

# Product Requirements Document (PRD) -Mentora

**Product Name:** Mentora – The Adaptive Learning Intelligence Platform

**Organization:** JASIQ Labs Pvt. Ltd.

**Division:** TechLabs Service Division

**Version:** 4.0

**Date:** October 2025

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## 1. Executive Summary

**Mentora** is an AI-first, multilingual, voice-enabled adaptive learning platform that transforms traditional digital courses into personalized, intelligent, and inclusive mentorship experiences. Designed for **RealWorkStudio** and **DevVerse Bootcamp**, it is fully extensible as a **white-labeled SaaS product** for colleges, skilling institutions, and digital universities across India and beyond.

Mentora uses **Generative AI, adaptive feedback, learner profiling, multilingual support**, and **career-oriented smart resumes** to provide an all-in-one learning engine for institutions and individuals.

In addition to its web platform, Mentora includes **dedicated Android mobile apps** for learners and mentors, ensuring accessibility, offline learning, and on-the-go engagement.

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## 2. Product Vision

To create a scalable, inclusive, AI-powered mentoring system that:

- Speaks and understands every learner's language (text + voice)
  - Delivers personalized learning based on goals and behavior
  - Auto-generates professional resumes from learning progress
  - Empowers mentors and institutions with real-time, actionable insights
  - Provides full mobile accessibility via **Android apps** with offline-first and voice-enabled experiences
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## 3. Core Objectives

- Deliver multilingual, voice-based learning powered by AI (Hindi, Tamil, Bengali, etc.)
- Enable adaptive quizzing with real-time difficulty modulation

- Generate smart, editable AI resumes
  - Let institutions plug in their curriculum and auto-generate learning flows
  - Deploy a white-label version for training centers and colleges
  - Integrate seamlessly with LMS systems via API
  - Make Mentora usable for first-generation, rural, and accessibility-focused learners
  - Provide **Android mobile apps** for learners, mentors, and administrators with offline caching, voice features, and push notifications
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## 4. User Roles and Functional Capabilities

### Learner (Web + Android App)

- Multilingual chat support (Hindi, Tamil, Bengali, etc.)
- Voice input + audio explanations via TTS/STT
- Personalized quiz journeys (Bloom's taxonomy, auto-leveled)
- Visual progress (heatmap, skill graph)
- AI-generated resume with editable tags
- Peer leaderboards and cohort discussions
- Certificate download after milestones
- Accessibility options: font scaling, slow audio, offline mode
- **Android app features:**
  - Offline quiz and note caching
  - Push notifications for sessions and deadlines
  - Voice chat with AI mentor
  - Resume preview and download
  - Interactive, gamified dashboard

### Mentor (Web + Android App)

- Skill-level heatmaps for each learner
- Manual quiz override + advanced challenge creation
- Resume validation, tagging, and export
- AI explanation rating and feedback loop
- Cohort trend analysis and intervention alerts
- **Android app features:**
  - Instant access to student dashboards

- Push alerts for learner progress deviations
- Voice or text-based AI mentoring feedback
- Resume validation and annotations on mobile

#### Administrator (Web Dashboard)

- Role and permission manager
- Prompt and tone configuration for LLMs
- LLM token usage monitor with cost capping
- Feature flags, experimental toggles
- Analytics export (CSV, PDF, API)
- **Mobile admin dashboard (restricted app access)** for usage reports and system monitoring

#### Institutional Client (Web Dashboard)

- Upload syllabus → Mentora converts to AI-ready learning path
- Batch + mentor assignments
- White-label dashboard (custom domain, logo, colors)
- Auto-generated branded certificates
- LMS integrations: Moodle, Google Classroom, Canvas
- Access to institutional analytics, retention reports, cohort performance
- **Android app integration:**
  - Institution-branded white-label version
  - Real-time push reports
  - Student engagement tracking

## 5. Differentiators

Feature	Differentiator
Multilingual AI Chat	Understands and responds in Indian languages (voice/text)
Voice Support	Spoken explanations, voice queries (inclusive for all learners)
Resume Generator	Auto builds and updates professional resume tied to skill mastery

Zero-code Syllabus Integration	Upload PDF/doc → Mentora auto-generates quizzes, flow
Mentor Assistants	Intervention alerts, learner comparisons, manual input
Institutional Branding	SaaS-style white-label deployment for colleges/training centers
<b>Mobile-first Access</b>	Dedicated Android apps for learners, mentors, and admins with offline-first design

## 6. Features Overview

Category	Feature	Description
Adaptive Learning	AI-generated quizzes	Personalized and auto-graded quizzes
Explanations	Multi-format (text/audio/visual)	Learner chooses explanation type
Regional Support	Bilingual Chat + Voice	Learner asks/receives answers in preferred language
Resume Engine	Real-time smart resume	Updated with skills, projects, AI-verified
Mentor Tools	Analytics, overrides, flagging	See gaps, inject content, validate resumes
Admin Controls	Token limits, prompt config	Full LLM ops visibility and control
Institution Tools	Upload curriculum, assign roles	Full learning ecosystem for clients
Integration APIs	LMS, OAuth2, CSV fallback	Deep integration + offline sync
Certification	Auto-issued branded PDFs	Based on module or cohort milestones

Community Layer	Peer leaderboards + discussion	Social + motivational learning layer
<b>Android Mobile</b>	Offline learning + voice AI	Native Android apps with push notifications, TTS/STT, and progress sync

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## 7. Technology Stack

Layer	Tools
Frontend	React, Tailwind, Zustand
Backend	Node.js, Express, MongoDB
AI Engine	Python, FastAPI, Gemini 2.5 / Mixtral
TTS	ElevenLabs / Google TTS / Bhashini
STT	Whisper / Bhashini
Auth	JWT + Argon2
Deployment	Docker + Render (GCP/AWS-ready)
Monitoring	Prometheus, Grafana, Winston
<b>Android Mobile App</b>	Java/Kotlin (MVVM, Retrofit, Room, Firebase)
<b>Push Notifications</b>	Firebase Cloud Messaging (FCM)
<b>Voice &amp; Offline</b>	Bhashini SDK + Local DB caching

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## 8. Functional Requirements

### Learner

- Chat with AI in regional language (text + voice)
- Take quizzes and receive tailored explanations
- Track learning progress and download resume
- Get career recommendations and feedback
- Participate in gamified peer learning

- **Android mobile:** Offline quizzes, push notifications, voice chat

#### Mentor

- View performance dashboard
- Validate and annotate resumes
- Customize quiz content
- Monitor cohort trends
- **Android mobile:** Push alerts for learners, offline viewing

#### Admin

- Manage user roles, tokens, prompts
- Control experimental features
- Track LLM cost and fallback thresholds
- **Mobile view (restricted):** Reports and live usage summary

#### Institution

- Upload syllabus → auto-generate modules
- Assign mentors and learners to tracks
- Customize theme and subdomain
- Export analytics and auto-certify learners
- **Android dashboard (optional white-label):** Live engagement metrics

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## 9. Non-Functional Requirements

Category	Target
Response Time	<2s for quiz/explanation
Concurrent Users	10,000+
Security	HTTPS, GDPR, AES-256, RBAC
Uptime	99.9%
Scalability	Multi-tenant, containerized
Accessibility	Mobile-friendly, audio-only mode, offline fallback
<b>Android Offline Cache</b>	Store 3 most recent modules locally

<b>Battery Optimization</b>	Background sync throttled intelligently
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## 10. KPIs & Success Metrics

Metric	Target
Learning Accuracy Gain	+25% after 4 weeks
Resume Validation Accuracy	90%+ by mentors
Multilingual Use	60%+ usage beyond English
Mentor Time Saved	40%
Institutional Renewals	90%+ after pilot
<b>Mobile Engagement Rate</b>	70%+ weekly active users
<b>Offline Access Rate</b>	50%+ of rural learners use cached mode

## 11. Risk Management

Risk	Mitigation
LLM hallucination	Mentor feedback, human-in-the-loop
Translation errors	Combine LLM + IndicTrans + audit tools
Voice load	Lazy-load and cache audio
Data privacy	Region-based storage, strict RBAC
Overload (exams)	Auto-scaling Render/GCP infra
<b>Mobile sync failure</b>	Background retry queue with conflict resolution

## 12. Roadmap

Phase	Deliverables	Time
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Phase 1	Quiz engine, resume system, dashboard	4 weeks
Phase 2	Mentor panel, admin ops, token control	3 weeks
Phase 3	Voice TTS/STT + multilingual NLP	3 weeks
Phase 4	Syllabus ingestion, LMS integration	2 weeks
Phase 5	White-label rollout, certification	2 weeks
<b>Phase 6</b>	<b>Android Learner &amp; Mentor Apps (offline, voice, push)</b>	<b>4 weeks</b>
<b>Phase 7</b>	<b>AI mock interviews, job-matching, offline mode expansion</b>	<b>3 weeks</b>

### 13. Ownership

Role	Owner
Product Vision	Product Lead
AI/NLP & Voice	AIML Research Team
Engineering	MERN Dev Team
<b>Mobile Development</b>	Android Dev Team (TechLabs Division)
QA & Testing	DevVerse Intern Cohort
DevOps & Scaling	Platform & Infra Team

### 14. Use Case: Integration with RealWorkStudio

Action	AI-Powered Outcome
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Upload DevVerse curriculum	AI creates full skill tree, quizzes, difficulty levels
Students ask doubts in Hindi	Mentora replies via text/audio
Mentors validate resumes	Auto-syncs with RealWorkStudio progress
Certificates issued	Synced with RWS cohort completions
Analytics	Dashboards embedded inside RWS admin panel
<b>Mobile Integration</b>	Learners and mentors access RealWorkStudio content via Mentora Android app

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## 15. Conclusion

**Mentora** represents the future of education delivery — **multilingual, AI-first, adaptive, mobile, and voice-enabled**. Designed for inclusivity and scale, it brings real personalized mentorship to students anywhere, anytime.

The addition of **Android mobile applications** ensures accessibility for learners in low-connectivity regions, aligning with Mentora’s vision of democratizing education across languages, devices, and institutions.

This PRD forms the **formal product charter** for full-stack implementation, mobile integration, and institutional rollout under JASIQ Labs TechLabs Division.