**DECLARATION**

I, Suraj Pandey, hereby declare that the work presented in the project report entitled submitted to Department of Computer Application, Institute of Proff. Excellence & Mgmt., affiliated to Dr. A. P. J Abdul Kalam Technical University, Lucknow, Approved by AICTE for the partial fulfillment of the award of degree of “MASTER IN COMPUTER APPLICATIONS” is an authentic record of my work carried out during the fourth semester, 2023 under the supervision of my Project Guide as “Ms. Supriya Sharma” Department of Computer Application, Institute of Proff. Excellence & Mgmt., Ghaziabad, Uttar Pradesh. The matter embodied in this project report has not been submitted elsewhere by anybody for the award of any other degree.

Suraj Pandey

2101140140029



**INSTITUTE OF PROFESSIONAL EXCELLENCE & MANAGEMENT**

*(Affiliated APJ Abdul Kalam Technical University, Lucknow)*

**CERTIFICATE**

*This is to certify that the Project report submitted by Mr. Suraj Pandey bearing roll no 2101140140029 on the title Expense Tracker web application is a record of project work done by him/ her during the academic year 2022-23 under my guidance and supervision in partial fulfilment of the requirements for the award of the degree of Master of Computer Application from Dr. A. P. J. Abdul Kalam Technical University, Lucknow, is authentic record under the Institute.*

***Project Guide : Head CA Dept:***

*Ms. Supriya Sharma Mr. Naveen Kumar*

**ACKNOWLEDGEMENT**

Completing a task is never a one person effort. It is often the result of invaluable contribution of individuals in a direct or indirect manner that helps in sharing a making of success.

I would like to thank people who were part of this work in numerous ways. In particular, I wish to thank “Ms. Supriya Sharma”, A.P., Department of Computer Application, as my project guide for their suggestions and improvements in this project and providing continuous guidance at each and every stage of the project.

Thanks are extended especially to Mr. Naveen Kumar, Head of Computer Application Department, Institute of Proff. Excellence & Mgmt.,. I had the privilege to receive great inspiration and guidance from him and other faculty members, which helped us to set the objectives of this study and complete the report. I am fortunate to have constant encouragement and practical guidance in all aspect of our study.

I must also be thankful to my classmates and friends for their continuous co-operations and help in completing this project.

Suraj Pandey

2101140140029

|  |  |
| --- | --- |
| **Description** | **Page no** |
| 1. Introduction  * Overview * Background study * Objective * Benefits & Problems |  |
| 1. Tools and Technology used  * Hardware & software requirements * Technology used |  |
| 1. Methodology & requirement analysis  * Methodology * User characteristic * System analysis * Feasibility study * Requirements |  |
| 1. System Design  * Use case diagram * ER diagram * Data Flow Diagram * Activity Diagram |  |
| 1. Screenshots And snippets of code of Project |  |
| 1. Testing  * Testing Strategies |  |
| 1. Future Scope |  |
| 1. Conclusion |  |
| 1. Bibliography |  |

**TABLE OF CONTENT**

1. **INTRODUCTION**
   1. **OVERVIEW**

An Expense Tracker web application is a useful tool for managing and monitoring personal or business expenses. It allows users to track their spending, categorize expenses, set budgets, and generate reports to gain insights into their financial habits. Here's an outline of the key features and components which can consider when developing an expense tracker web application:

User Authentication Implement a user registration and login system to ensure secure access to the application. Users should have individual accounts to manage their personal expense data.

Dashboard Create a user-friendly dashboard that provides an overview of expenses, budget status, and other key financial metrics. This will be the main landing page after login, displaying a summary of the user's financial situation.

Expense Entry Allow users to input their expenses by specifying the amount, date, category, and any additional notes. Provide options for recurring expenses and support for multiple currencies if needed.

Expense Categories Provide pre-defined and customization categories (e.g., groceries, transportation, entertainment) to help users organize their expenses. Users should be able to add, edit, and delete categories based on their preferences.

Budget Management Enable users to set budgets for different categories or overall spending limits. The application should provide visual indicators to track progress and alert users when they exceed their set budgets.

Reports and Analytic generate detailed reports and visualizations to help users analyze their spending patterns over time. Common reports include monthly expense breakdowns, category-wise spending, and trends over specific periods.

Notifications and Reminders Implement notifications or email reminders to keep users informed about upcoming bills, approaching budget limits, or irregular spending behavior.

Data Backup and Sync Provide a secure data storage system that allows users to sync their expense data across multiple devices. Regularly backup data to prevent any loss or corruption.

Data Export Enable users to export their expense data in various formats such as CSV or PDF. This feature allows users to analyze their data offline or import it into other personal finance tools.

Security and Privacy Implement proper security measures to protect user data, such as encryption for sensitive information, secure connections (HTTPS), and adherence to privacy regulations.

Mobile Responsiveness Design the application to be mobile-friendly, ensuring it works well on different screen sizes and devices.

User Settings: Provide options for users to customize their preferences, such as currency settings, language preferences, and notification preferences.

Collaboration (optional) If the application is intended for team or business use, consider adding collaboration features, such as shared budgets or expense approval workflows.

* 1. **BACKGROUND STUDY**

Before developing an expense tracker web application, it's essential to conduct a background study to understand the requirements, market, and existing solutions. Here are some key points to consider during the background study.

User Needs Identify the target audience for your expense tracker application. Determine their primary needs and pain points when it comes to managing and tracking expenses. Conduct surveys, interviews, or user research to gather insights and understand their preferences.

We have identified some other point for this like Market Research, Feature Analysis, Technology Stack, Design and User Experience, Monetization Models, Integration Opportunities, Usability Testing, Regulations and Compliance.

* + 1. **WHAT IS Expense Tracker?**

An expense tracker web application is a software application that allows users to track, manage, and analyze their expenses in a digital format. It provides a convenient and centralized platform for individuals or businesses to monitor their spending habits, categorize expenses, set budgets, and generate reports for financial analysis, Expense tracker web apps typically offer the following key features:

Expense Entry Users can input their expenses by entering details such as the amount, date, category, description, and payment method, Expense Categorization Expenses can be categorized into different predefined or customizable categories (e.g., food, transportation, utilities) to organize and analyze spending patterns, Budgeting: Users can set budget limits for specific categories or overall spending and receive notifications or alerts when they approach or exceed their set limits, Reporting and Analytic application generates reports and visualizations to provide users with insights into their spending habits. This includes expense breakdowns, charts, graphs, and trends over specified time periods.

Receipt and Document Management Some expense tracker apps allow users to upload and attach receipts or relevant documents to individual expenses for record-keeping purposes, Currency Conversion If users deal with multiple currencies, the app may offer currency conversion functionality to help track expenses accurately, Sync and Backup Users can sync their expense data across multiple devices or platforms, ensuring their information is accessible and up to date.

Regular backups of data are performed to prevent loss, Notifications and Reminders Users may receive reminders about upcoming bills, payment due dates, or irregular spending patterns to stay on top of their finances, Security and Privacy Expense tracker web apps implement security measures such as encryption, secure connections (HTTPS), and data privacy policies to protect user information. Integration with Financial Services: Some apps offer integration with banks, credit cards, or financial institutions, allowing users to automatically import transactions and reconcile them with their expenses, Mobile Accessibility Many expense tracker web apps are mobile-responsive or offer dedicated mobile apps, enabling users to track their expenses on the go.

* 1. **OBJECTIVE**

The aim of an expense tracker web app is to simplify the process of expense management, provide insights into spending patterns, and empower users to make informed financial decisions. It helps individuals and businesses stay organized, set financial goals, and gain control over their finances.

To develop an easy-to-use web-based interface where user can search for daily expenses on web apps are mobile-responsive or offer dedicated mobile apps, enabling users to track their expenses on the go.

* 1. **SCOPE**

It's important to note that the scope can be expanded or customized based on the target audience, business requirements, and additional features that may differentiate the app from competitors, but initially we’re keeping in the mind below area.

Expense Management, Expense Entry Users can add new expenses by specifying the amount, date, category, description, and other relevant details.

* Expense Categorization Users can categorize expenses into predefined or customizable categories for better organization and analysis.
* Expense Editing and Deletion Users should have the ability to edit or delete previously entered expenses.
* Expense Search and Filtering Users can search for specific expenses based on criteria such as date, category, or description.
* Receipt and Document Management Users can upload and attach receipts or documents related to their expenses.
* It's important to note that the scope can be expanded or customized based on the target audience, business requirements.
  1. **LIMITATIONS**

It's important to consider these limitations when developing or using an expense tracker web app and provide solutions or alternatives to mitigate their impact. Regular user feedback and continuous improvement can help address some of these limitations over time, While expense tracker web apps offer numerous benefits, they also have some limitations that should be considered as below: -

* Manual Data Entry Expense tracker apps rely on users manually entering their expenses, which can be time-consuming and prone to errors. Users may forget to record certain expenses or find the process tedious, leading to incomplete or inaccurate data.
* Dependency on User Discipline The effectiveness of an expense tracker web app relies on the user's discipline and consistency in entering and categorizing expenses. If users fail to regularly update their expense data, the app's insights and reports may be incomplete or unreliable.
* Limited Integration Expense tracker apps may have limitations in integrating with financial institutions, banks, or credit cards. While some apps offer integration capabilities, not all financial institutions or countries may be supported, limiting the automatic import and synchronization of transactions.
* Security Concerns Storing financial data in an expense tracker app carries potential security risks. It's crucial to implement robust security measures to protect user information, such as encryption, secure connections, and following best practices for data storage and access control.
* Lack of Real-Time Data Expense tracker apps typically rely on manual entry and periodic data synchronization. As a result, real-time updates may not be available, and users may not have an immediate view of their current financial situation.
* Limited Financial Analysis While expense tracker apps provide basic reporting and analysis features, they may not offer advanced financial analysis tools or comprehensive insights into investment strategies, tax planning, or long-term financial goals. Users may need to rely on additional tools or consult financial professionals for in-depth financial planning.
* User Learning Curve Depending on the complexity and user interface of the app, users may require some time to understand the features and functionality, leading to a learning curve before they can fully utilize the app's capabilities.
* Platform Dependency Expense tracker web apps may be designed for specific web browsers or operating systems, limiting accessibility for users who prefer different platforms or devices.

1. **TOOL & TECHNOLOGY USED**
   1. **HARDWARE AND SOFTWARE REQUIREMENT**

**Hardware requirement:**

Hardware requirements of this project are very common now a days and can be found on any computer system. It is kept in mind while designing that no extra hardware support which can be needed to run the software should be there so that it can be afforded by any firm or industry.

|  |  |  |
| --- | --- | --- |
| **SL** | **Hardware** | **Minimum System Requirement** |
| 01 | Processor | 2.4 GHz Processor speed |
| 02 | Memory | 2 GB RAM |
| 03 | Disk store | 500 GB |

**Software requirement:**

|  |  |  |
| --- | --- | --- |
| **SL** | **Software** | **Requirement** |
| 01 | Operating System | Windows 10 |
| 02 | Client-side Scripting | javaScript |
| 03 | Programming Language | C# |
| 04 | IDE/workbench | VisualStudio 2022 |
| 05 | Database | Microsoft SQL Server |
| 06 | Framework | Dot Net Core MVC |
| 07 | Data Visualization | Syncfusion |