



Iya Bola Assistant App: Empowering Africa through Data-Driven Financial Inclusion

Dataverse Datathon 2025 Submission

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A – Validated Understanding of the Problem

Theme: Financial Inclusion – “Banking Iya Bolanle”

In Sub-Saharan Africa, only 49% of adults have a bank account. Millions remain excluded due to **language barriers, digital illiteracy, and infrastructure gaps.**

Significant disparities exist (6% in South Sudan to 91% in Mauritius).

The solution must address these main barriers:



Poor connectivity



Language exclusion



Limited device literacy



Distrust in digital systems



Low financial education

Key Statistics (2024–2025):




- Ghana’s mobile money transactions hit GH¢1.9 trillion (↑78.7%) in 2023.
- Nigeria: ~38 million adults remain financially excluded (CBN 2023).
- Women and rural dwellers form >60% of the unbanked population.

Solution Overview: Inclusive financial assistant supporting text and optional voice input. It handles essential financial tasks and extended services (financial education, agriculture payments, school fee reminders). Designed for low-digital-literacy users with trust, usability, and accessibility in mind.

B – Elevator Pitch

"Iya Bola Assistant App is a multilingual, multimodal financial assistant designed to empower underserved African populations. It enables essential financial tasks—transfers, bill payments, airtime, micro-savings. It also provides financial education, real-time analytics, and a user-friendly interface for low-digital-literacy users."

C – User Personas

-  **Iya Bola**
Yoruba market woman with a voice-first preference for transactions.
 -  **Amina**
Pidgin-speaking farmer who is semi-literate and needs simple budgeting.
 -  **Chinedu**
Tech-savvy student who is a bilingual digital native, testing advanced features.
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D – Inclusive Financial Assistant Blueprint

Concept: An AI-driven multilingual assistant providing inclusive financial access.

Interaction Modes:



Text: Conversational chat (SMS, WhatsApp, Web).



Voice: Natural language commands for low-literacy users.



Languages: English, Nigerian Pidgin, Yoruba (extendable to Hausa, Swahili, Twi).

Core & Extended Functions:



Core Financial: Transfers, Airtime/Data, Bill Payments, Micro-Savings.



Beyond Banking: Financial Literacy Tips, Agricultural Payment Integration, School Fee Reminders.

E – Key Features



Multilingual & Inclusive:

Supports English, Pidgin, and Yoruba to reach underserved communities.



Core Financial Tasks:

Transfers, bill payments, airtime/data purchases, and micro-savings.



Financial Education: Delivers tips and guidance for low-digital-literacy users.



Real-Time Insights:

Live dashboard with intent & language analytics; CSV export for further analysis.

Dashboard Insights (Sample Analytics):



Intent Distribution



Language Breakdown



Confidence Metrics



Avg Transaction Trends

F – Prototype & Deliverables

The functional components delivered during the datathon include:

- 1 Streamlit Chatbot** Text + optional voice I/O, multi-language support **Prototype:**(English, Pidgin, Yoruba), handling core financial and educational tasks.
- 2 Real-Time Dashboard** Visualizes user intents and language usage with a CSV export function for advanced analysis.
- 3 SampleMock data** included to **CSV** simulate real user **Log:** interactions and demo dashboard capabilities.
- 4 Project Overview &pitch summary** included **README:** in the ZIP file.

G – Impact & Scalability

The solution is designed for adoption by banks, fintechs, telcos, and community organizations to **increase financial inclusion** in underserved regions.



Impact:

Fosters financial inclusion, improves business sustainability for micro-entrepreneurs, and promotes data literacy at the grassroots level.



Scalability:

The modular design allows for the rapid addition of new languages, financial services, and regional deployments. Ensures privacy, trust, and high usability for low-digital-literacy users.

H – Files Included in ZIP:

The `Datathon 2025.zip` file contains the following components:

- iya_bola_assistant_app.py
 - iya_bola_assistant_app_MVP.py
 - README.md
 - sample_user_log.csv
 - project_overview.txt
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I – Future Upgrades

We have a clear roadmap for enhancing the app's capabilities post-datathon:



Smarter AI Responses: Add a GPT API backend to provide more natural, intelligent, and context-aware responses and financial advice.



Permanent Data Storage: Integrate Firebase or SQLite for robust and permanent chat and transaction storage, enabling long-term user history.



Advanced Dashboards: Enable data export to CSV for integration with Power BI, offering users powerful, visual business intelligence dashboards.