

TRAK-A-BUDGET

A Project Report

Submitted by

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Under the Guidance of

NAME OF THE GUIDE

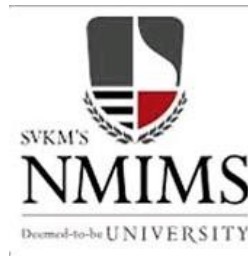
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COMPUTER ENGINEERING

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APRIL, 2020

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This is to certify that the project entitled “Trak-A-Budget” is the bonafide work carried out by Hitesh N. Soneji, Aniruddh Soman and Aniruddh Vyas of BTech, MPSTME (NMIMS), Mumbai, during the VI semester of the academic year 2019-2020, in partial fulfillment of the requirements for the Course Fundamentals of Web Technology.

Prof. Ameyaa Biwalkar

Internal Mentor

Examiner 1

Examiner 2

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CHAPTER 1. INTRODUCTION

Nowadays there are so many expenses for a working-class man. They are not able to keep track of all expenses as a result of which he has no idea of how much money he has spent and how much he has saved. Trak-A-Budget is a website that helps you set a budget and records all your expenses. It allows all sorts of users ranging from a layman to a company.

At the time of account creation user can decide if he/she wants their account for personal use or for company use. For personal use, the user can set budget for categories such as Loans, Utility Bills, Groceries etc. Companies can set budgets for up to four departments. Users can set budgets for 12 months after which it is reset. Users can also view graphs containing data of the 12 months and pie charts containing expenses of a month. Users can save all the data of the month as a report which can be downloaded as a pdf.

Using a simple UI one can track and maintain their budget and save money which can be used for further purposes. We are aiming to provide this website to people of all walks of life so that they can maintain their budget and save money which can be used fruitfully for other purposes.

CHAPTER 2. SOFTWARES USED WITH DESCRIPTION

The softwares that we have used –

- **IntelliJ IDEA**

IntelliJ IDEA is an IDE, which supports all the major programming languages.

We have used Django to build the Website with the help of this IDE. Django is a Python based framework. We have done the following things using this –

1. Backend Development :

Backend Development involves all the code required for :

- Authentication of the User:
We used the inbuilt Django authentication for login purposes and saved all the user information the Django models – Ind_Users and Org_Users .
- Reset Password:
Using Django's In-built functions we are creating a custom message with the link to reset the user's password.
- PDF Creation:
With the help of Python's library we are creating a PDF report for the user for the selected month.
- Adding Budget/Expenses:
We are fetching data from the user and updating the user information in real time.
- Fetching Data from the Database and passing it into the templates for visual purpose like creating graphs, tables, etc.

2. Frontend Development:

Frontend Development involves the code for creating the User Interface. The languages that we used for creating it are HTML, CSS and Javascript and also used the Bootstrap framework. We created the splash screen, the register and login pages, home page, the graphs – Line, Bar and Pie, profile pages, page footer, nav bar, etc. with the help of the above mentioned languages. The primary goal of frontend development is to make the website responsive and user-friendly with the help of a simple yet elegant UI.

- **XAMPP Server:**

XAMPP is is a free and open-source cross-platform web server solution stack package. XAMPP is an abbreviation for cross-platform, Apache, MySQL, PHP and Perl, and it allows you to build your site offline, on a local web server on your computer.

We have used MySQL as our Database, hence we have used XAMPP for MySQL Database management.

We have implemented 2 Databases namely:

- **Individual Users Database (Ind_Users):**
This Database stores all the information of the user like name, username, email ID and the most important all the budget details for the user. Currently we are storing one year worth of data for the budget and expense.
- **Corporate Users Database (Org_Users):**
This Database stores information of the organization like it's name, the user's username, email ID, the 4 departments selected by the user for budgeting purpose and the all the budget/expense details. Currently we are storing one year worth of data for the budget and expense and upto 4 departments.
- **GIMP:**

GIMP is a free and open source graphics editor used for image retouching and editing, free-form drawing and converting between different image formats.

GIMP is best used as an image editor, it has numerous tools for extracting features from an image (fuzzy select, colour select, free-hand select, etc.), cropping out selected content, cutting content into separate layers, allowing one to manipulate each item of interest individually. GIMP supports several colour selecting options, including palettes, colour choosers and an eyedropper tool.

Using GIMP one can combine multiple images together, choose and crop unwanted content, modify the colour of specific parts in an image, add text in any font and manipulate it.

GIMP was used to create the application logo, as well as editing the images on the login and sign up pages.

- **Adobe Illustrator:**

Illustrator is a vector graphics editor developed by Adobe Inc. Illustrator is used to create graphics such as logos, illustrations, infographics and more. Illustrator is also well equipped to create typography, and creating free-hand drawings, as well as tracing and recoloring graphics.

The primary use of illustrator is to create digital images such as diagrams, charts and logos. As the artwork is vector artwork, it can be enlarged and reduced without sacrificing image quality. This is in contrast to an application like Photoshop or GIMP whose creations are resolution dependent.

Illustrator was used to create the "About Us" content card, as well as the various gradient backgrounds and the title card, "Trak-A-Budget".

CHAPTER 3. METHODS IMPLEMENTED

The main methods/functions implemented in our Website are:

1. `Ind_register_view()` and `org_register_view()` :
This 2 functions are used to register both the type of users and the fields included during registration are name, username, password, Email ID and an additional Company Name and department names in case of corporate user. Meanwhile, an 1 excel file for individual user and 4 excel files for corporate users are also created to store all their data with 2 sheets budget and expenses.
2. `Ind_login_view()` and `org_login_view()`:
Both the functions use the in-built method `auth.authenticate()` of Django to verify the login credentials which are username and password.
3. `Home()` and `home1()`:
Both the functions are used once the individual user successfully logs in and is redirected to the home page. Once the user logs in the these functions check for the excel file created at the of registering and loads to pass values to the template which include maximum expense, total budget, total expense, remaining budget, current system month, values of each category for each month, etc. `home()` function handles the current system month and `home1()` handles this dynamically i.e according to the month that the user selects.
4. `Home_corp()` and `home_corp1()`:
Similar working as the above 2 functions, but this 2 functions are used for the corporate user and instead of just loading 1 excel file it loads all 4 excel files for the different departments. Here, `home_corp()` handles the 1st department selected at the time of registration and the current system month, while `home_corp1()` handles all the departments and months dynamically.
5. `Graph_view()` and `graph_view_corp()`:
This 2 functions are used to fetch the required data from the excel files and pass it to the templates to generate the Pie chart and Bar graph, the values passed are all the expenses for the selected month and selected department, the total budget and expenses across all the months, the month name, etc. With the help of the above values and Pyplot library of Javascript we created the the Pie chart and Bar Graph.
6. `Logout_view()`:
This method uses the in-built Django method `auth.logout()` to logout the current active individual or corporate user.

7. `Indiv_pdf_view()` and `corp_pdf_view()`:

This 2 functions are used to create a PDF report for both the type of users the PDF includes a customized report for the selected month having the user details a table depicting the expenses and budget across all categories, a Pie chart and a Bar chart for comparison of budget and expenses across the different months.

8. `Ind_profile_view()` and `corp_profile_view()`:

This functions are used to pass the user details to the relevant template o show all the necessary information.

All the functions used above have an argument `request` which is passed through a return using Django's in-built method `render` which also has an argument which is the page to be rendered.

The functions `splash()`, `about()`, `about_corp()` all of them just return the return with the required HTML page name. All this backend functions used are included in the `views.py` file.

Apart from this, we are also using some `pyplot` javascript methods/functions to create graphs and tables in the HTML pages wherever required.

CHAPTER 4. SCREENSHOTS

The flow of the Website is as follows:

Splash Screen → Welcome Page → Login or Register Page → Home Page → Graph Page or Report Generation or Profile Page or About Us page.

Additional Screenshots mentioned are for the Databases used, the Report Generated and the Django Authenticated users.



Fig.1. Logo & Splash

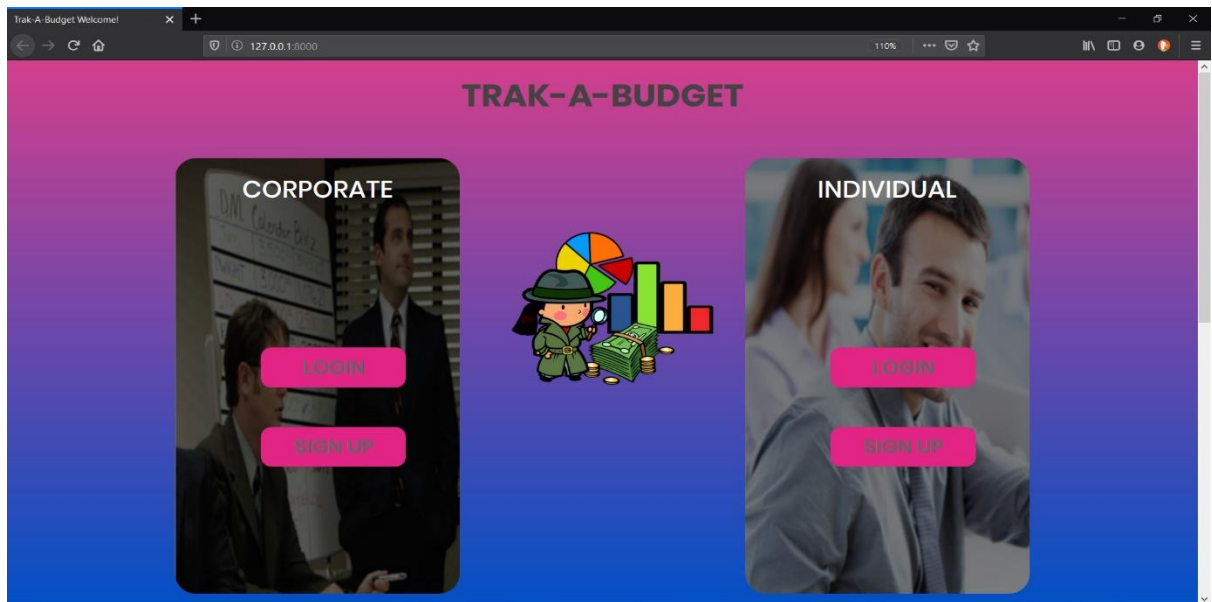


Fig.2. Welcome Page.

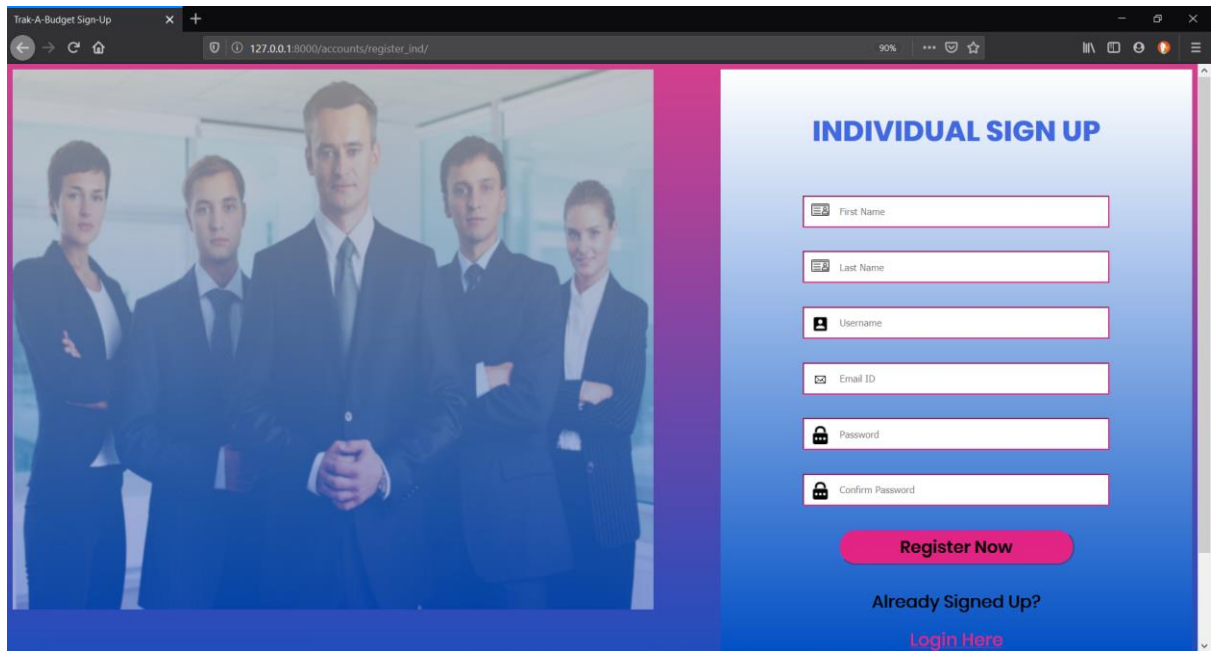


Fig.3.Sign Up Page.

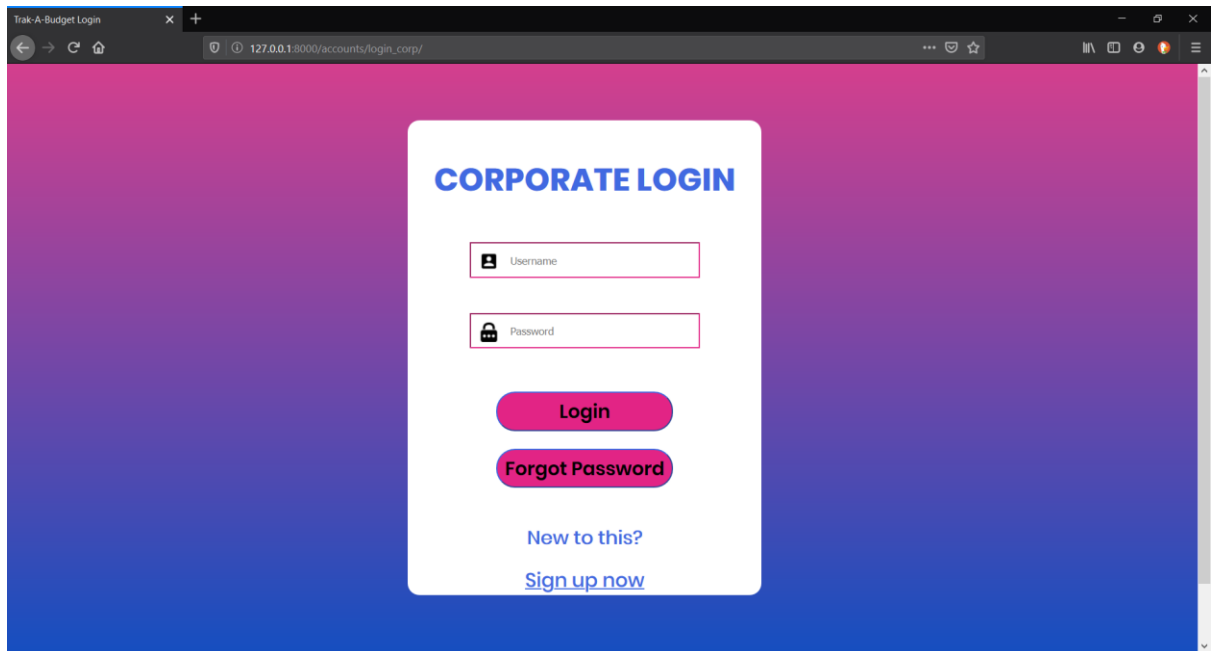


Fig.4.Login Page.

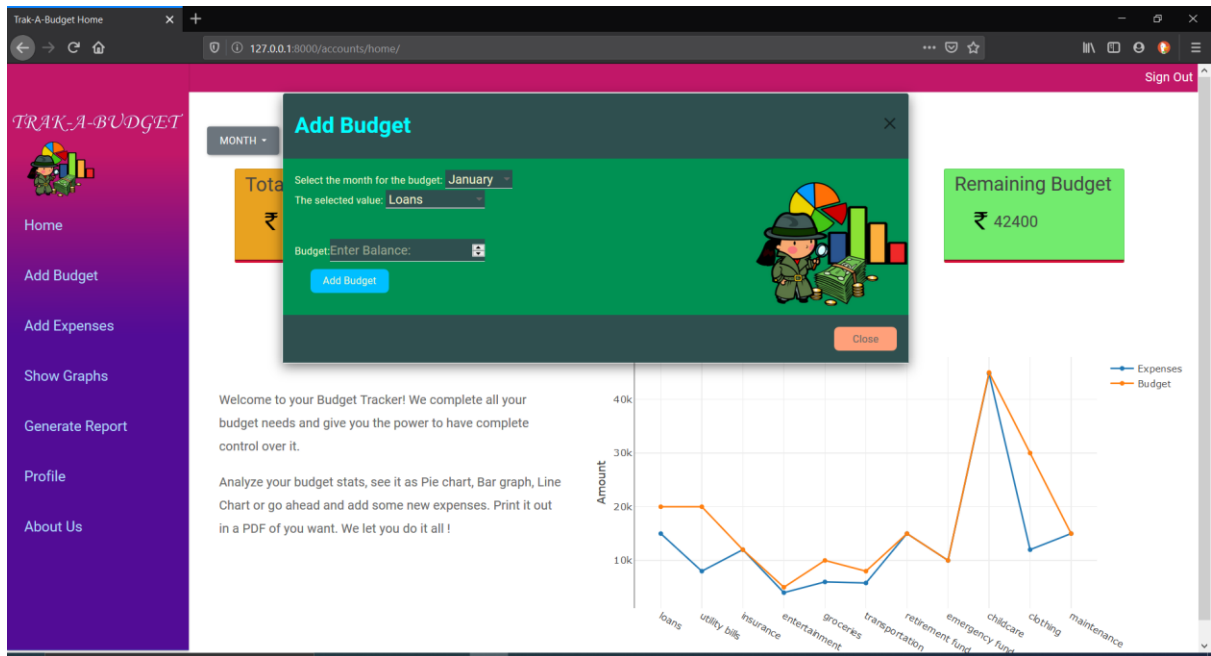


Fig.5.Add Budget/Expense Modal.

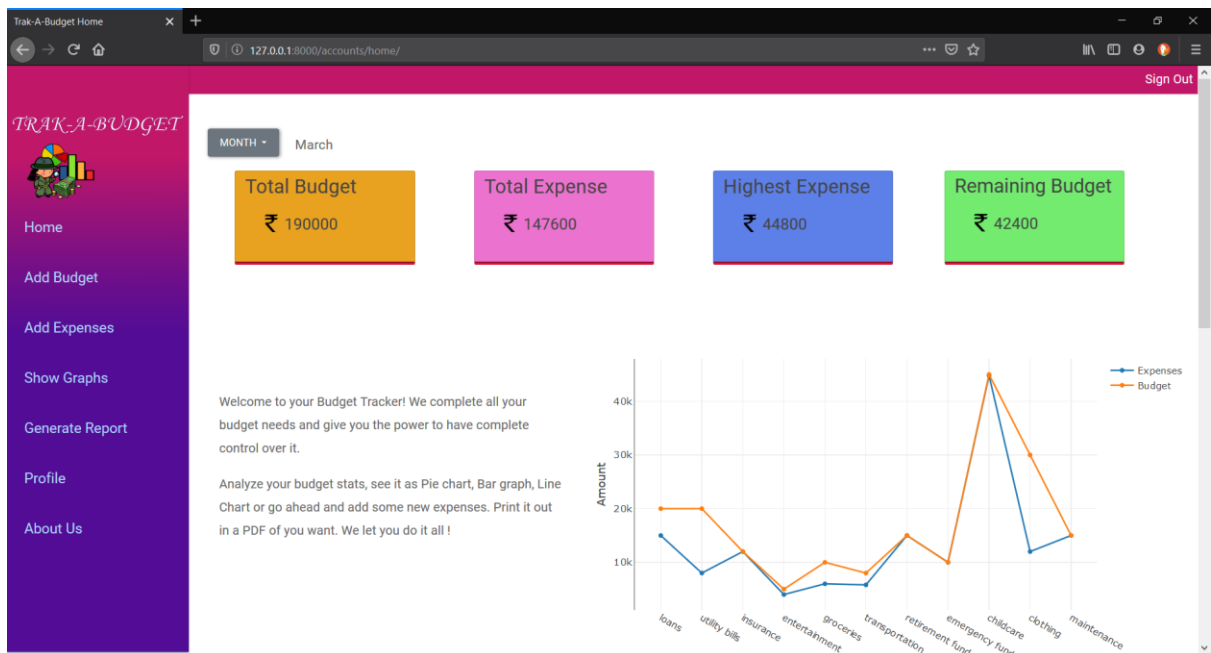


Fig.6.Home Page.

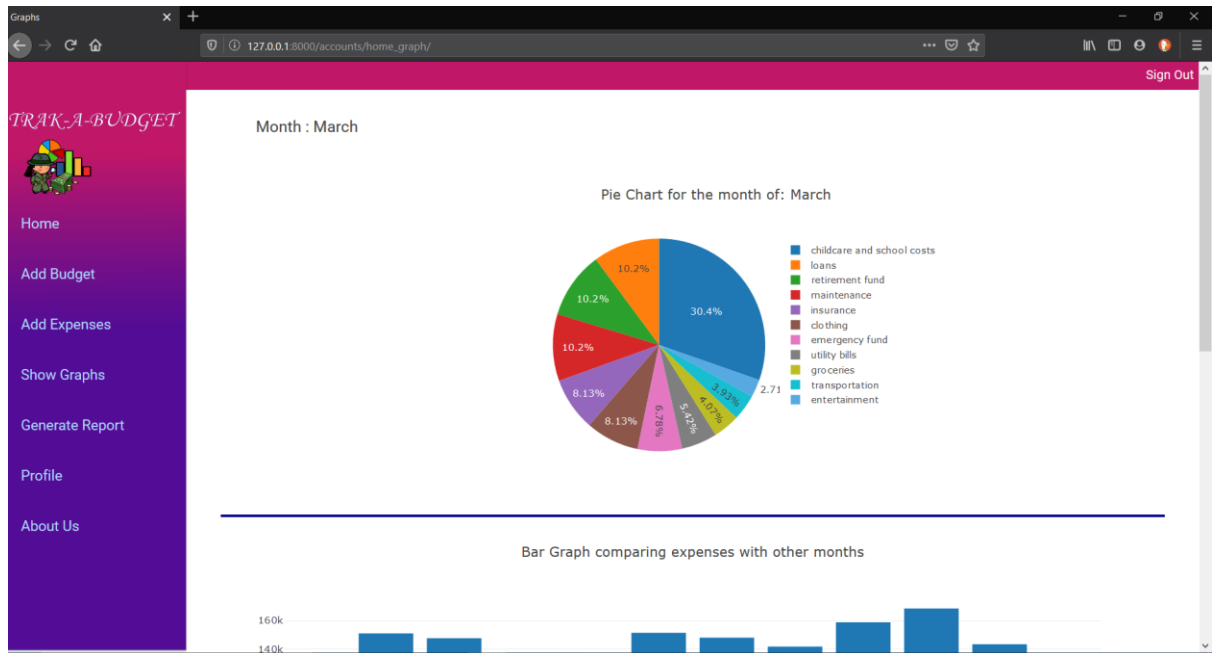


Fig.7.Graph Page (Pie Chart).

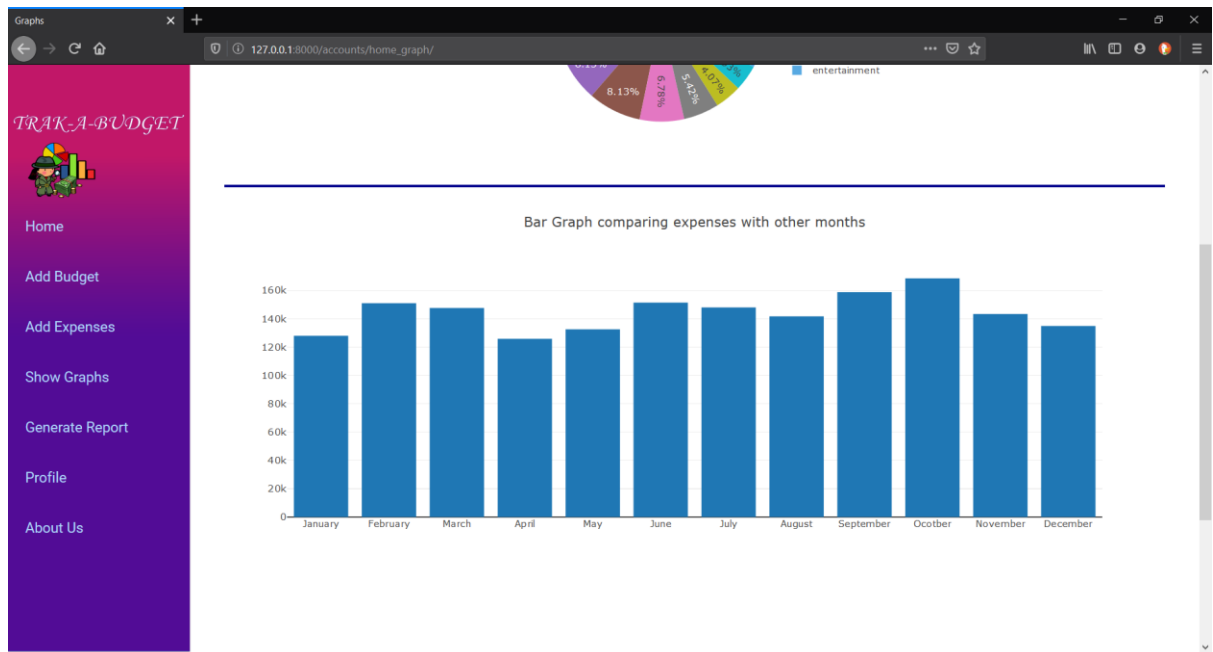


Fig.8.Graph Page(Bar Graph).

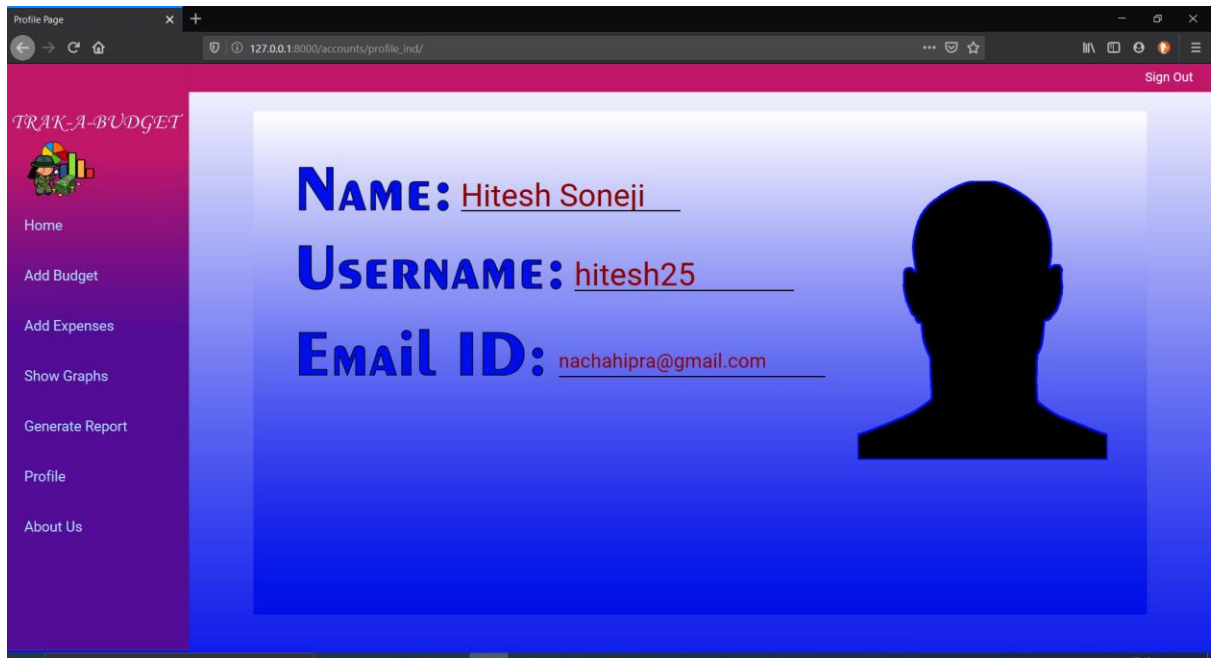


Fig.9.Profile Page.

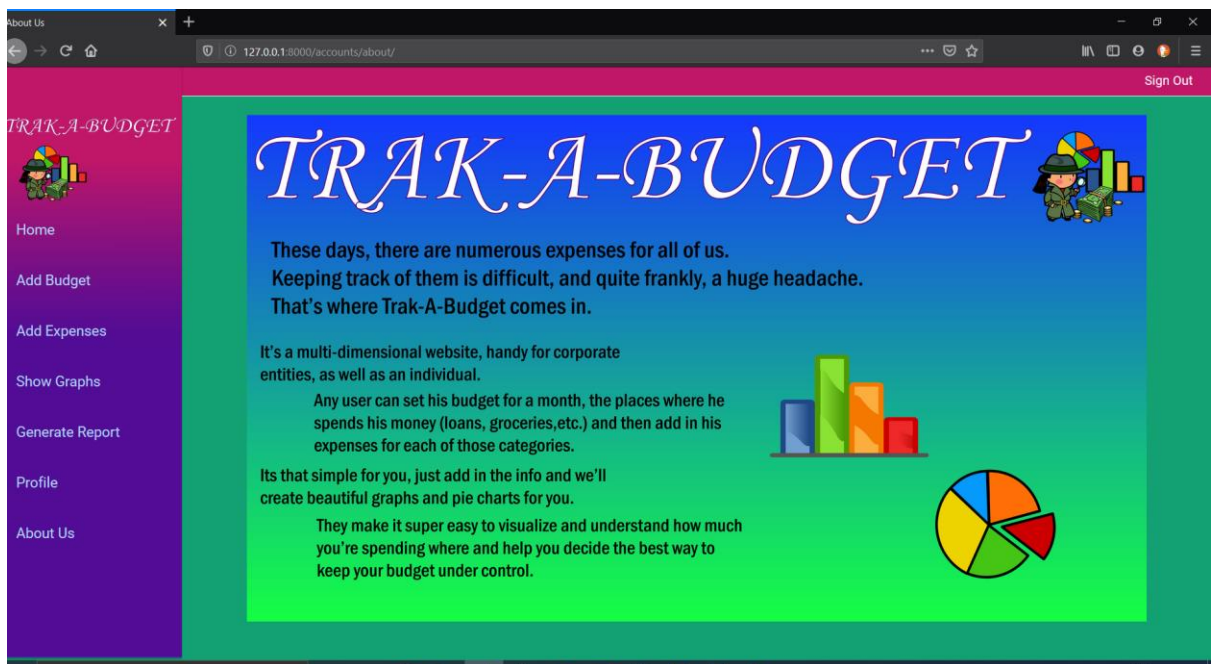


Fig.10.About Us Page.

Trak-A-Budget

Finance Handling, Made Easy

For queries, contact us at :budgettracker@gmail.com

Monthly Report

Hi hitesh25,

Here's your monthly report for the month of March.

Account Information

Name: Hitesh Soneji

Email: nachahipra@gmail.com

Username : hitesh25

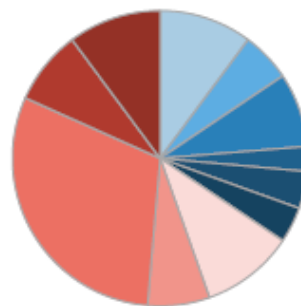
Expense for the month of March.

Table for Expenses and Budget

	Loans	Utility bills	Insurance	Entertainment	Groceries	Transportation	Retirement fund	Emergency fund	Childcare	Clothing	Maintenance	Total
Budget	20000	20000	12000	5000	10000	8000	15000	10000	45000	30000	15000	190000
Expenses	15000	8000	12000	4000	6000	5800	15000	10000	44800	12000	15000	147600

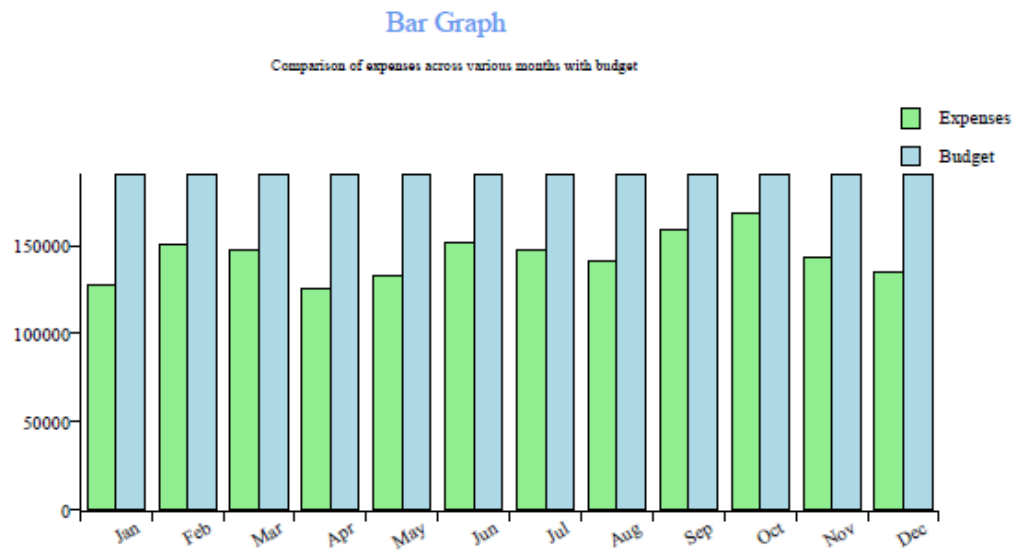
Pie Chart

Money Spent Over the Month



Loans	15000.00
Utility bills	8000.00
Insurance	12000.00
Entertainment	4000.00
Groceries	6000.00
Transportation	5800.00
Retirement fund	15000.00
Emergency fund	10000.00
Childcare	44800.00
Clothing	12000.00
Maintenance	15000.00

Fig.11.PDF Report Page 1.



Note : For any queries regarding incorrect info or wrong calculation, contact our customer care. We will get back to you shortly.

Fig.12.PDF Report Page 2.

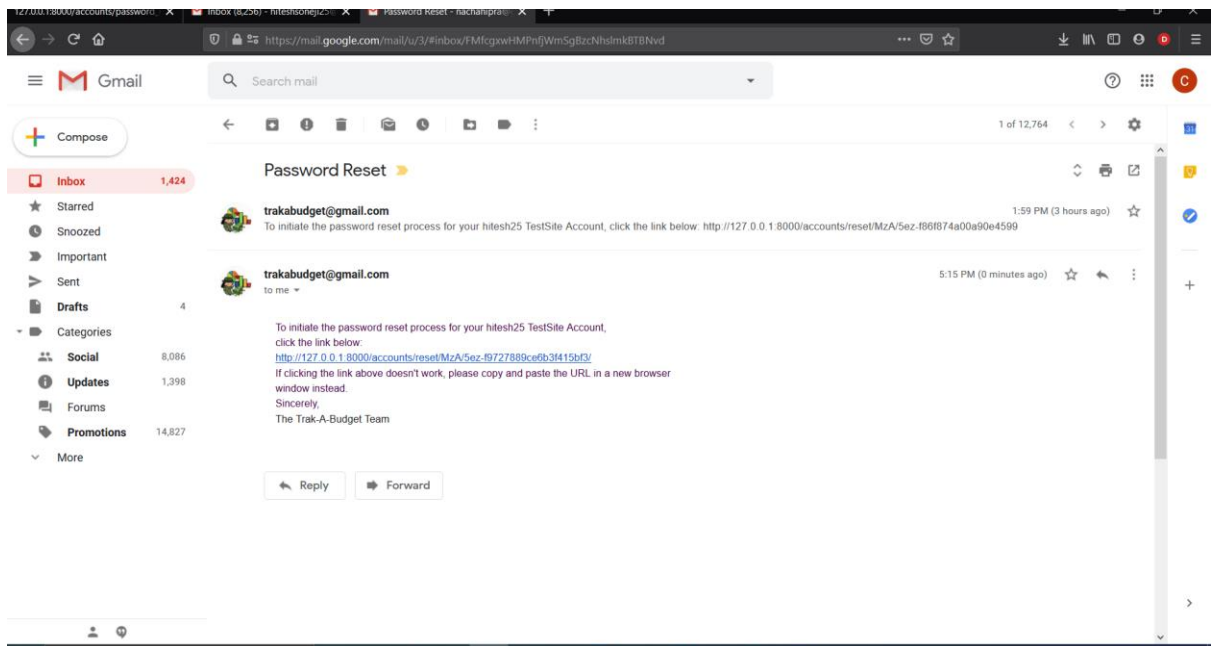


Fig.13.Password Reset Link sent to the user.

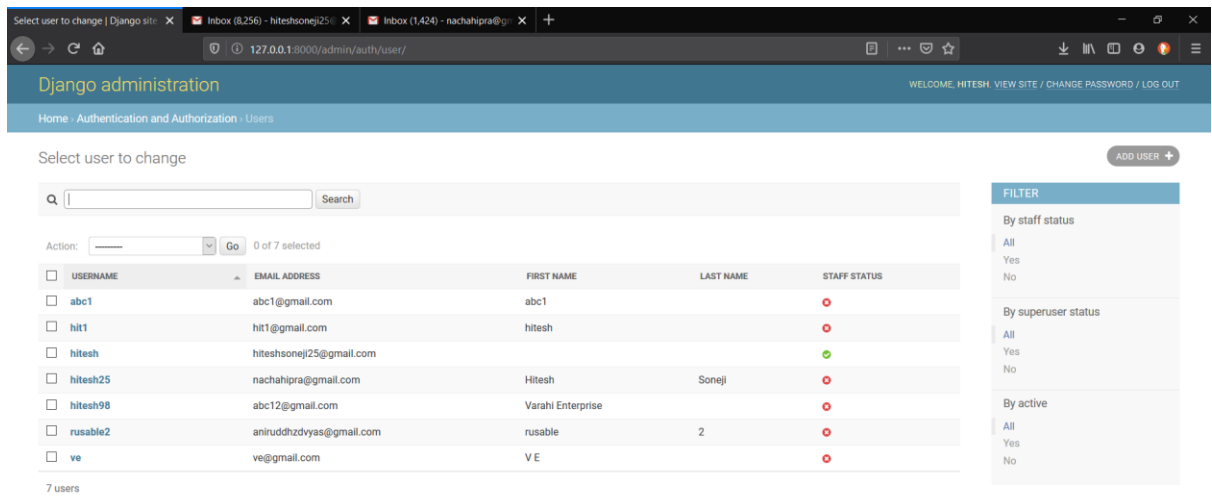


Fig.14.Django Authenticated Users List.

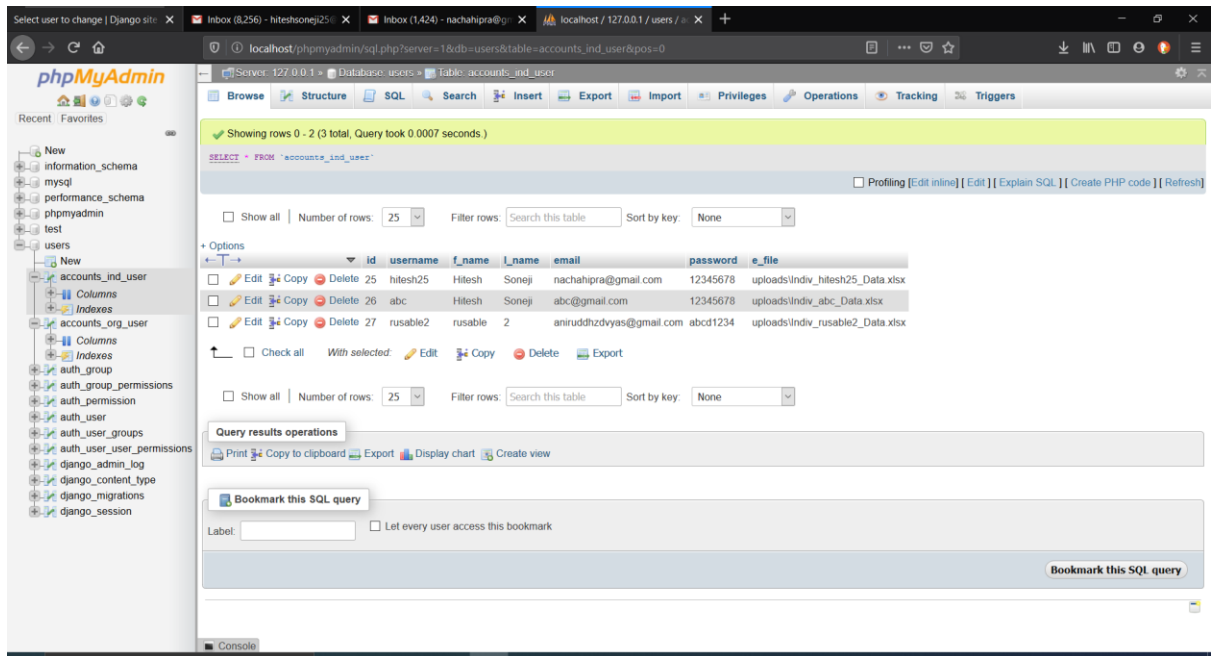


Fig.15.Individual User MySQL Database.

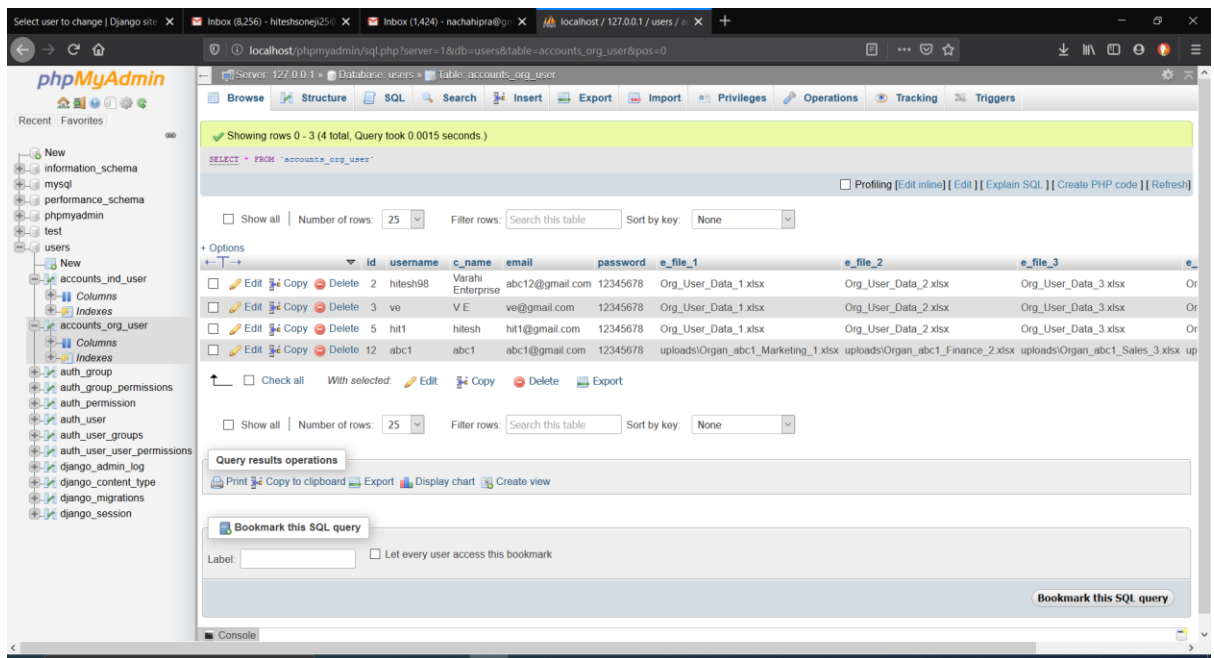


Fig.16.Corporate User MySQL Database.

CHAPTER 5. CONCLUSION AND FUTURE SCOPE

Nowadays the day to day expenditure of a working-class man is increasing exponentially. He is not able to track all his expenses to the tee. So, we came up with this website to help people with this problem.

Our website provides a simple UI which enables users to maintain their budget. It also helps them to view it graphically month wise. We hope that all people can make utmost use of this website and save as much as money as possible.

There are some features that we would like to work upon so we can try to make it into a platform that many people can use. We want to increase the number of months so the users can store data for more than one year and they can analyze their budget on a yearly basis. We also want to make the website “smart” meaning it will suggest changes to the user’s budget by analyzing their budget and helping them save even more money.

We also want to implement a leaderboard type system which would rank people according to the amount of money they have saved. We want to add a feature of importing bank updates so all transaction data can be used to update your budget faster and automatically. We want to improve the expenses adding system so the user can edit the previously added expenses can be edited easily instead of adding new expense to fix that error.

CHAPTER 6. SOCIETAL APPLICATION

Through this website, our aim is to provide people a means to maintain their budget and save their money which can be used for further purposes. We are making this website free to use because the people shouldn't have to pay money to save money.

People who are starting new businesses can also use this so they don't need spend money on accountants, they can calculate expenses themselves and use that money to improve their businesses further.

Corporations can use the budget to monitor the performance of each of its departments and assess which department is underperforming and needs a push. It also helps in communicating targets from management to employees. It can also help to provide direction and co-ordination, so that business objectives can be turned into practical reality.