
The Booth Marketing — USSD Campaign Platform

Afrocentec (for The Booth Marketing)

7 days

Universal access promotional campaign via USSD

< 500ms

Response Time

7 days

Development Time

3/3

Network Coverage

The Challenge

Over 70% of Zambian mobile users lack reliable smartphone data access, making traditional digital campaign participation impossible. The Booth Marketing's bottle-top promotion needed a universally accessible entry mechanism that works on any phone — from basic Nokias to smartphones — across all three Zambian networks (Airtel, MTN, Zamtel).

Our Approach

Built a clean, lightweight USSD gateway as a thin presentation layer between Africa's Talking USSD provider and the existing backend API.

Provider Abstraction: Adapter pattern enabling switching USSD providers without any code changes to business logic. The USSD layer handles only session management (Redis with 180-second TTL) and menu presentation within the 160-character USSD limit.

All business logic — code validation, prize fulfillment, campaign rules — stays in the existing backend. This clean separation keeps the gateway simple, testable, and reusable for future campaigns. Graceful error handling provides user-friendly messages for timeouts, invalid inputs, and API failures.

Outcomes

USSD gateway delivered in 7 days at K6,000 fixed price — from kickoff to production deployment in one week.

Sub-500ms response time across all interactions — 4x faster than the 2-second USSD industry requirement.

Works on any GSM phone across all three Zambian mobile networks without requiring any data connectivity. Clean architecture enabling reuse for future promotional campaigns.

Technology Stack

Node.js

TypeScript

Express.js

Redis

Africa's Talking

Docker