

Proposal for Finance Management System

Project Title

Comprehensive Finance Management System for Students, Staff, and Doctors

Introduction

Managing financial transactions efficiently is crucial for institutions to ensure transparency and productivity. This proposal outlines the development of a Finance Management System tailored for institutions where users include students, staff, and doctors. The system will streamline financial operations, including bonuses and approvals, while ensuring robust access control through permission groups.

Objectives

- Simplify financial processes for managing bonuses, approvals, and tracking transactions.
 - Ensure data security and access control through permission-based functionality.
 - Provide a user-friendly dashboard for real-time insights into financial transactions.
 - Enhance communication and accountability within the finance department.
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Target Users

1. **Current Users:** Students, staff, and doctors who already have access to the system.
 2. **Future Users:** Potential users who may gain access later as per institutional policies.
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System Features

User Roles and Permissions:

- **User Status:**
 - Users can be either **Active** or **Not Active**.
 - Even if a user's account is set up with a username and password, they will not have access unless marked as **Active**.
- **Permission Groups:**
 - **Managers:**
 - Create bonus requests, including title, reason, amount, and attached files.

- Assign bonus requests to users (students, staff, or doctors).
- **Finance Staff:**
 - Approve or reject bonus requests submitted by managers.
- **Flexible Access:**
 - New users can be added to groups or assigned individual permissions.

Bonus Management:

- Create, update, and track bonus requests.
- Attach necessary files for transparency.
- Notifications sent to relevant parties for approvals or rejections.

Approval Workflow:

- Managers initiate bonus requests.
- Finance staff reviews and either approves or rejects requests.
- Bonus requests can only be submitted and processed within a specified period each month.

Dashboard:

- Display all bonus requests for the month, sorted by users from highest to lowest total bonuses.
- Drill down into specific requests to view detailed information, including titles, reasons, amounts, and attachments.

Reports:

- Monthly reports summarizing bonuses per user.
- Export functionality for further analysis or record-keeping.

Technical Specifications

Frontend:

- Developed using **Angular 17** for a responsive and interactive user experience.

Backend:

- **Django** framework for scalable backend development.
- **PostgreSQL** database for robust and efficient data management.
- Role-based access control to implement permission groups.

Integration:

- Real-time notification system for approvals and rejections.
 - Secure file storage for attachments.
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Track Responsibilities

Frontend Development Team:

- Design and develop user interfaces, including the dashboard and report pages.
- Implement real-time notifications using Angular services.
- Ensure the system is responsive and accessible on multiple devices.

Backend Development Team:

- Set up the PostgreSQL database, including tables for users, roles, permissions, and bonus requests.
- Implement APIs for bonus creation, tracking, and approvals.
- Configure role-based access control and secure file storage.

Testing Team:

- Test all modules, including the dashboard, reports, and approval workflows, for functionality and bugs.
 - Conduct security testing to ensure the safety of sensitive financial data.
 - Perform usability testing to ensure the system is easy to use for students, staff, and doctors.
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Expected Outcomes

- Streamlined financial operations with reduced manual effort.
 - Increased transparency in financial transactions.
 - Improved efficiency in managing approvals and demands.
 - Enhanced user satisfaction through real-time insights and simplified processes.
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Implementation Plan

1. Requirement Gathering:

- Finalize user roles, permission groups, and workflow details.

2. System Design:

- Create DFDs (context diagram and level 0), ERD, and system architecture.
 - 3. **Development:**
 - Implement modules for bonus management, approval workflows, dashboards, and reports.
 - 4. **Testing:**
 - Conduct comprehensive testing to ensure functionality and security.
 - 5. **Deployment:**
 - Roll out the system in phases, starting with key users.
 - 6. **Training:**
 - Provide training for staff, doctors, and students to use the system effectively.
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Project Guidelines

- Maximum team size: **4 members**.
 - The project can be developed using any programming language or framework.
 - Suggested stack:
 - **Backend:** Django
 - **Frontend:** Angular
 - **Database:** PostgreSQL
 - Alternatively, teams can opt for a native approach.
 - The project must be submitted via a GitHub link by **Tuesday, 11:59 PM**.
 - The project will be discussed and evaluated on **Wednesday**.
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Conclusion

This Finance Management System will enhance the efficiency and transparency of financial operations while maintaining robust access control. By leveraging modern technologies, the system will support current users and accommodate future needs seamlessly.