ChatGPT

KitchenFlow Trainer – Product Requirements Document (PRD)

Version: 1.0
Date: 2025-06-06
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1 Purpose & Scope

KitchenFlow Trainer is a mobile-first web application that streamlines the onboarding and continuous training of restaurant kitchen staff. It delivers step-by-step cook-mode guidance, AI-assisted plating checks, cleaning/closing checklists, and quick-reference data to ensure speed, consistency, and food-safety compliance at *Lakeside Kitchen* and, eventually, other venues. filecite turn0file0

2 Problem Statement

- High staff turnover requires frequent retraining.
- Dishes are prepared inconsistently, affecting guest satisfaction.
- Paper checklists are hard to track and audit.
- Managers lack visibility into each trainee's progress.

3 Objectives & Success Metrics

Goal	Metric	Target
Reduce onboarding time	Average days for a new hire to pass core dish modules	↓ 30 % in 6 months
Improve plating consistency	Pass rate of AI plating checks on first attempt	≥ 75 % by month 6
Boost trainee confidence	Post-training satisfaction survey	≥ 80 % "satisfied"
Adoption	% new hires using app within first week	≥ 90 %
Engagement	Avg. sessions per trainee (first 30 days)	≥ 3/week

4 Personas

New Line Cook (Novice) – Little pro experience, uses shared kitchen tablet.
Prep Cook (Experienced) – Knows basics, needs Lakeside-specific standards.
Sous-Chef / Trainer – Monitors progress, creates content.
Chef / Owner – Reviews analytics & quality scores.

5 User Stories

1. *As a new line cook,* I want guided, timed steps so I can nail a dish with no supervision.
2. *As a trainer,* I want to see who failed the photo quality check so I can coach them.
3. *As a cook on closing,* I want a digital checklist I can tick off, so nothing is missed.
4. *As management,* I want weekly consistency reports so I can reward top performers.

6 Functional Requirements

6.1 Authentication

- **FR-1** PIN login (4-digit) with session cookie.
- **NFR** Must auto-logout after 30 min inactivity.

6.2 Guided Cook Mode

ID	Requirement
FR-2	Display dish steps with media, overlay images, and timers
FR-3	Persist step progress on refresh
FR-4	Optionally branch to Photo-Check on final step if `quality_check=true`

Embedded AI Prompt – Step Narration

```
SYSTEM: You are KitchenFlow's sous-chef. Present the next cooking step clearly.
USER: {dishName}, step {currentStep}/{totalSteps}. Instruction text is:
"{instruction}". If a timer is present, highlight the time in bold.
```

6.3 AI Photo Quality Check

ID	Requirement
FR-5	Capture photo from device camera and send to Genkit flow
FR-6	Return JSON { isCorrectlyBuilt, feedback[] }
FR-7	Store result locally and in user profile

Embedded AI Prompt – Plating Auditor

```
SYSTEM: You are an exacting culinary judge. Compare the user's dish to the
reference.
INPUTS:
- referenceImage (URL)
- userImage (base64)
- dishName
TASK:
1. Score build accuracy 0-100.
2. Return boolean isCorrectlyBuilt = score>=80.
3. Give up to 3 improvement tips referencing specific anatomy of the dish.
```

6.4 Quick Reference

  • **FR-8** Searchable list of temps, ingredient prep, allergen notes.

6.5 Shift Prep Board

  • **FR-9** Editable current level; visual par bar.
  • **FR-10** "Need to Prep" wizard (post-MVP).

6.6 Closing & Cleaning

  • **FR-11** Checklist items with optional media; persist completion to profile.

6.7 Progress & Gamification

  • **FR-12** XP, level, badges, streaks.
  • **FR-13** Error log of last failed steps/AI checks.

7 Non-Functional Requirements

Aspect	Requirement
Performance	95 % of page loads < 1 s on kitchen Wi-Fi
Reliability	>= 99.5 % uptime monthly
Accessibility	WCAG 2.2 AA
Offline	Cache static assets + last 3 dishes
Security	OWASP top-10 mitigated; images stored $\leq 24\,h$

8 Technical Architecture (High-level)

  • **Front-end:** Next.js 14 (App Router) + Tailwind + Shadcn UI.

- **State:** Client-side hooks + edge KV for progress.
- **AI:** Genkit flows (Google Vertex Vision) invoked via Next API routes.
- **Auth:** HttpOnly cookie validated by middleware.ts.

9 Milestones & Timeline

Phase	Deliverables	Target Date
Design Sprint	Wireframes, UX spec	2025-07-01
MVP Alpha	Auth, 3 dishes, closing checklist	2025-08-15
Pilot @ Lakeside	Deploy to 5 tablets, collect feedback	2025-09-01
MVP Beta	Cook-mode AI, progress dashboard	2025-10-10
Full Roll-out	All dishes + prep board	2025-11-30
v2 Enhancements	Content authoring UI, multi-location	2026-Q1

10 Acceptance Checklist

Global

- [ ] All core pages accessible behind auth.
- [ ] App installs as PWA on iPadOS.

Guided Cook Mode

- [ ] Step media loads in < 2 s.
- [ ] "Next" disabled until timer completes when `force_wait=true`.
- [ ] Overlay aligns ±5 px to reference target.

AI Quality Check

- [ ] Genkit flow returns in ≤ 5 s.
- [ ] Success threshold adjustable by admin.
- [ ] Failed checks create feedback card in My Progress.

Prep Board

- [ ] Par vs current calculates correct %.
- [ ] Edits persist after reload.

Cleaning Checklist

- [ ] Task completion persists per user per day.
- [ ] Manager export to CSV works.

11 Risks & Mitigations

Risk	Probability	Impact	Mitigation
Kitchen Wi-Fi outage	Med	High	Add offline cache; queue photo for later upload
Image privacy concerns	Med	Med	Expire photos, blur faces automatically
AI false negatives	Low	High	Allow manual override + human review

12 Glossary

- **Genkit:** Google's AI workflow SDK.
- **Par Level:** Target quantity kept on hand.
- **Build Steps JSON:** Source of dish metadata.

Appendix A – Prompt Library

Use Case	Prompt Template
Timer voice-over	"Narrate: *{dishName}* – *{stepName}* has *{minutes}* minutes. Encourage cook to prepare next ingredient while waiting."
Error coach	"You are an encouraging chef. A cook failed *{dishName}*, reason: *{error}*. Respond with 2 actionable tips."
Checklist auditor (manager)	"Summarize today's closing checklist results. Highlight any missed tasks and praise fastest station."

Next Action for Engineering
1 Review FR-1 – FR-13 and confirm feasibility of Genkit Vision scoring.
2 Spike offline storage strategy.
3 Deliver technical design doc by 2025-06-20.