**Background:**

In large-scale research and development (R&D) projects, managing the progress, financials, and other critical details is a complex and time-consuming task. Currently, many projects rely on manual submissions of progress and financial reports, which leads to inefficiencies, errors, and delays in updating information. There is a need for a streamlined, digital system that can handle all project-related activities, from inception to completion.

**Objective:**

The task for interns is to develop a web-based app, compatible with Windows, Android, and Mac, that facilitates comprehensive monitoring and tracking of R&D projects. The system will allow project administrators and investigators to enter, update, and track data related to project timelines, fund utilization, milestones, and completion status. The system must ensure data security, ease of use, and compatibility with all devices.

**Key Requirements:**

1. **Admin Console Features:**

   o Create unique project codes based on the funding source and project characteristics.

   o Input and manage essential project details, such as:

     ▪ Title of the project.

     ▪ Principal and Sub-Implementing Agencies.

     ▪ Project Investigator(s) and their contact details.

     ▪ Project duration, start date, and expected completion date.

     ▪ Financial breakdown (Agency-wise and Head-wise).

   o Admin control to track project progress and mark the project as completed when applicable.

   o Enable official communications (via email) to project coordinators and investigators for meeting updates, project delays, or revisions.

   o Manage delays or issues and trigger notifications for pending submissions.

2. **Research Investigator Console Features:**

   o Provide access to researchers to update project details, including personal information, bank details of their institution, and names of co-investigators.

- o   Allow researchers to submit quarterly progress reports, request time extensions, or additional funding, all through pre-set forms provided by the app.

- o   Support uploading of necessary documents such as progress reports, financial utilization certificates, and other relevant project materials.

- o   Ensure the ability to submit audited financial statements, including interest earned and details of how it was calculated.

- o   Automatically generate forms after submission for official authorization.

- o   Ensure no further modifications to the data once forms are submitted and finalized.

3. **Cross-Platform Compatibility:**

- o   The app should be accessible via both desktop and mobile platforms (PC and phone), supporting Windows, Android, and Mac devices.

- o   Ensure a responsive design for easy usage across devices.

4. **Communication Features:**

- o   Internal messaging functionality for direct communication between investigators and the admin.

- o   Email notifications in case of missed deadlines, incomplete submissions, or other important updates.

5. **Security and Data Locking:**

- o   Lock data input after the submission of progress reports and financial details to ensure no unauthorized changes.

- o   Secure authentication using unique usernames and passwords for all users (admins and investigators).

6. **Completion and Documentation:**

- o   Allow investigators to upload necessary documents before and after the project completion, ensuring a seamless closure of all activities.

- o   Enable the admin to mark projects as complete and archive them for future reference or audits.

**Expected Deliverables:**

- **Development of the web-based app**: Functional across all platforms (Windows, Android, Mac), capable of managing project data, submissions, and communications.

- **Database Management**: Secure and efficient database setup to store all project-related data, ensuring smooth audits and scrutiny.

- **User Management and Authentication**: Secure login for investigators and administrators, with personalized access to projects.

- **Automated Reporting**: Generate progress and financial reports based on data entered by project investigators, reducing manual effort and errors.

This project will provide interns with valuable experience in software development, project management, and real-world application building.