

Siragugal Scholarship — Application Intake Agent

Problem Statement & Requirement Document (Final Version)

Background

The **Siragugal Scholarship Program** is a flagship initiative by the Gold Heart Foundation that supports higher education access for underprivileged youth in Tamil Nadu — including:

- **12th standard students**
- **Later-entry college students**
- **Diploma students**

Applications are collected through school referrals, social outreach, and community mobilization — and must accommodate students with **diverse access to technology and communication channels**.

Key Challenges Faced

1. Device Access Limitations

- Many students **do not have personal smartphones**.
- Some rely on:
 - **Parent's phone** (available only in evenings)
 - **Shared phone from friends, teachers, or neighbours**
 - **Basic phones with only SMS capability**
- These varied device types make it **impractical to mandate web forms or portals**.

2. Voice Agent Limitations






- We experimented with **voice-based agents**.
- However, **Tamil voice recognition and TTS (text-to-speech)** performance was inconsistent and unreliable.
- As a result, **SMS and WhatsApp** were selected as the most accessible and user-friendly channels.

3. Document Upload Constraints

- Students who apply via WhatsApp can **upload documents directly** (e.g., 10th marksheet, income proof).
- Students using SMS or shared phones often **cannot upload** documents digitally.
- In such cases, we provide them with a **unique Application Number**, and they are asked to **courier the documents** to the GHF office with this ID **clearly written on the envelope**.
- Courier is **not for form submission**, only for **proofs**, and is used **only when digital upload isn't possible**.

4. BoldDesk Platform Mismatch

We initially used **BoldDesk**, a support-ticket system, to collect applications. While usable, it introduced significant process friction:

Limitation	Explanation
 Multiple Tickets Allowed	A student could submit more than one application , violating our “one student = one form” logic.
 Max 90 Custom Fields	Siragugal uses 150+ data points → forced us to store remaining info externally.
 Designed for Support Workflows	Email-style tickets and agent panels are not intuitive for rural students or teachers .
 No pre-submission validation	Couldn't stop duplicates before they entered the system.
 (Note) Dropdown Support Exists	Unlike chat agents, BoldDesk <i>did</i> prevent spelling errors via dropdowns. However, chat input will require normalization.

Why a WhatsApp/SMS-Based Application Agent




Real-World Observations




- Students often don't have smartphones or consistent internet access.
- Some rely on parents', neighbours', or teachers' phones.
- Others may have **only SMS capability**.
- Many students cannot upload documents digitally and prefer to **courier their documents**.

What We Need

- A system that handles **every type of student gracefully** — with or without WhatsApp.
- Allows for guided, validated, one-time application entry.
- Prevents duplication and enables seamless document handling (digital + courier).

What the Agent Will Do

Capability	Details
 Guided Application Chat	Asks questions step by step via WhatsApp or SMS in Tamil/English.
 Mode Awareness	Auto-adjusts UX for SMS or WhatsApp.
 Duplicate Prevention	Checks Phone + DOB + Aadhaar last 4 digits.

Capability	Details
 Conditional Fields	Based on education type (12th / diploma / later-entry).
Data Normalization	Uses LLM/parsing to correct spellings for structured fields.
 Courier Mode	Sends application ID for manual document courier if upload is not possible.
 Confirmation & Follow-Up	Sends application number and status updates via same channel.

Application Structure

Field Categories

- Personal Info (Name, DOB, Gender, Phone, Aadhaar)
- Address Info (District, Roof Type, Ownership)
- Education (based on student type)
- Financial & Social (Income, Parent Status, Disability)
- Supporting Documents (WhatsApp upload or courier)
- System Fields (Application ID, Date, Channel, Status)

Scoring Logic

- Based on 14-point matrix (e.g., cut-off, community, income, parent status)
- Total score stored in DB for ranking and filtering

Developer Implementation Plan (MVP)

Feature	Tech Recommendation
Chat Agent	Twilio, Gupshup, or WhatsApp Cloud API
SMS Gateway	Twilio or Kaleyra
Normalization Layer	LLM/GPT API or local fuzzy match logic
Backend	Node.js or Python Flask
DB	Firebase / Firestore / PostgreSQL
File Upload (WhatsApp only)	Firebase Storage or S3
Courier Tracker	Application ID with “documents_pending” flag
Admin Panel (Optional)	Retool or Custom UI

Outcome

This new chat-based intake system will:

- Eliminate dependency on rigid platforms like BoldDesk
- Reduce duplicate applications significantly
- Improve accessibility across student segments
- Enable centralized, clean, and analyzable data
- Scale easily for future cycles

for more information on the existing attributes. <https://goldheartfoundation.bolddesk.com/en-US/support/tickets/create>