PROJECT ABSTRACT

Gym Workout Tracker Android App

An Android workout logger with routine planning, per-set weight/rep logging, rest timers, volume tracking, personal-record history and progression charts — built-to-order with source code, report, PPT and viva kit.

01. Title

Gym Workout Tracker Android App

02. Introduction / Background

Beginners at the gym track workouts in their phone's notes app or on paper, which means progressive overload — the actual mechanism of getting stronger — is left to memory: what weight did I bench last Tuesday? A workout tracker solves the memory problem: routines are planned once, each set is logged with weight and reps as it happens, rest timers keep the pace, and the history turns into progression charts and personal records. This project builds that loop as an Android app with a gym-floor-friendly logging UI: big touch targets, one-hand set completion, and glanceable rest timers.

03. Problem Statement

Without a log, lifters guess their working weights, rest too long or too short between sets, and cannot tell whether their program is working. Generic fitness apps bundle diet plans, social feeds and subscriptions around a mediocre logger. This project focuses on the core loop — plan, log, rest, progress — with an interface designed to be operated mid-set with chalky hands.

04. Objectives

- Implement routine and workout-day planning (e.g. push/pull/legs splits).
- Build a per-set logger for weight × reps with one-tap set completion and set editing.
- Provide configurable rest timers between sets with skip support.
- Compute session volume (total kg lifted) and track it per workout.
- Maintain personal-record history per exercise with dates.
- Render progression charts (estimated 1RM, volume) over selectable time ranges.

05. Proposed Methodology

Routines are stored as workout days containing ordered exercises with target sets, reps and weights. During a session the app presents one exercise at a time; each completed set writes a row (exercise, set number, weight, reps, timestamp). The rest timer starts automatically on set completion. Session volume is the sum of weight × reps across sets. Estimated one-rep max uses the standard Epley formula (weight × (1 + reps/30)) for charting progression; personal records are the maximum estimated 1RM per exercise with the date achieved. All data stays in the local database; charts are rendered from query aggregations.

06. System Architecture / Working

Three layers: (1) Data layer — tables for routines, workout days, exercises, sets and personal records; (2) Session engine — active-workout state machine, rest-timer service, volume and 1RM computation; (3) UI layer — today's workout screen, set logger with rest timer, and the progress section with charts and PR lists. The working flow is: open today's workout → start → log each set → rest timer runs → finish → volume and PRs update → charts reflect the new session.

07. Hardware / Software Requirements

- Android phone (Android 8.0+) — no other hardware needed
- Kotlin or Java with Android SDK; SQLite (Room) for local storage
- Charting library for progression graphs; foreground service for rest timers
- No internet required; all data stays on the device

08. Expected Outcomes

A working Android app in which a full push-day session can be logged set by set with rest timers, session volume is computed, and the bench-press progression chart plus personal-record list update from real logged data. Strength figures in the demo dataset are illustrative sample data; the Epley estimate is a standard approximation, documented as such.

09. Applications

- Personal strength-training logging
- College gym onboarding for beginners
- Personal trainers assigning routines to clients
- Fitness-coursework demonstration of health-data apps

10. Future Scope

- Plate-calculator for barbell loading
- Wearable (smartwatch) set logging via Bluetooth
- Program templates (5×5, 5/3/1) with auto-progression
- Export training logs for coach review