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AI for Bharat Hackathon

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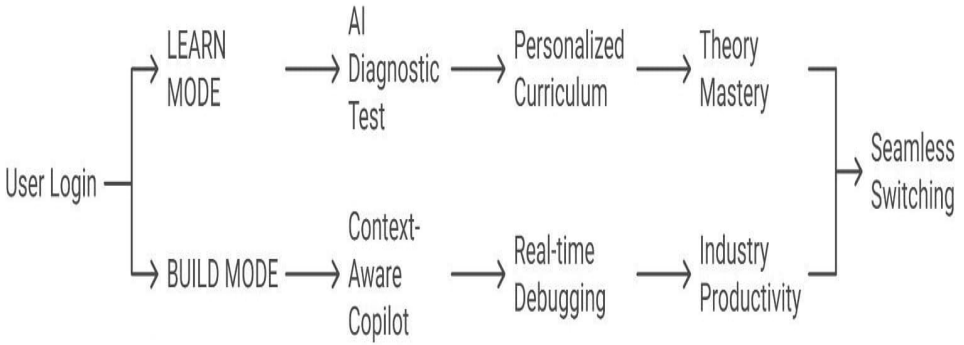
Team Name : **Ctrl+alt+delete**

Team Leader Name : **Nithin Katariya V**

Problem Statement : Build an AI-powered solution that helps people learn faster, work smarter, or become more productive while building or understanding technology.

The Dual Track Concept: Learn vs. Build

- **Core Philosophy:** SkillForge AI is a dual-track platform (not a chatbot) designed for both learning and building.
- **Learn Mode:** An AI-driven mastery engine that uses dynamic diagnostic testing to create a personalized curriculum based on what the user *doesn't* already know.
- **Build Mode:** A context-aware productivity assistant that teaches the user while they are actively working on their own repositories or code snippets.
- **The Loop:** A seamless transition where users "Learn" a concept and then immediately switch to "Build" to apply it, closing the knowledge-gap in real-time.



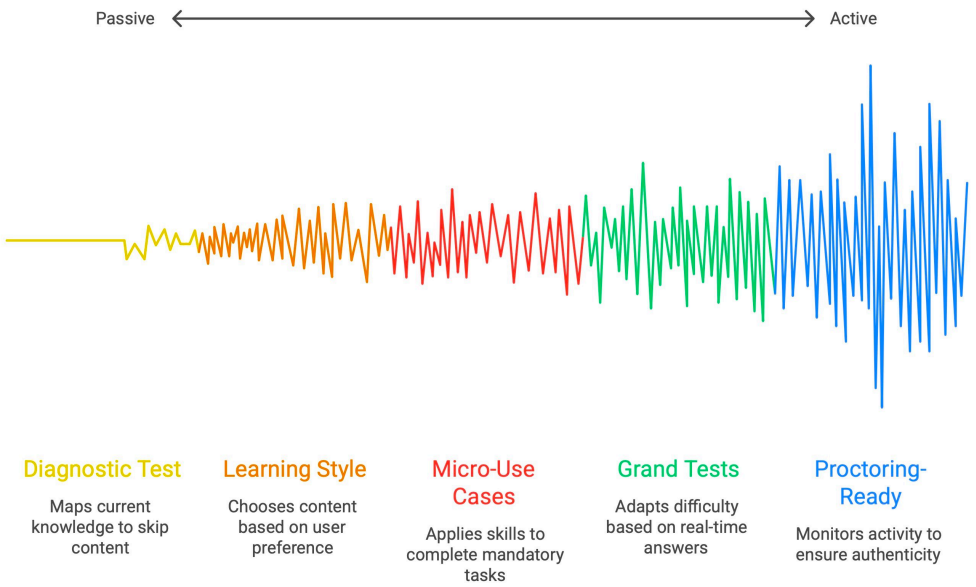
Problem Statement & Strategic Differentiation

- **The Problem:** Existing EdTech is static—giving the same video content to a beginner and a professional. This leads to "Passive Consumption Syndrome" where users watch but cannot build.
- **How SkillForge Solves It:** By replacing "Next Video" buttons with **AI-Validated Mastery Gates**. Users cannot progress until they pass a micro-use case challenge.
- **Differentiation:** Unlike generic LLMs, SkillForge provides a structured **Concept Confidence Map**. It doesn't just give answers; it curates the learning path using the user's preferred style (Video vs. Reading).
- **USP: "Adaptive Virtual Mentorship"** — An AI platform that adapts not just the content, but the entire assessment and building journey based on real-time user performance.

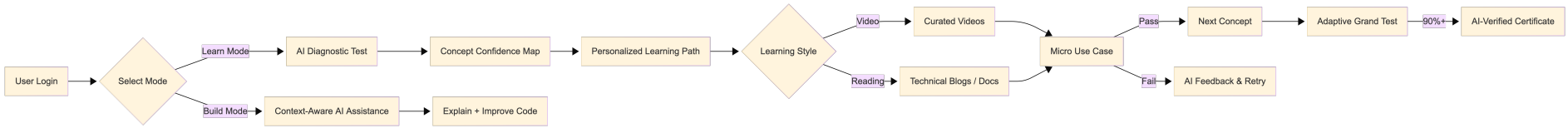
Core Features: Engineering for Mastery

- **AI Diagnostic Entry Test:** A dynamic, non-MCQ assessment that maps a user's current "Grip %" on topics to skip redundant content.
- **Learning Style Selector:** A toggle for every concept allowing users to choose between curated **Visual/Video** content or deep-dive **Technical Papers/Blogs**.
- **Real-World Micro-Use Cases:** Mandatory applied tasks (e.g., "Build this specific form") that must be completed to unlock the next level.
- **Adaptive Grand Tests:** 3-4 final exams where difficulty adjusts in real-time based on your answers to ensure true certification integrity.
- **Integrity-Aware Assessment:** Detects suspicious patterns such as rapid context switching to ensure fair skill evaluation.

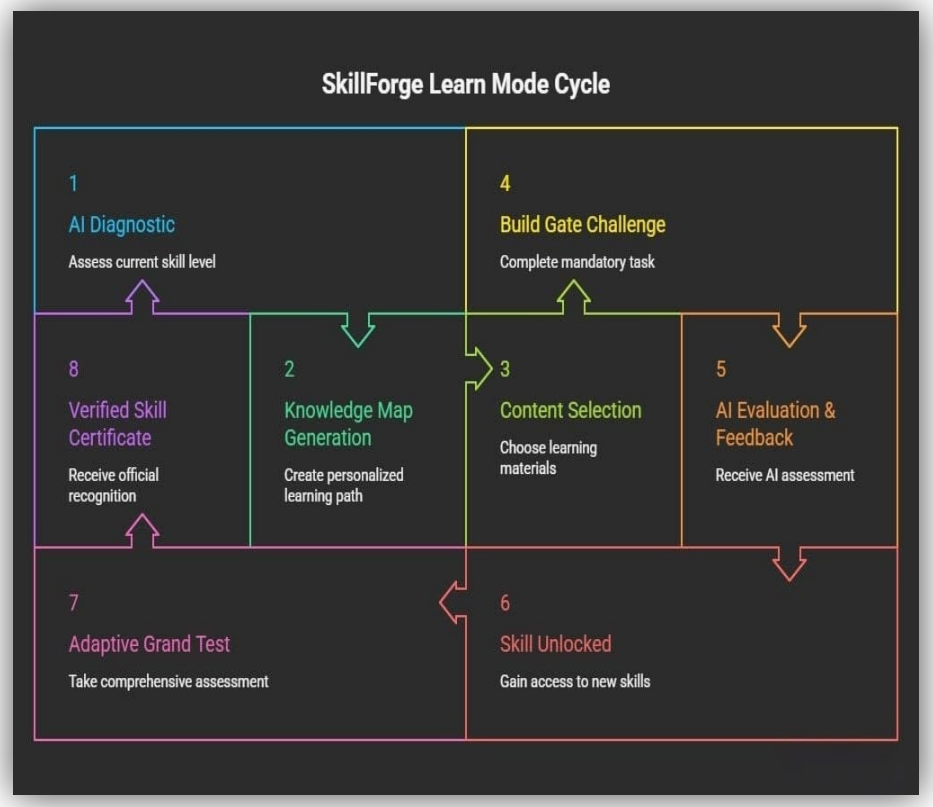
AI assessment methods range from passive to active engagement.



Visual Interface: The Mastery Dashboard

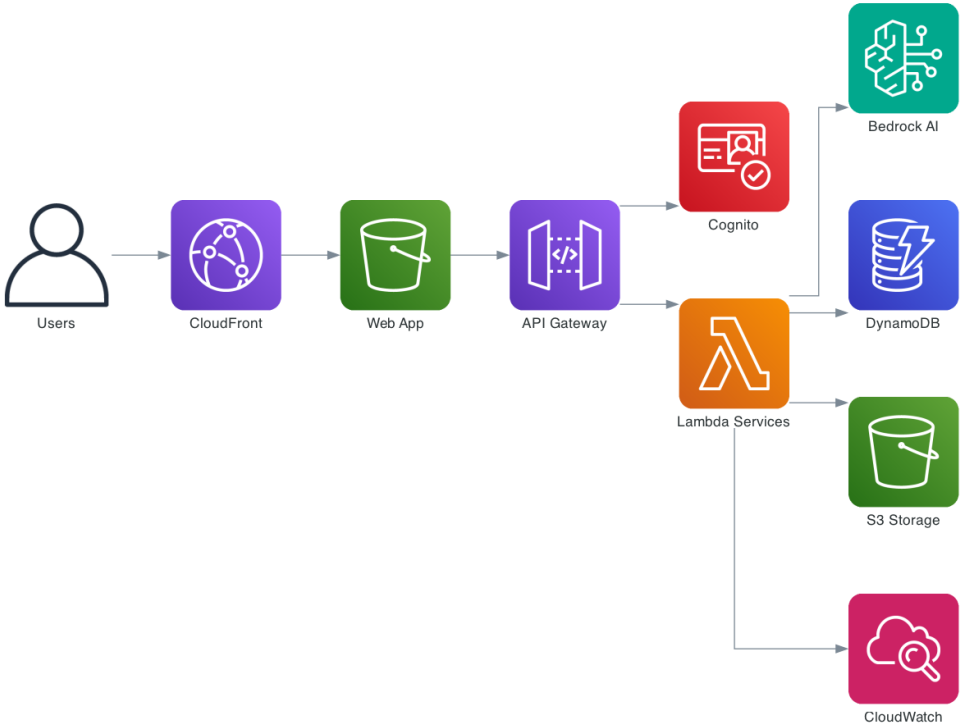


The User Journey: From Diagnosis to Certification



- **Step 1: Onboarding:** User selects a track (Learn or Build).
- **Step 2: Diagnosis:** Learn Mode starts with a dynamic AI test to baseline current knowledge.
- **Step 3: Adaptive Path:** AI reorders the syllabus to focus solely on high-impact weak areas.
- **Step 4: Mastery Gates:** After each concept, user must complete a real-world micro-task.
- **Step 5: Build Integration:** User moves to Build Mode to apply concepts to their own project with AI mentorship
- **Step 6: Certification:** Final adaptive grand test results in an AI-verified Skill Certificate.

AWS-Native Architecture (Serverless)



SkillForge AI Architecture

The AWS Technology Stack

- **AI/ML:** Amazon Bedrock (Foundation Models), Amazon Q (optional, for internal developer productivity).
- **Frontend & Delivery:** AWS Amplify and Amazon CloudFront for high-speed access across Bharat.
- **Identity:** Amazon Cognito for secure, scaleable user authentication.
- **Security:** AWS WAF to protect adaptive exams from malicious automation or bot-attacks.

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Thank You