Siragugal Scholarship — Psychometric Analysis Agent

🛠️Problem Statement & Requirement Document

🕐Objective

To build a **WhatsApp/SMS-based chatbot agent** that conducts a **psychometric assessment** for Siragugal Scholarship applicants, analyzes their responses, and generates a **personalized career insight report**. The goal is to understand the student's mindset, personality traits, interests, and suggest possible career directions.

🕐Why This Is Needed

- Many underprivileged students have **limited exposure to self-assessment tools**.
- Students are unaware of their **inherent traits, learning preferences, and career alignment**.
- A psychometric test will:
- Enhance self-awareness
- Help GHF volunteers/mentors guide students better
- Enable career matching
- Contribute to the holistic scoring of applicants

👜How It Works

Phase	Description
Chat Interaction	Bot asks a series of 30–60 structured questions (Likert scale)
Channel Support	WhatsApp (primary), SMS fallback
Languages	Tamil & English
Response Collection	Users reply with option numbers (1 to 5) corresponding to their agreement
Identity Matching	Application ID or Phone Number used to link result to student
Scoring	Each response scored (SD=1 to SA=5) and grouped into 5–7 personality traits
Report Generation	Summary text or downloadable PDF sent via WhatsApp or Email

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📝Sample Questions

Format: Question in English + Tamil, with response options: - 1. Strongly Disagree (SD) - 2. Disagree (DA) - 3. Neutral (NT) - 4. Agree (AG) - 5. Strongly Agree (SA)

Examples: 1. *I am a very active person.* (நான் மிகவும் செயலாற்றும் நபர்.) 2. *I prefer to stick to traditional methods.* (நான் பாரம்பரிய முறைகளை பின்பற்ற விரும்புகிறேன்.) 3. *I enjoy solving problems that involve logic.* (தர்க்க அடிப்படையிலான சிக்கல்களை தீர்க்க விரும்புகிறேன்.) 4. *I like helping others whenever I can.* (நான் எப்போதும் பிறருக்கு உதவ விரும்புகிறேன்.)

💡Personality Dimensions (Mapped from Questions)

Trait	Interprets...
Emotional Stability	Stress response, calmness
Extroversion	Social interaction, energy level
Traditionalism vs Openness	Attitude toward new ideas vs routine
Competitiveness	Assertiveness, ambition
Creativity & Sensitivity	Response to art, poetry, emotions
Conscientiousness	Planning, discipline, attention to detail

📂Report Structure (Output)

1. **Student Information**
2. Name, Gender, Application ID, Education Level
3. **Interest & Motive Summary**
4. Highlight of top 2–3 areas of inclination
5. **Personality Interpretation**
6. Trait-wise summary (calm, open, competitive, etc.)
7. **Suggested Career Tracks**
8. Based on mapped interests and personality blend
9. **Personalized Action Planner**
10. Simple daily/weekly improvement goals

🔧Technical Recommendations

Component	Recommendation
Bot Interface	Twilio / Gupshup WhatsApp API

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SMS Gateway	Twilio / Kaleyra
Backend	Node.js or Python Flask
Question Bank	JSON-based config with ID, text, trait, reverse
Scoring Engine	Tag-based aggregation per dimension
Report Output	HTML-to-PDF (Puppeteer / wkhtmltopdf)
Storage	Firebase / Firestore / PostgreSQL

🔗 Developer Deliverables

1. Chatbot flow that handles:
2. Multilingual support
3. Sequential Q&A with option handling
4. Resume/continue test mid-way
5. Normalized data output per student
6. Personality score calculation logic
7. Automated report generation (text + downloadable PDF)
8. Admin log of student responses
9. Secure webhook/API to link this output to the Application ID

Once questions are finalized, a scoring matrix and PDF template can be developed.

The chatbot should be extensible to run in multiple rounds and be integrated into the final personality + cultural fit scoring of the student.