



## Developer Journal: YouCode LMS

### Phase 1: Project Initialization (June 12–19, 2025)

- **Setup:** Bootstrapped the app using create-next-app with TypeScript.
- **Tooling:** Set up Tailwind CSS, NextAuth, and Prisma.
- **Bug Fixes:** Early launch bug resolved, initial auth loader added.
-  **Milestone:** Stable environment, authentication working.


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### Phase 2: Core Features (July 1–12, 2025)

- **Courses & Lessons:**
  - Created course and lesson models (CRUD).
  - Implemented join/unjoin functionality with layout protection.
- **UI/UX Layouts:**
  - Developed base layout system for both admin and user roles.
  - Began encapsulating UI into reusable components.
-  **Milestone:** Basic learning platform operational.


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### Phase 3: Auth & OAuth (July 2–9, 2025)

- **Third-Party Logins:** Google, GitHub, and Facebook OAuth integration.
- **Security:** GitHub token removed from seed data.
-  **Milestone:** Secure and user-friendly login options implemented.


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### Phase 4: UX and UI Enhancements (July 13–25, 2025)

- **Componentization:** Course content, footers, and navigations modularized.
- **Visuals:** Skeleton loaders added, breadcrumb nav introduced.
- **Notifications:** Added for course join/leave and role updates.
-  **Milestone:** Fully responsive, polished experience with feedback mechanisms.


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### Phase 5: Advanced Features (July 26–Aug 1, 2025)

- **Search & Pagination:** Implemented on dashboard pages.
- **AI Content Generation:**
  - Lesson content generated using Groq API.
  - Added AI-generated course presentation/description.
- **Public Pages:** Introduced a public-facing course preview.
-  **Milestone:** Intelligent LMS with AI-assisted authoring.


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### Phase 6: Refactoring & Component Reuse (Aug 2–3, 2025)

- **Dialogs Unified:** Alert dialogs (join/leave) consolidated.
- **Navbar:** User/Admin NavBar merged with role-based logic.
- **Cleanup:** Major file renaming, code clean-up, prop generalization.
-  **Milestone:** Codebase streamlined for scalability and maintainability.

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### Phase 7: Performance & UX Finalization (Aug 4–5, 2025)

- **Redis + Rate Limiting:** Caching for AI generation and heavy content.
- **Accessibility:** Upgraded ARIA labels and keyboard nav.
- **Mobile Responsiveness:** Full mobile support.
-  **Milestone:** Production-ready and performant LMS.

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## Summary of Your Stack

- **Frontend:** Next.js 14 App Router, TypeScript, Tailwind CSS
- **Backend:** Prisma ORM, PostgreSQL, Redis (AI caching), Groq AI
- **Auth:** NextAuth.js with OAuth providers
- **Features:** AI content generation, role-based access, markdown editor, full mobile support, analytics