



Analysis Document

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Goals and Objectives

Money Tracker is an application that helps users to manage their expenses more efficiently. It allows users to track their income and expenses in each category and analyse their spending trend on each of their category in each of their bank accounts. Additionally, it enables users to view their complete transaction history and export their data report with expense analysis.

The goals and objectives of a money tracker application are to:

- 1. Manage their Money:** Users can break free from the irritating habit of constantly reminding themselves about their costs by having a platform to log and manage their income and expenses.
- 2. Spending Done Wisely:** Users can stop making careless purchases and start saving money by receiving an analysis of their expenditure on each category of expenses.
- 3. Improve financial management:** The provision of income and expense data analysis, encompassing both income details and expenses, enables users to make more informed financial decisions for each of their bank accounts.

Targeted Audience

Users who wish to manage their money more effectively are the target audience for a money tracker application. The system is made to assist users in efficiently managing, comprehending, and tracking their finances.

Technical upgrades

These are upgrades required for the current project before taking this project to the market.

- Creating a large-scale database to handle all the data from users.
- Current project is ready to deploy on windows. In future we need to plan to get this project up and running on android, iOS, and transforming it into a web application.
- Monthly analysis report with transaction history for each month will be sent over to users via email.
- Importing bank statements (.csv) to automatically generate an expense analysis report immediately.

Technical Resource Requirement

Development:

We require a group of talented programmers and designers that can collaborate to build a solid and user-friendly application in order to construct a Money Tracker in a large-scale setting.

Here are some of the technical resource requirements for this project:

- 1. Software developers:** You will require seasoned Python programmers with software development experience. They must have prior expertise creating database management systems, Rest APIs, Django and online applications. Additionally, they must be knowledgeable about cloud computing systems like Microsoft Azure.
- 2. UI/UX designers:** To make the application's interface intuitive and user-friendly, you'll require talented UI/UX designers. They should also know how to use design tools like JavaScript, HTML, and CSS.
- 3. Database administrators:** Experienced database administrators who are capable of creating and overseeing the application's database are required. The application currently makes use of SQLite database. However, MS SQL Server on the Azure cloud platform will use it eventually. Thus, administrators ought to be familiar with MS SQL Server. Additionally, they must be knowledgeable in query optimization, indexing, and data modelling.
- 4. Quality assurance engineers:** Engineers with experience in quality assurance are needed to test the application and make sure it complies with all requirements and specifications. They ought to be skilled in creating test cases, monitoring bugs, and both automated and manual testing. Additionally, they must be knowledgeable about testing tools like TestNG, JUnit, and Selenium.
- 5. Project managers:** Experienced project managers are required to supervise the development phase and guarantee that the project is finished on schedule and within budget. They must have prior expertise with Agile or Scrum project management techniques. Additionally, they ought to be conversant with project management applications like Trello and Jira.

Networking and Security

To find potential dangers and vulnerabilities, it's crucial to carry out a risk assessment while creating a money tracker application. The process of locating, analysing, and assessing hazards related to a system or application is known as risk assessment. Identifying possible risks and weaknesses and creating mitigation plans are the objectives of a risk assessment.

Some of the potential risks associated with a money tracker application includes:

- 1. Data breaches:** Sensitive data, including bank account and payment details, is stored by the Money Tracker application. This information could be lost or stolen as a result of a data breach, which could result in financial fraud or identity theft.

2. **Cyber attacks:** The Money Tracker Application is susceptible to ransomware, phishing, and malware assaults. These assaults have the potential to undermine system security, cause data loss, or cause system outages.
3. **System failures:** The Money Tracker Application depends on networks, servers, and databases. Data loss or system outages due to a system breakdown could affect the system's performance and availability.
4. **Human error:** The Money Tracker Application is run by people, who are prone to mistakes like improper setup, poor administration, or unintentional data loss.
5. **Access controls:** Only authorized personnel are permitted access to sensitive data and system resources due to access controls. Role-based access control, multi-factor authentication, and the usage of passwords can all help achieve this.
6. **Encryption:** To prevent unwanted access, sensitive data is transformed into an unreadable format using encryption. AES and RSA are two encryption techniques that can be used to accomplish this.
7. **Backup and recovery:** Backup and recovery is the process of creating copies of data and storing them in a secure location. This can help mitigate the impact of data loss or system downtime.
8. **Training and awareness:** Programs for training and awareness can assist in informing staff members about the dangers of using money trackers and how to reduce such risks. This can lessen the possibility of human error.
9. **Marketing:** We need to create a very good marketing strategy to take this project to a greater success.

Timeline

The development process involves several stages, including:

- 1. Planning:** This phase entails determining the needs, establishing the project's scope, and developing a project plan. It may take several weeks to finish the planning phase, which should be finished in two weeks.
- 2. Design:** Creating the system architecture, database structure, and user interface are all part of this step. Three weeks should be enough time to finish the basic draft.
- 3. Development:** Writing the code, putting the system's components together, and testing the system are all part of this step. The first release should be finished in five months, although the development phase may take several months.
- 4. Testing:** In this phase, the system is tested to make sure it satisfies the demands and standards. Although testing can take many weeks, it is best to begin testing concurrently at the foundational stages of development, which is a few months following the start of development.
- 5. Deployment:** Using automated CI/CD, this step entails deploying the system to the production environment and making it accessible to users. The deployment phase may require many weeks.
- 6. Maintenance:** This phase entails system upkeep, issue fixes, and feature additions. Several years may pass during the maintenance phase, depending on how long the system lasts. Excluding maintenance this project could be made available to users within 6-9 months.

Security

Security is the first priority for every software solution, and money tracker apps are no exception. The Money Tracker program stores sensitive data, such as bank account information, payment details, and user details. Thus, it is necessary to implement robust security measures to prevent unauthorized access to or exposure of sensitive data.

To ensure the security of a money tracker application, it is important to follow security best practices such as:

- 1. Access controls:** Only authorized personnel are permitted access to sensitive data and system resources due to access controls. Role-based access control, multi-factor authentication, and the usage of passwords can all help achieve this.
- 2. Encryption:** To prevent unwanted access, sensitive data is transformed into an unreadable format using encryption. AES and RSA are two encryption techniques that can be used to accomplish this.
- 3. Backup and recovery:** The practice of making copies of data and keeping them safe is known as backup and recovery. This can lessen the effects of losing data or experiencing system outages.