



HACKATHON

For

**Conversational Agent Framework for
Customer Onboarding**

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1. Objective

To design and develop a **configurable conversational agent framework** that allows users to interact in natural language (voice/text), provide required details, upload documents, and complete onboarding journeys seamlessly.

The framework can be configured for different question set based on customer journey.

2. Core Components

2.1 Conversational Agent

- Supports **human-like interactions** in natural language (voice/text).
 - Multi-channel support: Web, Mobile
 - Vernacular Support – Agent can talk in native Indian language
 - Configurable **conversation flows** (per Unique Param).
 - Handles context management, error handling, and guided inputs.
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2.2 Configurable Question Framework

Supports 5 primary types of questions:

a. **User Input** (voice/text entry)

- Collects free-text or structured responses.
- Provides validation (e.g., numeric, date, regex).

b. **Document Upload & OCR API Integration**

- Allows user to upload documents (ID, income proof, etc.).
- Calls OCR API to extract data in JSON format.
- Auto-populates extracted fields into conversation.

c. **Third-Party API Integrations**

- Supports configurable integrations like:
 - **Bureau check**
 - **eKYC (Aadhaar, PAN, etc.)**
 - Any other external verification APIs

d. **Photo Capture with Liveliness Detection**

- Captures user's live photo/selfie.
- Validates authenticity via liveliness check API.

e. **OTP Verification**

- Generates and validates OTP for mobile/email authentication.

- Ensures secure verification flow.
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2.3 Data Orchestration Layer

- Collates all captured data (from inputs, OCR, APIs, photos, OTP).
- Applies **master data mapping** (e.g., converts selected values to system IDs).
- Prepares a unified payload.
- Calls **Core System API** to push data into backend systems.
- Logs all transactions for audit.

Project Flow

We will begin this project in a phased approach. **Step A** is the first milestone and must be completed as part of the hackathon. The subsequent phases of the project will build on this foundation.

Tech Stack

- The Agent should be designed using LangGraph.
- MongoDB as back end : All the conversation data & extracted data points should be kept here.
- Configurable questions – All the questions should be configurable and should be kept in the DB or some config file.

Key Requirements

- The agent should interact in a natural, human-like manner while collecting information from the customer.
- If the conversational bot misunderstands any response, it should explicitly ask the customer to verify.
 - If the customer confirms the bot's interpretation is incorrect, the bot must re-collect the data accurately.
- The conversation should remain smooth, user-friendly, and resilient against errors.
- Bot should work in vernacular language. To start with, we can pick English and Hindi.

Sample Conversation

Agent: Hello! I'm here to help you apply for your loan. I'll just ask you a few quick questions, and we'll be done in a few minutes. Ready to begin?

Customer: Yes, let's go.

Step 1 – Personal Details

Agent: Great! Can I have your full name as per your official documents?

Customer: Rohan Mehta.

Agent: And your date of birth?

Customer: 15th August 1992.

Agent: Gender?

Customer: Male.

Agent: Which mobile number should we use to contact you?

Customer: 9876543210.

Agent: And your email address?

Customer: rohan.mehta@gmail.com.

Checkpoint Confirmation – Personal Details

Agent: Just to confirm, here's what I have:

Name: Rohan Mehta

DOB: 15-Aug-1992

Gender: Male

Mobile: 9876543210

Email: rohan.mehta@gmail.com

Is that correct?

Customer: Yes, that's right.

Step 2 – Other Details

Agent: What's your current residential address?

Customer: 24, Green Park, New Delhi – 110016.

Agent: Is this owned, rented, or provided by your employer?

Customer: Rented.

Agent: How long have you been staying here?

Customer: 3 years.

Agent: Do you have a different permanent address?

Customer: Yes, my permanent address is 56, Rajendra Nagar, Lucknow – 226004.

Agent: What's your monthly net income after deductions?

Customer: ₹85,000.

Agent: Which bank account should we use for loan disbursement?

Customer: HDFC Bank, Connaught Place branch.

Agent: Can you confirm the account number and IFSC code?

Customer: 123456789012, HDFC0001234.

Checkpoint Confirmation – Other Details

Agent: Just to confirm, here's what I have:

Current Address: 24, Green Park, New Delhi – 110016 (Rented, 3 years)

Permanent Address: 56, Rajendra Nagar, Lucknow – 226004

Monthly net income : ₹85,000

Account No: 123456789012

Bank : HDFC Bank, Connaught Place branch.

IFSC Code: HDFC0001234

Shall I go ahead with these details?

Customer: Yes, please.

Agent: Perfect! Your loan application is now submitted. We'll review it and get back to you shortly with the next steps. Thank you for your time, Rohan!

Customer: Thank you!