# **📐 Updated Technical Architecture – Defeah Bible Study App**

Includes alignment with UX flow and version roadmap up to v2.3

## **1. High-Level Architecture Overview**

* User
* │
* Flutter App (Client)
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* ├── Prompt Input Screen
* ├── Daily Verse View
* ├── Study Guide View
* ├── Jeff Reed 4-Step Flow
* ├── Settings / History / Donate
* │
* REST API Gateway
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* Backend Services (Hosted on Firebase/Supabase)
* ├── LLM Prompt Router
* ├── Study Generator
* ├── Jeff Reed Topic Engine (Static input)
* ├── Feedback Collector
* ├── History Tracker
* └── Admin Dashboard API
* │
* Vector DB / SQL DB (Firestore / Supabase)
* ├── User Profiles
* ├── Prompt History
* ├── Jeff Reed Flow States
* ├── Feedback Records
* └── Verse Log

## **2. Component Breakdown**

### **🧩 Frontend (Flutter)**

* **PromptInputScreen**: Entry point for Scripture/Topic input
* **JeffReedFlowScreen**: Fixed-topic only, no prompt required. Includes built-in fallback for missing or misconfigured topics—defaults to 'Gospel' with a notification. Localization is supported via Settings preference, with dynamic text loading based on the selected language.
* **StudyGuideScreen**: Renders LLM content in 3-part layout
* **FeedbackModal**: Appears after study generation
* **DailyVerseScreen**: Pulls verse of the day
* **SettingsScreen**: Theme, Language, Support options
* **HistoryScreen**: Resume or view past studies with completion indicators
* **DonateModal**: Razorpay/UPI integration

### **⚙️ Backend**

* **/api/study/generate**: Handles scripture/topic prompt via LLM
* **/api/study/jeffreed**: Fixed-topic lookup + LLM contextual guidance. API response returns each step (context, interpretation, reflection, application) as separate fields to support frontend progression and resume logic.
* **/api/topics**: Returns Jeff Reed predefined study topics
* **/api/history**: Manages retrieval and resume states
* **/api/feedback**: Accepts and aggregates feedback data

## **3. Data Models**

### **📌 StudyGuide**

* id
* user\_id
* type: "topic" | "scripture"
* input\_ref: string
* llm\_response: json
* created\_at

### **📌 JeffReedState**

* user\_id
* topic
* step\_1\_context: text
* step\_2\_ai\_output
* step\_3\_reflection
* step\_4\_application
* step\_1\_completed\_at: timestamp
* step\_2\_completed\_at: timestamp
* step\_3\_completed\_at: timestamp
* step\_4\_completed\_at: timestamp
* completion\_status: boolean

### **📌 Feedback**

* study\_id
* was\_helpful: bool
* message: optional text
* timestamp

## **4. Navigation Flow (Updated)**

1. App Launch → Welcome/Login
2. Home → Generate Study → Prompt Input → Study Guide
3. Home → Jeff Reed Study → Topic Cards → 4-Step Flow
4. Study Guide → Feedback Modal or Share Modal
5. Settings → Donate / Language / Theme
6. History → Resume Study or View
7. Admin → Feedback Insights Dashboard

## **5. Security Notes**

* Environment secrets pulled from Firebase/Supabase
* API Gateway protects LLM endpoints with API key + usage cap
* Jeff Reed topics are non-editable (read-only, stored in config)
* Donation flow uses Razorpay/Google Pay without storing card info  
  + ⚠️ Ensure compliance with PCI DSS standards where applicable. Use secure tokens and avoid storing payment details.

## **✅ Upcoming To-Dos**

* Integrate /api/history with JeffReedFlow to persist progress
* Automatically set 'completion\_status' flag in study model when all steps in Jeff Reed flow are marked as completed in study model
* Map feedback tags to admin dashboard visualizations