

# MONTHLY BUDGET PLANNER

## User Manual



### Purpose and Overview

*The purpose of this manual is to provide an overview on the Monthly Budget Planner, its tools and functions used to help and plan monthly expenses.*

Version 3.2

23/06/2021



Emil Namaan Reuben Murray - 20117913  
PROG POE

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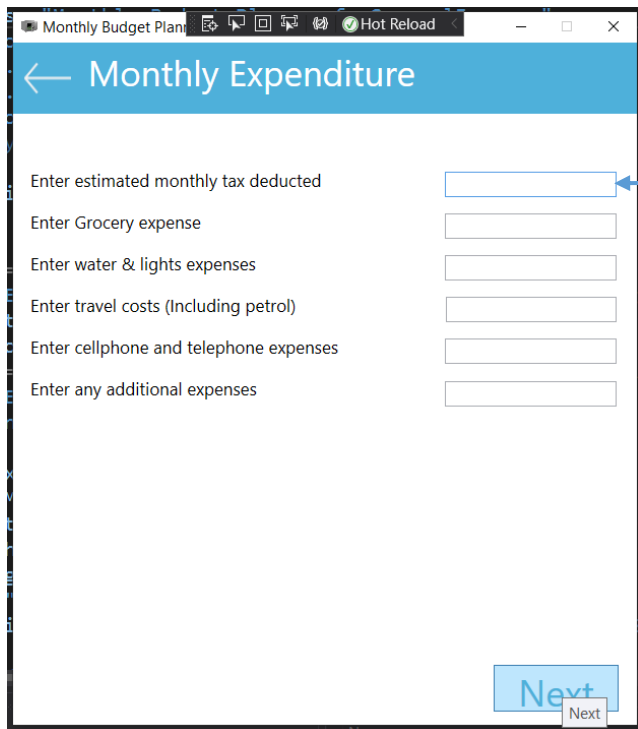
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## What can I do with this?

The Monthly Budget Planner is an application that receives data from fields, such as Gross Income, General Expenses etc. It uses this information and generates an Income & Expense Report showcasing the expenses in descending order. This can be used to help a person establish a more efficient budget, lower any unnecessary expenses and plan through their lifestyle. Once the Income & Expense Report is generated, the app allows you to save the report as a Text file, Word Document and PDF. Furthermore, it allows you to print the report in a desired format and layout.

## What is a field?

A field is a user interface design element, which allows a user to enter related information. Throughout the Monthly Budget Planner, there are several fields that are require user input to function. (What are Input Fields? , 2021)



The screenshot displays the 'Monthly Expenditure' screen of the 'Monthly Budget Planner' app. The screen features a blue header with a back arrow and the title 'Monthly Expenditure'. Below the header, there are six input fields for entering expenses: 'Enter estimated monthly tax deducted', 'Enter Grocery expense', 'Enter water & lights expenses', 'Enter travel costs (Including petrol)', 'Enter cellphone and telephone expenses', and 'Enter any additional expenses'. A blue 'Next' button is located at the bottom right of the screen. A callout box with the text 'These are fields' points to the first input field.

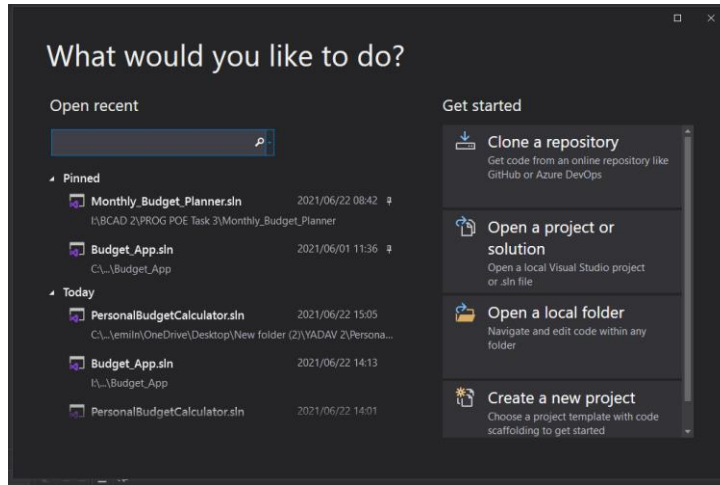
Expense Category	Input Field
Enter estimated monthly tax deducted	<input type="text"/>
Enter Grocery expense	<input type="text"/>
Enter water & lights expenses	<input type="text"/>
Enter travel costs (Including petrol)	<input type="text"/>
Enter cellphone and telephone expenses	<input type="text"/>
Enter any additional expenses	<input type="text"/>

Next

## Deployment

### Method 1

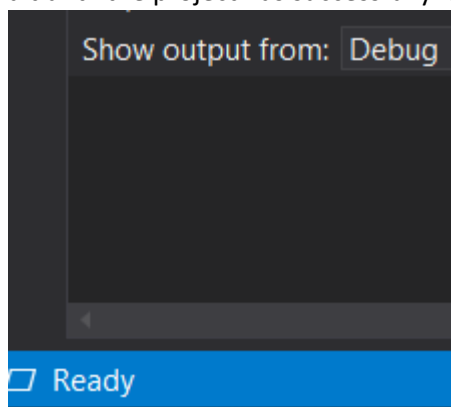
- Open Visual Studio 2019.
- Click “Open a project or solution” and locate the project folder



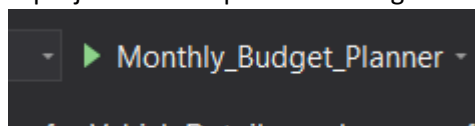
- Open the project folder. Click “Monthly\_Budget\_Planner.sln”

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.

•

PROG POE Task 3	2021/06/08 11:55	File folder
-----------------	------------------	-------------

- Open the file “Monthly\_Budget\_Planner”

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		File folder	
Workers		File folder	
App		Windows Mar...	1 KB
App.xaml.cs		# Source File	1 KB
Arrow	2021/06/15 13:58	PNG File	1 KB
AssemblyInfo.cs	2021/06/08 11:56	C# Source File	1 KB
coolicon	2021/06/15 13:47	PNG File	1 KB
Group 1	2021/06/12 15:35	PNG File	2 KB
Monthly_Budget_Planner	2021/06/22 14:28	C# Project file	2 KB
Monthly_Budget_Planner.csproj.u...	2021/06/18 18:25	Per-User Proje...	3 KB
Monthly_Budget_Planner.sln	2021/06/08 11:56	Visual Studio ...	2 KB
No	2021/06/13 17:15	PNG File	12 KB
Renting	2021/06/12 15:30	PNG File	14 KB
Renting_1	2021/06/12 15:53	PNG File	22 KB
Save	2021/06/22 14:20	PNG File	1 KB
thin_big_left	2021/06/12 14:53	PNG File	1 KB
Yes	2021/06/13 17:09	PNG File	12 KB

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

Name	Date modified	Type	Size
netcoreapp3.1	2021/03/20 10:55	File folder	

- Open the “netcoreapp3.1” folder.

Name	Date modified	Type	Size
Monthly_Budget_Planner.deps	2021/06/22 14:29	JSON File	1 KB
Monthly_Budget_Planner.dll	2021/06/22 14:38	Application ex...	202 KB
Monthly_Budget_Planner	2021/06/22 14:38	Application	237 KB
Monthly_Budget_Planner.pdb	2021/06/22 14:38	Program Debu...	31 KB
Monthly_Budget_Planner.runtime...	2021/06/22 08:37	JSON File	1 KB
Monthly_Budget_Planner.runtime...	2021/06/22 08:37	JSON File	1 KB

- Run “Monthly\_Budget\_Planner” file of type Application to open the project.

Monthly_Budget_Planner	2021/06/22 14:38	Application	237 KB
Monthly_Budget_Planner.pdb	2021/06/22 14:38	Program Debu...	31 KB

## How to use the application

Throughout each form or page, you are required to enter in data in related fields. Please note that the application requires all fields to have related data inputted, thus if any of the fields have invalid data, the application will alert you with an \* next to the invalid field. For certain fields, the application only accepts numeric values, whereas other fields accept all type of data or values. Once all fields have valid data, you can click the “Next” button located at the bottom right of certain forms, whereas other forms require you to select certain options. After each form is completed, the application will generate and display a report based on your details. The application allows you to move back and forth on each form. The back button is an arrow located at the top left of the header.

Monthly Budget Planner
Hot Reload

← Monthly Expenditure

Enter estimated monthly tax deducted

Enter Grocery expense

Enter water & lights expenses

Enter travel costs (Including petrol)

Enter cellphone and telephone expenses

Enter any additional expenses

Next

Back Button

Monthly Budget Plan

## Gross Monthly Income

Enter Gross Monthly Income (before deductions)

Emil \*

Next

This screenshot shows a web browser window with the title 'Monthly Budget Plan'. The page has a blue header with the text 'Gross Monthly Income'. Below the header, there is a text input field containing the name 'Emil'. To the right of the input field, there is a small asterisk (\*) indicating an error. At the bottom right of the form, there is a blue button labeled 'Next'.

If you enter any incorrect data into certain fields, the application will alert you with a \*. This is used to prevent invalid data from being entered.

Monthly Budget Plan

## Gross Monthly Income

Enter Gross Monthly Income (before deductions)

Emil

Alert

Please enter a correct Gross Income Value

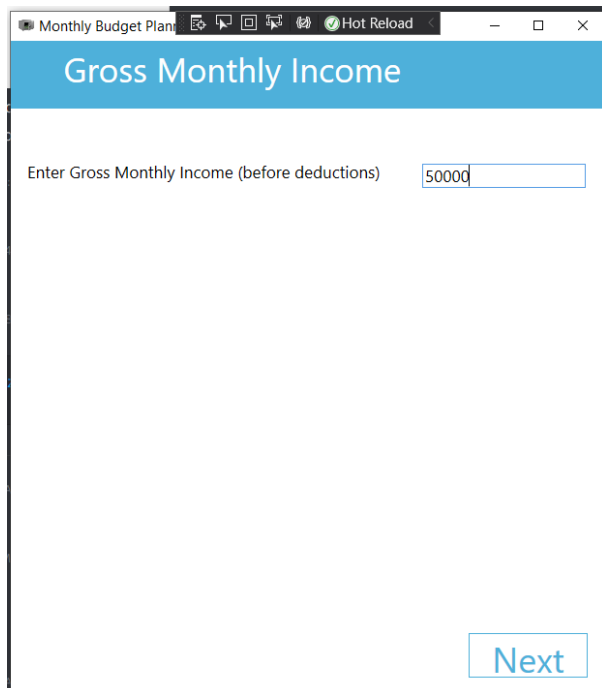
OK

Next

This screenshot shows the same web browser window as the previous one, but with an alert dialog box open in the center. The dialog box has a title bar that says 'Alert' and a close button (X). Inside the dialog, there is a yellow warning icon and the text 'Please enter a correct Gross Income Value'. At the bottom of the dialog, there is an 'OK' button. The background form is still visible, showing the 'Gross Monthly Income' header, the text input field with 'Emil', and the 'Next' button.

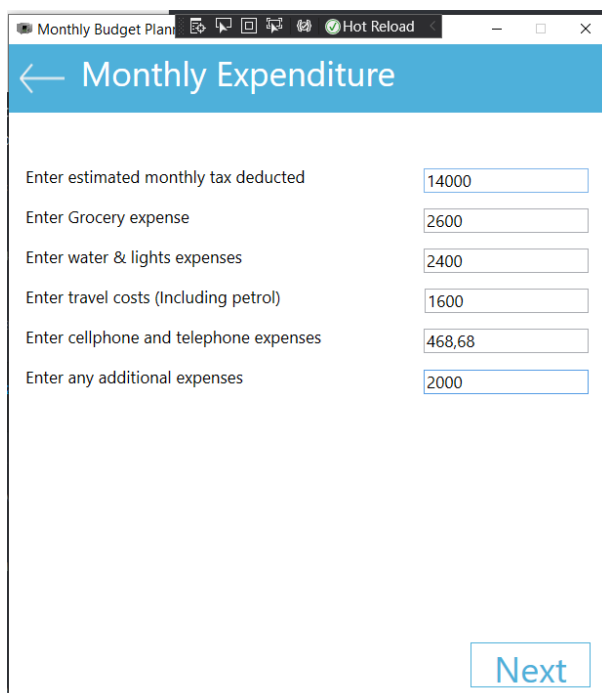
If you click next, still having an invalid field, the application will prompt an alert message specifying what the error is. This allows you to re-enter data into the invalid field to continue.

## Using the application



The screenshot shows a web browser window titled 'Monthly Budget Planner'. The main heading is 'Gross Monthly Income'. Below the heading, there is a text input field with the placeholder text 'Enter Gross Monthly Income (before deductions)'. The field contains the value '50000'. At the bottom right of the form, there is a blue button labeled 'Next'.

Please enter your Gross Monthly Income into the required field. Once, completed and the field is valid, please proceed to click “Next”.



The screenshot shows a web browser window titled 'Monthly Budget Planner'. The main heading is '← Monthly Expenditure'. Below the heading, there are six text input fields, each with a label and a value:

Label	Value
Enter estimated monthly tax deducted	14000
Enter Grocery expense	2600
Enter water & lights expenses	2400
Enter travel costs (Including petrol)	1600
Enter cellphone and telephone expenses	468,68
Enter any additional expenses	2000

At the bottom right of the form, there is a blue button labeled 'Next'.

After you click “Next” on the Gross Monthly Income form, it will display the Monthly Expenditure form. You are required to enter numeric values into the required fields. You cannot enter a monthly tax amount that is greater than you Gross Monthly Income, the application will mark this field as invalid. Once the fields are valid, proceed to click “Next”. Please note that you can go to the previous form using the back button on the left of the form.



The screenshot shows a web browser window with the title 'Monthly Budget Plan'. The browser's address bar and toolbar are visible at the top. The page has a blue header bar with a back arrow and the text 'Accommodation'. Below the header, the text 'Choose your Accommodation' is centered. There are two buttons: 'Renting →' and 'Purchase property →', separated by a horizontal line with the word 'Or' in the middle. The 'Renting' button is highlighted with a blue border.

After you click “Next” on the Monthly Expenditure form, the application will display the Accommodation form. Here, you are required to select the Renting option or the Purchase property option.

The screenshot shows a web browser window with the title 'Monthly Budget Plan'. The browser's address bar and toolbar are visible at the top. The page has a blue header bar with a back arrow and the text 'Renting'. Below the header, the text 'Enter your Monthly Rental Amount' is followed by a text input field containing the value '6000'. At the bottom right of the form, there is a 'Next' button.

If you chose the Renting option, the application would display the Renting form. The application requires you to enter your renting amount. Once the field is valid proceed to click “Next”.

Monthly Budget Plan

← Home Loan

Enter the Purchase price of the property

Enter the total deposit for the property

Enter the Interest Rate (%)

Enter the number of months to repay (240 - 360)

Next

If you chose the Purchase property option, the application would display the Home Loan form. Please input data into the valid fields. You are not required to enter a % sign in the interest field as it accompanies for it. You are required to enter the number of months you would like to pay your home loan for, thus not requiring years and months. (For example, do not enter 20 Year 3 Months, rather 243)

Monthly Budget Plan

← Vehicles

Do you want to purchase a vehicle

Yes →

Yes

Or

No →

Once you click “Next” on either the Renting form or Home Loan form, it will display the Vehicles Form. This requires you to choose between “Yes” and “No”, on whether you would like to purchase a vehicle.

← Vehicle Details

Enter model and make of the vehicle

Enter purchase price of the vehicle

Enter vehicle deposit

Enter interest rate (%)

Enter estimated insurance premium

Next

If “Yes” is clicked on the Vehicles form, the application will display the Vehicle Details form. You are required to enter data in the appropriate fields. You can enter alpha numeric and numeric values in the Make and Model field. Once all fields are valid, proceed to click “Next”.

← Savings Account

Do you want to apply for a Savings Account

Yes →

Or

No →

If you clicked “No” on the Vehicles Form or “Next” on the Vehicle Details form, the application will display the Savings Account form. Here, you are required to select Yes or No, whether you would like to have a savings account.

The screenshot shows a web browser window titled "Monthly Budget Planner" with a "Hot Reload" button. The page has a blue header with a back arrow and the word "Savings". Below the header, there are four input fields: "Enter specified savings amount" with the value "50000", "Enter name of the savings account" with the value "Family Holiday", "Enter the Interest Rate (%)" with the value "14", and "Please select a year to reach your goal" with a dropdown menu showing "2030". At the bottom right, there is a blue "Next" button.

If you selected “Yes” on the Savings Account Form, the application would display the Savings Form. You are not required to enter a % sign in the interest field as it accompanies for it. You are required to select the Year you would like to achieve your goal for. Once all fields are valid, proceed to click “Next”.

If you selected “No” on the Savings Account Form, the application would display the Income & Expenditure. However, some alerts may appear if your Home Loan is accepted or not, and if your Monthly expenses exceed 75 % of your Gross Income.

This screenshot is similar to the first one, but it includes a notification alert. The alert is a small dialog box with a blue information icon and the text "Your total expenses exceed 75 % of your monthly income". It has an "OK" button at the bottom. The "Next" button is still visible at the bottom right of the form.

Click Ok to proceed. This is an alert that your expenses exceed 75 % of your Gross Monthly Income. This gives you a general idea on your lifestyle and how to plan your budget ahead.

← Savings

Enter specified savings amount

Enter name of the savings account

Enter the Interest Rate (%)

Please select

Home Loan Application Notice

Your request for the home loan application is approved.

OK

Next

This alerts you if you qualify for a Home Loan. Click Ok to proceed.

Income & Expense Report

Income & Expenditure Report	
Gross Income :	R 50 000,00
Less : Estimated Monthly Tax :	R 14 000,00
Home Loan	
Purchase Price :	R 1 000 000,00
Total deposit :	R 120 000,00
Interest :	15%
Period :	325 Months
Less: Property Repayment:	R 13 707,69
Vehicle	
Vehicle Make and Model :	VW Golf 5 Gti
Vehicle Price :	R 320 000,00
Deposit :	R 120 000,00
Interest :	14%
Insurance Premium :	R 450,00
Less: Vehicle repayment :	R 6 116,67
Less: Groceries :	R 2 600,00

[Submit Another Response?](#)

If “Next” is clicked on the Savings form or “No” is selected on the Savings Account Form, the application would generate and display an Income & Expenditure Report based on your details. It displays your expenses in descending order (Highest to Lowest), also displaying the details for Vehicles, Home Loan and Savings Account, if those options were selected.

Monthly Budget Plan

## Income & Expense Report

Deposit : R 120 000,00  
 Interest : 14%  
 Insurance Premium : R 450,00  
 Less: Vehicle repayment : R 6 116,67  
 Less : Groceries : R 2 600,00  
 Less : Water and lights : R 2 400,00  
 Less : Other : R 2 000,00  
 Less : Travel Costs (including petrol) : R 1 600,00  
 Less : Cell phone : R 468,68

Savings  
 Account Name : Family Holiday  
 Saving Amount : R 50 000,00  
 Period : 9 Years  
 Interest : 14%  
 Less: Savings Account : R 227,22

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.  
 Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)

Close Application

Save report

Print report

Submit new response

Please note that there is a scroll bar which allows you to view the lower parts of the report, however you can also use scroll wheel to view the lower parts of the Report. After viewing your report, you can either submit a new response, print the report, save the report, or close the application.

Monthly Budget Plan

## Income & Expense Report

Deposit : R 120 000,00  
 Interest : 14%  
 Insurance Premium : R 450,00  
 Less: Vehicle repayment : R 6 116,67  
 Less : Groceries : R 2 600,00  
 Less : Water and lights : R 2 400,00  
 Less : Other : R 2 000,00  
 Less : Travel Costs (including petrol) : R 1 600,00  
 Less : Cell phone : R 468,68

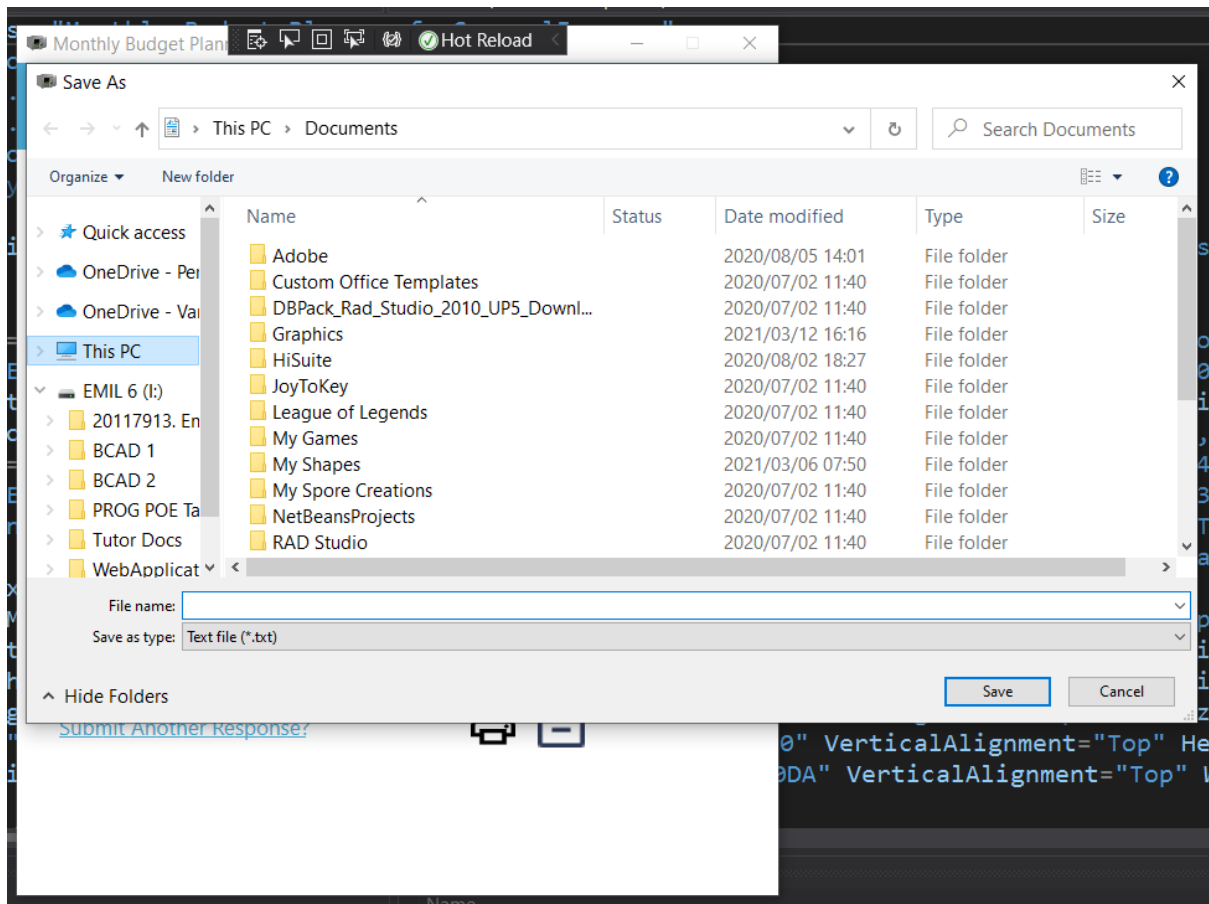
Savings  
 Account Name : Family Holiday  
 Saving Amount : R 50 000,00  
 Period : 9 Years  
 Interest : 14%  
 Less: Savings Account : R 227,22

Surplus of Cash: R 6 879,74

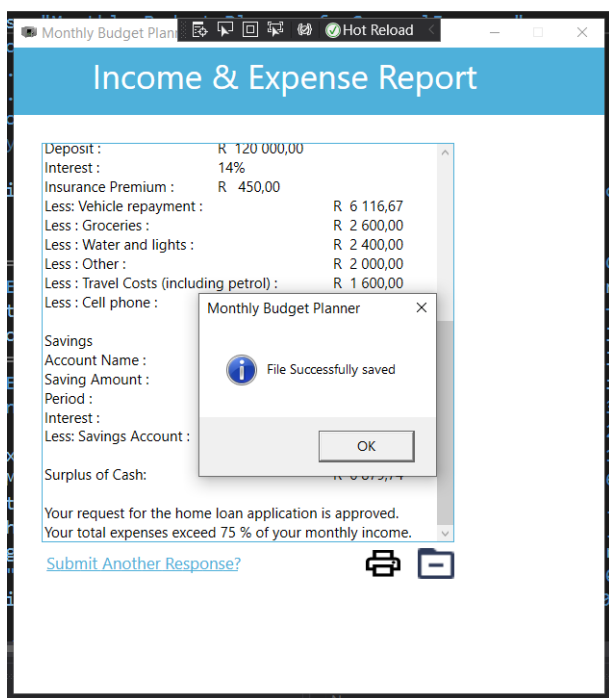
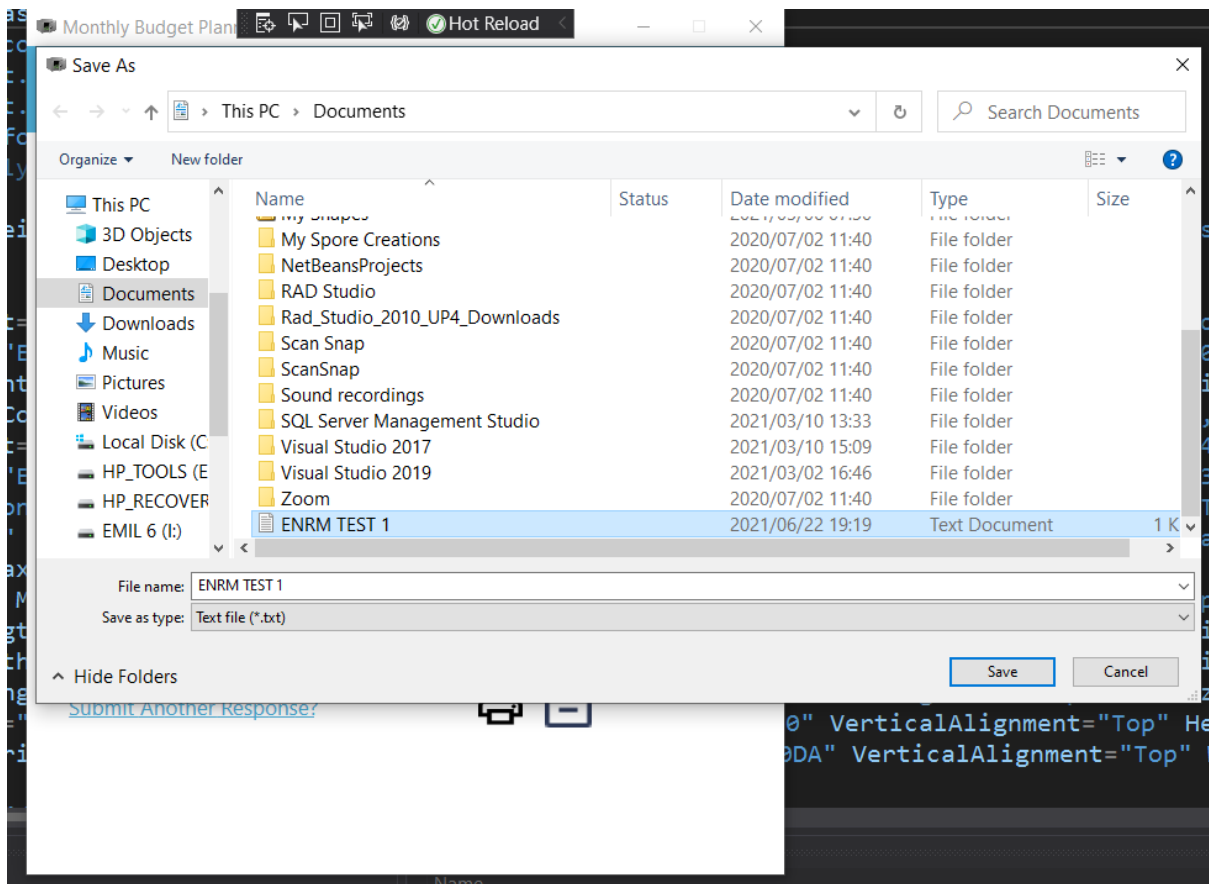
Your request for the home loan application is approved.  
 Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)

Save File



If you click save report, you are required to choose a save file location. Once selected, please enter a file name for the report. Once the name is entered, please click save.



Once the file successfully saves, the application will alert you that the report was saved. Otherwise, it will display an error message, allowing you try again.



### Income & Expenditure Report

Gross Income : R 50 000,00

Less : Estimated Monthly Tax : R 14 000,00

#### Home Loan

Purchase Price : R 1 000 000,00

Total deposit : R 120 000,00

Interest : 15%

Period : 325 Months

Less: Property Repayment: R 13 707,69

#### Vehicle

Vehicle Make and Model : VW Golf 5 Gti

Vehicle Price : R 320 000,00

Deposit : R 120 000,00

Interest : 14%

Insurance Premium : R 450,00

Less: Vehicle repayment : R 6 116,67

Less : Groceries : R 2 600,00

Less : Water and lights : R 2 400,00

Less : Other : R 2 000,00

Less : Travel Costs (including petrol) : R 1 600,00

Less : Cell phone : R 468,68

#### Savings

Account Name : Family Holiday

Saving Amount : R 50 000,00

Period : 9 Years

Interest : 14%

Less: Savings Account : R 227,22

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.

Your total expenses exceed 75 % of your monthly income.

An example of a saved file.

Monthly Budget Plan

## Income & Expense Report

Deposit :	R 120 000,00
Interest :	14%
Insurance Premium :	R 450,00
Less: Vehicle repayment :	R 6 116,67
Less : Groceries :	R 2 600,00
Less : Water and lights :	R 2 400,00
Less : Other :	R 2 000,00
Less : Travel Costs (including petrol) :	R 1 600,00
Less : Cell phone :	R 468,68



Savings

Account Name :	Family Holiday
Saving Amount :	R 50 000,00
Period :	9 Years
Interest :	14%
Less: Savings Account :	R 227,22

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.  
Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)

[Print Report](#)

Print

General

Select Printer

☒ Pantum P2000 Series

☐ Send To OneNote 16

Status: Offline

Location:

Comment:

Page Range




☒ All

☐ Selection

☐ Pages:

Number of copies: 1

☐ Collate



[Print](#) [Cancel](#) [Apply](#)

Less: Savings Account : R 227,22

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.  
Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)

If you select print report, the application will open a printing window. Here you can select your printer and specify any other details about the printing process. Once all adjustments to the printing details have been made, proceed to click Print. Ensure that your printer is connected, with paper, and has enough ink. Once Print is clicked, it will print your report.

Monthly Budget Planner

## Income & Expense Report

Deposit :	R 120 000,00
Interest :	14%
Insurance Premium :	R 450,00
Less: Vehicle repayment :	R 6 116,67
Less : Groceries :	R 2 600,00
Less : Water and lights :	R 2 400,00
Less : Other :	R 2 000,00
Less : Travel Costs (including petrol) :	R 1 600,00
Less : Cell phone :	R 468,68



  

Savings	
Account Name :	Family Holiday
Saving Amount :	R 50 000,00
Period :	9 Years
Interest :	14%
Less: Savings Account :	R 227,22

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.  
Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)  

If you click Submit another response, the application will start the Monthly Budget Planner process again, displaying the Gross Monthly Income Form.

Monthly Budget Planner

## Income & Expense Report

Deposit :	R 120 000,00
Interest :	14%
Insurance Premium :	R 450,00
Less: Vehicle repayment :	R 6 116,67
Less : Groceries :	R 2 600,00
Less : Water and lights :	R 2 400,00
Less : Other :	R 2 000,00
Less : Travel Costs (including petrol) :	R 1 600,00
Less : Cell phone :	R 468,68



  

Savings	
Account Name :	Family Holiday
Saving Amount :	R 50 000,00
Period :	9 Years
Interest :	14%
Less: Savings Account :	R 227,22

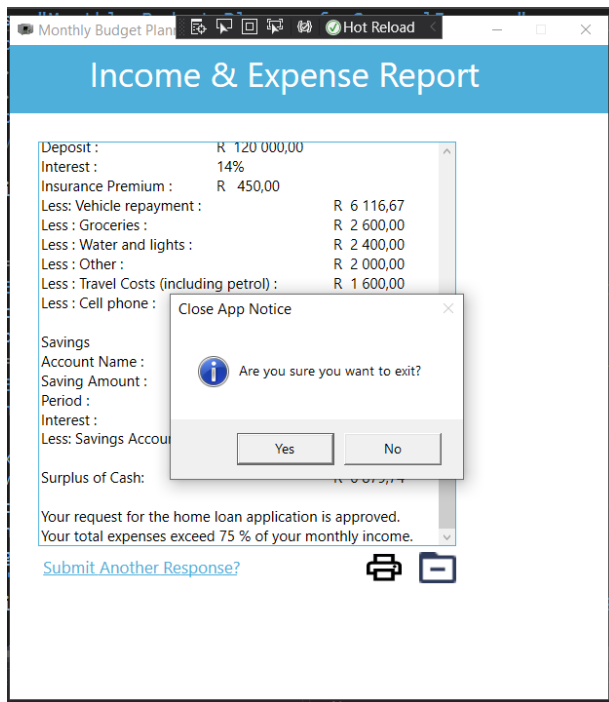
  

Surplus of Cash: R 6 879,74

Your request for the home loan application is approved.  
Your total expenses exceed 75 % of your monthly income.

[Submit Another Response?](#)  

If you decide to close the application, click the red x icon located at the top right of the form.



If yes is selected, the application will close, else it will remain open.

## Features

Throughout the application there are many features that are implemented. On each form, there are tooltips which help users to navigate and guide them through the report process. When a form or page loads, the first field is focused such that the user does not need to select that field their mouse. A user can use the Tab key or the Enter key to move to the next field. If any fields are invalid, the application will alert the user with a \* next to the field, using real-time validation. When the application opens and when a new form or page is shown, the application focuses on the very first field of each form, thus the user does not have to click on the field at first to enter information. Throughout the application, the icons will change when working with certain GUI components, when loading and while the app is closing. The application allows you to be able to copy the Income & Expense Report by highlighting and copying it. The application allows you to print Income & Expense report. Furthermore, allowing you to save it as a Word or Text file. Please note that each field is validated to only accept a certain number of characters.

## Notes

Please note that you are not required to enter any form of currency into the fields (for example R 5000 or \$ 4000), else it will throw an error as \*. If you would like to add a decimal value, either use a “,” or “.”, the application may not pick up “.”, based on your default system. You are not required to enter any alphabets or text into fields that require values. You can enter spaces in the fields as a separator. In the savings class, the application uses the future values annuities formula.

$$x = \frac{F \times i}{[(1 + i)^n - 1]}$$

## 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]
- Icon picture : findicons.2020. Strong Box Money Icon (The Robbery). [Online]. Available at: [https://findicons.com/icon/28904/strong\\_box\\_money](https://findicons.com/icon/28904/strong_box_money) [Accessed on 14 April 2021]

## Authors

- Emil Namaan Reuben Murray

## Support

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

## Reference List

- The Interaction Design Foundation. 2021. *What are Input Fields?*. [online] Available at: <<https://www.interaction-design.org/literature/topics/input-fields>> [Accessed 23 June 2021].