

## PROJECT ABSTRACT

# Physiotherapy Exercise Adherence Tracker

*A web app where physiotherapists prescribe home-exercise plans and patients log sessions, track streaks, record pain scores and view range-of-motion progress.*

*Built-to-order with source code, database, report, PPT and viva kit.*

## 01. Title

Physiotherapy Exercise Adherence Tracker — a built-to-order web application that closes the gap between physio sessions: prescribed home-exercise plans, guided session logging, streaks, pain scores and progress the clinician can actually see.

## 02. Introduction / Background

Physiotherapy works only if the patient does the home exercises — and most don't. The physio demonstrates the routine in the clinic, the patient forgets half of it by evening, and at the next visit nobody knows what was actually done. Fitness trackers don't fit: they track workouts, not rehab — no prescribed plans, no pain logging, no clinician oversight. This project builds a rehab-specific tracker. The physiotherapist creates a plan (exercises, sets × reps, hold times, rest intervals) tied to the patient's condition; the patient opens today's plan, follows guided steps with a rest timer, ticks off each exercise, and logs a pain score. Streaks and weekly adherence charts keep motivation up, while the physio sees real compliance data and progress notes at review time. The scope is deliberately honest: it tracks prescribed exercises and self-reported outcomes — it never diagnoses and never prescribes by itself.

## 03. Problem Statement

Home-exercise non-adherence is the biggest reason rehab fails, and clinicians currently measure it by asking “have you been doing your exercises?” The project addresses this by giving the physio a prescription tool and the patient a guided daily checklist, with adherence computed from logged sessions — not self-report at the next visit — plus pain trends and measured range-of-motion over the rehab timeline.

## 04. Objectives

- Let physiotherapists build per-patient plans from an exercise library with sets, reps, hold times and rest.
- Provide a guided session view with step instructions, common-mistake warnings and a rest timer.
- Log per-exercise completion, session duration and a 0–10 pain score after each session.
- Compute streaks and weekly adherence percentages for patient and physio.
- Track measured range-of-motion values across clinic visits with charts.
- Provide physio progress notes and a patient–physio message thread.

## 05. Proposed Methodology

The system is developed in three stages. (1) Prescription modelling: exercises, plan items (sets × reps × hold × rest × resistance) and plan versions with effective dates. (2) Session logging: the patient ticks exercises off; completion, duration and pain score are stored per session; streaks and weekly adherence are derived aggregates. (3) Review loop: the physio views adherence, pain trends and notes before each visit, records measured range-of-motion, and publishes plan adjustments that appear in the patient's next session.

## 06. System Architecture / Working

A PHP backend with two roles (patient, physiotherapist) sits on a MySQL schema of roughly eight tables (users, patients, exercises, plans, plan\_items, sessions, pain\_logs, measurements). The front end is mobile-responsive for bedside use, with JavaScript timers and SVG charts for adherence, pain trend and range-of-motion. Role separation ensures patients see only their own data and physios only their own patients.

## 07. Software Requirements

- PHP 8, MySQL 8, Apache (standard LAMP / shared hosting)
- Modern mobile or desktop browser; responsive layout for bedside use
- Exercise library ships with ~30 common rehab exercises, physio-editable
- No sensors or apps to install — pure web

## 08. Expected Outcomes

- Patients following guided daily plans with timers and tick-off logging.
- Streaks, weekly adherence % and pain trends visible to both sides.
- Range-of-motion progress charts across the rehab timeline.
- Physios adjusting plans remotely with effective dates.
- A complete student kit: source code, sample rehab data, report, PPT and viva Q&A.;

## 09. Applications

- Physiotherapy clinics prescribing home programs
- Post-surgical rehab (knee, shoulder, back) compliance tracking
- Sports physiotherapy and return-to-play programs
- College project demonstrating two-sided health apps with honest scope

## 10. Future Scope

- Video demonstrations per exercise in the library
- Wearable or phone-sensor rep counting (clearly labelled as estimates)
- Tele-rehab video consult integration
- Outcome-score questionnaires (e.g. KOOS, DASH) as structured forms