Personal Diary Application - Team 11

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1. Introduction

Many people use diaries to record their thoughts, memories, and daily experiences. A digital personal diary provides a more convenient and secure way to manage these entries. This system allows users to create, edit, and delete diary entries easily. Users can also insert photo paths from the system gallery and schedule time-based notifications to remind them to write in their diaries.

The system will function as a standalone application, securely storing diary entries in a relational database to ensure data integrity and privacy. It will also integrate with the system gallery, allowing users to attach images to their entries.

This application helps users build a consistent journaling habit while keeping their personal thoughts safe. It aligns with the goal of providing an organized and reliable way to manage personal reflections digitally.

2. User Requirements

a) I want to create a new diary entry.
b) I want to edit my existing diary entries.
c) I want to delete a diary entry if I don’t need it anymore.
d) I want to add photos to my diary entries from my device’s gallery as premium user.
e) I want to set a reminder at a specific time to write in my diary as premium user.
f) I want my diary entries to be stored securely.

g) I want to see and manage all my diary entries easily.

h) I want the application to be simple and easy to use.

3. Functional Requirements

1. Insert Photo Path in Diary Entry

Description/Action: The premium user can attach a photo path to a diary entry.

Requirements/Inputs: The system must allow users to browse and select a photo.

Source: System gallery (photo path) and user input.

Pre-condition: The user must have a diary entry open.

Post-condition: The selected photo path is stored in the database.

Output: The diary entry displays the selected photo path.

2. Schedule Notification Reminder

Description/Action: The premium user can set a time-based notification to remind them to write in their diary.

Requirements/Inputs: The system must allow users to select a time and set a reminder.

Source: User input (selected time).

Pre-condition: The user must schedule a reminder.

Post-condition: The system triggers a notification at the set time.

Output: A notification appears, reminding the user to write in their diary.

3. Secure Diary Entries

Description/Action: Diary entries are securely stored in a relational database.

Requirements/Inputs: The system must ensure data encryption and restricted access.

Source: User-created diary entries.

Pre-condition: The user has saved at least one diary entry.

Post-condition: The diary entry is securely stored in the database.

Output: The diary entry remains protected from unauthorized access.

4. Search for Diary Entries

Description/Action: The user and the premium user can search for specific diary entries using keywords.

Requirements/Inputs: The system must allow users to enter a search term.

Source: User input (search term) and stored diary entries in the database.

Pre-condition: The user must have at least one saved diary entry.

Post-condition: The system retrieves and displays relevant diary entries matching the search term.

Output: A list of diary entries that contain the searched keywords.

5. Sort Diary Entries by Date

Description/Action: The user and the premium user can sort diary entries based on the date they were created or last modified.

Requirements/Inputs: The system should allow sorting in ascending or descending order.

Source: Stored diary entries in the relational database.

Pre-condition: The user must have multiple diary entries saved.

Post-condition: The system displays a sorted list of diary entries.

Output: A reordered list of diary entries based on the selected sorting criteria.

4. Non-Functional Requirement

- **Reliability:**

  The system should function **without crashes or data corruption**, ensuring that diary entries remain accessible even after restarting the application.

- **Performance:**

  The system must **open and display diary entries within 1 second** on a standard personal computer.

- **Security:**

  All diary data should be **stored securely in an encrypted local database** to prevent unauthorized access.

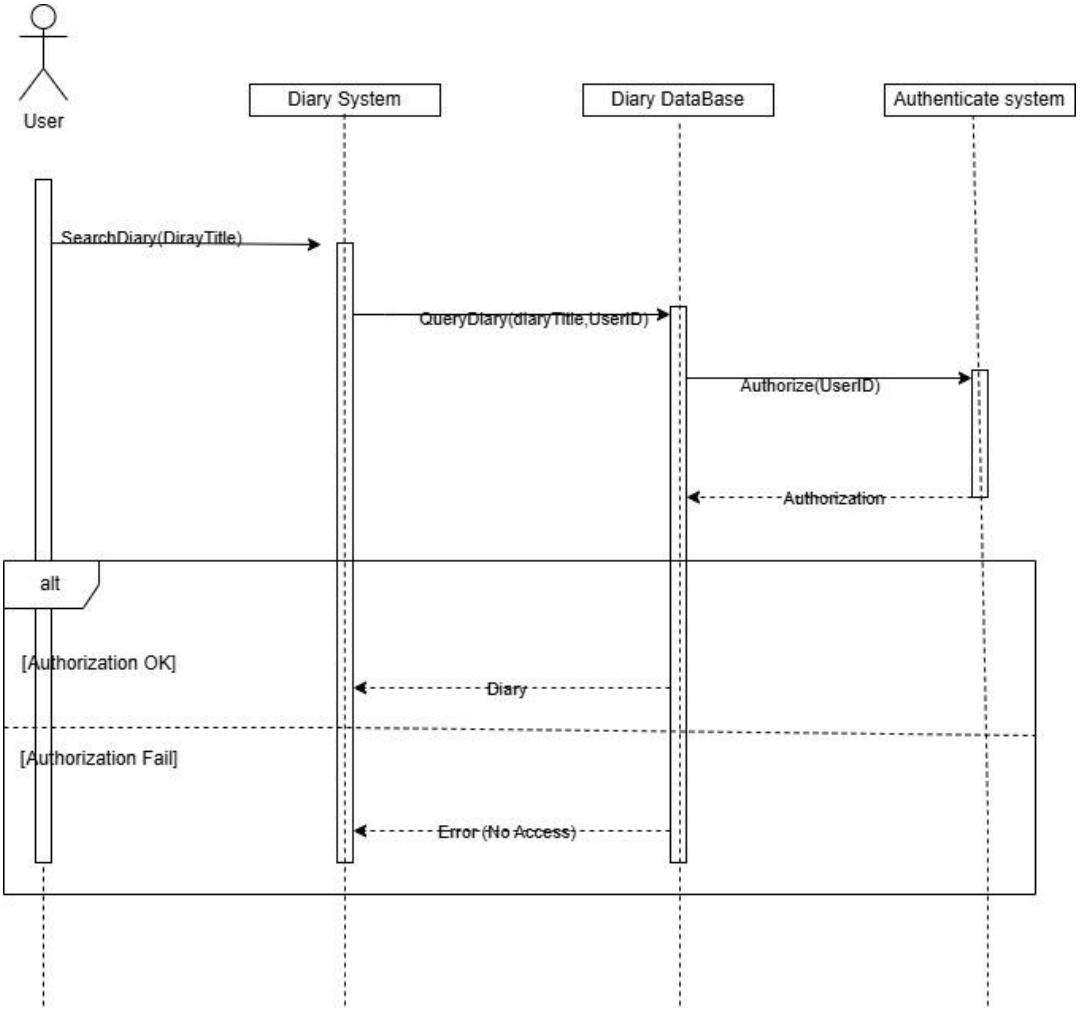
- **Storage Requirements:**

  The application should efficiently handle **at least 5 years of daily diary entries**, including text and photo paths, without performance issues.

- **Usability:**

  The system should provide **a simple and intuitive user interface**, allowing users to create, edit, and search for diary entries with minimal effort.

Sequence diagram :



Use case diagram :