# Track2Crack – Project Tracker & Feature Reference

## 📌 Project Overview

Track2Crack is a coding improvement platform that syncs data from multiple coding platforms (LeetCode, Codeforces, GFG, Hackerrank) and helps users practice via personalized contests, MCQ quizzes, reminders, and retention mechanisms.

## 🗂️ Finalized MongoDB Collections (12)

1. users  
2. platform\_submissions  
3. topic\_stats  
4. questions  
5. bookmarks  
6. contests  
7. contest\_submissions  
8. contest\_results  
9. notifications  
10. mcq\_questions  
11. daily\_mcq\_quizzes  
12. push\_subscriptions

## 🔐 Locked MVP Features

✅ include\_bookmarks (user.settings.include\_bookmarks)  
✅ include\_retention\_questions (user.settings.include\_retention\_questions)  
✅ preferred\_language (cpp/java/python) — filters all MCQs and contest questions  
✅ Studied-Topics Based MCQ Quiz  
✅ Contest Progress Tracker  
✅ Smart Contest Reminders via Platform Notifications  
✅ Tab Title Reminder During Contest  
✅ Post-Contest Sync Button (Auto-tracks solved questions)  
✅ Push Notifications System via web-push + Service Worker

## 🕗 Post-MVP Enhancements

🔒 AI-Generated MCQ Quiz (on-demand via topic + language)  
🔒 Browser Extension Reminder (persistent reminder on external sites)  
🔒 Browser Extension Fetching (for fetching submissions from sites without public APIs)  
🔒 Admin Control Panel (MCQ moderation, user analytics, etc.)

## 🏁 Contest Logic Summary

- Questions selected from user’s weak topics (topic\_stats), unsolved questions, and optionally bookmarked.  
- Filters applied based on `preferred\_language`  
- Post-contest: Submission sync logic checks platform\_submissions to mark status.  
- Notifications sent if user forgets to open next question or doesn't attempt.

## 🧠 Daily MCQ Quiz Flow

- Generated daily at 00:00 AM for each user  
- Based on user’s studied topics (tracked manually or via activity)  
- If no data available for a tag, fallback to universal/general tags.  
- Filters based on `preferred\_language`  
- Results stored in daily\_mcq\_quizzes with score and accuracy.

## 🔔 Reminder & Notification System

- In-app notification system via `notifications` collection.  
- Background push notifications using web-push & service worker.  
- Sample notification: "⏳ You haven't opened your next contest question!"  
- Browser tab title changes when user switches tab during contest.

## 🛡️ Notes & Audit Mode

- All schema are locked — no changes unless absolutely necessary.  
- Any new feature or field must be first discussed and audited.  
- Extensions and admin systems are all POST-MVP.  
- Reminder: Project is in AUDIT MODE — any gap in logic will be reviewed rigorously.

**📌 User Stories**

* 📍 👨‍🎓 New User Onboarding

As a new user, I want to create an account, sync my coding platform data, and choose my preferred language so that the system can personalize contests and MCQs for me.

* 📍 🏁 Start a Contest Based on Weak Areas

As a regular user, I want to take contests based on my weak topics and unsolved bookmarked problems so that I can improve in my weak areas efficiently.

* 📍 📲 Stay Engaged During Contests

As a user, I want to get background reminders if I leave the platform mid-contest so that I don’t forget to complete the contest.

* 📍 🧠 Learn via Daily MCQs

As a user, I want to receive MCQ quizzes based on my studied topics so I can revise and test my theoretical knowledge.

* 📍 🔧 Admin Content Control

As an admin, I want to upload or moderate MCQ content and track overall system activity so I can manage the quality of questions and monitor platform growth.

**📌 Future UI Wireframe Ideas (Summary)**

- 🏠 \*\*Dashboard Page:\*\* Shows daily stats, streak, upcoming contests, sync status of platforms  
- 🧪 \*\*Contest Page:\*\* Timer + Question Tracker + Sync Results Button + Tab Title Reminder  
- 📅 \*\*MCQ Quiz Page:\*\* 10 Questions, show result at end with correct answers & explanations  
- ⚙️ \*\*Settings Page:\*\* Change preferred language, toggle bookmarks/retention, sync platforms  
- 🔔 \*\*Notifications Panel:\*\* All reminders and contest updates shown here  
- 🧑‍💼 \*\*Admin Panel (Post-MVP):\*\* Upload MCQs, ban users, view analytics