ISMS Task Tracking System Development Report

Introduction

This report outlines the process of developing an Information Security Management System (ISMS) Task Tracking System. The system aims to provide a secure, user-friendly platform for managing tasks, projects, and team members within an organization. This document details the tools, technologies, and steps involved in the development of the ISMS Task Tracking System.

Tools and Technologies

The following tools and technologies were selected for developing the ISMS Task Tracking System:

Front-End:

1. HTML/CSS: For structuring and styling the user interface.
2. JavaScript: For client-side scripting and interactive features.
3. React.js: A JavaScript library for building user interfaces, especially single-page applications.
4. Bootstrap: A front-end framework for responsive and mobile-first design.

Back-End:

1. Node.js: A JavaScript runtime environment for server-side scripting.
2. Express.js: A web application framework for Node.js, used for building APIs and handling server-side logic.

Database:

1. MySQL: A popular relational database management system for storing structured data.

Authentication and Authorization:

1. Custom Implementation: Using hashed passwords and JWT (JSON Web Tokens) for secure authentication and authorization.

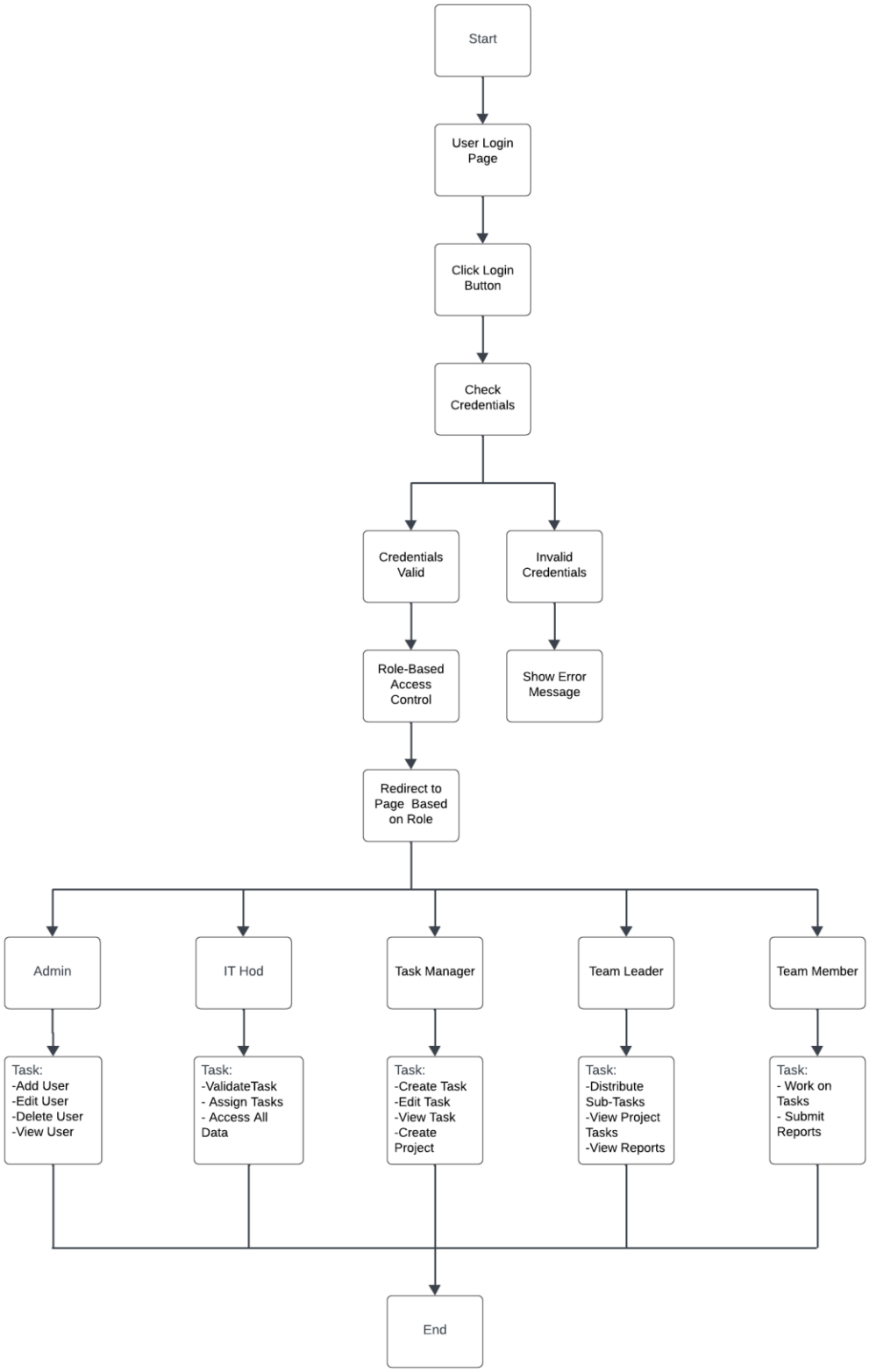
Development Tools:

1. Visual Studio Code: A versatile code editor for writing, editing, and debugging code.

Project Management and Collaboration:

1. Jira: A project management tool for planning, tracking, and managing software development projects.

Flowchart:


Start
User Login Page
Click Login Button
Check Credentials
Credentials Valid
Invalid Credentials
Role-Based Access Control
Show Error Message
Redirect to Page Based on Role
Admin
IT Hod
Task Manager
Team Leader
Team Member
Task:
-Add User
-Edit User
-Delete User
-View User
Task:
-ValidateTask
- Assign Tasks
- Access All Data
Task:
-Create Task
-Edit Task
-View Task
-Create Project
Task:
-Distribute Sub-Tasks
-View Project Tasks
-View Reports
Task:
- Work on Tasks
- Submit Reports
End

Detailed Steps for Building ISMS Task Tracking System

1. Project Setup and Environment:

Setup Development Environment:
- Install Node.js and npm.
- Install Visual Studio Code.

2. Front-End Development (React.js):

Building UI Components:
- Create a new React application using create-react-app.
- Develop UI components for different user interfaces, such as Authentication, Dashboard, Task Management, and Project Management.
- Use Bootstrap for responsive design.

3. Back-End Development (Node.js + Express.js):

Setting Up Node.js Server:
- Initialize a new Node.js project.
- Install necessary packages.
- Configure Express.js for routing and middleware.

Database Connection (MySQL):
- Set up MySQL database.
- Connect Node.js with MySQL using mysql2.

Creating API Endpoints:
- Define RESTful API endpoints for Authentication, Task Management, Project Management, and User Management.

4. Integrating Front-End with Back-End:

API Integration:
- Use Axios or fetch API in React components to communicate with backend API endpoints.
- Implement authentication flow.

5. Implementing Role-Based Access Control:

Role Management:
- Define roles and permissions.
- Implement middleware in Express.js to check user roles and permissions.

6. Reminder and Analytics Features:

Reminder System:
- Set up a reminder service using scheduling libraries.
- Notify users via email or in-app notifications.

Analytics:
- Integrate Google Analytics to monitor user interactions and application performance.

7. Security and Best Practices:

Security Measures:
- Implement OWASP security practices.
- Use bcrypt for hashing passwords.
- Enable SSL/TLS encryption.

8. Deployment and Maintenance:

Prepare for Deployment:
- Set up environment variables.
- Build optimized production assets.
- Deploy to hosting platforms.

9. Testing and Documentation:

Testing:
- Write unit tests for both front-end and back-end.
- Conduct integration tests and end-to-end tests.
- Implement continuous integration/continuous deployment (CI/CD) pipelines for automated deployments.

Documentation:
- Document the project thoroughly, including setup instructions, API documentation, and user guides.

Conclusion

By following these detailed steps, the ISMS Task Tracking System can be effectively developed to meet security standards, provide role-based access control, and offer essential features like reminders and analytics. Each step is crucial for developing a robust and scalable application that meets the project requirements.