**Functional Requirements Specification**

**Project Title:** CrossFit Gym Management App  
**Client:** Johan Bloem’s CrossFit Box  
**Mentor:** Johan Bloem  
**Delivery Deadline:** 24 October 2025  
**Platforms:** Mobile (Members & Coaches), Web (Managers/Admin)

**R1: Authentication & Role-Based Access**

**R1.1**: User Registration & Login

* R1.1.1: Members register and login via mobile (email, password, OTP).
* R1.1.2: Coaches login via mobile (provisioned by manager).
* R1.1.3: Managers & Admins login via web (single shared manager account + individual admin accounts).

**R1.2**: Logout & Session Management

* R1.2.1: All roles can logout.

**R1.3**: Role Management (Manager/Admin only)

* R1.3.1: Create, edit, or revoke Coach and Admin accounts.
* R1.3.2: Assign roles to users; enforce permissions per role.

**R2: Member Onboarding & Profile**

**R2.1**: Digital Waivers & Health Questionnaires

* R2.1.1: New members complete electronic waivers before booking.
* R2.1.2: Waiver signed, timestamped, stored securely.

**R2.2**: Member Profile

* R2.2.1: View/edit personal details, emergency contact.
* R2.2.2: Upload profile photo, track attendance history and PRs.
* R2.2.3: Choose to opt-in or opt-out of public leaderboards

**R3: Class Booking (High Priority)**

**R3.1**: Class Catalogue & Details

* R3.1.1: View upcoming classes (date, time, coach, capacity, workout type).
* R3.1.2: Search & filter by workout type, coach, time slot.
* R3.1.3: Join live classes when they start

**R3.2**: Member Booking & Cancellation

* R3.2.1: Book classes against active subscription or class-credit balance (enforce pay-first model).
* R3.2.2: Cancel within configurable window (e.g., ≥2 hrs before).
* R3.2.3: Prevent double-booking (same time slot) and capacity overflow.
* R3.2.4: In-app calendar integration & push/SMS reminders.

**R4: Class Management & Setup (High Priority)**

**R4.1**: Class Setup & Scheduling (Manager)

* R4.3.1: Create, edit, delete single or recurring classes (with presets) i.e. recurring weekly schedules or individually created classes
* R4.3.2: Override for holidays, coach swaps, special events.
* R4.3.3: Define coach assignment, capacity, duration, class credit cost.

**R4.2**: Coach Assignment & Notification

* R4.4.1: Assign coaches to classes; view schedule in coach mobile dashboard.
* R4.4.2: Trigger notifications on assignment or changes.

**R5: Workout Design & Management (High Priority)**

**R5.1**: Workout Creation for scheduled classes (Coach)

* R5.1.1: Free-text entry → structured templates (For Time, AMRAP, EMOM, Chipper, Intervals)
* R5.1.2: Tag workouts by category (strength, endurance, skill).

**R5.2**: Template Library

* R5.2.1: Save common WOD templates for reuse.
* R5.2.2: Create, delete and edit templates

**R6: Payments & Subscriptions (High Priority)**

**R6.1**: Payment Processing

* R6.1.1: Integrate recurring (monthly) and once-off payments
* R6.1.2: Enforce “pay-first” model: no booking without paid subscription/credit.
* R6.1.3: Generate and email receipts/invoices.

**R6.2**: Subscription & Packages

* R6.2.1: Define unlimited, fixed-credit, and custom-duration plans.
* R6.2.2: Auto-renewal with opt-out; configurable cancellation policies.
* R6.2.3: Member dashboard: view active plan, usage, expiry, and remaining credits.
* R6.2.4: Manager can define new packages

**R7: Score Submission & Leaderboards (Medium Priority)**

**R7.1**: Score Recording

* R7.1.1: Members submit their workout result (time, reps, rounds).
* R7.1.2: Coaches can review/edit scores post-class.
* R7.1.3: Coaches can fill in scores for members who cannot do so at the time.

**R7.2**: Leaderboards

* R7.2.1: Live daily leaderboard by class.
* R7.2.2: Overall (gym-wide) leaderboards.
* R7.2.3: Format-specific ranking rules (e.g., low-time vs. high-reps).
* R7.2.4: Privacy toggle: opt-out of public display.

**R8: Reports & Analytics (Medium Priority)**

**R8.1**: Attendance & Utilization

* R8.1.1: Class fill-rate, no-show rates, member attendance history.
* R8.1.2: Filterable by date range, class type, coach.

**R8.2**: Financial Metrics

* R8.2.1: Monthly revenue breakdown (recurring vs. one-off).
* R8.2.2: Overdue payments, churn rates.
* R8.2.3: Exportable CSV/PDF.

**R8.3**: Performance Trends

* R8.3.1: Popular workouts, attendance peaks.
* R8.3.2: Individual member improvement graphs and statistics.

**R9: Communications & Notifications (Medium Priority)**

**R9.1**: In-App Messaging

* R9.1.1: Coach ↔ member chat or class comment threads (optional).
* R9.1.2: Internal messaging between any user type.

**R9.2**: Push, Email & SMS Alerts

* R9.2.1: Booking confirmations, cancellations, reminders.
* R9.2.2: Payment receipts, renewal notices, expiry warnings.
* R9.2.3: Notification settings per user.
* R9.2.4: Alerts for coach substitutions and class detail changes. (mentioned earlier)

**R10: Gamification & Engagement (Low Priority / Optional)**

**R10.1**: Streaks & Badges

* R10.1.1: Track consecutive attendance streaks.
* R10.1.2: Points system or award badges for milestones (e.g., 50 WODs).

**R10.2**: Social Sharing

* R10.2.1: Share leaderboard placements or PRs to others.

**R10.3**: Avatar Evolution (Experimental)

* R10.3.1: Unlock avatar upgrades based on points; optional “avatar battle” mini-game.

**R11: Workout Data Input Subsystem**

***All roles: Members (mobile), Coaches (mobile/web override)***

**R11.1: Common Input Framework**

* R11.1.1: Real-time submission via WebSocket ensures the leaderboard updates instantly.
* R11.1.2: Allow manual entry/edit of the fields.

**R11.2: “For Time” Workouts**

**R11.2.1**: Timer Controls

* R11.2.1.1: “Start” button begins a stopwatch; timestamp recorded as start\_time.
* R11.2.1.2: “Stop” button halts the stopwatch; timestamp recorded as end\_time.
* R11.2.1.3: Display elapsed time in mm:ss format during timing.

**R11.3: AMRAP (As Many Rounds/Reps As Possible)**

**R11.3.1**: Time-cap and Countdown

* R11.3.1.1: Display the workout’s time cap (e.g., “12:00”) and a countdown timer.

**R11.3.2**: Rounds & Reps Entry

* R11.3.2.1: Two numeric fields: rounds\_completed and extra\_reps.
* R11.3.2.2: Real-time calculation of total\_reps = rounds\_completed × reps\_per\_round + extra\_reps.

**R11.4: EMOM (Every Minute on the Minute)**

**R11.4.1**: Minute countdown

* R11.4.1.1: Specify how many minutes (intervals) in that workout
* R11.4.1.2: Display the countdown of the minute followed by short data entering period

**R11.4.2**: Number of intervals completed entry

* R11.4.2.1: Indicate whether they completed the task for that minute or not

**R11.5: Chipper Workouts**

**R11.5.1**: For-Time Flow

* R11.5.1.1: Identical UI to **R12.2**, since chipper is simply a long For Time.

**R11.6: Interval Workouts (Fixed Work/Rest Blocks)**

**R11.6.1**: Work/Rest Timer

* R11.6.1.1: Built-in timer alternates Work and Rest phases (configurable durations).
* R11.6.1.2: At end of each Work phase, prompt for reps\_this\_interval.

**R11.7: Weight & Scaling Inputs**

* R11.7.1: Reps and Load entry calculates score taking into account their body weight