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COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION SYSTEM AND TECHINOLOGY

BACHELOR OF INFORMATION COMMUNICATION TECHNOLOGY

MODULE NAME: MOBILE APPLICATION DEVELOPMENT

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PROJECT NAME: DIARY MANAGEMENT APP

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DIARY MANAGEMENT MOBILE APPLICATION

ABSTRACT

The Diary Management Mobile Application is a native Android application developed using Kotlin in Android Studio with SQLite as the local database. The system enables users to securely record, manage, edit, and delete personal diary entries using a mobile device. The application implements CRUD operations and ensures that each user can only access their own diary entries. The system follows a three-layer architecture: Presentation Layer, Business Logic Layer, and Data Layer.

1. INTRODUCTION OF OUR PROJECT

1.1 Background of the Study

With the advancement of mobile technology, many traditional manual systems are being replaced by digital applications. A diary is an important personal tool used to record daily events and thoughts. However, physical diaries lack security and can be easily lost.

1.2 Problem Statement

Traditional diary systems lack privacy, are difficult to edit, and can be physically damaged or lost. Therefore, there is a need for a secure digital diary management system.

1.3 Objectives of the Project

General Objective:

To develop a secure Diary Management Mobile Application using Kotlin and SQLite.

The specific objective to our project are follows

- Implement user authentication using username and password.

- Implement CRUD operations for diary entries.

- Store diary data using SQLite database.

- Design a user-friendly mobile interface.

2. SYSTEM REQUIREMENTS

2.1 Functional Requirements

- User registration with username and password.

- User login authentication.

- Create diary entries.

- View diary entries.

- Update diary entries.

- Delete diary entries.

2 Non-Functional Requirements

- Operate on Android devices.

- Work offline using SQLite.

- Provide simple and clean interface.

- Validate user inputs.

3. SYSTEM ARCHITECTURE

The system follows a three-layer architecture consisting of Presentation Layer, Business Logic Layer, and Data Layer (SQLite Database).

3.1 Presentation Layer

Developed using Kotlin and XML layouts in Android Studio. Includes Login, Register, Dashboard, Add/Edit Diary screens.

3.2 Business Logic Layer

Handles authentication, input validation, and CRUD operations. Implemented using Kotlin classes.

3.3 Data Layer (SQLite Database)

The SQLite database stores:

- Username

- Password

- Diary Information

Users Table Fields: user_id, username, password

Diary Table Fields: diary_id, user_id, title, content, date_created, date_updated

4. IMPLEMENTATION DETAILS

Technologies Used:

- Kotlin

- Android Studio

- SQLite

- Android Platform

Database operations implemented: INSERT, SELECT, UPDATE, DELETE.

5. SYSTEM TESTING

The system was tested to ensure successful registration, login authentication, and correct CRUD functionality for diary entries.

6. SECURITY CONSIDERATIONS

The system requires authentication before access and filters diary entries by user ID. Future improvements may include password hashing.

7. FUTURE IMPROVEMENTS

- Implement password hashing.

- Add biometric authentication.

- Add search functionality.

- Add cloud backup.

CONCLUSION

The Diary Management Mobile Application successfully provides a digital solution for managing personal diary entries using java language(kotlin) and SQLite. Also make easy management of information to the people and organizations