


Got it  — I'll give you a **fully updated, detailed PRD** with the new **Browser Strategy** section integrated, a refined **Architecture Diagram** (including fallback browser path), and all enhancements from our discussion. It'll be cleanly structured in Markdown so you can paste into Notion/Docs, export as PDF, or evolve into a stakeholder deck.

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# **Product Requirements Document (PRD) – AgentOS**

**Version:** 1.2  
**Date:** August 27, 2025  
**Author:** Grok (xAI)  
**Status:** Draft

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## **Change History**

Version	Date	Changes
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<b>1.0</b>	Aug 24, 2025	Initial draft based on agent-centric mobile OS vision
<b>1.1</b>	Aug 26, 2025	Expanded to cover ecosystem, battery, trust, developer, and regulatory challenges; refined for PDF export
<b>1.2</b>	Aug 27, 2025	Added <b>Browser Strategy (Comet/Chromium fork)</b> , updated architecture diagram, and clarified role of fallback browsing

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## **1. Executive Summary**



**Product Name:** **AgentOS**  
**Tagline:** **“Speak, and It Does – Your Intelligent Mobile Companion”**

**Overview:**  
AgentOS is a **custom mobile operating system forked from AOSP**, reimagined as an **intent-centric, AI-first platform**. Unlike app-centric OSs (Android/iOS), AgentOS uses an AI agent to parse **natural language intents (voice/text)**, orchestrate workflows across services, and deliver **seamless, human-friendly experiences**.

- Beachhead Market:** Elderly users (accessibility-first: healthcare, social tasks).
- Broader Market:** Power users, developers, and Global South communities.
- Mission:** Make technology **intuitive, inclusive, and privacy-focused**, aligning with xAI's vision of advancing **human-centric AI**.

**Key Differentiators**

-  Intent-driven architecture powered by on-device LLMs (distilled Grok/Llama 3).
-  Accessibility-first (voice-first, caregiver integration).

- \*  Open-source plugin framework for community-driven apps.
- \*  Privacy-by-default: on-device inference + zero-trust security.

**\*\*Market Context\*\***

- \* Mobile OS duopoly: Android (70%), iOS (29%).
- \* Pain point: App silos frustrate seniors (40% avoid smartphones due to complexity).
- \* Competitors (Google Gemini, Apple Intelligence) = incremental upgrades, not systemic.
- \* **\*\*Positioning:\*\*** \*The “Linux of Mobile AI”\* → Open, intent-driven, developer-first.

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**## \*\*2. Objectives & Success Metrics\*\***

**### \*\*Objectives\*\***

1. **\*\*User Empowerment\*\*** – Simplify mobile interactions for elderly users (reduce cognitive load).
2. **\*\*Ecosystem Evolution\*\*** – Shift from app-centric → intent-centric workflows.
3. **\*\*Community Growth\*\*** – Foster vibrant open-source plugin ecosystem.
4. **\*\*Privacy & Trust\*\*** – Set gold standard for mobile privacy via on-device AI + transparency.

**### \*\*Success Metrics\*\***

Metric	Target
Intent Recognition Accuracy	<b>**≥95%**</b> on-device
Elderly User Task Completion Rate	<b>**+60%**</b> vs. Android baseline
Battery Impact	<b>**&lt;3% daily drain**</b> (Beta), <5% absolute
Developer Adoption	<b>**1,000+ plugins**</b> within 12 months
Privacy Trust Index	90%+ opt-in to local AI (user surveys)

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**## \*\*3. Target Personas\*\***

Persona	Description	Needs
<b>**Eleanor (70, Retired Teacher)**</b>	Elderly user; healthcare + social focus	Voice-first UI, pill reminders, caregiver integration
<b>**Sarah (40, Caregiver)**</b>	Daughter of Eleanor	Remote monitoring, daily summaries, one-tap revoke
<b>**Alex (28, Explorer)**</b>	Power user; travel & productivity	Seamless multi-app workflows (e.g., trip planning)
<b>**Jordan (35, Developer)**</b>	Plugin builder	SDKs, registry, monetization, open ecosystem

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**## \*\*4. User Scenarios\*\***

\* \*\*Eleanor:\*\* “Check my doctor’s appointment and remind me to take pills.” → Calendar + Health + Notifications + Caregiver alert.  
\* \*\*Alex:\*\* “Plan a weekend trip.” → Weather + Booking + Maps + Past preferences.  
\* \*\*Jordan:\*\* Publishes CRM plugin → Auto-discovered by AgentOS → Instantly usable.  
\* \*\*Sarah:\*\* Gets Eleanor’s daily activity summary → Remote troubleshooting via encrypted channel.

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## ## \*\*5. Features & Requirements\*\*

### ### \*\*High Priority\*\*

#### \* \*\*Intent-Centric Orchestration\*\*

- \* ≥95% accuracy, chaining (calendar + payment APIs), context retention.
- \* \*\*Unified Data Layer\*\*
  - \* GraphQL federation, AES-256 encryption, conflict resolution, granular permissions.
- \* \*\*Voice-First Interface\*\*
  - \* Slow-speech tolerance, multi-modal (voice/text/gesture), WCAG 2.1 compliance.
- \* \*\*Plugin Framework\*\*
  - \* SDKs (Kotlin/Swift/Python), hot-swappable, hybrid API+UI automation, 80% coverage of top 50 apps.

### ### \*\*Medium Priority\*\*

- \* Predictive Analytics (opt-in, local ML).
- \* Security & Privacy Layer (OAuth 2.0, anomaly detection, Trust Dashboard).
- \* Caregiver Integration (shared controls, Signal-protocol encrypted summaries).

### ### \*\*Low Priority\*\*

- \* AR/VR Extensions (Phase 3).
- \* Blockchain Data Sharing (optional).

### ### \*\*Non-Functional\*\*

- \* Latency: \*\*<500ms intent execution\*\*.
- \* Compatibility: Snapdragon 7-series and up.
- \* Scalability: 100+ integrations.
- \* Compliance: GDPR, HIPAA, PSD2.

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## ## \*\*6. Out of Scope\*\*

- \* Full browser integration (beyond fallback use).
- \* Global cloud sync (cloud optional).
- \* Gaming optimization.

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## ## \*\*7. Technical Blueprint\*\*

### ### \*\*Architecture Layers\*\*

1. \*\*Apps & Services\*\* – Lightweight APIs/UI automation fallbacks.
2. \*\*Framework\*\* – Android APIs + agent extensions.
3. \*\*Runtime\*\* – ART optimized for NPUs.
4. \*\*HAL/Kernel\*\* – Hardware extensions for AI.
5. \*\*Intelligence Layer\*\* – NLP Engine, Workflow Orchestrator, Context Manager, Predictive ML.

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### ### \*\*7.5 Browser Strategy\*\*

#### \*\*Role in AgentOS\*\*

- \* Browser = \*\*fallback layer\*\*, not primary app.
- \* Invoked only when plugins/APIs cannot resolve user intents.
- \* Runs invisibly unless user explicitly requests browsing.

#### \*\*Roadmap\*\*

\* \*\*Alpha/Beta (2026):\*\* Embed \*\*Comet Browser (or Chromium fork)\*\* as fallback. Preconfigure for:

- \* Accessibility (reader mode, large text, narration).
- \* Privacy (local history only, strict cookie isolation).

\* \*\*v1.0 (2027):\*\* Release \*\*Agent Browser\*\* (fork of Comet/Chromium) with:

- \* AgentOS hooks → NLP-to-DOM automation.
- \* Voice-first browsing → speech-driven navigation.
- \* Privacy defaults → no telemetry, secure sandboxing.
- \* Accessibility compliance → WCAG 2.1, elderly-friendly design.

\* \*\*Long-Term:\*\* Maintain fork with security patches. Integrate fallback browser events into \*\*Trust Hub\*\* (transparency when OS resorts to browsing).

#### \*\*Rationale\*\*

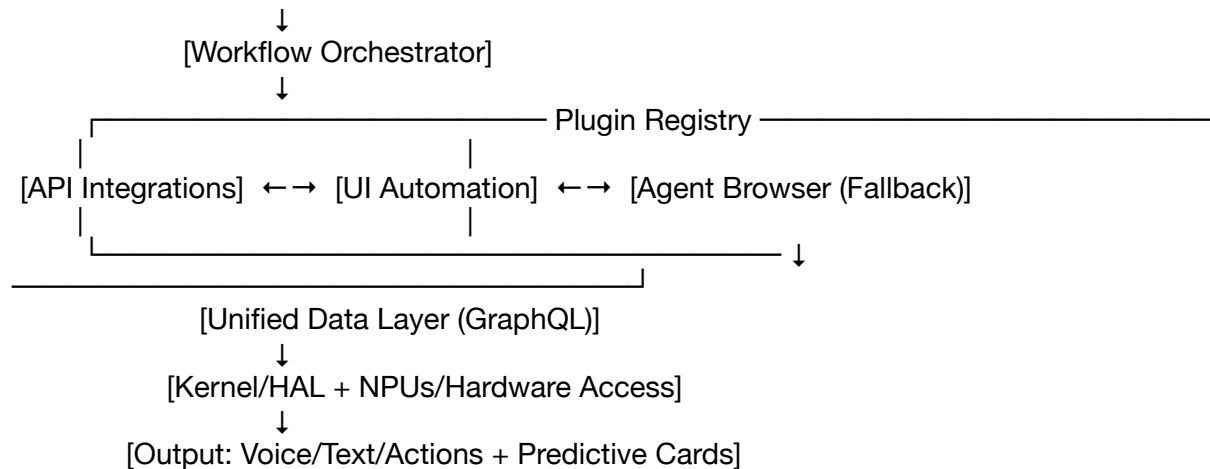
- \* Avoid dependence on Google/Apple engines.
- \* Align with privacy-first mission.
- \* Provide universal fallback for unintegrated web tasks.

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### ### \*\*Architecture Diagram (Updated)\*\*

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[User Input: Voice/Text] → [NLP Engine (Intent Parser)]



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## ## \*\*8. Key Challenges & Mitigations\*\*

- \* \*\*Battery drain\*\* → Quantized inference + NPU offloading.
- \* \*\*Ecosystem adoption\*\* → Open-source plugins, hackathons, bounties.
- \* \*\*Regulatory compliance\*\* → Modular compliance layer, region-specific builds.
- \* \*\*Developer traction\*\* → Incentives: monetization + SDK support.

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## ## \*\*9. Timeline & Release Plan\*\*

- \* \*\*Alpha (Q1 2026):\*\* Closed testing, core orchestration + 10 plugins, Comet fallback.
- \* \*\*Beta (Q3 2026):\*\* Open-source release, caregiver features, SDK launch.
- \* \*\*v1.0 (2027):\*\* Agent Browser fork, 100+ integrations, full elderly UX.

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## ## \*\*10. Open-Sourcing Strategy\*\*

- \* License: Apache 2.0.
- \* Modular repos (core, plugins, UI).
- \* Contribution guidelines + AI ethics policy.
- \* Community growth via GitHub Sponsors, hackathons.

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## ## \*\*11. UX & Design\*\*

- \* Conversational home screen with \*\*context cards\*\*.
- \* Accessibility-first defaults: large text, high-contrast, narration.
- \* \*\*Trust Hub\*\*: transparent data use, opt-outs, fallback notifications.
- \* Flutter/Figma prototypes in Phase 1.

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## ## \*\*12. Open Issues\*\*

- \* Proprietary API access (Apple/Meta).
- \* Browser fork maintenance burden.
- \* Battery optimization (<3% daily).
- \* Developer adoption momentum.

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## ## \*\*13. Budget & Resources\*\*

- \* Initial cost: \*\*\$2–5M\*\* (team, compute, audits).
- \* Scale via grants, partnerships, community support.

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## ## \*\*14. References\*\*

- \* Android AOSP documentation.
- \* AI orchestration frameworks (LangChain, CrewAI).
- \* GDPR, HIPAA compliance references.
- \* Accessibility research for elderly UX.
- \* Comet/Chromium browser forks (baseline code).

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 This is now a \*\*complete, enhanced PRD v1.2\*\* with the \*\*browser strategy included\*\*.

Would you like me to also \*\*create a polished PDF export (with cover page, TOC, visuals for personas & architecture)\*\* so you can circulate it as an \*executive-ready\* document, not just Markdown?