

# College Algebra Platform - Development Handoff Document

**Date:** December 15, 2025  
**Status:** 85% Complete - Ready for Final Phase  
**Project Path:** `/home/ubuntu/college_algebra_website`

## QUICK START FOR NEW CONTEXT

Copy and paste this into a new conversation:

```
I'm continuing development on the College Algebra Learning Platform.  
  
Project: /home/ubuntu/college_algebra_website  
GitHub: https://github.com/mltmacster/college_algebra_website  
Deployment: master-algebra.abacusai.app  
  
Please read /home/ubuntu/college_algebra_website/DEVELOPMENT_HANDOFF.md for full  
context, then proceed with the remaining tasks.
```

## CURRENT STATUS

### Completed (85%)

Feature	Status	Notes
Core Platform	✓ 100%	Auth, DB, Navigation
6 Learning Modules	✓ 100%	Content structure complete
30 Practice Problems	✓ 100%	5 per module
AI Tutor “Unk”	✓ 100%	Chatbot integrated
Badge System	✓ 100%	Achievement tracking
Analytics Dashboard	✓ 100%	Instructor portal
GitHub CI/CD	✓ 100%	Actions configured
TypeScript	✓ Pass	No errors
Production Build	✓ Pass	17 pages

## Remaining (15%)

Task	Priority	Effort
Add more practice problems	High	2-3 hours
Fix font CDN issue	Medium	30 min
Final testing	Medium	1 hour
Production deployment	Low	10 min



## TECHNICAL DETAILS

### Technology Stack

- **Framework:** Next.js 14.2.28 (App Router)
- **Language:** TypeScript 5.2.2
- **Database:** PostgreSQL via Prisma 6.7.0
- **Auth:** NextAuth.js 4.24.11
- **Styling:** Tailwind CSS 3.3.3
- **Package Manager:** Yarn 4.9.4

### Key Files

```

app/
├── components/
│   ├── practice-session.tsx # Practice problems UI
│   ├── module-content.tsx  # Module renderer
│   └── module-data/        # Module content files
├── lib/
│   ├── interactive-problems.ts # Problem definitions (30 total)
│   └── db.ts                  # Database utilities
├── prisma/
│   └── schema.prisma          # Database schema
└── app/
    ├── modules/[slug]/page.tsx # Dynamic module pages
    └── api/                     # API routes

```

### Database Schema (10 models)

- User, LearningModule, ModuleProgress
- Badge, UserBadge, ContactSubmission
- Plus analytics models

### Environment Variables (.env)

```

DATABASE_URL=postgresql://...
NEXTAUTH_SECRET=...
NEXTAUTH_URL=http://localhost:3000
NEXT_PUBLIC_APP_URL=http://localhost:3000

```

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## MODULES OVERVIEW

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#	Module	Slug	Problems
1	Real Number Systems	real-number-systems	5
2	Linear Equations	linear-equations	5
3	Functions & Graphing	functions-graphing	5
4	Quadratic Functions	quadratic-functions	5
5	Exponential Functions	exponential-functions	5
6	Sequences & Series	sequences-series	5

**Total: 30 practice problems with business context**

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## DEVELOPMENT PLAN

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### Phase 1: Content Enhancement (Optional)

Add more practice problems to each module:

- Target: 10-15 problems per module
- File: `app/lib/interactive-problems.ts`
- Focus: Business-focused scenarios

### Phase 2: Bug Fixes

1. **Font CDN Error** (cosmetic)
  - Replace external font CDN with Next.js fonts
  - File: `app/app/layout.tsx`

### Phase 3: Deployment

1. Run `test_nextjs_project`
  2. Run `build_and_save_nextjs_project_checkpoint`
  3. Deploy via UI button or `deploy_nextjs_project`
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## IMPORTANT LINKS

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- **GitHub:** [https://github.com/mltmacster/college\\_algebra\\_website](https://github.com/mltmacster/college_algebra_website)
- **Actions:** [https://github.com/mltmacster/college\\_algebra\\_website/actions](https://github.com/mltmacster/college_algebra_website/actions)
- **Deployment:** `master-algebra.abacusai.app`
- **Preview:** Available in DeepAgent UI

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## KEY DOCUMENTATION

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Document	Location	Purpose
Turnkey Solution	/home/ubuntu/TURN-KEY_SOLUTION_COMPLETE_ROADM AP.md	Full 90-day plan
Production Plan	PRODUC-TION_READINESS_PLAN.md	Deployment checklist
GitHub Setup	GIT-HUB_SETUP_INSTRUCTIONS.md	CI/CD guide
Execution Plan	/home/ubuntu/FI-NAL_EXECUTION_PLAN.md	Step-by-step tasks

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## QUICK COMMANDS

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```
# Navigate to project
cd /home/ubuntu/college_algebra_website/app

# Install dependencies
yarn install

# Generate Prisma client
yarn prisma generate

# Run development server
yarn dev

# Type check
yarn tsc --noEmit

# Build for production
yarn build
```

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## KNOWN ISSUES

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- Font CDN Warning** (Non-blocking)
  - Error: `ERR_BLOCKED_BY_RESPONSE.NotSameOrigin` from cdnfonts.com
  - Impact: Cosmetic only, doesn't affect functionality
  - Fix: Replace with Next.js font optimization
- Duplicate Badge Images** (Expected behavior)
  - Same badge images shown on homepage preview
  - This is intentional design, not a bug

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## VERIFICATION CHECKLIST

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Before deployment, verify:

- [ ] `yarn tsc --noEmit` passes
  - [ ] `yarn build` completes successfully
  - [ ] All 6 modules load correctly
  - [ ] Practice problems work for each module
  - [ ] Login/Register functions properly
  - [ ] Badge system awards correctly
  - [ ] AI tutor responds
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## CONTEXT FOR AI ASSISTANT

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This is a College Algebra Learning Platform for business students featuring:

1. 6 interactive learning modules with business context
2. AI tutor named “Unk” with street-savvy personality
3. Digital badge achievement system
4. Instructor analytics portal
5. 30+ practice problems with real-world business scenarios

The app is 85% complete and production-ready. Main remaining work is optional content enhancement and final deployment.

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**END OF HANDOFF DOCUMENT**