



EY Techathon 6.0 Executive Summary

Date of submission:

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The better the question. The better the answer. The better the world works.

EY

Shape the future
with confidence



Introducing our multi-agent AI system - it chats with customers, verifies identity, checks credit, and approves loans in real-time. Think of it as a team of tireless, super-efficient bankers who never take coffee breaks, never make mistakes, and always keep customers smiling.



Meet the Team!!!

**Jayal
Shah**

The Code Captain

Steers our Python ship through the stormy seas of algorithms and data structures. Deadlines don't scare him.

**Sakshi
Giglani**

The Data Whisperer

Talks to databases like they're old friends. Queries obey her, mock servers fear her, and CRM integration? Smooth sailing

**Kaushal
Ramanuj**

The UX Sorcerer

Front-end virtuoso: pixels obey, interfaces charm, and every click feels like butter. Making our chatbot irresistible is his superpower

**Pranjal
Panchal**

The Documentation Ninja

Every step, every process, every tiny detail captured. She documents faster than you can say 'version control'

**Sakshi
Makwana**

The AI Alchemist

Turns raw data into AI gold. Orchestrates workflows like a symphony conductor - algorithms dance to her tune



Problem Statement

Making personal loan acquisition seamless, persuasive, and human-like.

Current Challenge:

- Personal loan applications are often **slow, impersonal, and prone to drop-offs** due to lengthy forms and delayed verification.
- Existing systems are **linear and siloed**, lacking orchestration between verification, credit evaluation, underwriting, and sanctioning.

Objective:

- Build a **Master AI Agent** to orchestrate multiple Worker Agents handling sales, KYC verification, credit assessment, and sanction letter generation.
- Provide a **human-like conversational interface** that adapts to customer inputs, persuades effectively, and handles edge cases (e.g., low credit score, high requested amount).
- Reduce manual effort, improve conversion rates, and ensure **accuracy, transparency, and customer trust**.

Key Concepts Applied:

- **Conversational AI** for natural, adaptive dialogue.
- **Agent-Oriented Architecture** for orchestrating specialised Worker Agents.
- **Decision-Oriented Workflow** for real-time eligibility checks and approvals.
- **User-Centric Design** to make the process intuitive, persuasive, and seamless.

How We Make Personal Loans a Breeze

Output Form Factor: Web-based chatbot acting as a 24/7 digital sales assistant

Key User Group: Prospective and existing NBFC customers seeking fast, conversational loan support

User Journey:

- Greeting and personalized intro showing pre-approved offers
- Collects loan amount, tenure, and EMI preferences
- KYC verification via a worker agent using a mock CRM
- AI pipeline performs credit and underwriting evaluation
- Decision Engine issues a sanction letter or rejection message
- Feedback collection and friendly closure

Unique Value: Combines automation, AI, and conversational engagement to make loans simpler, faster, and more human-like.

A chatbot conversation showing a successful loan application. The user starts with 'I want a loan'. The bot responds with a pre-approved limit of Rs.400000 and asks if the user wants to take the loan or request a different amount. The user enters 'accept'. The bot confirms KYC verification for Sahil Desai, proceeds to credit evaluation, and then confirms the loan of Rs.400000 is within the pre-approved limit and is approved. Finally, a sanction letter is generated.

I want a loan

Based on our analysis, your pre-approved personal loan limit is Rs.400000. Would you like to take this loan or request a different amount?

Enter requested loan amount (e.g., 350000, 3,50,000, 350k) or type 'accept'.

accept

KYC verified successfully for Sahil Desai.

Proceeding to credit evaluation...

I want Rs.400000

Please enter a valid loan amount (e.g., 350000, 3,50,000, 350k) or type 'accept'.

40k

Loan within pre-approved limit. Approved.

✓ Sanction letter generated!

Screenshot of chat (Accepted)

Two screenshots of chatbot conversations showing loan rejection. The first shows a user asking for a personal loan, receiving a pre-approved limit of Rs.300000, and then requesting 500000. After KYC verification for Rohit Sharma and credit evaluation, the loan is rejected due to a low credit score of 680. The second screenshot is identical but shows the rejection message.

Hello, I need a personal loan.

Based on our analysis, your pre-approved personal loan limit is Rs.300000. Would you like to take this loan or request a different amount?

Enter requested loan amount (e.g., 350000, 3,50,000, 350k) or type 'accept'.

500000

KYC verified successfully for Rohit Sharma.

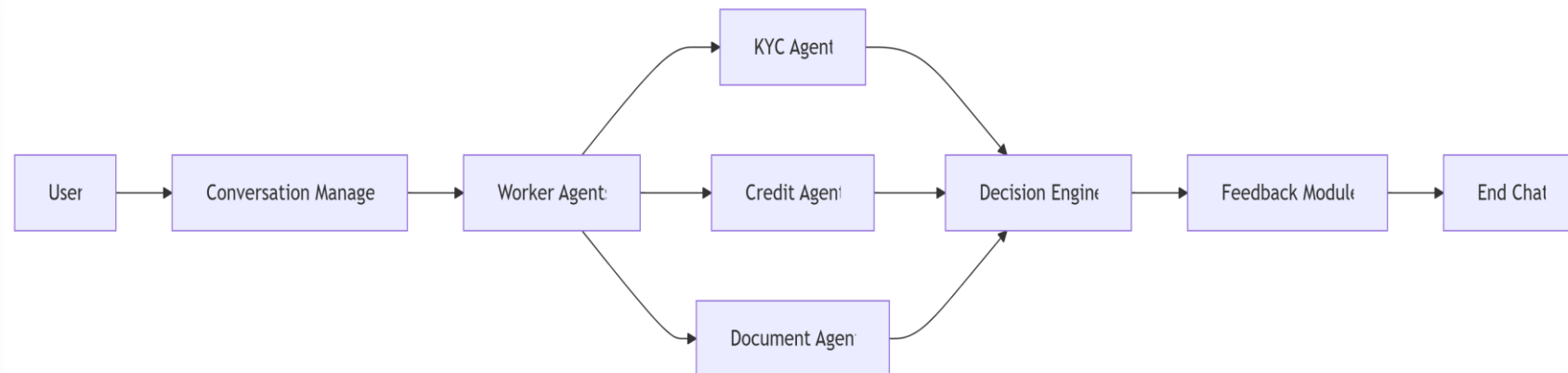
Proceeding to credit evaluation...

500000

Loan rejected due to low credit score (680).

Screenshots of chat (Rejected)

How Our Chatbot Works Behind the Scenes



System Overview: A multi-agent AI system that chats with customers, verifies identity, checks credit, and gives real-time approvals or rejections.

Components:

Chatbot: Web interface for user interaction

Conversation Manager: Manages chat flow

Worker Agents:

- **KYC Agent:** Verifies identity
- **Credit Agent:** Checks eligibility
- **Document Agent:** Validates documents

Decision Engine: Automatic approvals/rejections

Feedback Collector: Gathers user feedback

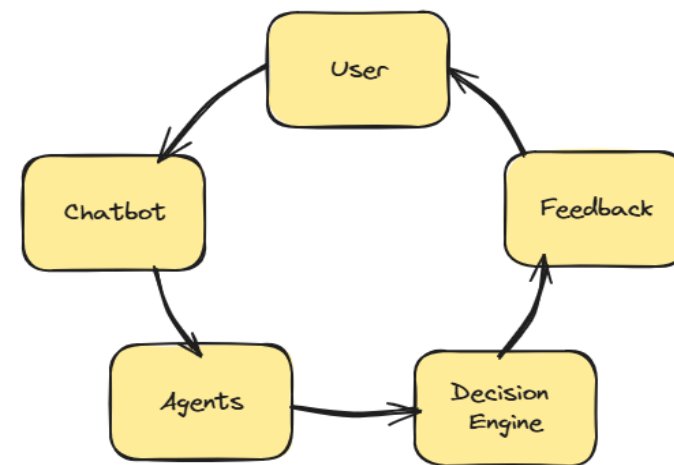
Technologies:

Frontend: Streamlit / React

Backend: Python, Flask

AI: LangChain, OpenAI API, NLTK

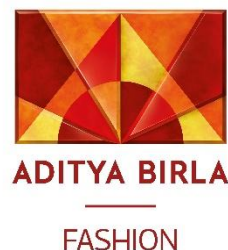
Database: Firebase / MongoDB



Why This Solution Works for Everyone

Category	Benefits / Features	Impact / Metrics
Customers	<ul style="list-style-type: none">- Instant decisions- Personalized loan options- 24/7 availability- Human-like conversations- Reduced errors	<ul style="list-style-type: none">- Faster access to loans- Better experience and trust- Higher satisfaction (CSAT Score)
NBFC	<ul style="list-style-type: none">- Faster processing (↓60% manual time)- Higher conversion rates- Improved customer retention- Cost savings from automation- Scalable operations	<ul style="list-style-type: none">- Approval rate increase (%)- Average processing time (minutes)- Operational cost reduction (%)
ROI	<ul style="list-style-type: none">- Save manpower costs by automating 30% queries- Increase revenue with faster loan conversion- Reduce errors and improve compliance	<ul style="list-style-type: none">- Measurable cost savings- Higher revenue and efficiency- Long-term customer loyalty

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