Event Finance Management

Minor Project Report

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In

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Submitted By

Devashish Bose

0901IO221027

UNDER THE SUPERVISION AND GUIDANCE OF

Dr. Nookala Venu

Assistant Proffessor

Department of Centre of IOT

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR (M.P.), INDIA
माधव प्रौद्योगिकी एवं विज्ञान संस्थान, ग्वालियर (म.प्र.), भारत
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I further declare that the work reported in this report has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma in this institute or any other institute or university.

Devashish Bose

0901IO2221027

Date: 19/11/24
Place: Gwalior

This is to certify that the above statement made by the candidates is correct to the best of my knowledge and belief.

Guided By:

Dr. Nookala Venu
Assistant Professor
Centre of IOT
MITS, Gwalior

Departmental Project Coordinator

Dr . Nookala Venu
Assistant Professor
Centre If IOT
MITS, Gwalior

Approved by HoD

20/11/24

Dr. Praveen Bansal
Professor and Co-ordinator
Centre Of IOT
MITS, Gwalior

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Devashish Bose

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Checked & Approved By:

Soumyajit Ghosh 30/11/24

Dr. Soumyajit ghosh
Assistant Professor
Centre of IOT
MITS, Gwalior

ABSTRACT

A comprehensive, user-friendly finance management system should help bring about an easier approach to streamlining personal and organizational financial activities. It is conceived to satisfy the needs of individuals, business organizations, and institutions by automating different financial processes, tracking sources of income and expenses, and delivering up-to-date insight into financial health.

The platform provides a suite of tools for individual users to track their personal budgets, achieve savings goals, and plan future expenditure effectively. Features like automated categorization of transactions, monthly expense summaries, reminders of impending bills, and many more ensure users are well in control of their finances with minimal effort.

The system is robust in capabilities, providing for businesses robust financial management, such as invoicing, payroll processing, expense reporting, and cash flow analysis. It offers, through a dynamic chart and graph dashboard, a clear overview of key metrics for making data-driven decisions that optimize financial performance.

It would also have security, such as encryptive data hosting and protected authentication, so that the personal information of users is safeguarded. Other features would be customizable reporting, tax preparation, and integration with third-party accounting software, which would be making it more varied and useful.

Predictive analytics, investment tracking, and collaborative tools for multi-user environments will complete a Finance Management System for use to rely on and efficiently and intelligently manage funds.

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Devashish Bose

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Acronyms

Abbreviation	Definition
UI	User Interface
UX	User Experience
API	Application Programming Interface
CRUD	Create, Read, Update, Delete
DB	Database
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets
JS	JavaScript

NOMENCLATURE

Abbreviation	Definition
Frontend	Refers to visual elements of the website
Backend	The server-side functions of the website
Database	A structured collection of data
Event Sorting	Categorization and organization of evens by date or alphabet
Club Roles	Defined roles within each club, such as president or coordinator

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CHAPTER 1: INTRODUCTION

1.1Introduction

Finance Management System for Village Events is a pioneering application meant to simplify and improve management activities regarding money affairs that are needed to host community events. The system enables users to gain access from a central point to monitor budgets, track expenses, record contributions, and create live financial insights in real-time. Transparency, accountability, and efficiency all come together to ensure that the experience of event organization and that of the stakeholders is seamless. With a friendly interface and dynamic analytics, this system successfully satisfies all of the general problems that come while making event finance management. This is hence considered a potential resource for successful planning of community events.

1.2 Objectives

The primary objectives of the Finance Management System for Village Events are as listed below:

1 Centralized Financial Management: Centralize all financial aspects of an event on a single platform to track and manage these financial aspects efficiently.

2 Real-Time Updates: To facilitate real-time monitoring of expenses, contributions, and remaining budget balances.

3 Data Visualization: To provide clear insights into spending patterns through interactive charts and graphs that enhance understanding.

4 User-Friendly Experience: To offer a customizable interface that caters to both technical and non-technical users, ensuring ease of use for everyone involved.

5 Promoting Transparency: To enhance accountability by allowing stakeholders to view and update financial data effortlessly.

1.3 System Scope

The Finance Management System is basically suited to two major types of users: event administrators and stakeholders. The overall financial view should be accompanied by suitable tools for effectively assisting with budgeting for events.

Key Features of the System Include: Dual User Roles

Dual User Type

Event Administrators:

Add, edit, and manage details regarding budgeting and expenses.

Record and update all financial transactions as they occur.

Monitor donor and sponsor contributions closely.

Offers running financial summaries for quick reference.

Stakeholders

Avail any summary of budget, contribution and expenses at anytime

Analyze Financial information using charts and graphics for better comprehension.

Offer suggestions or recommendations on particular aspects of the finances.

General Functionalities

• Budgeting: The user can input a total budget, monitor real-time expenses and have the remaining amounts automatically calculated.

• Expenses Distribution: The user can split expenses into particular domains such as Venue, Catering and Entertainment for easier tracking.

•Transaction Monitoring: The table is editable to track and monitor all financial transactions on date, amount, vendor, and category.

•Contribution Tracking: All the donations and sponsorships are tracked thus maintaining clear records of contributors and amounts received.

•Analytical Presentation: the spending distribution across various categories can be represented using bar graphs to give a clear representation of financial flows.

1.4 System Functions

Administrator Functions

•To effectively manage budgets and categorize expenses.

- Record new financial transactions or modify the already created ones to suit your requirements.
- Track contributions from various sources and update records according to the changing contributions.
- Produce comprehensive financial reports that can be visualized for stakeholders.

Stakeholder Functions

Review detailed financial data accompanied by representations of spending patterns.

Analyze expenditure trends and behaviors in categories as a means of making informed decisions.

Suggest revisions or give input concerning necessary financial alterations.

Common Features

•**Rolling Financial Summary**: Users receive real-time information on budget and expense details for effective handling at every point in time.

•**Editable Tables**: The system is such that it's easy for users to update the financial data without much hassle.

•**Charts and Graphs**: The analysis of usage of funds gives the user a proper perspective on their decisions.

1.5 Design Considerations

Finance Management System is built on new age web technologies that make it reliable, scalable and user-friendly.

Technology Stack

HTML, CSS, JavaScript-based frontend development is used to make the responsive and interactive user interface keep users engaged

Charts and graphs are created using Chart.js to make them informative and visually appealing.

Updating data in the financial tables and charts: This is handled with the helpof JavaScript management.

Deployment Strategy: This is a browser-based system to allow ease of access from any types of devices, and its installation does not require anything complex.

Its design is simple, allowing event administrators and stakeholders to work comfortably with the system, and its future upgrades may be able to add data persistence through a database, as well as integration with access to mobile platforms to make it even easier to manage the financing of an event.

CHAPTER 2: LITERATURE SURVEY

The existing literature, tools, and best practices were reviewed to design an effective and user-friendly system for the finance management of village events. This part presents core findings from previous research and how such findings affected the design and functionalities of the proposed system.

User Role Management

Sharma & Kumar (2021) argue that role-based functionality encourages the efficiency of financial systems. As shown in their study, defining different roles, such as event administrators and contributors, aids the team's increased collaboration and mutual understanding. This knowledge resulted in merging two roles in the system so that administrators could easily have an easy time with financial data while ensuring that stakeholders could visualize and analyze their information of interest.

User Experience Design

The research by Lee et al. (2019) points out the importance of the real-time visualization of financial data in financial platforms. This can help ensure proper smooth processes in decision-making. Many tools, although well-established, Tableau and Power BI, are potent, but they remain high only if one gets extensive training. The proposed system resolves that challenge through Chart.js, a lightweight but strong visualization tool able to enable users in achieving access to financial insights without extensive training.

Event Management Features

Smith et al. (2018) have determined that transparent financial practice is one of the factors to instill people's trust among different stakeholders. According to their research, the system should enable having access and updates in real-time data for accountability purposes. This proposed platform responds to this need through editable tables and interactive dashboards to ensure the transparency and accountability of users regarding financial management.

Technology Stack

Angulo et al. (2022) advise to develop scalable and dynamic platforms with modern technology stacks. They suggest JavaScript and Chart.js for front end development while integrating databases for back-end support. The application is designed to be browser-based, though the future versions would accommodate databases to store data persistently to increase its scalability.

Study/Source	Key Findings/Features	Relevance to Finance Management Website
Patel & Brown (2020)	Simplification of financial tools for non-technical users.	Designed with an intuitive interface and dynamic tools for budget tracking.
Sharma & Kumar (2021)	Dual user roles improve efficiency in content management and platform usability.	Distinct roles for administrators and stakeholders ensure efficient data management.
Lee et al. (2019)	Real-time data visualization improves decision-making.	Integrated Chart.js for dynamic financial charts and spending visualizations.
Smith et al. (2018)	Transparency builds trust in financial systems.	Offers editable tables and live dashboards for transparent financial management.
Angulo et al. (2022)	Modern stacks provide scalability and reliability.	Utilized JavaScript for frontend interactivity and Chart.js for analytics.

Table 1: Technology Stack Sources

CHAPTER 3: TECHNOLOGY USED

The Finance Management System for Village Event is developed using modern and scalable technology stacks so that it achieves reliability, user-friendliness, and dynamic functionality. This chapter discusses the tools and technologies that have gone into the making.

Frontend Development

To be used for structuring, using CSS for styling and JavaScript for developing interactivity in the system. HTML: Structural foundation of the site, including the general contents structure CSS: Supplementing stylistic appeal as well as responsiveness to various devices. JavaScript: Support for real-time functionality and tables with interactive capabilities.

Library: Chart.js: this is how interactive charts are used to display financial data, such as the distribution of all expenses across domains.

Backend Development (Future Implementation Considerations)

While the current system runs entirely on the front end for simplicity, a backend can be added for enhanced data persistence and security. Recommended technologies will include: Node.js, to handle concurrent requests and allow for non-blocking operations. Express.js, to handle routing efficiently and for API management of data interaction with both frontend and backend. Visualization Tools Chart.js, to allow for the use of bar charts in how expense distribution happens by domains. This assures financial insights are visually clear and easily interpretable.

3.1 Tools Used

Frontend Development

HTML, CSS, and JavaScript : These basic technologies on the web are used to mark up the content, style the layout, and provide dynamic functionality to the website.

•HTML forms the backbone, giving a clear structure to the content of the website.

• CSS enhances the visual presentation, ensuring that the site is aesthetically pleasing and responsive across various devices.

• JavaScript adds interactivity, enabling features such as real-time updates and interactive elements that enhance user engagement.

Libraries:

o Bootstrap: Implements a responsive design framework for uniform styling and layout across devices.

o jQuery: Simplifies DOM manipulation and event handling for interactive elements like sorting and form validation.Backend Development

The backend development will lay out the robust infrastructure that can support the functionality of the website with future enhancements:

•\tNode.js: It serves as the runtime environment that efficiently deals with multiple, concurrent requests and also establishes non-blocking operations so that it does not compromise its performance under load.

•\tExpress.js: This lightweight framework is applied for routing and managing RESTful APIs while dealing with club management, events, or user interactions.

•bcrypt.js: It's a library that one uses to protect user information with password hashing while providing protection of the entire authentication process.

•CORS (Cross-Origin Resource Sharing): This is a feature which allows secure communication between the frontend and backend as it creates a cross origin request with security protocols.

•JWT (JSON Web Tokens): JWTs are used for dealing with the user authentication due to the generation and verification of tokens that help in secure admin and user sessions.

Database

To support long-term data storage and efficient management of sensitive information, a database integration is proposed as follows:

PostgreSQL: This is the powerful database system that will mainly be used for storing important information such as those about clubs, events, announcements, and user applications. The main use of PostgreSQL is because of its integrity for scalability and efficiency in queries.

3.2 Software Used

The design of the Finance Management System for Village Events involves several applications of software that enable the realization of high productivity, smooth workflow,
and effective management of the project. The software chosen in this project is depicted briefly below:

Visual Studio Code

Visual Studio Code is the primary IDE used to code and design a project. The IDE is highly popular and very user-friendly with its rich feature set, such as:

Syntax Highlighting: This makes the code readable; the different elements are color-coded to easily understand the structure and functionality of the code by the developers.

•**Integrated Terminal**: Inbuilt terminal and the ability to run command-line operations right from the IDE enhance workflow efficiency so much.

•**Debugging Tools:** The debugging tools in Visual Studio Code are highly powerful, making it easy to trace bugs and correct them while developing, thus making the process of coding generally smooth.

Browser Developer Tools

The modern browsers, such as Chrome and Firefox, contain a bundle of developer tools that are a significant contribution to the development process. These are most used for:

•\\tReal-Time Testing: This ensures how responsive the website will be in various screen sizes and devices, thereby ensuring smooth interaction by the user.

•\\tDebugging: At times, it is possible to use the web browser's inspection tool to debug JavaScript and CSS. This is important for functionality and aesthetics in general.

• Performance Monitoring: It allows the measurement of frontend code efficiency, thus optimizing user experience with backend bottleneck or elements that are slowloading.

Postman

It is a tester to test and validate potential API endpoints, which can be implemented in further iterations of this project. They ensure the proper communication of the different components since it makes developers

•\\tSend Requests and Test Responses: Developers can very fast test API calls, verifying that they return the correct data.

•\\tValidate Data flow: Postman proves useful when it comes to verifying that data flows correctly from the frontend to backend systems, this is fundamental to keeping an application intact.

Git

Git is used in managing version control. It ensures efficient collaboration and code management throughout the development lifecycle of the project. Among the key advantages of Git include:

•Change Tracking: Git tracks changes in the code base and holds team members responsible through tracking the history of changes.

•\\tConflict Resolution: It supports multiple developers working on the same code base because it reduces conflicts in the code, enabling more fluid integration of every feature.

•\\tCollaboration: Git enables teamwork because it is hosted on repositories such as GitHub, which makes it easier for team members to share their work and add value to the project.

Chart.js (Library)

Not freestanding software, this library, however, is so fundamentally important that it has to be included in this project: Chart.js creates dynamic, interactive charts. It will allow visualizing financial data simply, particularly intricate patterns of expenses to understand at a glance.

Tools for Database Integration

The foregoing version of the system doesn't include database functionality, but some tools should be considered for future enhancements:

- pgAdmin: This graphical user interface will be used to administer and query databases such as PostgreSQL in a very effective manner. Administration of databases is made easy and interaction with data is intuitive.

- SQLite/PostgreSQL: These robust database systems will be employed for storing all the persistent financial records, budgets, transactions, and contributions.

This amalgamation is directed to provide the tool suite by a comprehensive software, through which the Finance Management System tailors its goals for its apt designing of community event finances. Each tool enhances productive work, and thus the development process meets a high quality and collaboration mark.

CHAPTER 4: WORKING PRINCIPLE

4.1 User Roles and Features

User Accessibility and Control

Two user roles are mainly distinguished in Finance Management System, with defined res ponsibilities and access levels:

- **Event Administrators**: They are responsible for the total event finances. The operations they carry out include the management of budgets, recording of transactions, and recording contributions.

- **Viewers :** This is a list of all viewers who can analyze summaries of financials, expenditure trends, and graphical reports to increase the transparency of the system.To ensure real-time updates, users have the ability to modify financial tables and charts directly on the platform.

Thus, to ensure updates in real-time, users are allowed to edit financial tables and charts directly in the interface.

Event Administrator Features

Event administrators have features that help them realize complete financial management:

• **Budget Management:** It allows administrators to create and update the overall budget so that the same reflects the allocations made for each expense.

• **Cost Head Tracking:** They can classify costs in domains like Venue, Catering, or Entertainment. They can also enter, delete or modify specific cost-head entries to keep track of the costs incurred.

• **Transaction Entry Management:** Administrators can create a transaction with the details of date and vendor, amount, and a domain against which the transaction needs to be transferred. They can also delete or edit transactions accordingly.

• **Contribution Tracking**: This track contributes from sponsors or donors and contains information such as name, date, and amount. The administrators can also edit or delete the contribution in case it is updated.

Stakeholder Features

Stakeholders benefit from Stakeholders have features to facilitate more transparency and analysis:

- View Financial Summary: See budgets, total expenses, and remaining funds at any given time.

- tExpense Distribution Breakdown: Interactive charts will break up the expenditure by category, so stakeholders will understand the distribution of financial resources.

- Collaborative Input: On the platform, they can directly come up with updates for financial plans or expense categories, which means collaboration.

Common Features

There are several common features that the user role will take advantage of, making the system more functional as a whole:

- Livestock statistics are all live updated in every dashboard and chart so that information needed by all users can be retrieved.

- Visual Analytics: Charts, graphs provide a summary of financial health in the form of detailed insights into domain-specific spending

- Editable Interface: Administrators and other stakeholders can work with editable tables so they can ensure that data always up-to-date.

4.2 Technologies and Workflow

Frontend (HTML, CSS, JavaScript)

The application is built using HTML for structure, CSS for styling, and JavaScript to make the application interactive

- This system applies the use of Chart.js to produce expressive charts that give a holistic visualisation of the complex financial data.

- In future development, it will apply Node.js and Express.js for full backend development

- The current version is just a simple frontend, applied for base simplicity.

•RESTful APIs will facilitate communication between the frontend and a future database.

Data Management (Current Version)

The current front-end version handles all financial information. The fields with which the values are edited are updated dynamically along with calculations performed. Adding a relational database PostgreSQL during the next version will enforce secure budget storage, transaction storage, and contribution storage.

Security Features in Future

Adding security features to future releases:

- JWT (JSON Web Tokens) will be used with safe role-based authentication to distinguish between administrators and stakeholders.
- The usage of CORS middleware, which will be used in terms of secured communication between the frontend and backend components.

4.3 Applications

The Finance Management System has multiple important functions:

- Event Financial Management: It is a central location for the management of all event finance aspects. This makes budget tracking, expense allocation, and contribution recording easier.

•\tTransparency and Accountability: Real-time updates and visual summaries of financial data foster stakeholder trust in the management of an event.

•\tResource Optimization: This could be used as leverage to optimize resource allocation by monitoring spending, including remaining budgets.

•\tCollaboration and Decision Making: The system allows for collaboration between administrators and stakeholders, hence making informed decisions based on knowledge of what is going with the money.

•\\t Community Engagement: The system encourages community engagement and sponsorship for follow-up events by ensuring finance is transparently viewable.

•4.4 Limitations

Despite having some strong features, the system has weaknesses:

•Real-Time Collaboration: Simultaneous working of various users cannot be achieved as a result of the absence of database integration in the currently present system.

•Data Persistence: Since the system is currently available only at the frontend, data is not preserved; hence data will be lost once a session is closed.

• Network Dependency: The future back-end development would have issues with synchronous real-time in some areas of network connectivity weakness.

• Scalability: Suitable for managing funds of an event, multiple events would require improvement on the database as well.

• User Accessibility: Features accessible to users may not be easily utilized by non-technical persons without enough support or even training.