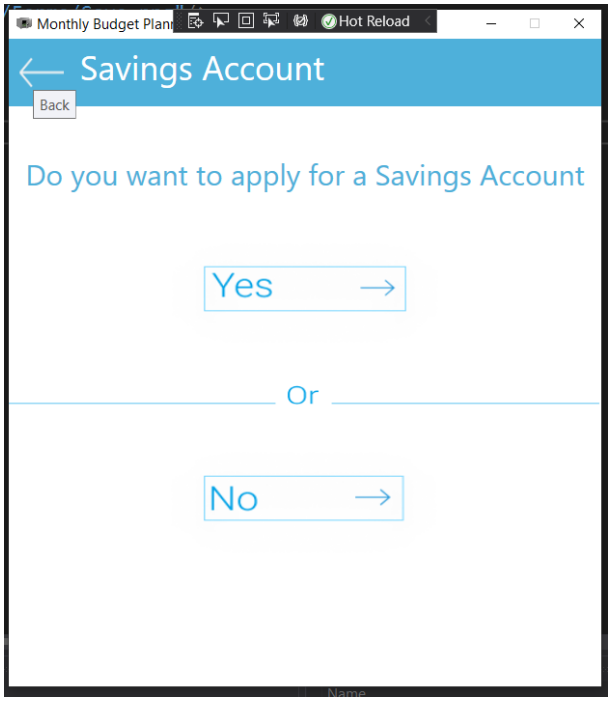


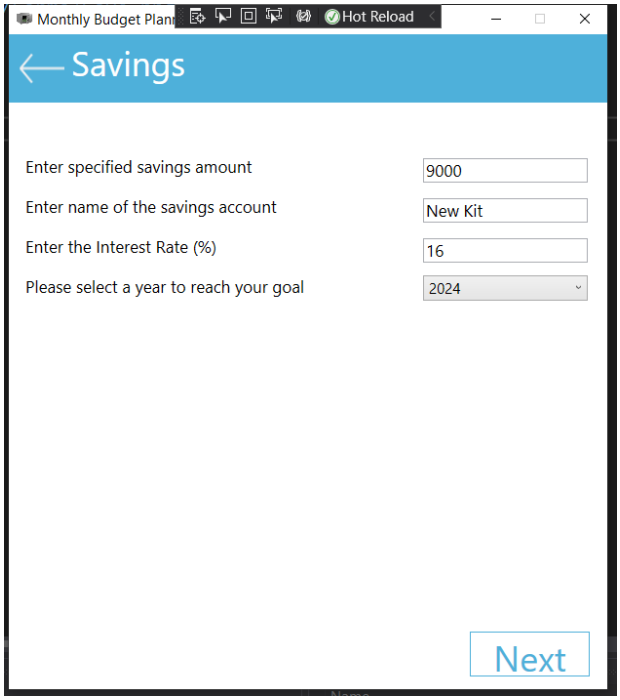

Monitory Budget Plan
Hot Reload
Accomodation
Choose your Accomodation
Renting
Renting
Or
Purchase property

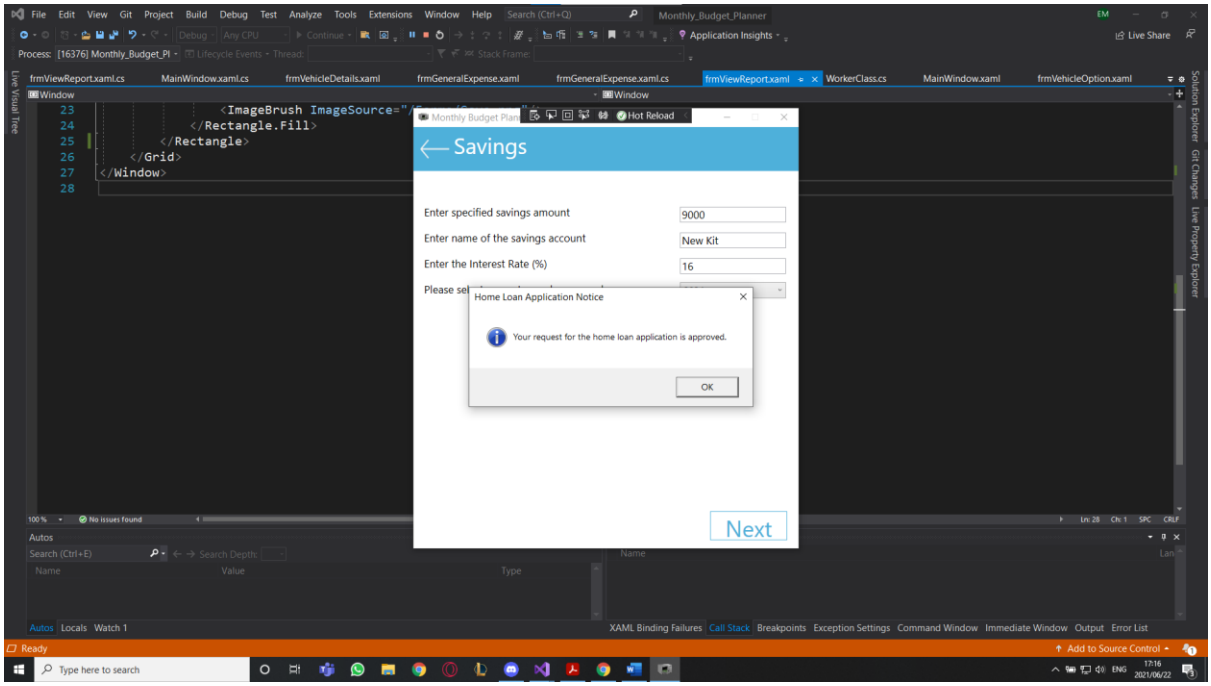

Monitory Budget Plan
Hot Reload
Home Loan
Enter the Purchase price of the property
600000
Enter the total deposit for the property
140000
Enter the Interest Rate (%)
12
Enter the number of months to repay (240 - 360)
350
Next

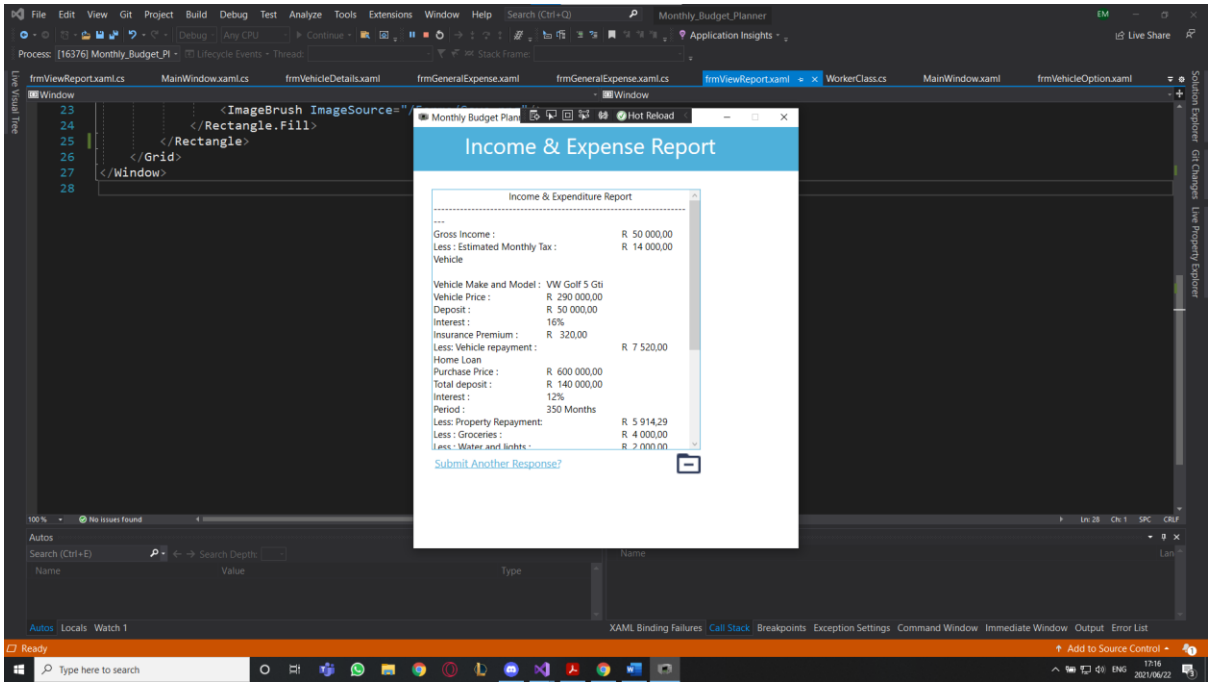

Monthly Budget Plan
Hot Reload
Vehicles
Do you want to purchase a vehicle
Yes
Yes
Or
No

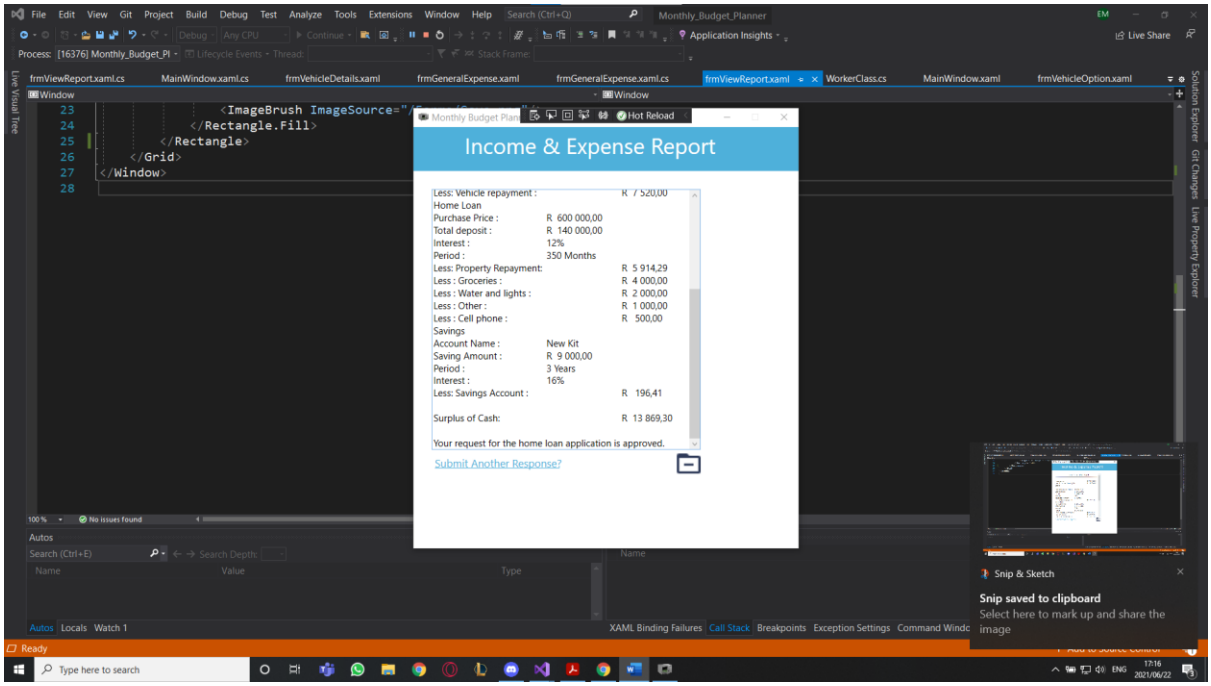

Monthly Budget Plan
Hot Reload
Vehicle Details
Enter model and make of the vehicle
VW Golf 5 Gti
Enter purchase price of the vehicle
290000
Enter vehicle deposit
50000
Enter interest rate (%)
16
Enter estimated insurace premium
320
Next


Monthly Budget Plan
Hot Reload
Savings Account
Back
Do you want to apply for a Savings Account
Yes
Or
No


Monthly Budget Plan
Hot Reload
Savings
Enter specified savings amount
9000
Enter name of the savings account
New Kit
Enter the Interest Rate (%)
16
Please select a year to reach your goal
2024
Next


Savings
Enter specified savings amount
9000
Enter name of the savings account
New Kit
Enter the Interest Rate (%)
16
Home Loan Application Notice
Your request for the home loan application is approved.
OK
Next


Income & Expense Report
Income & Expenditure Report
Gross Income : R 50 000,00
Less : Estimated Monthly Tax : R 14 000,00
Vehicle
Vehicle Make and Model : VW Golf 5 Gti
Vehicle Price : R 290 000,00
Deposit : R 50 000,00
Interest : 16%
Insurance Premium : R 320,00
Less: Vehicle repayment : R 7 520,00
Home Loan
Purchase Price : R 600 000,00
Total deposit : R 140 000,00
Interest : 12%
Period : 350 Months
Less: Property Repayment: R 5 914,29
Less : Groceries : R 4 000,00
Submit Another Response?


Income & Expense Report
Less: Vehicle repayment : R 7 520,00
Home Loan
Purchase Price : R 600 000,00
Total deposit : R 140 000,00
Interest : 12%
Period : 350 Months
Less: Property Repayment: R 5 914,29
Less : Groceries : R 4 000,00
Less : Water and lights : R 2 000,00
Less : Other : R 1 000,00
Less : Cell phone : R 500,00
Savings
Account Name : New Kit
Saving Amount : R 9 000,00
Period : 3 Years
Interest : 16%
Less: Savings Account : R 196,41
Surplus of Cash: R 13 869,30
Your request for the home loan application is approved.
Submit Another Response?
Snip & Sketch
Snip saved to clipboard
Select here to mark up and share the image

Support

If you require any assistance, please feel free to send an email to the following address : 20117913@vcconnect.co.za.

Task 2: Changes from Task 1 Feedback

Throughout the development of my PAT, it was lacking aesthetics. I decided to add multiple customized forms to my project which makes it more unique and user friendly, rather than having GUI components all over 1 form. I did not like the look of the numeric up downs, so I changed the aesthetics, in which it now looks more like a textbox. After receiving feedback, I implemented my project which now has a list that stores objects of type expense. This is used in the worker class, to generate the report and makes my project more efficient than the previous version. Furthermore, I corrected the structure of my classes and inheritance, by creating objects and then saving those objects in a List. With the previous version, I had quite a bit of repetition between the worker classes for property and rent. I summarized and combined the two classes into 1 worker class, that deals with all the child objects in the list. This is more efficient that the previous version and decreases the amount of excess code under the button by a significant amount. In the previous version, I did have validation, but I increased the validation in Task 2, with more checks. Having a multi form application, I required to allow the user to go back to previous forms. Which I now added a back button (the white arrow) at the top left of the screen. This allows the user to easily navigate back and forth between forms. Furthermore, for additional features, I changed the visual properties of the numeric up downs by removing the number and removing the arrows.

POE: Changes from Task 2 Feedback

Receiving feedback from Task 2, my application was unable to function on specific computer resolutions due to scaling issues. I redesigned my entire project through Visual Studio using WPF, using specific components from Figma. The resolution and scaling issues are now resolved on certain screen sizes. The POE requires the project to be developed in WPF using visual studio. I've recreated my GUI using XAML. The POE requires us to either add a graph or a savings account for the user, I've chosen the savings account. I added a child class called savings and 2 new windows for the saving option and the saving details. In the Task 2, there was hardly any extra features other than adjusting the numeric up downs. I now added real-time validation, a saving feature, a printing feature, changed the focus of fields when tab or enter is clicked and tooltips. By doing this, it makes the project more unique, user-friendly and allows for more uses. I slightly adjusted my inheritance and worker classes for the new savings child class. Previously, in the report I only showed the totals for each type of expense in descending order. Now, I am displaying each expense in descending order, also displaying the relative details for Home Loan, and the savings account. I have added a scroll bar for the report to allow easy access to the lower parts of the screen for the user.

Acknowledgements

- How to Download and Install Visual Studio 2019. 2019. YouTube video, added by ProgrammingKnowledge. [Online]. Available at: https://www.youtube.com/watch?v=FBo5Cso-ufE [Accessed 17 April 2021]
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