



GROUP 5
ASM1 APPLOCATION DEVELOPMENT

CAMPUS EXPENSE MANAGER

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SCENARIO ISSUES AND SOLUTION

SCNERAIO ISSUE

University students often struggle to effectively manage their expenses and stay within their budgets because they lack a convenient tool to track their expenses, set budgets, and understand their financial habits. As a result, college students may face problems such as:

**INCREASED
FINANCIAL
PRESSURE AND
STRESS**

**REDUCED
QUALITY OF LIFE**

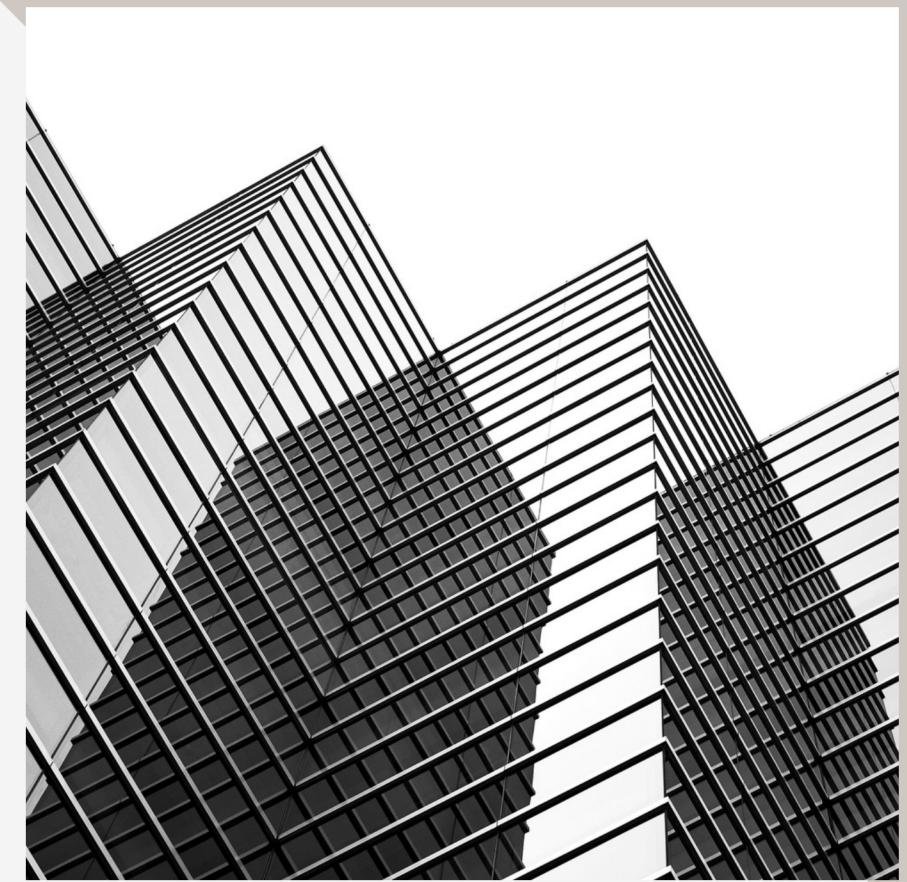
**LIMITED
LEARNING AND
DEVELOPMENT
OPPORTUNITIES**



SOLUTION

CampusExpense Manager is an expense management app that helps students track their income and expenses according to different categories

CampusExpense Manager is designed specifically for college students. The goal is to develop an easy-to-use application that helps students manage spending effectively and save money.





GOALS & OBJECTS

GOALS

Develop an easy-to-use expense management application that helps college students track income and expenses, set budgets, view spending overviews, add recurring expenses, create expense reports, and Receive spending notifications.

OBJECTS



Targeting university students, including both boarding and non-resident students, is a group of people who have a high need for spending management, but lack experience and skills in financial management.

FUNCTIONAL REQUIREMENTS

- Register
- User authentication
- Expense Tracking
- Budget settings

- Expense overview
- Recurring Expenses
- Expense reports
- Cost notifications

Function

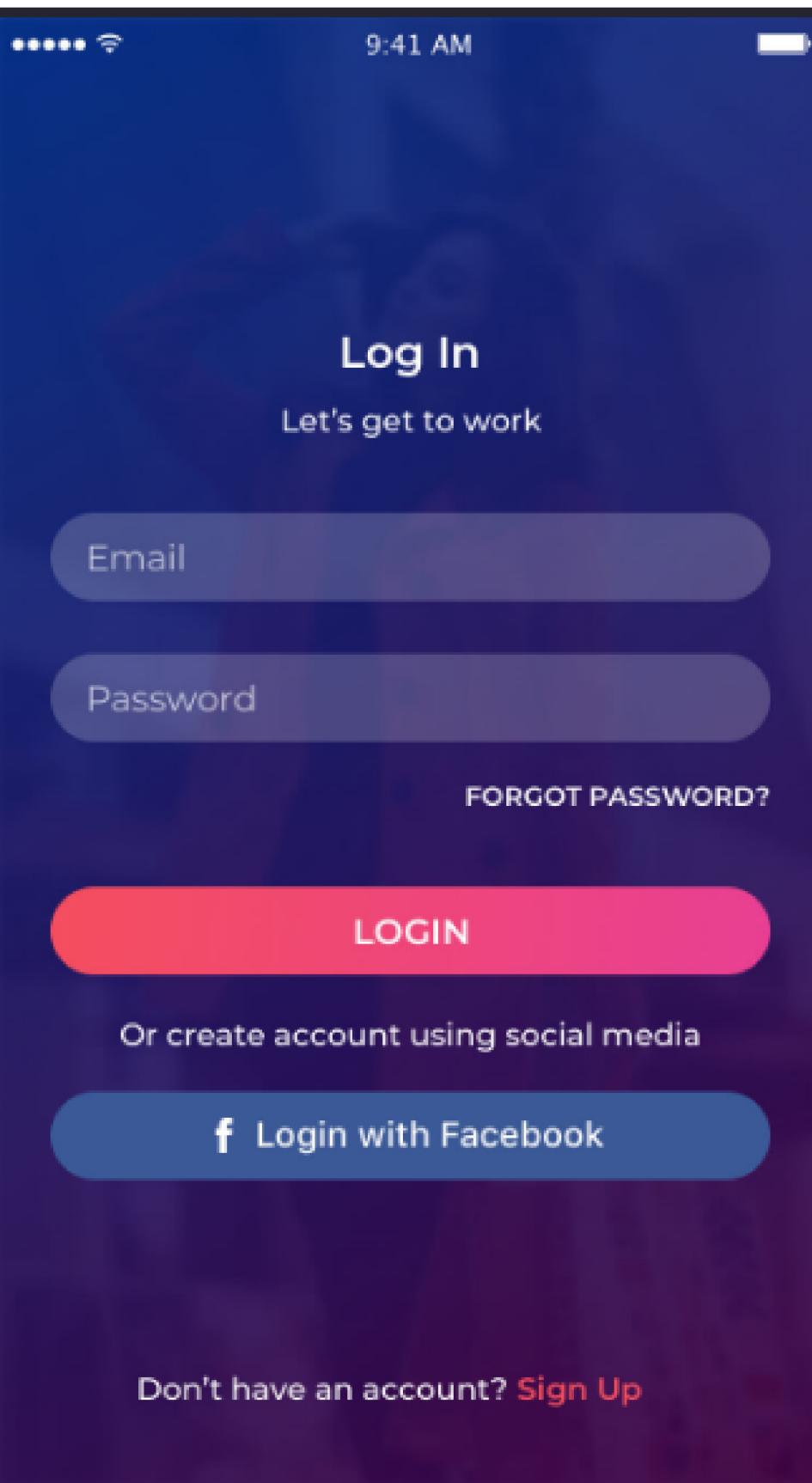
Requirement

● User registration and authentication

Allows users to create an account with a username and password, and log in to access their expense data. Make sure the authentication process is secure and only authorized users can access the data.

● Expense Tracking

Allows users to add, edit, and categorize expenses by category. The application must allow users to view and manage spending easily and conveniently.



● Budget settings

Allows users to set monthly and weekly budgets for each type of expense. Alerts when budget limits are near or exceeded. Users adjust budget amounts as needed.

● Expense overview

Provides a summary of monthly expenses, total spend, remaining budget, and breakdown by category. Provide graphs of spending habits and trends over time, such as pie charts, bar charts, line charts, etc.

● Recurring Expenses

Allows users to add recurring costs with start and end dates. The app automatically adds these expenses to the user's monthly budget and reminds them of upcoming payments.

FUNCTION REQUIREMENT

EXPENSE REPORTS

Allows users to create detailed expense reports for specific time periods, such as monthly or yearly. Reports must include a breakdown of income and expenses by category, comparing actual expenditures with budgeted amounts. The app must also allow users to export or share their reports via email, social networks, or cloud services.

COST NOTIFICATIONS

Send reminders or notifications to users when they reach or exceed budget limits for specific categories. The app must also provide feedback on users' budget performance and progress, offering advice on how to improve their financial situation.



Performance

The application must provide a smooth and responsive user experience, even when there is a large amount of data spent. Apps must optimize the speed and efficiency of data processing and storage, and minimize device resource consumption.



User-friendly interface

Mobile apps are often thought of as the opposite of a desktop app running on a desktop computer, and a web app running on the device's web browser



Platform compatibility

Apps should be developed for both Android and iOS platforms to reach a wider user base. The app should also ensure a consistent user experience across different devices and screen sizes.



Non-functional Requirements



Non-functional Requirements



Data security

User data, including spending and budget information, needs to be stored and protected securely with encryption. Personal information security practices should also be followed to ensure user information is kept confidential and not shared with third parties without consent.



Feedback and support

Apps should include an in-app feedback form for users to report issues or make suggestions. Must monitor user feedback and resolve issues promptly. The app should also provide users with help or guidance on how to use the app's features effectively.



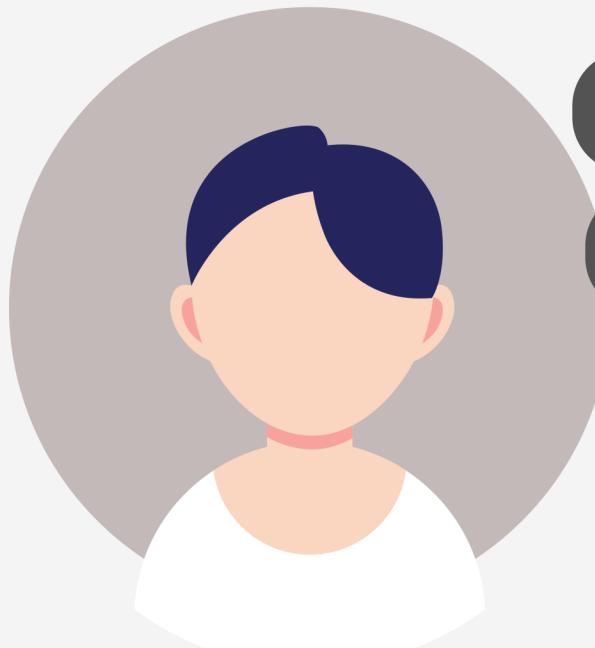
Monetization (Optional)

Monetization features, such as in-app ads or premium features, can be explored in future updates. However, initial development should prioritize the core spend management function. Monetization methods should also be ethical and transparent, and not reduce user experience or retention.

SKATEHOLDER



PRIMARY STAKEHOLDER

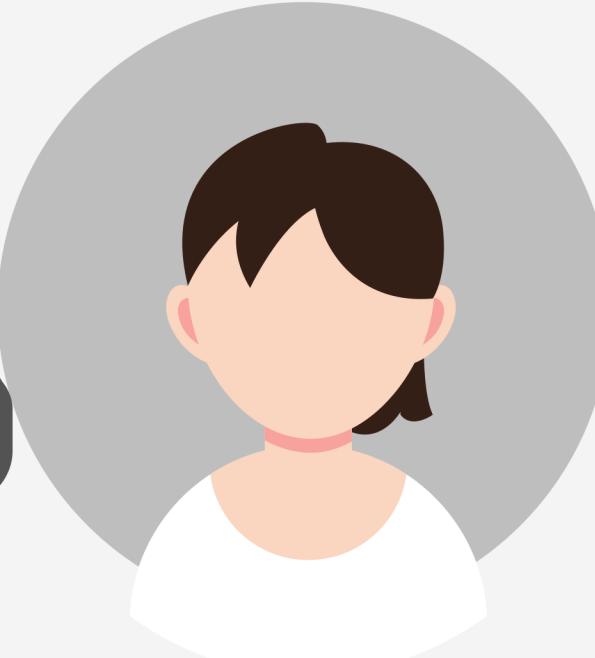


STUDENT

WHICH ARE THE PRIMARY USERS OF THE APPLICATION
AND THEIR NEEDS SHOULD BE A TOP PRIORITY

PARENTS AND GUARDIANS

PARENTS AND GUARDIANS ARE CLOSELY INVOLVED IN
SUPPORTING THEIR CHILD'S EDUCATION FINANCIALLY.



PRIMARY STAKEHOLDER



EDUCATIONAL INSTITUTIONS

COLLEGES AND UNIVERSITIES HAVE A VESTED INTEREST IN PROVIDING
FINANCIAL RESOURCES AND SUPPORT TO THEIR STUDENTS

DEVELOPERS AND DESIGNERS

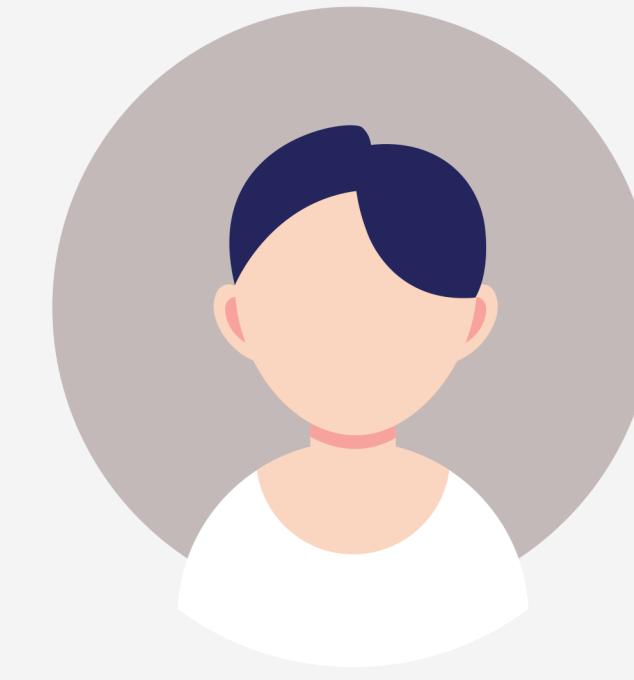
THE DEVELOPMENT TEAM AND DESIGNERS ARE RESPONSIBLE
FOR CREATING AND MAINTAINING THE APPLICATION, WHICH
HEAVILY IMPACT THE SUCCESS OF THE PROJECT



SECONDARY STAKEHOLDER



FINANCIAL INSTITUTIONS



ADMINISTRATORS

BANKS AND CREDIT CARD COMPANIES THAT INTEGRATE WITH THE APPLICATION CAN OFFER TAILORED FINANCIAL SERVICES TO STUDENTS.

CAMPUS ADMINISTRATORS, INCLUDING FINANCIAL AID OFFICERS AND BURSARS, PLAY A ROLE IN MANAGING STUDENT FINANCES.

TERTIARY STAKEHOLDERS:



GOVERNMENT AND REGULATORY BODIES

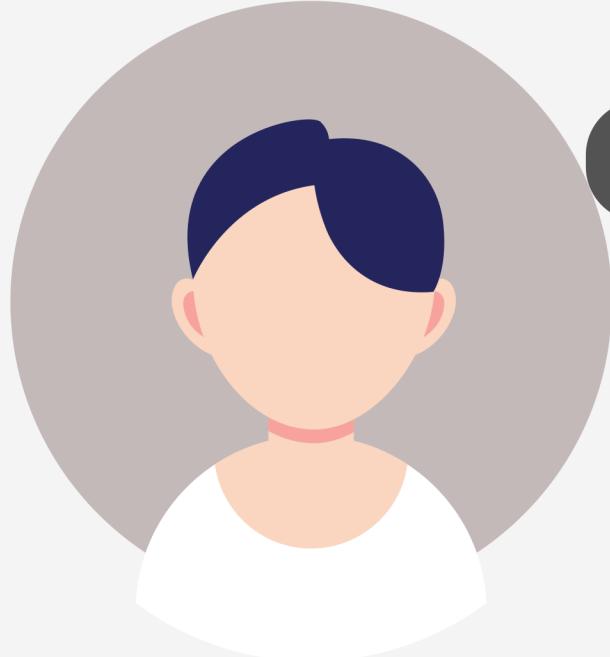
GOVERNMENT ENTITIES AND REGULATORY BODIES MAY HAVE AN INTEREST IN OVERSEEING THE APPLICATION'S COMPLIANCE WITH FINANCIAL REGULATIONS, PRIVACY LAWS, AND DATA SECURITY STANDARDS.



ALUMNI ASSOCIATIONS AND DONORS

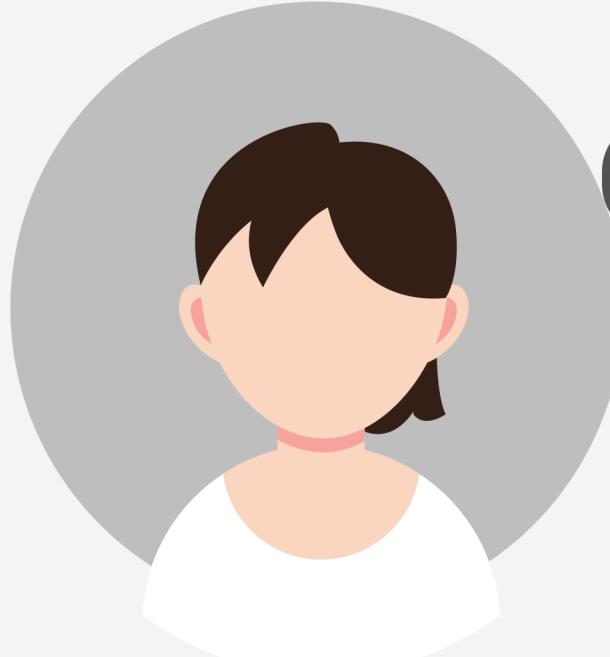
ALUMNI ASSOCIATIONS AND DONORS CONTRIBUTE TO THE INSTITUTION'S FUNDS. PROVIDING TRANSPARENCY AND ACCOUNTABILITY THROUGH THE APPLICATION CAN HELP MAINTAIN THEIR TRUST AND ENCOURAGE CONTINUED SUPPORT.

TERTIARY STAKEHOLDERS:



VENDORS AND SERVICE PROVIDERS

LOCAL BUSINESSES AND SERVICE PROVIDERS BENEFIT FROM INCREASED CUSTOMER TRAFFIC
FACILITATED BY THE APPLICATION



SECURITY AND PRIVACY EXPERTS

EXPERTS IN SECURITY AND PRIVACY PLAY A CRUCIAL ROLE IN ENSURING THE APPLICATION'S
DATA SECURITY, PROTECTING USER PRIVACY, AND MINIMIZING THE RISK OF FINANCIAL FRAUD
OR BREACHES.

WHAT PRIMARY STAKEHOLDER WANT

Student

I want the app to provide me with convenience and assistance in managing my finances



Parents and Guardians

I want the app to help my kid to be more financially responsible.



Developers and Designers

We want the app to want it to be user-friendly, reliable, and secure.



Educational Institutions:

We want the app to promote financial responsibility and help our students manage their expenses effectively.



WHAT SECONDARY STAKEHOLDER WANT

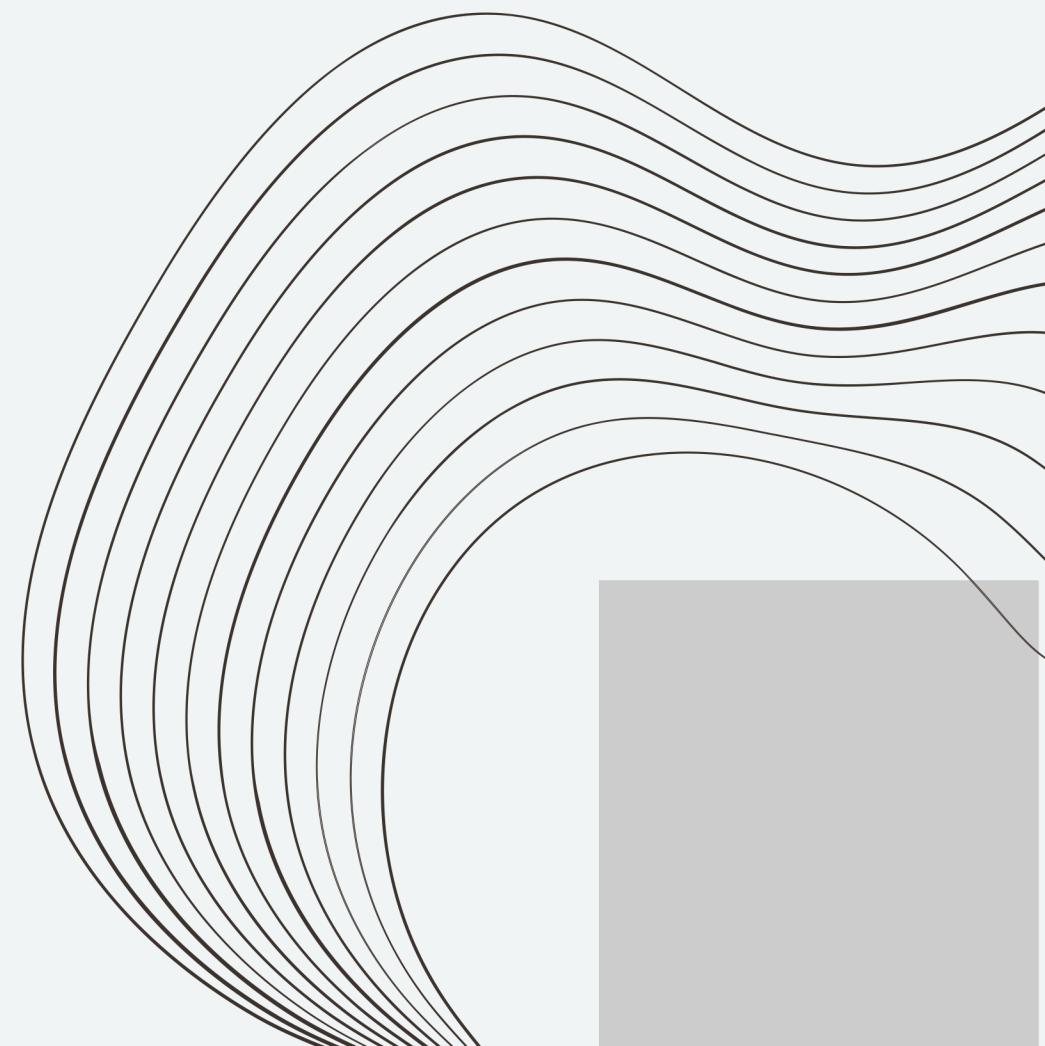
Administrators

We want the app to make the financial process more streamline



Financial Institution

we want the app to promote financial literacy and encourage responsible financial behavior among students.



WHAT TERTIARY STAKEHOLDERS WANT

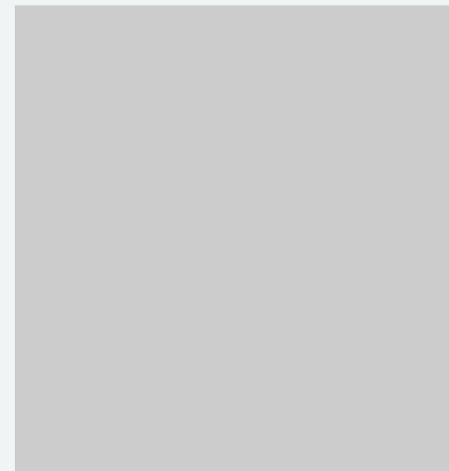
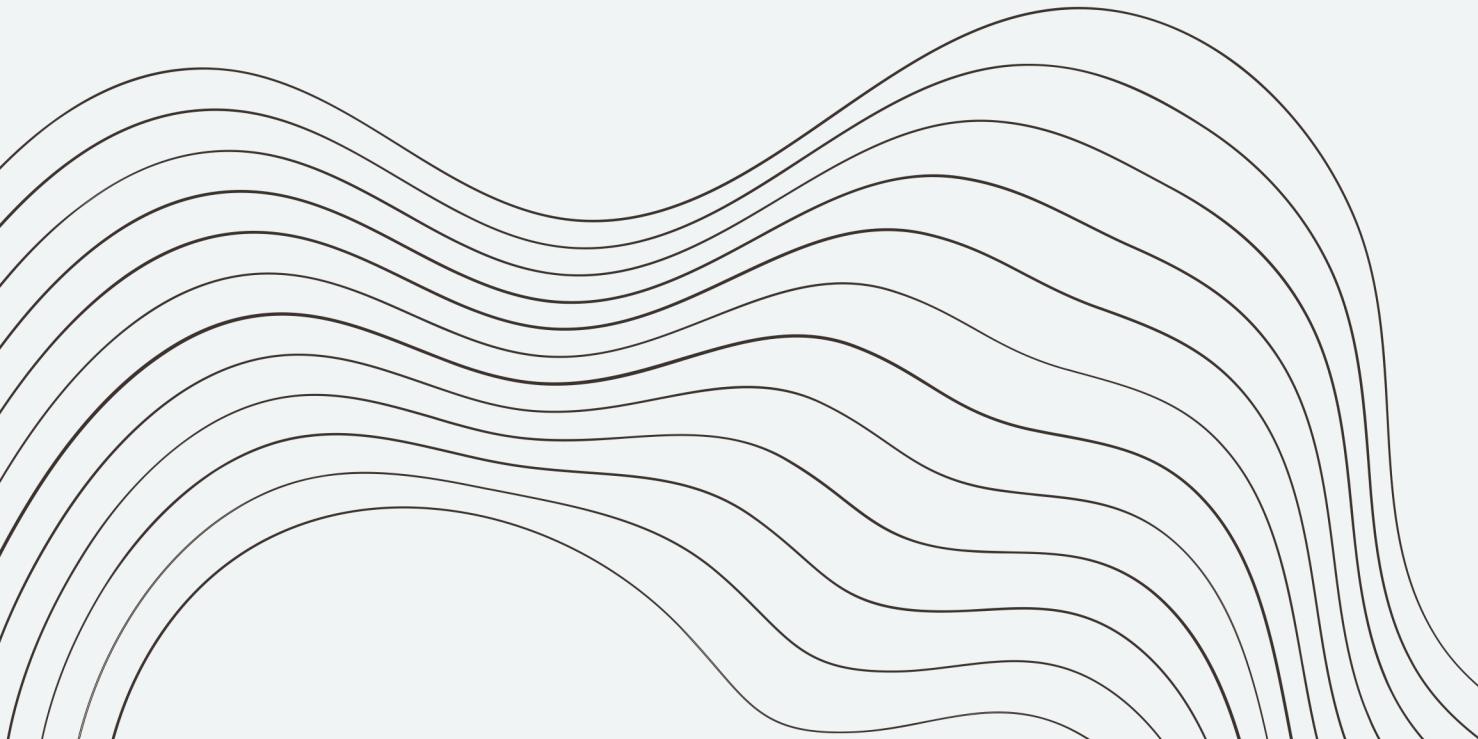
Government and Regulatory Bodies

We want the app to provide accurate reporting and documentation features that can assist students in managing their tax obligations or complying with financial regulations.



Alumni Associations and Donors

We want the app to provide features that foster financial success, such as networking opportunities, job or internship listings, or access to alumni mentors who can provide guidance on financial matters.



WHAT TERTIARY STAKEHOLDERS WANT

Vendors and Service Providers

We want the app to encourage students to support local businesses, offer discounts or incentives for app users, or provide integration options for seamless transactions.



Security and Privacy Experts

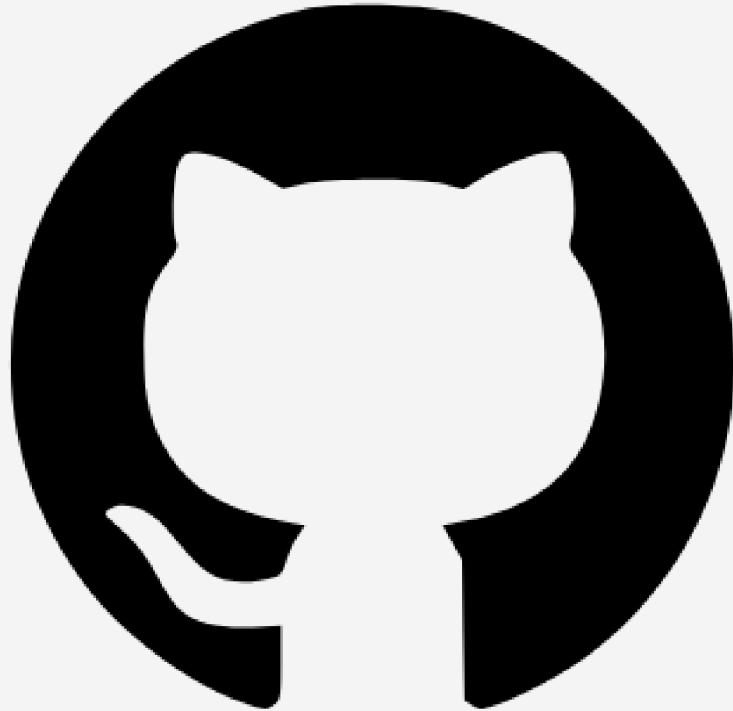
We want the app to have Robust Data Encryption, Secure Authentication, Data Minimization, Transparent Privacy Policies, Regular Security Updates.



TOOL DIFFICULTY

- Project management: Microsoft Project, GitHub
- IDE: Android Studio

DIFFICULTIES USING GITHUB



- Learning to use GitHub is very complex and difficult
- Have many problems with access control and permissions, which reduce collaboration between members
- When project larger, performance become less effective
- Has a major security vulnerable against unknown malicious code

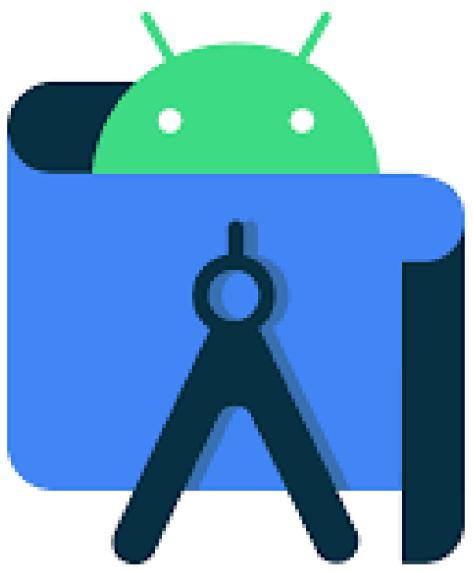
DIFFICULTIES USING MICROSOFT PROJECT



Project
Online

- Have many features but not user-friendly
- Requiring pay to use
- Hard to tracking project progress and updating task status

DIFFICULTIES USING ANDROID STUDIO



- Android Studio are limited to Android app development
- When running the Android emulator or working with large projects, which can impact performance.
- Activity has too many constrain, which hard to create and design interface.
- Required strong hardware to run
- Had too much things to learns and very complex

REQUIREMENTS DIFFCULTY



PLATFORM COMPATIBILITY

Budget Wise Solutions is only have experience with develop android application using java.



CONFUSE ABOUT NOTIFICATION FUNCTION

How do CampusExpense Manager app send its notification? And if the notification only being sent when they exceed their budget limit, the end-users have already run out of money and cannot adjust their spending anymore

DOESN'T HAVE IN-APP ADS OR PREMIUM FEATURES

Budget Wise Solutions team don't know how to run advertising and don't have any feature that need to pay to use yet.

DEVELOPMENT DIFFICULTY

- Gathering end-user data: lack or untrustworthy data source, lack of participant, or generate useless data.
- Balance time and resource: Team members cannot catch up with their deadline or have others expense that are required and not predictable
- Collab and communication: Team member can't work with others for some reason
- Lack of experience: Team might encounter a problem and does not know solution





COMPARE BUSINESS APPLICATION SOLUTIONS

COMPARE BUSINESS APPLICATION SOLUTIONS

Application Requirements	Mobile app	Web-based app	Desktop app
Easy to access	High	High	Lowest
Required large screen space	No	Depends	Yes
Offline Capability	Yes	No	Yes
Have Notifications	Yes	No	Yes
Performance	Medium	Slowest	Fastest
Large user engagement	Largest	Medium	Lowest
Suitable	Most Suitable		

BUSINESS APPLICATION SOLUTIONS

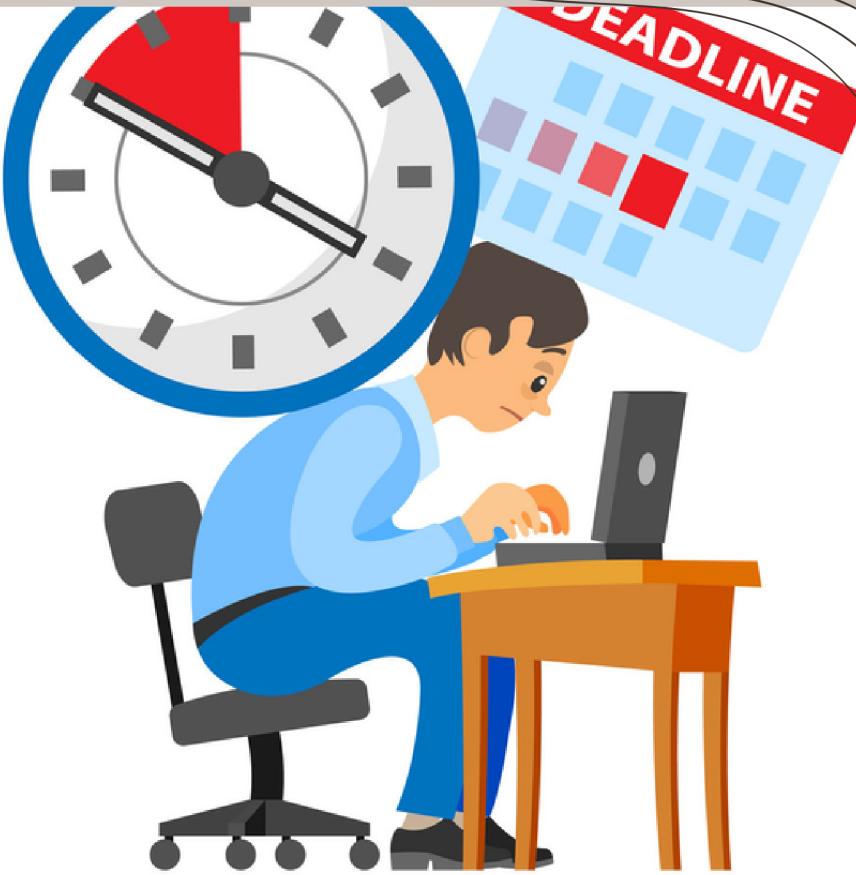
Conclusion: Mobile app is the most suitable for CampusExpense Manager. This is because:

- Mobile apps have higher user engagement rates compared to other platforms, which mean our application will have more people use and generate more revenue
- It has notification and easy to access feature, which encourage end-users using CampusExpense Manager more
- Expenses data from database may not sync when end-users offline, but they still can use CampusExpense Manager and data will by sync when they online
- Mobile apps can still handle data with decent speed, which can suitable for CampusExpense Manager
- Mobile apps may have some trouble with displaying complex expense reports or detailed budgeting interfaces.

RISKS AND SOLUTION TO MANAGE PROJECT



PROJECT RISKS



SPEND ALL PROJECT'S BUDGET

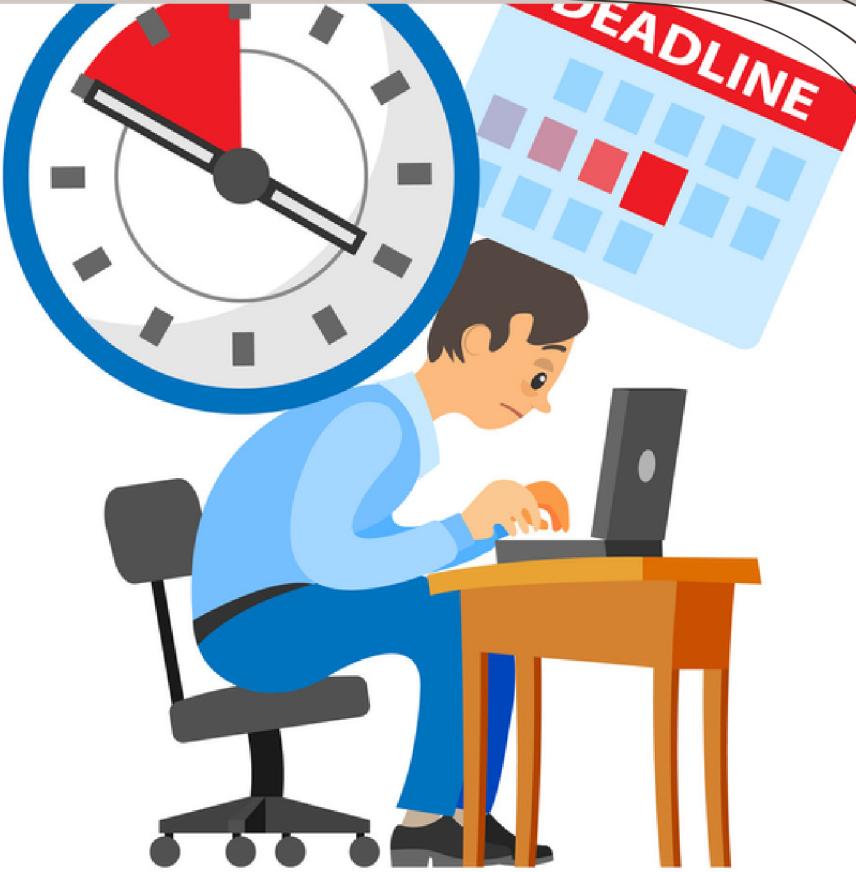
The project have spend all the budget and don't have enough finical to continue developing, causing deadlines delay and bankruptcy



MISS DEADLINE

A member or the whole team miss deadline, which makes the overall project deadline delay, make stakeholder dissatisfied, causing lose in financial.

SOLUTION FOR RISK



SPEND ALL PROJECT'S BUDGET

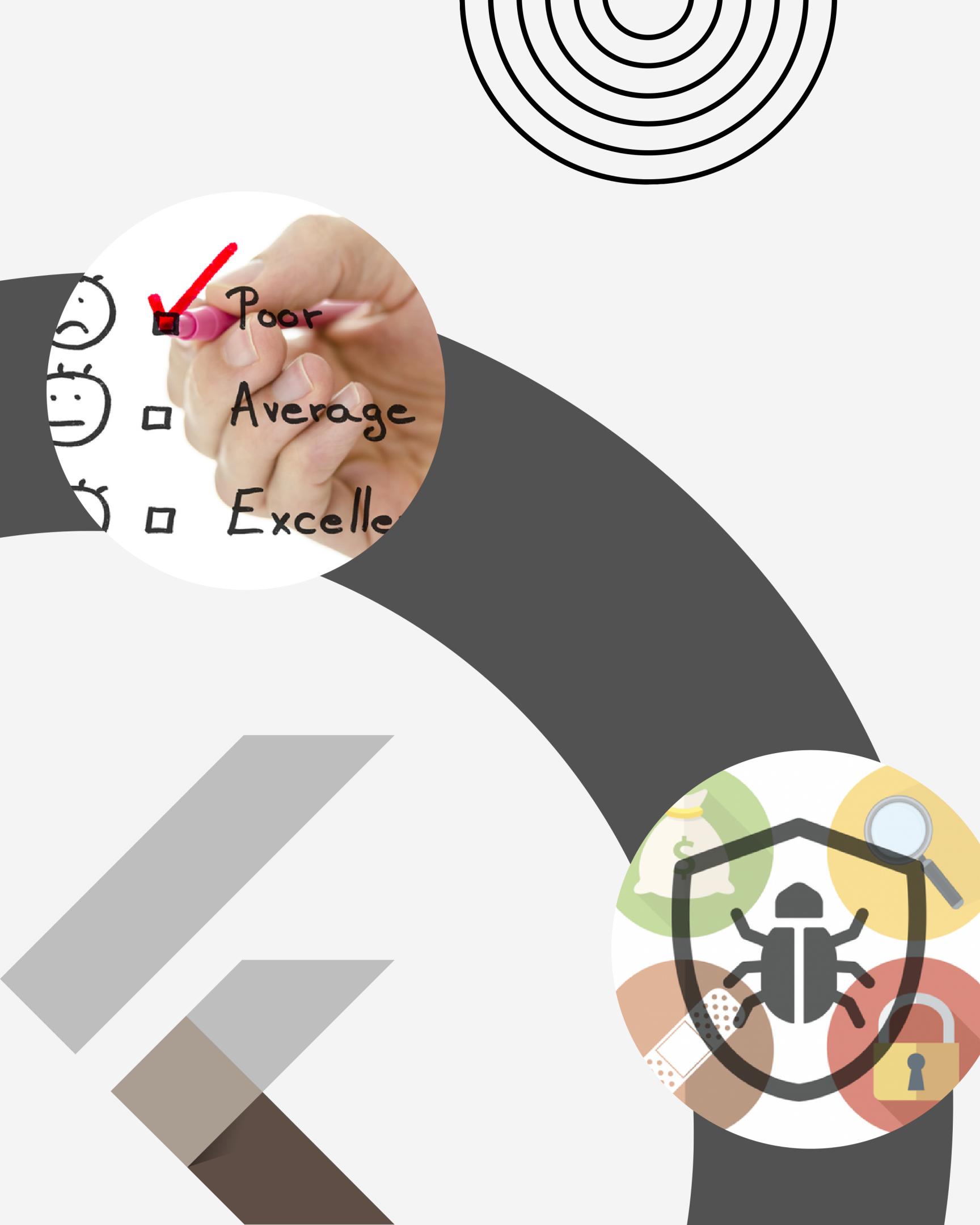
Project budget has 2400\$ spare to handle risk overspending and all team member must regularly check all the expense to prevent overspending



MISS DEADLINE

Project timeline has 2 weeks to handle risk missed deadline and all team member must review others progress to soon identify and fix the issue

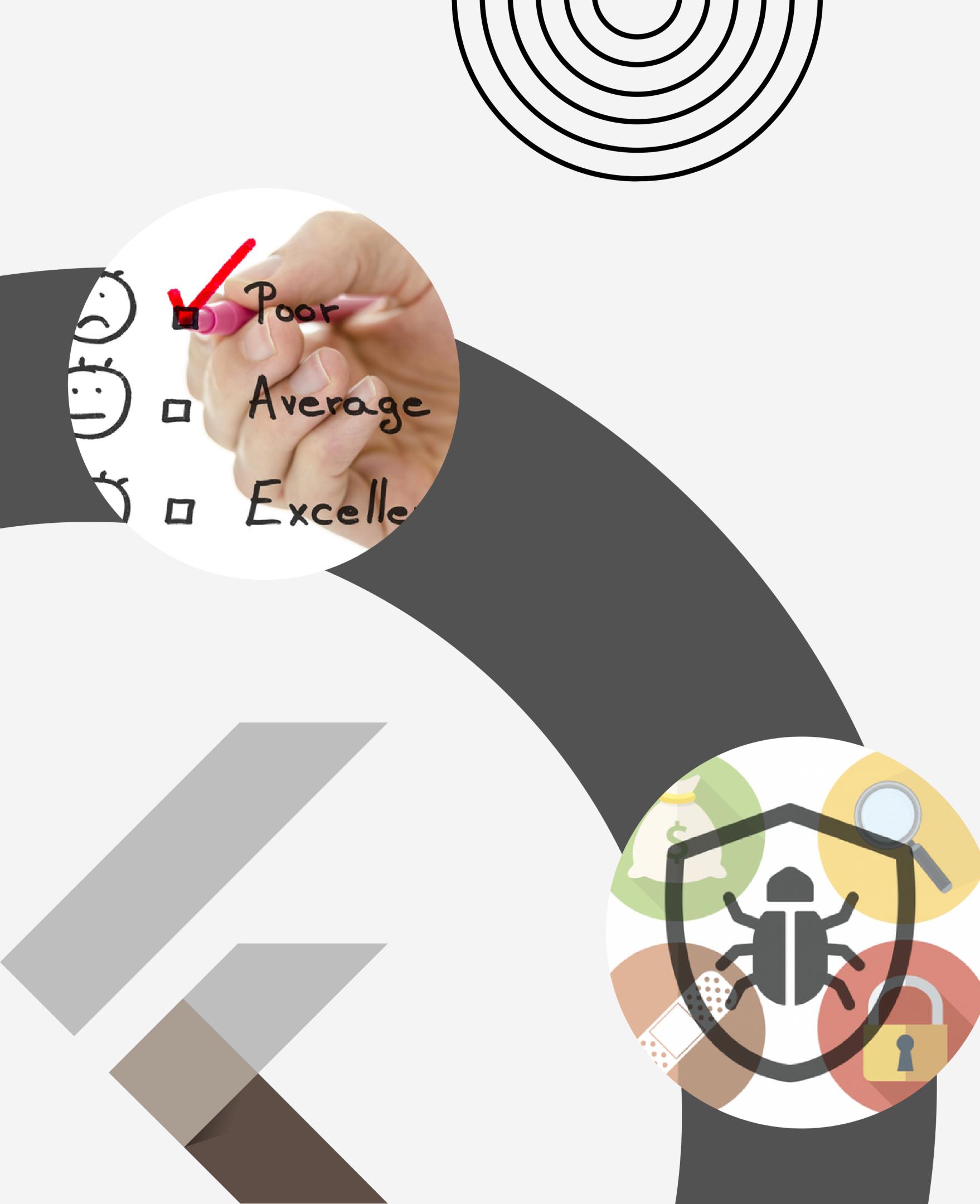
PROJECT RISKS



- Database vulnerable: Application database can get unauthorized access and data breaches, causing data getting lost or use for unwanted purpose
- Bug and Dissatisfied: End-user experience bug or dissatisfied with the application, which lead to lose our own customers

SOLUTION FOR RISK

- Database vulnerable: Encrypt and backup data in database, and regularly update and patch security vulnerabilities
- Bug and Dissatisfied: Develop a feedback management to help keep contact with the customers, fixing bug and dissatisfied as soon as possible



PROJECT RISKS

- Compatibility Issues: The application does not perform as expected on different types of devices, operating systems and screen size.
- Slowdowns and crashes: Older version or old device cannot handle large amounts of data or complex calculations, which slowdown or crash end-user device



SOLUTION FOR RISK

- Compatibility Issues: Conduct thorough testing on different devices, operating systems, and screen sizes to ensure compatibility
- Slowdowns and crashes: Optimizing code and database queries, perform testing on older device, create mechanic that prevent crashing



THANK YOU