**The Technical Execution Plan for the Smart School Project (AiSchool)**

**Version:** 2.0 (Enhanced) **Creation Date:** August 8, 2025 **Core Team:** You (Information Systems Engineer and Project Lead)

**Introduction: Execution Philosophy**

This plan is based on a phased approach aimed at minimizing risks and maximizing the chances of success.

* **Objective:** Move the product to a real cloud environment and test it with a limited number of users (20-50 students) to gather realistic feedback.
* **Team:** You + AI Model
* **Philosophy:** "Market Validation." Does the product we built offer real value to people?
* **Duration:** 1 week.

**2.1. Building the Cloud Infrastructure (AI Role)**

* **Tools:** Supabase and Render.com (both offer robust free tiers).
* **Execution:**
  + Create a project on Supabase to be used as the primary database (PostgreSQL) and authentication system.
  + Use the Render.com platform to host Backend Functions as web services, providing more flexibility than Supabase Edge Functions while keeping costs low.
  + Write the backend functions in TypeScript to hide the Claude API key and provide secure access points for the application.

**2.2. Product Development (AI Role)**

* **Task 1:** Modify the Flutter code to replace local file reading with API calls to the services hosted on Render.
* **Task 2:** Integrate the login and authentication system with Supabase.
* **Task 3:** Implement the smart caching system (FR-17) at the server level (using Redis on Render) to reduce Claude API calls.

**2.3. MVP Launch (AI Role)**

* **Task 1:** Deploy the application to internal testing channels (Google Play Internal Testing and Apple TestFlight).
* **Task 2:** Invite a group of students to try the application.
* **Task 3:** Systematically collect feedback through surveys and direct interviews to improve the product.

**2.4. Cost**

* **Financial Cost:** Very reasonable. It can be **zero dollars** initially by relying on the free tiers, or about **$50 - $150 per month** with increased usage.