



Project ITCS259_Mobile Application Development

Daily Mood Journal Application

Submitted by

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ITCS259_Mobile Application Development

1. Introduction & Background

- People increasingly want to understand their emotions for better mental health, focus, and productivity. However, many mood-tracking apps require accounts, internet, or have complex interfaces.
- This project presents **Daily Mood Journal**, a simple and lightweight application that helps users record their emotions each day through a clean UI and offline-first design.

2. Related Works

Popular mood apps like **Daylio**, **Moodflow**, and **Reflectly** offer journaling and emotional tracking. However, they often:

- require logins,
- include ads or paid features,
- store data online,
- or feel overwhelmed for new users.

Our app focuses on **privacy**, **offline usage**, **minimalism**, and **speed of entry**.

3. Methodology

3.1 System Architecture

- **Frontend:** Flutter
 - **State Management:** Provider
 - **Database:**
 - Mobile/Desktop → SQLite (sqflite)
 - Web → SharedPreferences (localStorage)
 - **Charts:** fl_chart
- Notification (Mobile Only):** flutter_local_notifications

3.2 Tools

- Flutter SDK, Dart, Android Emulator, Chrome DevTools, VS Code/Android Studio.

3.3 Application Workflow

1. User opens app
2. Today screen loads today's data
3. User selects mood + adds a quick note
4. Data saved to device
5. User reviews history & statistics
6. Optional daily reminder (Android only)

4. Results

Completed Features

Feature	Done
Add mood & note	✓
History list	✓
Search & filter	✓
Statistics chart	✓
Dark/Light mode	✓
Daily notification (Android)	✓
Offline web support	✓
Local storage	✓

5. Limitations

- Notifications unavailable on web
- LocalStorage on web resets if origin (port) changes
- No cloud sync
- SQLite is available only on mobile/desktop

6. Conclusion

Daily Mood Journal successfully demonstrates a clean, offline-first emotion-tracking app. It works across platforms, stores data locally, and keeps user experience simple and intuitive.

7. Responsibilities

6688121	Documentation writing, Flutter coding, state management, local database logic, integration, debugging across platforms
6688193	Ux/UI design, statistics page, video presentation, testing, preparing screenshots and final report

8. References

Flutter & Dart

1. Flutter Documentation:
<https://docs.flutter.dev>
2. Dart Language Documentation:
<https://dart.dev/guides>
3. Flutter Material 3 (M3) Guidelines:
<https://m3.material.io>

Packages Used in the Project

Provider

4. Provider (State Management):
<https://pub.dev/packages/provider>

SQLite (Mobile/Desktop via sqflite)

5. sqflite (SQLite plugin for Flutter):
<https://pub.dev/packages/sqflite>

6. sqflite Documentation (GitHub):
<https://github.com/tekartik/sqflite>

Web Storage (SharedPreferences Web implementation)

7. shared_preferences:
https://pub.dev/packages/shared_preferences

IndexedDB / Web FFI

8. sqflite_common_ffi_web:
https://pub.dev/packages/sqlite_common_ffi_web
9. IndexedDB API (MDN Web Docs):
https://developer.mozilla.org/en-US/docs/Web/API/IndexedDB_API

Charts

10. fl_chart (Bar chart & visualization):
https://pub.dev/packages/fl_chart

11. fl_chart GitHub Repo:
https://github.com/imaNNeo/fl_chart

Notifications

12. flutter_local_notifications:
https://pub.dev/packages/flutter_local_notifications

13. Android Notification Permission
(Official Docs):
<https://developer.android.com/develop/ui/views/notifications/notification-permission>

14. Exact Alarms on Android 12+:
<https://developer.android.com/training/scheduling/alarms>

Miscellaneous Tools

15. Path Provider (finding OS paths)
https://pub.dev/packages/path_provider

16. intl (Date formatting)
<https://pub.dev/packages/intl>

Flutter Web Deployment

17. Flutter Web — Local Storage

<https://docs.flutter.dev/platform-integration/web/renderers#accessing-browser-apis>

18. Browser localStorage (MDN)

<https://developer.mozilla.org/en-US/docs/Web/API/Window/localStorage>

Design Guidelines

19. Material Design Components
<https://m3.material.io/components>

20. Material Icons
<https://fonts.google.com/icons>

General App

21. Daylio — Mood Tracker:
<https://daylio.net>

22. Moodflow: <https://moodflow.app>

23. Reflectly: <https://reflectly.app>