1. Project Title: piggyBank

2. Project Summary: It should be a 1-2 paragraph description of what your project is.

   piggyBank is a college budget tracker web application that lets students keep track of important school expenses such as (books/supplies, rent, food, etc.). Our goal for our project is to create an application that is modern, user-friendly, and efficient for students looking for ways to manage their finances and save on costs. Our web application will execute CRUD operations such as adding data to the database, reading data from the database, updating, and deleting data.

   To distinguish our application from other products in the market, we will be following the 50/30/20 budgeting rule, which will educate students on financial literacy and will customize their budget based on long-term and short-term goals. In the 50/20/30 rule it is recommended to allocate 50% of after-tax income towards needs, 30% towards wants, and 20% towards savings and debt repayment. If the user is seen spending more on their wants, for example, they will see a modal popup window that will display a message recommending them to consider spending less on nonessential categories.

3. **Description** of an application of your choice. State as clearly as possible what you want to do. What problem do you want to solve, etc.?

   The problem we identified is that many college students are too busy to look closely into their finances while they are in school, but they also worry about costs, and overspending on nonessential things. We want to help students become aware of their financial habits, gain more control of their money, and have more confidence in their ability to manage their finances.

   To solve this problem, we will prioritize making the budget tracker page easy to view so that users can easily see where their money is going, if they are following their budget, their top monthly expenses and how they compare to other students based on specific categories (such as comparing the amount of money they spent to other students within the same age group, major, location or other factors).

4. What would be a good creative component (technically challenging function) that can improve the functionality of your application? (What is something cool that you want to include? How are you planning to achieve it?)

   Something cool or creative that we want to include in our application that can improve the functionality is to have a comparison model where students can compare with other students (when the data is available) for spendings in similar categories. This would allow students to see their spending habits compared to other students. To accomplish this, we would have the user add their expenses and then based on specific attributes of

their expense, it would compare similar expenses from other students that are similar to the user. Another creative component that we want to add to the application would be having recommendations for students who may spend over their budget. We will use the 50-30-20 Rule as the basis for their spending and for recommendations. If students go over this rule, we will display a message letting them know about their spendings and a recommendation to help them. We will also link educational resources for additional budgeting recommendations.

5. **Usefulness**. Explain as clearly as possible why your chosen application is useful. What are the basic functions of your web application? (What can users of this website do? Which simple and complex features are there?). Make sure to answer the following questions: Are there any similar websites/applications out there? If so, what are they, and how is yours different?

   Our application is useful for a multitude of reasons. Primarily the application is useful because it deals with student financial data. Finances are a touchy topic with many individuals across the planet, especially students. By creating an application that helps students manage and track their finances can help alleviate the pressures of affording college. Our application allows students to input their monthly expenses while in school. Although this is a basic feature, it is highly useful because just being cognizant of one's expenses can help them save better. Another benefit of our application is that the users will be able to compare their spending habits against individuals with similar demographics. A user will be able to input their age, major, gender, and if they are living on campus. Then the user will be able to see how they compare to individuals with similar characteristics such as themselves. These data will undoubtedly help the user understand how they compare to the average student with the same characteristics. Comparing themselves to other students will help the student realize if they are over spacing money on a category other students have found a way to save on.

   The basic functions of our application are that a user can input and track their own monthly expenses. The user can also compare their spending habits against other students in America. There will be multiple filters in the data so that individuals can look at spending data based on the categories the user chooses, such as, filtering by major or living situation. Additionally, if it is known that the user has gone over budget, then we will notify the user and that the user should consider spending less on certain categories. PiggyBank app will suggest money saving resources based on what category they have increased spending in.

   The more complex features that we will have is the addition of recommendations based on individual spending habits. The recommendations will be catered based on the individual and only recommended if their spending is above the average. The closest website to our application would be the UIUC grade disparity website. This website sorts all the courses that students take and calculates the average GPA for each course/professor. The grade disparity website is tremendously helpful because it can

help students identify which classes are easy and which ones are difficult. Our application is going for the same effect except instead of grade data we are looking at spending data. In terms of budgeting websites or applications that are available, NerdWallet and YNAB would be very similar to what we would create, but they are also different from our initial concept because they don't cater to a specific group. PiggyBank will specifically focus on creating a web application useful to college students.

6. **Realness**. We want you to build a real application. So, make sure to locate real datasets. Describe your data sources (Where is the data from? In what format [csv, xls, txt,...], data size [cardinality and degree], what information does the data source capture?). It would be hard to satisfy stage 2 requirements with one dataset. Thus, **we strongly recommend identifying at least two different data sources for your project.**

   The first dataset is from Kaggle in a csv format and was collected in an open source survey for study. The cardinality of the dataset is 83 and the degree is 13. It captures the monthly expenses of both off-campus and on-campus students based on gender, age, year of study, housing status, scholarship status, part time job, transportation, smoking habits, drinking habits, games and hobbies, cosmetics and self care, monthly subscription, monthly expenses. The second dataset is from Kaggle in a csv format, and was also collected in a survey for study. It has a cardinality of 210 and a degree of 20. It includes information about expenses based student age, gender, education level, monthly income, accommodation, utilities, grocery shopping, takeaways and dining, public transportation, vehicle maintenance, tuitions fees, books and supplies, online courses and subscriptions, clothing, entertainment, health and medical expenses, memberships, mobile and broadband bills, and total monthly expense. The third dataset is also from Kaggle in a csv format with a cardinality of 1000 and a degree of 18. It captures data about student gender, age, year in school, major, monthly income, financial aid, tuition, housing, food, transportation, books and supplies, entertainment, personal care, technology, health and wellness, miscellaneous, and preferred payment methods.

   https://www.kaggle.com/datasets/shariful07/nice-work-thanks-for-share

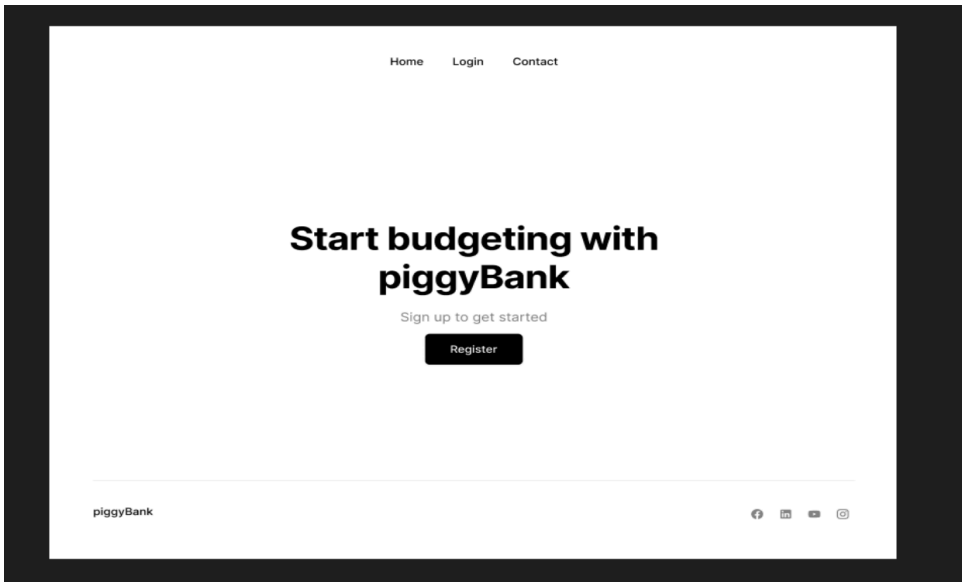
   https://www.kaggle.com/datasets/kunalsolanki13/uk-student-montly-expenses-for-budgeting

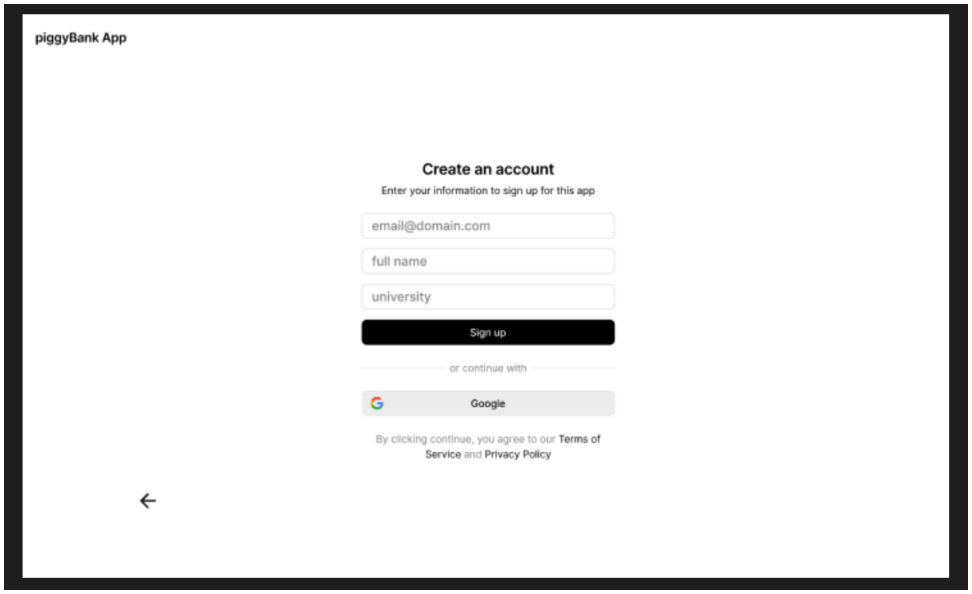
   https://www.kaggle.com/datasets/sumanthnimmagadda/student-spending-dataset

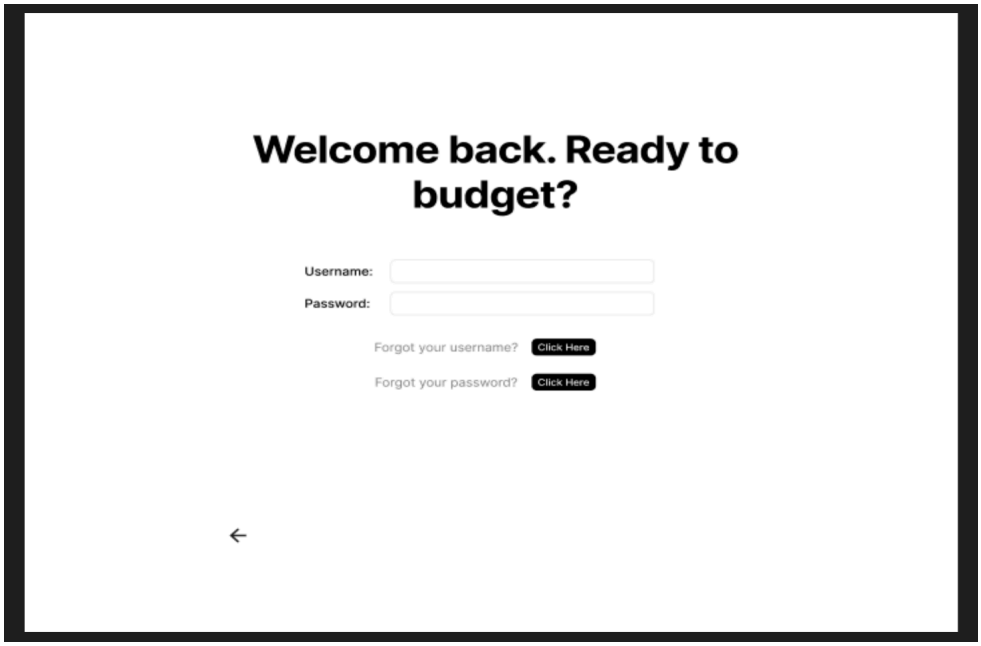
7. A detailed description of the **functionality** that your website offers. This is where you talk about what the website delivers. Talk about how a user would interact with the application (i.e., things that one could create, delete, update, or search for). **Read the requirements for stage 4 to see what other functionalities you want to provide to the users.** You should include:
    1. **A low-fidelity UI mockup**: What do you imagine your final application's interface might look like? A PowerPoint slide or a pencil sketch on a piece of paper works!
    2. **Project work distribution**: Who will be responsible for each of the tasks or subtasks?
       Explain how backend systems will be distributed across members. Be as specific as possible as this could be part of the final peer evaluation metrics.

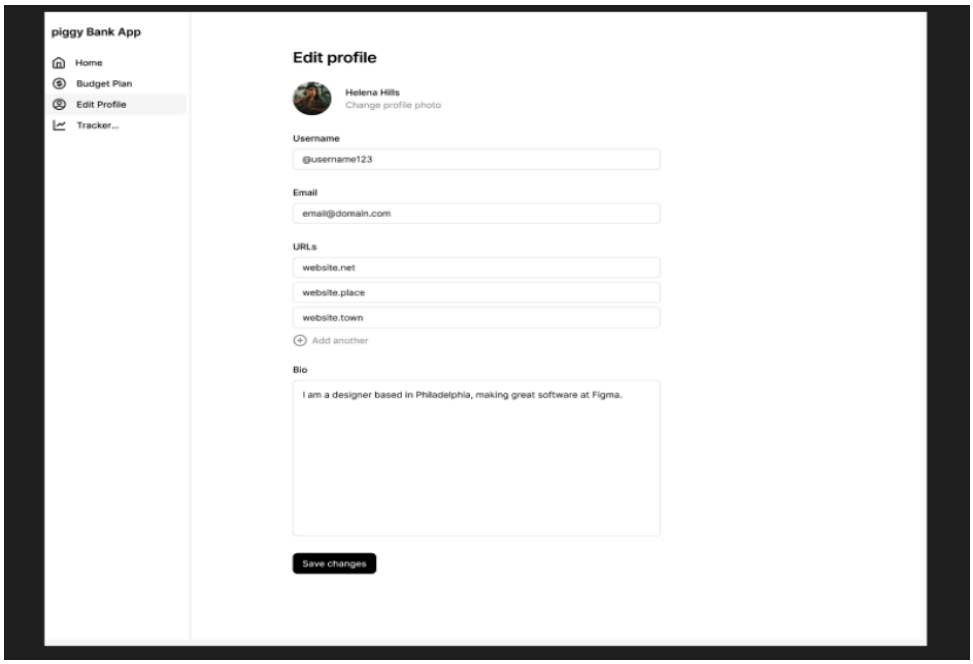
The piggyBank website will allow students to register and login into their accounts, and set up their profile. Users will be able to add (create), modify (update), and remove (delete) income and expenses in various categories. Specific expenses can be identified by searching in categories. They will also be able to set financial goals and will receive alerts when these goals are met. Additionally, users can compare their expenses with other students that are similar to them based on factors such as age, gender, scholarship status, housing status, and more.

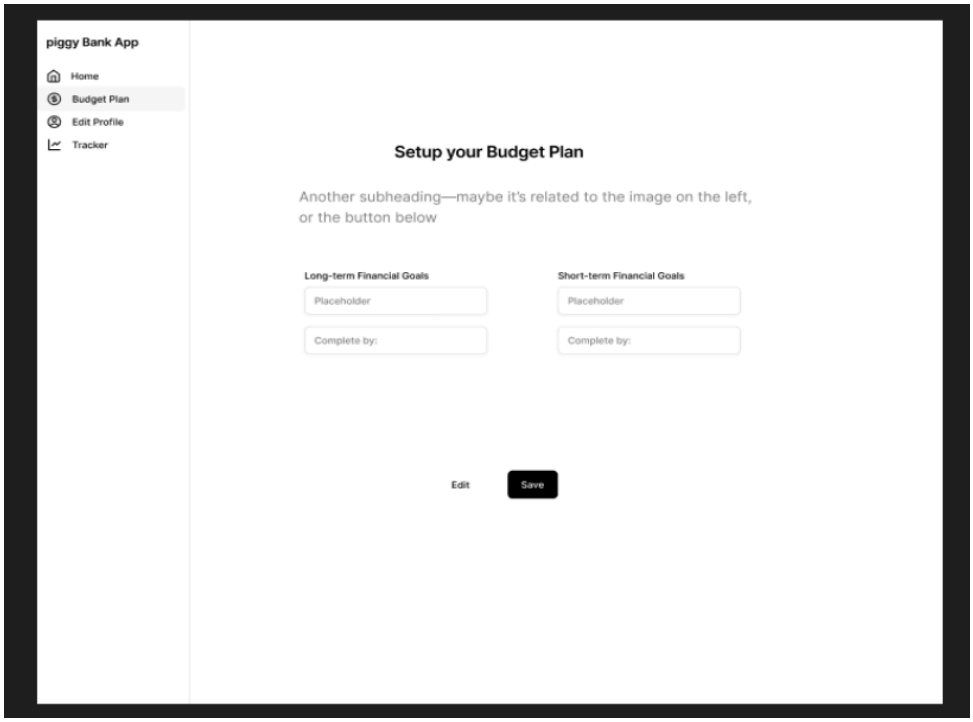
1. Mockup:

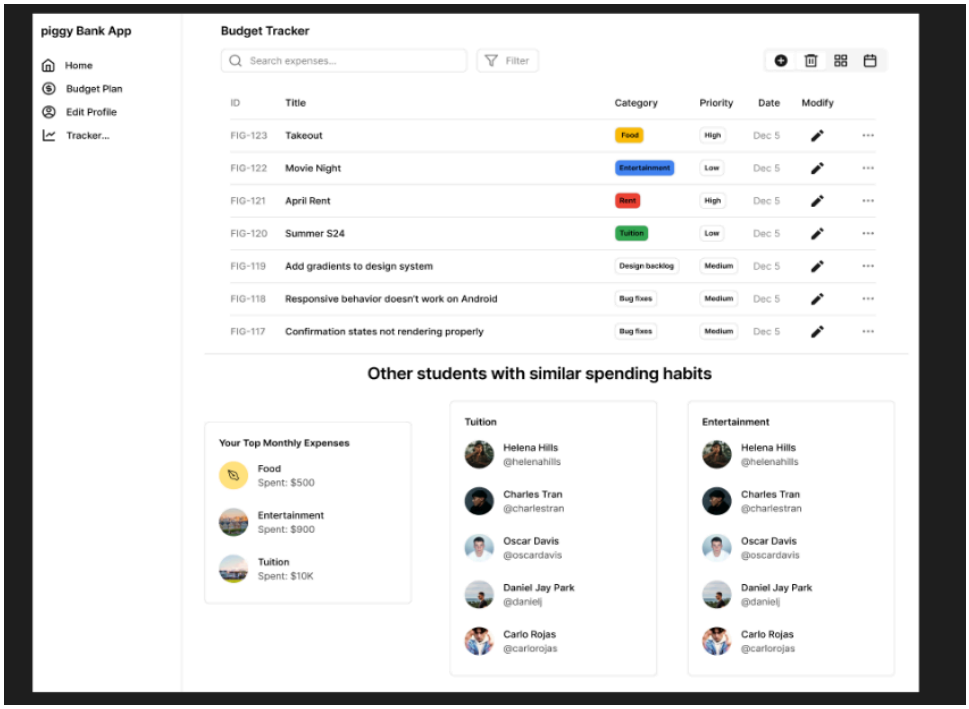


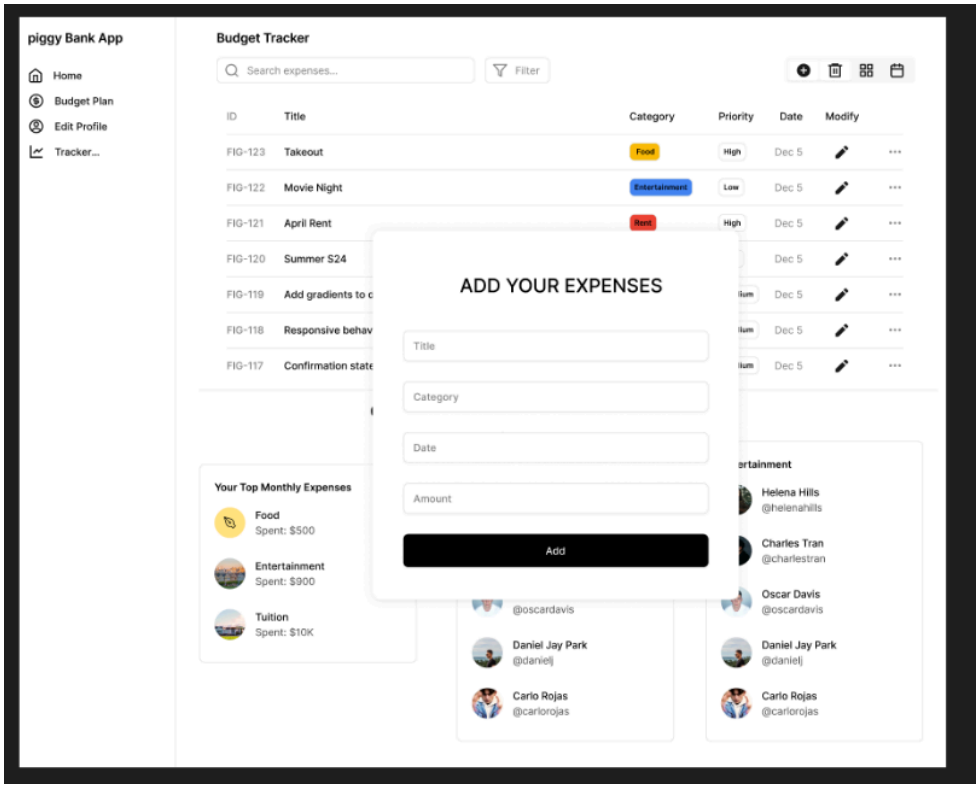

piggyBank App
Create an account
Enter your information to sign up for this app
email@domain.com
full name
university
Sign up
or continue with
Google
By clicking continue, you agree to our Terms of Service and Privacy Policy


Welcome back. Ready to budget?
Username:
Password:
Forgot your username?
Click Here
Forgot your password?
Click Here


piggy Bank App
Home
Budget Plan
Edit Profile
Tracker...
Edit profile
Helena Hills
Change profile photo
Username
@username123
Email
email@domain.com
URLs
website.net
website.place
website.town
Add another
Bio
I am a designer based in Philadelphia, making great software at Figma.
Save changes


piggy Bank App
Home
Budget Plan
Edit Profile
Tracker
Setup your Budget Plan
Another subheading—maybe it's related to the image on the left, or the button below
Long-term Financial Goals
Placeholder
Complete by:
Short-term Financial Goals
Placeholder
Complete by:
Edit
Save


piggy Bank App
Home
Budget Plan
Edit Profile
Tracker...
Budget Tracker
Search expenses...
Filter
ID
Title
Category
Priority
Date
Modify
FIG-123 Takeout Food High Dec 5
FIG-122 Movie Night Entertainment Low Dec 5
FIG-121 April Rent Rent High Dec 5
FIG-120 Summer S24 Tuition Low Dec 5
FIG-119 Add gradients to design system Design backlog Medium Dec 5
FIG-118 Responsive behavior doesn't work on Android Bug fixes Medium Dec 5
FIG-117 Confirmation states not rendering properly Bug fixes Medium Dec 5
Other students with similar spending habits
Your Top Monthly Expenses
Food
Spent: $500
Entertainment
Spent: $900
Tuition
Spent: $10K
Tuition
Helena Hills @helenahills
Charles Tran @charlestran
Oscar Davis @oscardavis
Daniel Jay Park @daniel|
Carlo Rojas @carlorojas
Entertainment
Helena Hills @helenahills
Charles Tran @charlestran
Oscar Davis @oscardavis
Daniel Jay Park @daniel|
Carlo Rojas @carlorojas



2. Task Distribution - All team members will work on backend systems together, but the four main parts of our project will be led by specific members.

   Website Frontend Design: Jennifer Martinez (Design the frontend of the website but also connect the frontend to the backend)

   User Database Design: Brian Yoon (Implement the database depending on the data the user saves on their account)

   Kaggle Data Handling: Saavani Vaidya (Make sure the data from the Kaggle database is implemented correctly and has established relationship with others)

   Expenses/Finances Handling: Danny Tregubenko (Perform calculations around the expenses and finances of the users)

   To divide the project in an equitable and fair way we will gather and sort ourselves based on strengths and interests. Some of our team members have more experience in front end design while others are more proficient in the backend aspects of the projects. We want everyone in our team to have a good learning experience they could look back on so we will have everyone. responsible for designing, implementing, and maintaining the database. When it comes to specific task such as the user interface or the front end we will have

Jenny and Daniel working together. For the backend implementation of connecting our data source, Daniel and Saavani will be responsible. The database aspect of the backend implementation would be handled by Saavani and Brian. Connecting the interface with the backend will be the responsibility of Jenny and Brian.