FitFuel · Research & Validation

Design Assumptions: Qualifiers, Considerations & Open Questions

Week 2 Triangulation · June 2026 · Prepared for stakeholder review and presentation integration

Purpose of this document

This document surfaces the assumptions that underpin FitFuel's current research base. For each assumption, it records: the evidentiary basis and confidence level, the qualifiers and risks that could invalidate the assumption, design implications that follow directly from it, and the specific action required to confirm or discard it before it appears in a stakeholder presentation as settled fact.

This is a working research instrument, not a finished deliverable. Every item here is a candidate for promotion to Validated status — or demotion to Discarded — pending primary user research in Weeks 2–4.

Confidence level key

HIGH	Supported by peer-reviewed primary research or verified primary government source. Safe to cite in stakeholder materials with attribution.
MEDIUM–HIGH	Supported by peer-reviewed research but with methodological caveats (sample size, population specificity, or design differences). Cite with qualification.
MEDIUM	Supported by corroborated secondary sources or confirmed industry reporting. Directionally credible. Requires primary validation before design decisions are finalized.
LOW–MEDIUM	Single secondary source or proprietary/self-reported data. Useful as a horizon signal or design inspiration. Do not cite as evidence in stakeholder documents.
LOW	Unverified, single-source, or actively contested. Discard for citation. Use only as a trigger for further investigation.

Assumptions — Detail

A-01	Structural fitness app attrition creates a re-entry market for FitFuel	RQ2
Confidence	**HIGH**	Peer-reviewed mHealth data (JMIR mHealth, Jan 2026, n = 719,421) + industry benchmarks (Lucid/Adjust, 2025)
Qualifier / Risk	Evidence confirms attrition is real and structural. Does not confirm users actively seek a re-entry product — that signal must come from primary user interviews. The JMIR study drew on a single app (MH) that closed in 2021; scale makes findings robust but context differs from a live product.	
Design Implication	Design re-entry as a first-class UX state. Do not assume users will self-identify as "returning" — design for behavioral signals (lapsed subscription, infrequent login, plan abandonment). A dedicated "resumption state" should be a distinct onboarding scenario, separate from new-user onboarding.	
Action Required	Validate re-entry intent in Week 2 interviews. Ask directly: "When you have returned to fitness after a break, what did you need that you didn't have?"	

A-02	Users want adaptive AI that adjusts to them over time	RQ1, RQ3
Confidence	MEDIUM–HIGH	JMIR mHealth RCT (Doherty et al., 2024, DOI: 10.2196/49443) + NIH/NHLBI Health Information National Trends Survey (HINTS), 2023
Qualifier / Risk	JMIR RCT tested reinforcement learning specifically — not conversational AI coaching. NIH HINTS measures adoption and data-sharing willingness, not explicit preference for adaptivity. No data specific to FitFuel's three target personas. The claim is sound as a directional design principle; it should not be cited as user preference research.	
Design Implication	Adaptive AI is the right directional model but must be calibrated per persona. Time-Constrained Professionals and Returning Routine Builders may have different trust thresholds and adaptation expectations than general fitness app users. The trust handoff — when do I follow the AI vs. override it? — is the central design question (RQ3).	
Action Required	Build adaptation preference questions into Week 2 interview protocol. Probe: "Would you want an app that changes your plan automatically, or would you want to approve changes first?"	

A-03	Apple is not a near-term platform threat to FitFuel	RQ1
Confidence	MEDIUM	Bloomberg / Mark Gurman reporting (Feb 2026) — Project Mulberry shelved after leadership change. Corroborated by 9to5Mac and Business Standard (Feb 2026). Reduced-scope "Quartz" subscription may still launch later in 2026.
Qualifier / Risk	Based on journalism, not an official Apple statement. Apple's incremental health feature releases — Siri health queries in iOS 27, gait analysis via iPhone camera, AI health chatbot — may collectively substitute for a standalone coaching product over time. This is a reduced threat, not an absent one.	
Design Implication	Do not build the FitFuel business case on Apple's absence. Frame as: "a current gap in the market that established players, including Apple, have failed to fill." Design for differentiation on depth and quality of adaptive coaching — not on a competitor's inaction.	
Action Required	Set a standing monitor on Apple Health, watchOS, and Siri health feature announcements at each Apple event (WWDC, iPhone launch). Revisit competitive threat assessment at Q3 2026.	

A-04	The accessible/disability fitness segment is a growth opportunity worth designing for from the start	RQ5
Confidence	MEDIUM	Six analyst firms with directionally consistent findings despite wide CAGR range (5.96%–22.4%). Directional signal: growing, underserved. Specific sizing figures are not reliable for citation.
Qualifier / Risk	Market size figures vary by up to 5x across firms, reflecting different market definitions (software-only vs. adaptive physical equipment). The Straits Research conservative estimate (5.96% CAGR, $5.93B by 2034) is the credible downside scenario. No figure should appear in stakeholder materials without noting the range and methodology uncertainty.	
Design Implication	Accessibility must be designed into core architecture — not retrofitted post-launch. WCAG 2.2 compliance, adjustable intensity defaults, sensory-friendly UI states, and anxiety-aware onboarding flows should be first-class items in the design system. The User with Access Needs persona is an edge case in volume but a forcing function for inclusive design quality that benefits all users.	
Action Required	Recruit at least 2 participants with access needs for primary user research (Week 3 or 4). Do not rely solely on secondary data for this persona — first-person input is required before any design decisions are made for this audience.	

A-05	Biometric-grounded AI coaching with a strong directional point of view is the right product model	RQ3
Confidence	MEDIUM–HIGH	Oura/Whoop competitive review; Apple's own internal assessment (via Bloomberg) concluding Oura/Whoop "offer more compelling features"; Whoop Coach validated (4/5); JMIR mHealth RCT adaptive prescription outcomes (Doherty et al., 2024)
Qualifier / Risk	All supporting evidence is directional — no FitFuel-specific user testing has been conducted. The "stronger directional point of view" framing (Claim #3 in the validation log) remains a hypothesis from a single reviewer. The JMIR RCT tested adaptation, not the specific UX pattern of assertive AI recommendations. The design principle is sound but unvalidated for FitFuel's exact audiences.	
Design Implication	The design principle is well-grounded, but calibration is critical. Users may want directional AI coaching while still needing to feel in control. The trust handoff — when do I follow the AI recommendation vs. override it? — is the key design question. Avoid designing AI that feels coercive or ignores user override signals.	
Action Required	Design RQ3 interview scenario: present users with a mock AI recommendation they might reasonably disagree with (e.g., "your recovery score is low — skip today's planned workout"). Observe override behavior and probe: "How would you want the app to respond if you decided to work out anyway?"	

A-06	GLP-1 medication users represent an emerging sub-persona within the Returning Routine Builder	RQ2, RQ4
Confidence	LOW–MEDIUM	Noom corporate blog (observational, self-reported, n = 30,239 GLP-1Rx members, Jan 2026) — Partially Validated, 3/5
Qualifier / Risk	Noom-internal correlational data only — not causal, not independently replicated. GLP-1 users have different physiology (lower energy tolerance, altered hunger signaling, different nutritional needs) than general returning users, but the size of this overlap within FitFuel's addressable market is unknown. This is a horizon signal, not a validated design requirement.	
Design Implication	Do not build dedicated GLP-1 features in the initial product scope. Instead, design flexible intensity and nutrition inputs that can accommodate lower energy tolerance and medication-specific needs without requiring users to disclose medication status. "I'm having a low-energy day" should be a first-class plan modification trigger regardless of cause.	
Action Required	Add one GLP-1 experience screening question to Week 2 interviews. Flag any participants currently on GLP-1 medications and note fitness app usage patterns separately. Revisit as a persona requirement if 2+ interviews surface it unprompted.	

Open questions requiring primary research before Week 3

RQ	Open Question
RQ1 / RQ2	Do users who have lapsed from fitness apps self-identify a re-entry need, or do they simply not return? What triggers re-engagement?
RQ3	What is the trust threshold at which users accept vs. override an AI recommendation? Does this differ by persona (Time-Constrained Professional vs. Returning Routine Builder)?
RQ3	Do users want the AI to adapt their plan automatically, or do they want to approve changes before they take effect?
RQ5	What are the specific accessibility failure modes in existing fitness apps for users with access needs? Are they primarily UI/UX, content, or intensity calibration issues?

RQ2	How prevalent is GLP-1 medication use among FitFuel's target audiences? Does it appear as an unprompted theme in user interviews?
RQ1	Do returning users perceive existing apps as not designed for them, or do they attribute lapse to personal failure? This distinction has major implications for tone, copy, and onboarding design.

Source validation basis: FitFuel Source Validation Log v2 · Week 2 Triangulation · June 2026
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