

PROJECT ABSTRACT

Medicine Reminder Android App

A medicine reminder Android app with per-medicine dose schedules, exact alarms, adherence tracking and refill prediction. Delivered built-to-order with full Kotlin source, report, PPT and viva kit.

01. Title

Medicine Reminder Android App — never miss a dose: per-medicine schedules with exact alarms, one-tap taken confirmation, weekly adherence scoring and stock-based refill alerts.

02. Introduction / Background

Missing doses is the most common reason prescriptions fail, especially for patients managing several medicines on different schedules. Phone alarms cannot name the medicine and dose, cannot record whether it was taken, and cannot warn that tablets are running out. A dedicated reminder models each medicine with its schedule, fires precise dose alarms, records confirmations into an adherence score, and tracks stock against the dosing rate to predict refill dates.

03. Problem Statement

Generic alarms lack medicine context, confirmation tracking and refill awareness. This project builds an Android app where each medicine carries its times, dosage and instructions; exact alarms fire per dose with taken/snooze actions; a boot receiver restores alarms after restarts; adherence aggregates into a weekly score; and stock decrements predict refills — all data local to the device.

04. Objectives

- Model medicines with multiple daily doses, weekly patterns, dosages and before/after-food instructions.
- Schedule exact per-dose alarms resilient to Doze mode and reboots.
- Record taken confirmations with timestamps for honest adherence math.
- Track stock per medicine and warn before the predicted run-out.
- Present a daily dose timeline (due / taken / upcoming); keep everything on-device.

05. Proposed Methodology

Adding a medicine expands into concrete dose events via the schedule engine. Each event registers an exact alarm (`setExactAndAllowWhileIdle`); a boot receiver re-registers after restarts. Notifications carry taken/snooze actions. Confirmations write taken-timestamps to Room; the adherence engine compares scheduled vs taken-on-time doses. Stock decrements per confirmation trigger refill warnings at the threshold. A setup flow guides exact-alarm permission and battery exemption.

06. System Architecture / Working

Medicine editor → schedule engine (dose events) → AlarmManager (exact alarms) + boot receiver → notifications with actions → Room (medicines, dose events, confirmations) → adherence engine + stock tracker → MVVM UI (schedule, medicines, add).

07. Hardware / Software Requirements

- Android Studio with an Android 8.0+ device or emulator.
- Kotlin, Android Jetpack (MVVM, Room), AlarmManager, Notifications API, Material 3.
- No server needed; fully local.

08. Expected Outcomes

A working medicine reminder with scheduling, adherence and refill alerts — plus engine documentation, build instructions, a project report, PPT and viva Q&A.

09. Applications

- Elderly patients managing multiple daily prescriptions.
- Post-treatment courses where adherence determines outcomes.
- Caregivers monitoring a family member's schedule.

10. Future Scope

- Caregiver mode with missed-dose alerts to a family member.
- Pharmacy refill ordering integration.
- Multiple patient profiles per install.