Project Proposal: Login System with Contact Registration

1. Project Overview

1.1 Project Title

Login System with Contact Registration

1.2 Project Description

The project aims to develop a secure and user-friendly login system with contact registration in Java. This system will allow users to create accounts, log in securely, and store and display contact information associated with each user.

2. Objectives

1. **User Authentication:** Implement a robust user authentication system to ensure secure login functionality.

2. **User Registration:** Allow users to register by providing a unique username, password, full name, and phone number.

3. **Contact Information Storage:** Store user contact information, including full name and phone number.

4. **User Interface:** Develop a simple and intuitive command-line interface for users to interact with the system.

5. **Data Validation:** Implement validation checks to ensure the integrity and correctness of user-provided data.

3. Features

3.1 Login System

- Users can log in by providing a valid username and password.

- Invalid login attempts are appropriately handled, providing informative error messages.

- Successful login displays a welcome message and allows access to contact information.

3.2 User Registration

- New users can register by providing a unique username, a secure password, full name, and phone number.

- Registration checks for duplicate usernames and prompts users to choose another one.

3.3 Contact Information

- Users' contact information (full name and phone number) is securely stored.

- Registered users can view their contact information upon successful login.

3.4 Data Persistence

- User data is stored persistently, allowing information to persist between program executions.

4. Technologies and Tools

- **Language:** Java

- **Data Storage:** HashMap for in-memory data storage

- **User Interface:** Command-line interface using **Scanner** for user input

- **Development Environment:** Any Java-supported IDE (e.g., IntelliJ, Eclipse)

5. Project Timeline

5.1 Milestones

1. **Setup and Planning (1 week):**

   - Define project scope and requirements.

- Set up the development environment.

- Plan the project timeline and tasks.

2. **User Authentication (2 weeks):**

- Implement login functionality.

- Handle invalid login attempts.

3. **User Registration and Contact Information (3 weeks):**

- Develop user registration functionality.

- Implement storage and retrieval of contact information.

4. **User Interface and Testing (2 weeks):**

- Design and implement a user-friendly command-line interface.

- Perform extensive testing and debugging.

5. **Documentation and Finalization (1 week):**

- Create comprehensive project documentation.

- Finalize the project and prepare for submission.

5.2 Deliverables

- Secure login system with user authentication.

- User registration functionality with contact information storage.

- User-friendly command-line interface.

- Project documentation, including setup instructions and usage guidelines.

6. Project Team

- Project Manager: [Your Name]

- Developers: [Developer 1], [Developer 2]

7. Budget

The project will be developed using open-source tools and libraries, making it a cost-effective solution.

8. Conclusion

The Login System with Contact Registration aims to provide a secure and efficient solution for user authentication and contact information management. The completion of this project will result in a reliable system that can be expanded for future enhancements and integrations.

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