PROG7313

POE PART 1

DESIGN DOCUMENT & PROJECT PLAN

JESKTEK
ST10252440, ST10249843, ST10275486, ST10258496

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Design Document

INTRODUCTION

After researching the apps of Spendee, Money Lover, and Goodbudget; we are now in a good position to design a competent and successful financial tracking app that will be used, combining the grounded basics with innovative new ideas such as envelopes and expense analytics.

With this, we've come up with Dinero, the personal budgeting app for the modern age, with a stylish and charming interface to attract and entice loyal customers to our service.

OVERVIEW – DINERO, LA BUDGET PERSONAL

Dinero is the name of our planned application, a Spanish word for money, derived from the Latin word "Denarius". Keeping in line with the Hispanic theme, we have used a very common ingredient of Hispanic and Latin American cultures, the humble avocado. (Merriam-Webster, 2025)

This is the cute and charming mascot of the app, symbolizing not only the cultural associations but also that avocado trees can take 15-20 years to reach maturity, just as we guarantee the steady growth of your budget into something impressive. (Engels and Gillette, 2025)

The Dinero app will cover all of the basics such as tracking your different expenses and incomes, giving reports, and summarizing your accounts. On top of this, however, we have several innovative features:

- Usability takes an important precedent in the Dinero app, our charming mascot will guide you through the app with a tutorial, accessible from the settings at any time after the initial login. Additionally, we will track past recurrent expenditures for convenience of entering new ones easily. The app emphasizes User Experience and will try to be charming and warm. (Grow Solutions, 2023)
- Envelopes/Categories are an important feature of Dinero that allows users to categorize expenditures in easily tracked sections that allow you to easily segment your budget. (Grow Solutions, 2023)
- Analytics allow users to see whether their financial health is improving or declining, and take action based on it. (Grow Solutions, 2023)

With this, the app will take its place emphasizing usability and convenience for the user, it should exist as a comforting presence in their financial life.

APPLICATION REQUIREMENTS

Functional Requirements:

- ➢ Users should be able to register an account and log in via username and password, with their details stored securely via Firebase, as well as potentially integrating with external services such as Google to login. (Grow Solutions, 2023)
- ➢ Users must be able to create budget categories for specific expenses they are budgeting for. (e.g. budgeting for a new laptop). (Grow Solutions, 2023)
- ➢ Users must be able to add expenses to the specified budget categories with included details of the amount and date as well as description, and of course the category it is in. (e.g. a new mouse for a laptop) (Grow Solutions, 2023)
- ➢ Users should be able to attach a receipt photograph to prove their expense when adding one, allowing users to track physical data about the purchase. (Grow Solutions, 2023)
- ➢ Users should be able to set up an amount for each budget to strive for and limit their expenses, warning them for exceeding it. (Grow Solutions, 2023)
- ➢ Users can set a monthly spending limit, with visualization to show when users are approaching the limit via a project bar. (Grow Solutions, 2023)
- ➢ The user must be able to filter their expenses via date and category and view a list of expenses between a certain timeframe, with the amount of money spent, and access to the receipt if needed. (Grow Solutions, 2023)
- ➢ The user must have their data stored in a local database as well as synchronized across devices via an online database. (Grow Solutions, 2023)
- ➢ The user needs to be able to access analytical graphs of their spending to identify trends over a certain timeframe. (Grow Solutions, 2023)
- ➢ The user must have a dashboard highlighting their budget goals and overspending to be aware of. (Grow Solutions, 2023)
- ➢ The user must be able to access gamified 'goals' that make their experience more relaxed and enjoyable, giving them a rank based on their proficiency at budgeting. (Grow Solutions, 2023)
- ➢ The user must be able to access some form of tutorial or guidance if they are uncertain of how to use the app. (Grow Solutions, 2023)
- ➢ The app must have a pleasing and warm user experience including features such as warm colours and music. (Grow Solutions, 2023)
- ➢ The user must be able to see visualizers for many elements such as budget progress. (Grow Solutions, 2023)

Non-Functional Requirements

Security

A large priority of Dinero is Security, ensuring the security of the user's financial data. For this, Dinero will utilize features such as:

<u>Authentication and Authorisation</u> – Users will have to register accounts and log-in to utilize Dinero services. Implementing MFA services will also bolster security (Nidhin, 2024).
<u>Regular Updates</u> – In addition, periodically monitoring usage and updating the app will allow us to address vulnerabilities and abide by the everchanging security standards of the industry. (Grow Solutions, 2023)

Scalability

As the user base grows and the volume of processed financial data increases, Dinero will be required to adapt seamlessly to changing conditions. Requirements for scalability include:

<u>Efficient Database Design</u> – For offline storage access, a local database will be used. For cloud operations, Firebase will instead be used. These intertwined measures will ensure scalability and efficiency are possible for Dinero. (Raturi, 2023).
<u>Optimised Performance</u> – We will use optimised coding practices ensuring that as more data is stored, the app will remain responsive (Nidhin, 2024).
<u>Cloud Storage</u> – This will not only allow seamless access across many devices, but also allow dynamic scaling decided by the cloud service providers. (Nidhin, 2024).
<u>Modular Architecture</u> – Creating modular code will allow for easy updates and expansion of different services in future. (Nidhin, 2024).

Usability

Creating an intuitive, comfortable, and user-friendly experience is another one of Dinero's top priorities. The following practices will therefore be used:
<u>Simple UI/UX Design</u> – The Dinero interface is designed to be stylish and minimalistic in its functionality while still being explanatory and easy to navigate with recognisable buttons and symbols, ensuring users will have no confusion when using the app. (Suleiman, 2024)
<u>Customisation</u> – Users will have free reign to create personalised budgetary categories and set their own budgets for different expenses. (Grow Solutions, 2023)
<u>Accessibility</u> – Text size and buttons shall be large enough to read and easy to tap and interact with. (Grow Solutions, 2023)
<u>Consistency</u> – The app will make use of the same fonts, styles, and branding throughout its interface to make sure users don't get confused. (Suleiman, 2024).
<u>Tutorials</u> – New users should be able to grasp and understand the features of the app quickly using our simple tutorials and tooltips provided by our mascot, Dinero. (Suleiman, 2024).

DESIGN ELEMENTS AND THEME

Dinero's app design is entered around financial growth and stability in its colour scheme, icons, and interactive elements.

<u>The design and colour scheme:</u>

The main colour used in dinero is green which symbolises money. The app incorporates a gradient of greens throughout every screen and every element including the imagery. The avocado icon serves as a metaphor for financial growth – just as an avocado tree requires time to bear the fruit, so too does careful budgeting and financial planning allowing users to reap their long-term rewards.

Colour palette available here

<u>Navigation and layout:</u>

The app features a user-friendly navigation system which allows users to seamlessly switch between screens making the overall user experience that much more engaging. The typography, elements, and readability allow ease of use by incorporating the following elements (Suleiman, 2024):

- Clear and bold typography
- Colour matching between the text and the background
- Icons of avocados – which gives the app character, our mascot Dinero, is there with you every step of the way
- Graphical elements – the charts and progress bars allow the user visual insights, allowing them to track their spending habits.
- Progress bars
  - The green progress bar indicates when a user is within budget. This will subconsciously trick the user that green indicates positivity.
  - Whilst the red progress bar indicated danger, this signals the user that they have exceeded their budget.

The colour scheme, icons, elements, and graphs assist the user by providing insights into their spending patterns, hopefully allowing them to identify the importance of financial growth and stability ultimately achieving financial success. (Suleiman, 2024)

DESIGN MOCK-UP/PROTOTYPE

Figma: https://www.figma.com/design/v5kfxf10eg3DvDHpyX49Uv/PROG7313-POE---DINERO?node-id=0-1&t=N8XCfQ1HOtX1SNrq-1 (Naicker et al., 2025b)

Tapping on the "Register" button will navigate the user to the registration page. Here the user will be able to enter their credentials to create a new account.

Tapping on the "Login" button navigates the user to the login page allowing them to enter their credentials to sign into an existing account.
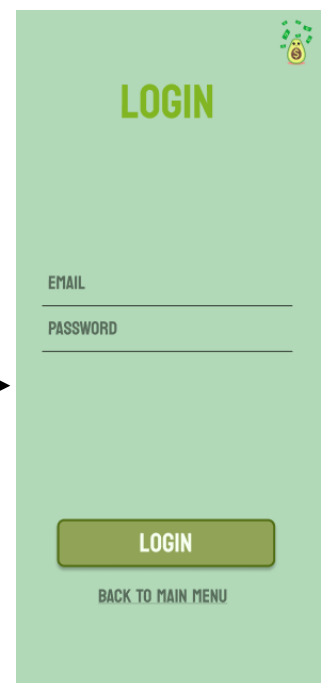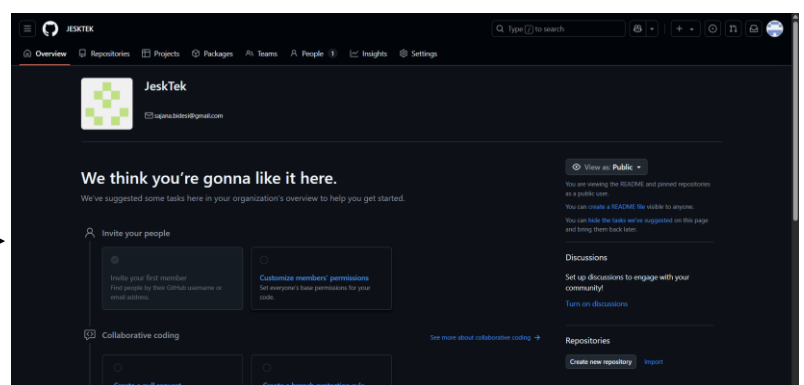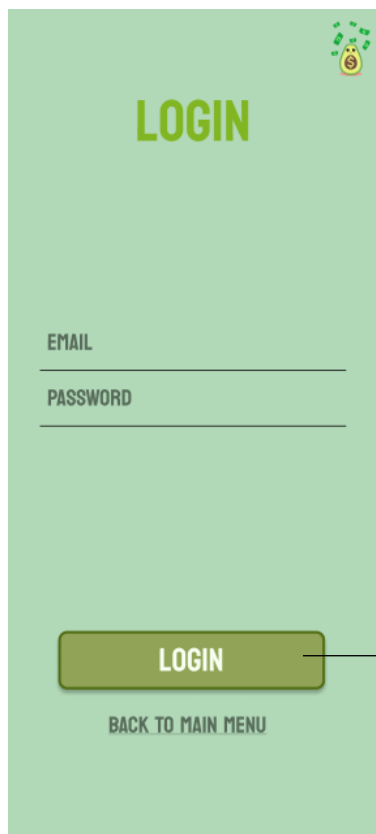

Figure 2 Register Page

Figure 1 Welcome Page

Figure 4 Login Page

Figure 3 Organisation for JESKTEK

Clicking on the company/developers' name, will direct the user to their organisation on Github. This will hold the information such as the source code of the project, project plan, application features, and requirements.
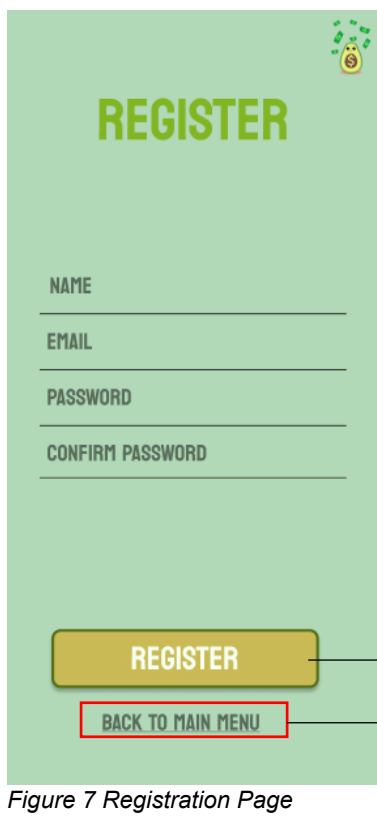
Figure 5 Login Page

After entering their credentials, the user will click on the respective buttons. If it is a successful login/sign up, the user will then be directed to the
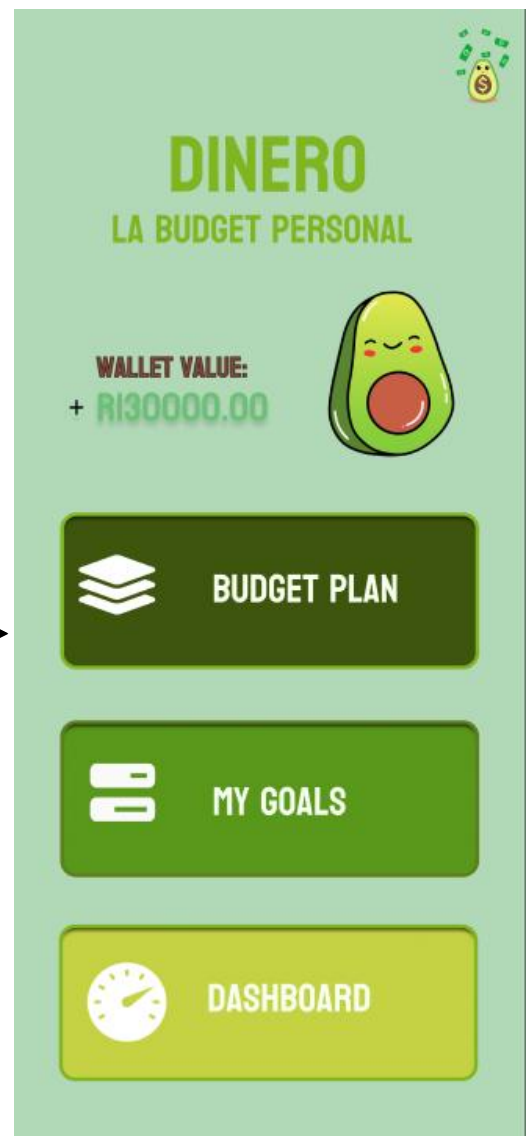

Figure 6 Home Page

Figure 7 Registration Page

This will allow the user to return to the landing page.

Figure 8 Wallet Page

Clicking on the "+" icon will navigate the user to view their wallet transaction history, furthermore, it will allow them to add an income to their wallet balance.

Figure 9 Home Page

The "Budget Plan" button, when tapped, will navigate the user to the "Budgets homepage". This is the main page that will allow the user to either create a category for a budget, view their budgets for their specific categories created, or to view all
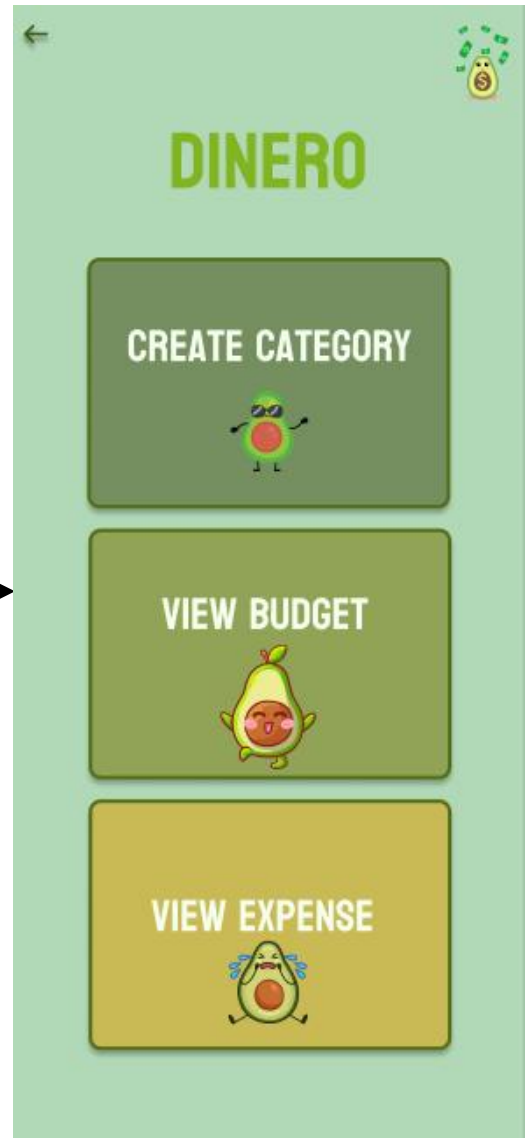

Figure 11 Home Page
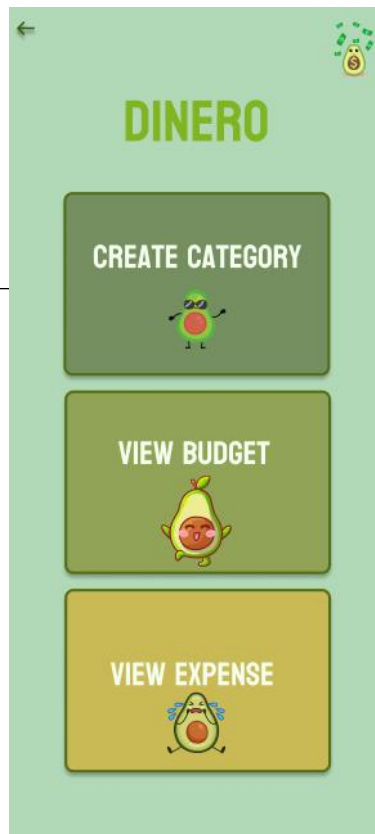

Figure 10 Budgets Homepage\

Figure 12
Budgets
Homepage

Figure 13 Add Category Page
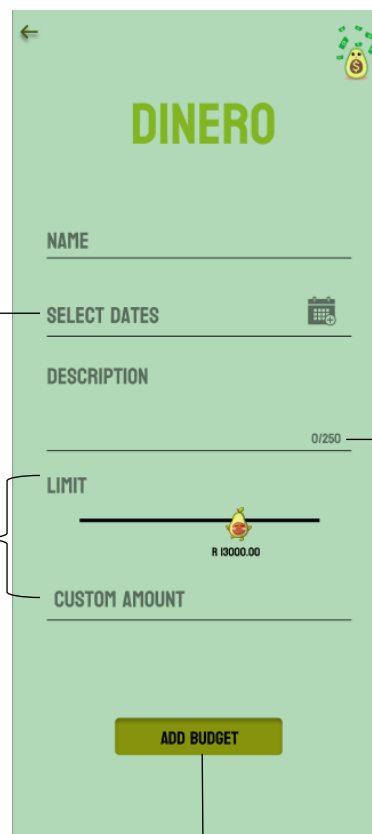

Figure 14 View Expenses Page

Figure 15 View Categories Page

On the "Create Category" page, the user is able to enter in the details of the category, such as:

- Category name
- Dates: to restrict the budget to that time frame
- Description of the category
- Budget limit (seek bar)/ custom amount

The "Select Dates" option allows the user to select the beginning and end date for the creation of the category. Ultimately the user should keep within the budget for a specific category within this timeline.

The user is able to fill in one of the options between the seek bar limit or the custom amount. The seek bar is to find a value, alternatively the user can just enter the amount manually.

Figure 16 Create Categories Page

The description is limited to 250 characters. But not limited to the use of digits or special characters.

The "Add Budget" button will save all the information of the category created and display it when the user goes to view the list of categories.
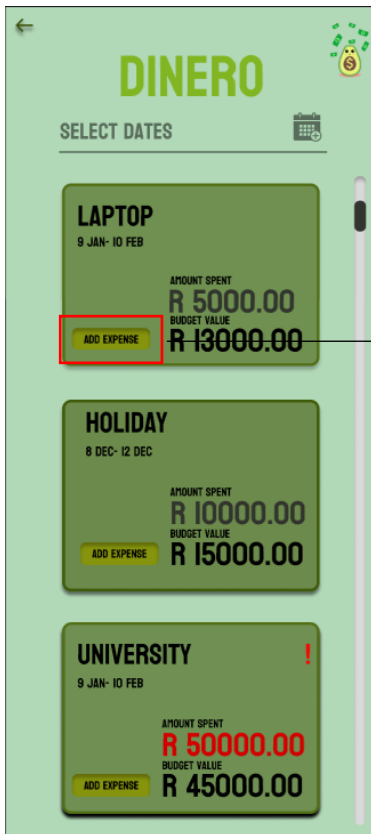

Figure 17 View Categories Page

Figure 18 View Categories Page

Tapping on the "Add Expense" button will navigate the user to the "Add Expense" page.

On this form, the user is able to attach an image of the expense they are creating, a receipt.

The description is limited to 250 characters. But not limited to the use of digits or special characters.

The user can use the seek bar to enter the amount that the expense is.

The user can select the date of the expense.

When the user taps on this button, the information will be saved and displayed when the user wants to view the expenses.

Figure 19 Add Expense Page

This is the page used to view the expenses made by the user.

These options are used for the user to filter the expenses by the date, or by the category. This will filter out the expenses and group the expenses to only display what the user wants.

This will display to the user how much they have spent over the span of 1 month. This will clearly identify how much has been spent out of the monthly budget. If the expenditure is over the monthly budget, the bar will turn from green to red, however if they are within the budget, it will remain green.

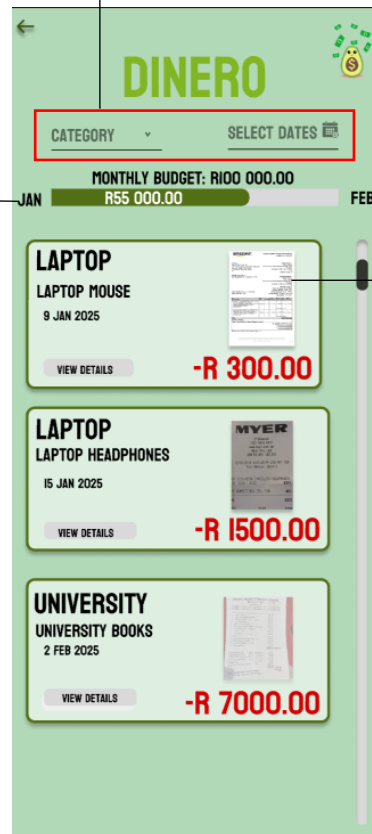This will allow the user to view the images of the receipts when they entered the expense

DINERO

CATEGORY ˅   SELECT DATES 📅

MONTHLY BUDGET: R100 000.00
JAN   R55 000.00   FEB

LAPTOP
LAPTOP MOUSE
9 JAN 2025

VIEW DETAILS   -R 300.00

LAPTOP
LAPTOP HEADPHONES
15 JAN 2025

VIEW DETAILS   -R 1500.00

UNIVERSITY
UNIVERSITY BOOKS
2 FEB 2025

VIEW DETAILS   -R 7000.00

Figure 20 View Expenses Page

This page represents the gamification element of Dinero. Tapping on the "My Goals" button on the home screen will direct the user to view their goals. There is a progress bar with ranking tiers, which will display to users what their ranking is, hopefully encouraging them to complete their goals.

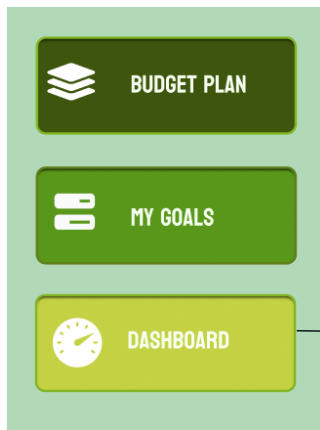*Figure 21 Home Page*

Figure 22 Goals Page
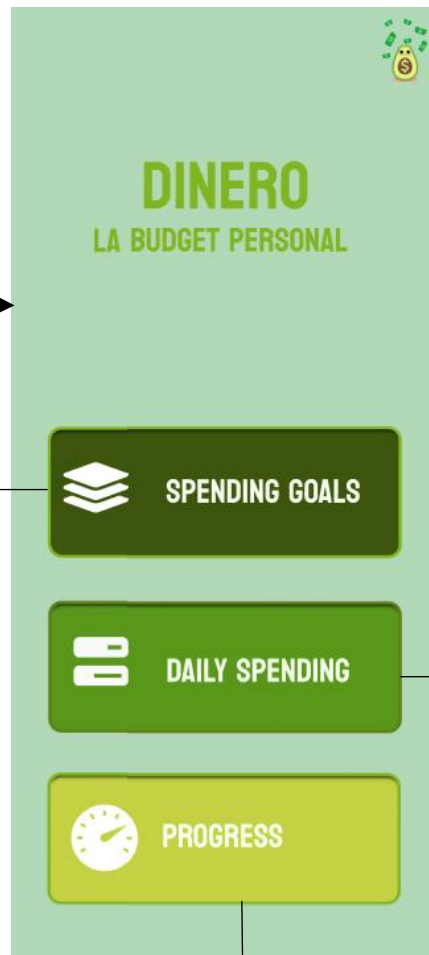
Figure 23 Snippet of Home Page

Figure 24 Dashboard Home Page

This page will allow the user to view their expenses and identify patters using a pie chart that displays all the categorized expenses. This page also has an expense summary that displays all the expenses logged by the user.

This page displays the categorized expenses logged by users in the form of a progress bar. The color of the bar changes to red when the user's expense exceeds the budget.

This page displays the user's daily spending in the form of a bar chart. This chart/graph will identify the minimum and maximum amount set by the user per category.
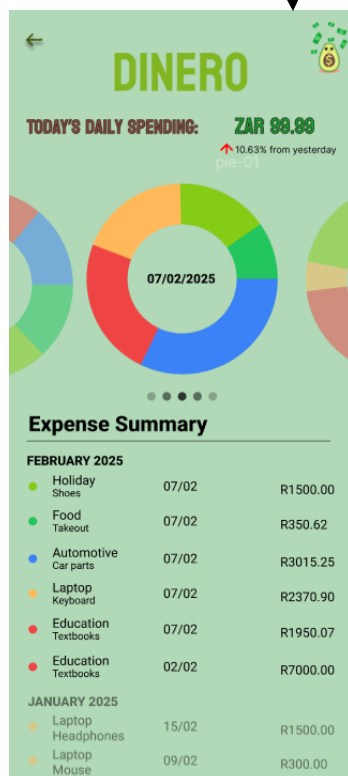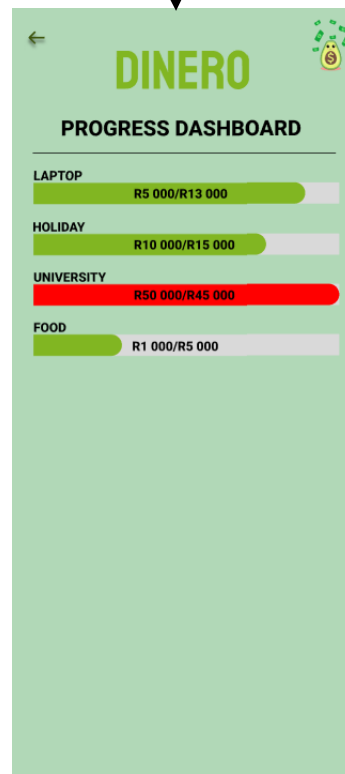

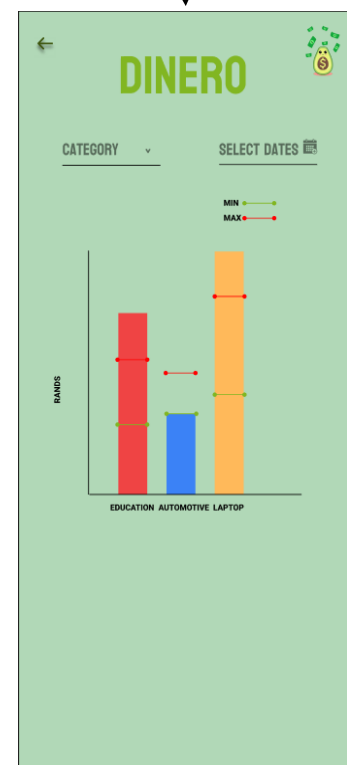*Figure 27 Daily Spending Page*

Figure 26 Progress Dashboard Page

Figure 25 Spending Goals Page

PROJECT PLAN

Click here to access the link to the Gantt chart.

We used Canva to create our Gantt chart as it allows us to have creative freedom in changing the colour scheme to match with dinero, allows us to add in the main deliverables and the subtasks for each deliverable, as well as collaborate on the one project created. The Gantt chart displays each task ID, the task name, who was assigned to the specific task (most of the tasks were completed by more than one person, the assignment is displayed making use of each of the team members initials), the duration of the task, and the diagram showing the duration on the graph. Dinero makes use of the colour green, so we decided to make us of the different variations of green in the colour scheme to easily identify and split us the 3 parts of the POE, the deliverables for each part, and the subtasks for each. Below is a snippet of part 1 of the Gantt chart:
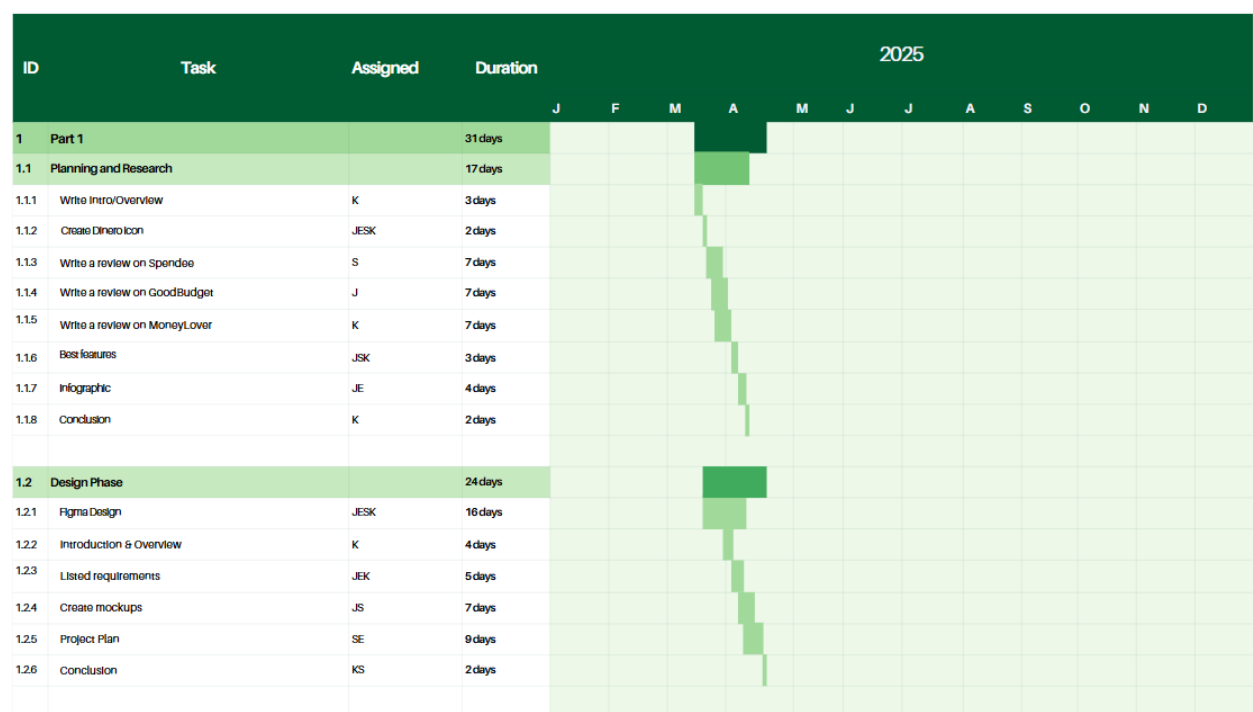
ID	Task	Assigned	Duration	J	F	M	A	M	J	J	A	S	O	N	D
1	Part 1		31 days												
1.1	Planning and Research		17 days												
1.1.1	Write Intro/Overview	K	3 days												
1.1.2	Create Dinero Icon	JESK	2 days												
1.1.3	Write a review on Spendee	S	7 days												
1.1.4	Write a review on GoodBudget	J	7 days												
1.1.5	Write a review on MoneyLover	K	7 days												
1.1.6	Best features	JSK	3 days												
1.1.7	Infographic	JE	4 days												
1.1.8	Conclusion	K	2 days												
1.2	Design Phase		24 days												
1.2.1	Figma Design	JESK	16 days												
1.2.2	Introduction & Overview	K	4 days												
1.2.3	Listed requirements	JEK	5 days												
1.2.4	Create mockups	JS	7 days												
1.2.5	Project Plan	SE	9 days												
1.2.6	Conclusion	KS	2 days												

Figure 28 Gantt Chart

(Naicker et al., 2025)

Description of the Gantt chart:

Part 1:

Part 1 of the POE has already been completed, so we used the actual start and end dates and deliverables. It has been broken up into 1.1 Planning and Research and 1.2 Design Phase. Both deliverables took a total of 25 days to complete.

1.1.   Planning and Research: The subtasks include creating a writeup for the overview of 3 applications that we researched, planning innovative features that could be implemented, and creating an infographic that details the comparison of the 3 researched applications.

1.2.   Design Phase: This phase included creating the initial prototype design, writing an overview of what Dinero entails and the list of requirements of the application, as well as an explanation of each prototype page, displaying the flow from one page to another. The last thing that needed to be completed is the Gantt chart.

Part 2:

Part 2 includes 2 deliverables which are 2.1 Frontend Development and 2.2 Backend Development. We predict that this part of the POE will take ± 27 days to complete and submit.

2.1. Frontend Development: this includes planning the next phase of the POE, assigning roles to team members, creating the pages on android studios, creating the demonstrative video, and creating the README file and adding all the source code to Github.

2.2. Backend Development: this phase includes doing the code to make each of the above pages functional. This also includes unit/user testing, adding user authorisation, crating and storing data to a local database, and implementing error handling.

Part 3:

Part 3 includes the main deliverables such as: 3.1 Firebase Implementation, 3.2 Finalising the Application, 3.3 Conduct Testing, 3.4 Creating the Demonstrative Video. We predict that this final part of the POE will take ± 32 days to complete.

1.1.   Firebase Implementation: setting up the firebase database and adding in the code to the app to connect the database in order to read and to write.

1.2.   Finalising App: Making the final adjustments to the source code and adding the final requirements to the application to make it fully functional, and lastly, creating and adding the image asset/icon of Dinero.

1.3.   Testing: conducting automated testing, finalise documentation and README file.

1.4.   Demonstrative Video: creating the video and uploading it to YouTube.

This explanation entails every detail in the Gantt chart, making it easier to understand and identify the deliverables and tasks of the project, Dinero.

CONCLUSION

In conclusion, if we follow the design plan above, we should have a good app idea on our hands to implement in a satisfactory way for dedicated customers to use. It is a necessary area for the comforting and warm style, as many people feel lost and confused in their budgeting, and the alternatives largely have a cold and corporate feel. The design created makes use of many design elements with the aim to improve user satisfaction and user experience. By making use of the green colour scheme, having a mascot called Dinero, and having good typography to improve readability will make the application easy to use without needing a tutorial. Users will come for the accessibility and stay for our impressive lineup of features. The Gantt chart created in Canva details the breakdown of all deliverables for the development of Dinero along with the expected timelines.

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