

EY Techathon 6.0

Detailed Submission

Date of submission: 17th December, 2025



Shape the future
with confidence

Team Name: ScubeAI

Problem Statement: The NBFC wants to improve its sales success rate for personal loans by using an AI-driven conversational approach. The solution must simulate a human-like sales process, where the Master Agent handles customer conversations, engages customers in a personalized manner and collaborates with multiple Worker AI agents to complete the loan process.

#1



Ananay Dubey

PEC Chandigarh

+91 7719767324

End-to-end system design, flow, and technical decisions + Integrates frontend, backend & AI agents

#2



Shikhar Yadav

PSIT Kanpur

+91 8303099225

Organizes the Master-Worker agent structure + Defines the Agentic AI workflow

#3



Ishan Gupta

KIET Ghaziabad

+91 9451467338

Reviews code quality, commits, readiness, and deploys + Fine tunes rest of agents and workflows

#4



Shikhar Dubey

PSIT Kanpur

+91 9118726711

Creates PPT slides, demo script & final presentation flow + Chat UI & user interaction layer

#5



Shaurya Gautam

PSIT Kanpur

+91 95800 40501

Assists in prompting + UI/UX Designer

Executive Summary



- The lending ecosystem is evolving, yet personal loan journeys remain slow, confusing, and fragmented across channels, resulting in customer frustration and high application drop-offs.
- Customers expect guided, instant, conversational, and mobile-first digital experiences comparable to modern e-commerce journeys.
- Banks and financial institutions still rely heavily on manual verification, KYC checks, data entry, and underwriting decisions, leading to higher operational costs and inconsistent outcomes.
- Introducing ORION – The Agentic AI Loan Journey Assistant, a solution that converts the loan application into a seamless conversation on Web leveraging platform's users friendly experience.
- ORION understands the customer's loan requirement, gathers purpose, amount, and employment details in a natural conversational flow – eliminating long forms.
- ORION performs instant digital verification including identity validation and profile checks and retrieves existing customer data securely.

- Using OCR + NER, ORION automatically extracts income, employer details, and deductions from salary slips, removing manual effort and reducing errors.
- Policy-backed underwriting ensures decisions are consistent, explainable, and aligned with financial thresholds such as EMI, DTI, and credit score.
- ORION generates and stores sanction letters instantly, reducing turnaround time from days to minutes.
- For institutions, ORION delivers scalability, lower cost per loan, improved conversion rates, and reduced dependency on human intervention for repetitive tasks.
- For customers, it offers clarity, speed, transparency, and the confidence of guided support throughout the journey.
- ORION marks the transition from traditional processing to AI-powered conversational lending, setting a new benchmark for efficiency and customer experience in BFSI.

Problem Statement



1. **Target Industry:** Banking & Financial Services (Retail Lending)
2. **Industry Type:** B2C (Direct Consumer Lending) with optional B2B onboarding for NBFCs & Small Banks
3. **User Group:** Loan Applicants (Salaried & Self-employed individuals) seeking quick, transparent, digital loan processing
4. **User Department:** Loan Origination, Credit Risk Assessment, Underwriting & Customer Support
5. **Solution Scenario:** The current process of applying for a personal loan involves fragmented systems, lengthy forms, repeated document sharing, and human dependency for verification and underwriting. Customers lack real-time guidance and clarity, while banks face increased workload, operational cost, and delayed turnaround. ORION introduces an AI-powered conversational assistant that captures customer details, verifies identity, extracts income data using OCR/NER, applies policy-based underwriting rules, and generates instant sanction decisions – creating a guided, automated loan journey.
6. **Proposed Data Flow:** Customer interacts → AI captures intent & profile → Aadhaar/PAN/Phone verification → Salary Slip OCR extraction → Financial rule checks (FOIR, DTI, tenure, eligibility) → Decision generation → Sanction letter creation → Data stored securely with audit logs.
7. **Nature of Output:** Conversational Web App + WhatsApp Assistant, accessible through multilingual voice & text interface, integrated with backend modules via APIs for seamless deployment in financial institutions.

Our Approach



Please elaborate on the solution value proposition to the target user group. How will your solution cover the problem areas?

Response: ORION enables instant loan eligibility through AI-driven conversational onboarding, replacing forms with natural language chat. It reduces processing time and manual verification effort, improving borrower experience and operational efficiency.

What are the impact metrics that you propose to use to analyse the effect of the solution?

Response: Success measured via reduced processing time (days to minutes), increased completed applications, and lower operational cost per case. Accuracy in OCR extraction and higher CSAT scores are key validation metrics.

What are the technologies (languages, platforms, APIs, hardware, sponsored tools, technologies stacks, framework etc.) involved?

Response: AI stack (LangGraph, LangChain, GPT-4), Supabase (Auth, DB, Storage, Vector Store), FastAPI + NextJS. OCR, RAG, fuzzy matching, and KNN algorithms power automation and decisioning.

Please state the assumptions, constraints and solution decision points (Reason behind choosing a technology)

Response: Assumes API access for verification systems and configurable policy integration. Solution decisions prioritise scalability, modular integration, and rapid implementation within BFSI constraints.

How easily can your solution be implemented and how effective will it be?

Response: Deployable as a web or WhatsApp-based flow requiring minimal infra change. Modular rules enable quick adoption across loan types while maintaining digital transparency.

How robust / secure / easily scalable and extensible is the solution?

Response: Supabase security, encryption, and role-based access ensure compliance. Serverless architecture supports scale, while AI pipelines remain extensible for future workflows.

What are the solution components that you would like to build and demonstrate, if you progress through next round.

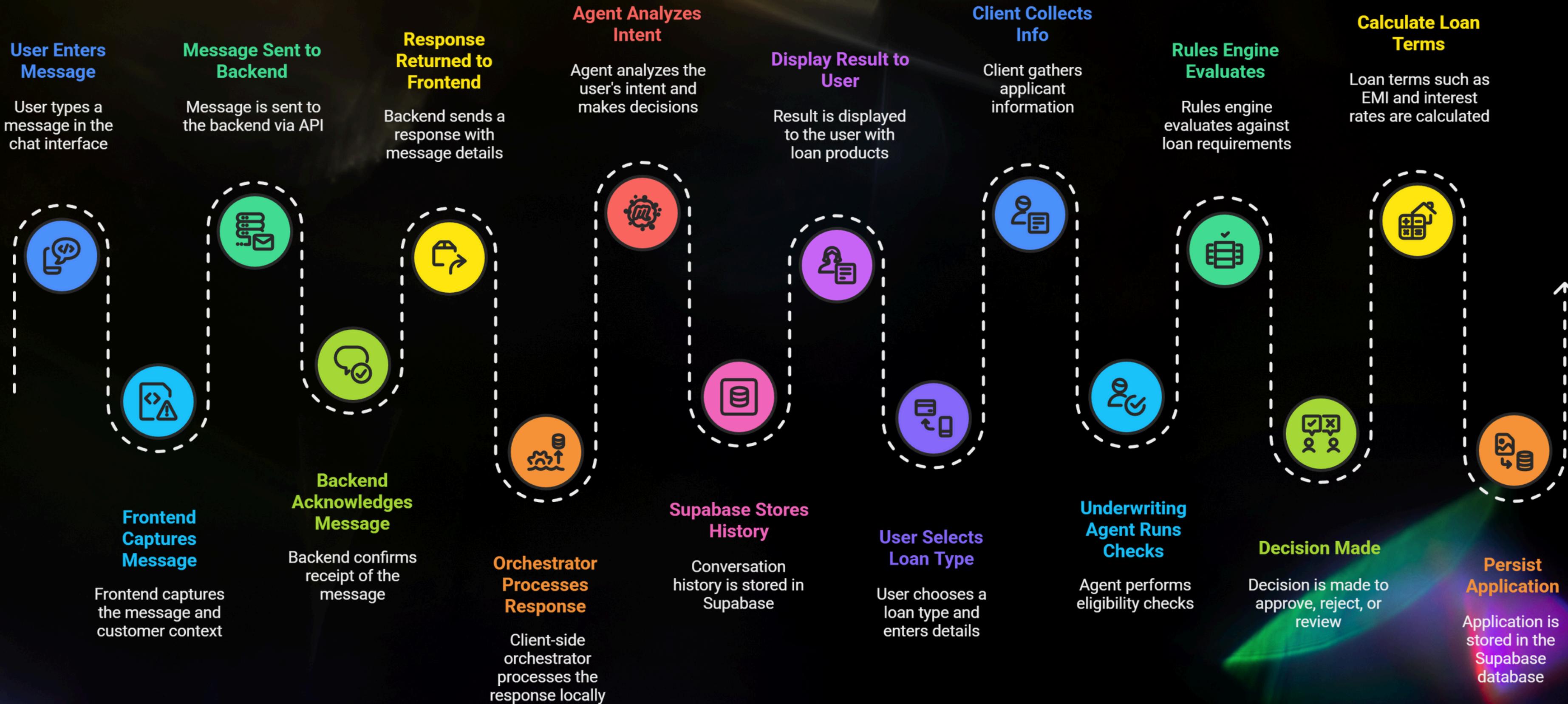
Response: Conversational loan agent, automated document reading, eligibility score engine, and instant sanction letter generation. Underwriter dashboard to configure rules in real-time.

Architecture/ Tech Stack

FrontEnd	NextJS	TailwindCSS	TypeScript	ShadCN UI
BackEnd	FastAPI	NodeJS	OAuth	RestAPI
Supabase	Auth	DB	Storage	Vector Store
AI	LangGraph	CrewAI	LangChain	gpt-4
Misc	Railway	Netlify	RAG	PDF Generation
Algorithms	Cosine & Jaccardi Simiarity	TF-IDF Vectorizatio n + Fuzzy Search	Weighted Scoring Model + OCR	k-NN Search + Context Window Memory



Data FLOW



Agent Flow

Characteristic	Customer Identification Agent	Loan Analysis Agent	KYC Agent	Underwriting Agent	Document Search Agent	Orchestrator Agent
Purpose	Identifies customer	Parses loan intent	Manages document collection	Evaluates loan eligibility	Finds relevant documents	Coordinates between agents
Data Extraction	Extracts customer data	Extracts loan parameters	Extracts document entities	Checks key factors	Semantic search	Aggregates agent outputs
Similarity Matching	Uses k-NN similarity	Uses cosine similarity	Performs fuzzy matching	Considers historical outcomes	Supports multi-document analysis	Maintains context window
RAG	Loads demo/custom data	Retrieves similar loans	Tracks KYC completion	Calculates loan-to-income	Semantic search in document store	Manages conversation workflow
Other	Creates session		Uses OCR	Assigns interest rate	Uses vector embeddings	Uses graph structure

Wireframes



← Home Agentic AI Mode Ready Auto Step ⏪ Reset

• Business Loan
• Education Loan

Just let me know and we'll get started!

14:47

Great choice, Ananay! I'll help you with a Home Loan.

Based on your profile, here's a pre-approved offer:

Amount: Up to ₹5,00,000
 Tenure: 12: 60 months
 Interest Rate: 10.5% - 12.5% p.a.

Would you like to proceed with this offer? Or tell the specific amount you're looking for.

14:47

₹ 1,00,000 ₹ 3,00,000 ₹ 5,00,000 ₹ 10,00,000

Tell me about your loan requirements...

This wireframe shows a mobile application interface. At the top, there are buttons for 'Home', 'Agentic AI Mode' (selected), 'Ready', 'Auto', 'Step', and 'Reset'. Below this, a message says 'Just let me know and we'll get started!' with a timestamp '14:47'. A large box contains a message: 'Great choice, Ananay! I'll help you with a Home Loan.' followed by a pre-approved offer: 'Amount: Up to ₹5,00,000', 'Tenure: 12: 60 months', and 'Interest Rate: 10.5% - 12.5% p.a.'. Below the offer, there's a question: 'Would you like to proceed with this offer? Or tell the specific amount you're looking for.' At the bottom, there are four buttons for loan amounts: ₹ 1,00,000, ₹ 3,00,000, ₹ 5,00,000, and ₹ 10,00,000. A text input field says 'Tell me about your loan requirements...' with a send icon.

Logged in as Ananay Dubey (anandrsagardubey71568@gmail.com)

Master Agent Complete Orchestrates the entire loan process

Response generated

Sales Agent Working Collects loan requirement...

Verification Agent Complete Validates KYC data and documents

Underwriting Agent Idle Evaluates loan eligibility documents

Sanction Letter Agent Idle Generates approval documents

Project Orion

Next-Gen Lending Platform

Banking that feels human powered by AI.

Banking that feels human yearn of problems incomen and banking that feet human powered by AI.

Try Agentic Mode →

Standard Mode

Live Orchestration

```
graph TD; Master((Master)) --> Sales((Sales)); Sales --> Verify((Verify)); Verify --> Underwrite((Underwrite)); Underwrite --> Sanction((Sanction))
```

Project Orion

Loan Marketplace

Select our omne, responsive in your Project Orion.

Search loans...

All Categories

All Banks

HDFC Xpress Personal Loan #2 Bank 95% Match

INTEREST 10.50%-15.75%	MAX AMOUNT ₹44.0 L
TENURE 12-60 months	PROC. FEE Up to 2.50%

✓ Tick list in or interest
✓ Tick hand fee
✓ Tick bantmy
✓ Tick list for jyrocest

e-Mudra 95% Match

This wireframe shows a mobile application interface for a loan marketplace. At the top, there are icons for user and moon. Below this, a title 'Loan Marketplace' and a subtext 'Select our omne, responsive in your Project Orion.' There are search and filter fields for 'Search loans...', 'All Categories', and 'All Banks'. A card for 'HDFC Xpress Personal Loan #2' is shown with details: INTEREST 10.50%-15.75%, MAX AMOUNT ₹44.0 L, TENURE 12-60 months, and PROC. FEE Up to 2.50%. Below this, there's a list of validation ticks: '✓ Tick list in or interest', '✓ Tick hand fee', '✓ Tick bantmy', and '✓ Tick list for jyrocest'. At the bottom, there's another card for 'e-Mudra' with a 95% match rating.

Github and Prototype's Video



R Project Orion walkthrough

Project Orion

A Ananya Dubey System Design & Integration [View Details](#)

S Shrikhar Yadav Agent Architect [View Details](#)

I Ishan Gupta Circle Quality & Deployment [View Details](#)

S Shilchar Dubey Innovation & Chat UI [View Details](#)

S Shaurya Gautam UX/UI Designer [View Details](#)

Copy link

Ready to Experience the Future?

Join thousands of users who have switched to our agentic lending platform. Fast, secure, and intelligent.

Start Agentic Chat

Watch on YouTube

backend

client

data

script

server

shared

Website: <https://porion.netlify.app>

Youtube: <https://youtube.com/watch?v=TNaiAjYhsnw&feature=youtu.be>

Github: <https://github.com/fts18/project-orion.git>