Use Case1: Creating Conversational Intelligence

Voice Input, Text Output Assistant

Challenge Overview

Problem Statement

The challenge is to design a conversational agent that understands voice input, produces natural language responses, and learns from real-world data sources.

Your Mission

Build a voice-to-text AI assistant that replicates the fluency, adaptability, and empathy of a human sales representative — helping users explore and understand domain products more naturally.

Target Impact

Your solution should improve user engagement by enabling:

- Natural voice input and clear, contextual text responses

- Learning from audio recordings, FAQs, and web-based knowledge

- Accurate responses to vague, ambiguous, or multi-intent queries

- Scalable and realistic deployment in real-world environments

---

Preliminary Round Requirements

To qualify for the physical hackathon, teams must submit:

- A **Technical Documentation** (5–7 pages, PDF) outlining the proposed solution

- A **Video Presentation** (5–7 minutes) introducing the concept and your team

---

Technical Documentation Guidelines

Your document should include:

1. **Executive Summary**
   Brief overview of your solution's vision and innovation highlights *(max 1 page)*

2. **Problem Understanding and Scope**
   Your interpretation of the challenge, target user needs, and solution focus

3. **Knowledge Strategy**
   How your assistant will learn from transcripts, public data, and FAQs

4. **Conversation Design**
   Approach to handling voice input, ambiguous queries, and natural responses

5. **Technical Architecture**
   Core components including ASR, NLP pipeline, response generation, retrieval methods

6. **Implementation Plan**
   Development tools, roadmap, deployment plan, and modular structure

7. **Innovation Highlights**
   Unique features such as fallback mechanisms, human-like tone, or learning optimization

8. **Team Information**
   Member details, technical strengths, and division of responsibilities

---

Video Presentation Guidelines

Your 5–7 minute video should:

- Introduce your team

- Clearly explain your overall solution approach

- Highlight key technical or conversational innovations

- Demonstrate your concept using diagrams, mockups, or flow examples

- Explain the impact of your solution for underserved user segments

- Present with clarity, confidence, and passion

  🎥 *Note: This video is about explaining your thinking — not production polish.*

Evaluation Criteria

Criterion	Description	Weightage
Innovation	Uniqueness of approach and assistant design	25%
Technical Feasibility	Practicality and architecture soundness	20%
Knowledge Strategy	Effective use of transcripts, web data, and FAQs	20%
Implementation Viability	Ease of real-world deployment and scalability	15%
Inclusivity	Relevance to underserved user needs and accessibility	10%
Presentation Quality	Clarity and persuasiveness of both document and video	10%

Physical Hackathon Information

If selected, your team will:

- Receive **voice recordings**, transcripts, and FAQs for your assigned domain

- Be expected to implement and demonstrate a **working conversational assistant**

- Be evaluated on:

  - Voice input processing and natural text response

  - Speed, clarity, and relevance of output

  - Handling of ambiguous or incomplete input

  - Real-time learning or fallback mechanisms

We Will Provide:

- Cloud-based development and testing environment

- Domain-specific data and reference materials

- Evaluation framework and mentorship during the hackathon

Important Notes

- **No Personal Identifiable Information (PII):** Avoid use of phone numbers, Aadhaar, PAN, etc.

- **Focus on Innovation:** We are not looking for template bots — show original thinking and learning design

- **Scalable and Practical:** Ensure your solution can work in the Indian ecosystem

- **Ethical AI:** Prioritize fairness, inclusivity, and bias reduction in design

Submission Process

- Upload your technical document (PDF format) and video presentation to the UNSTOP portal
- Submission deadline: 27th May 2025
- Shortlisted participants will be notified by: 03rd June 2025

Use case2:Credit Underwriting Innovation Hackathon

Predicting Income & Repayment Capability for India's Underserved Population

Thank you for your interest in our hackathon focused on financial inclusion through innovative credit underwriting. This document provides comprehensive guidelines for your submission in the preliminary selection round.

Challenge Overview

Problem Statement

A growing segment of India's workforce today consists of individuals who are self-employed, operating in informal or semi-formal settings. These include gig workers, independent consultants, micro-entrepreneurs, local service providers, small business owners, freelancers, and others whose financial activity doesn't consistently flow through structured banking systems.

This creates a blind spot for traditional underwriting models, which depend heavily on salary credits, account balances, tax filings, and bank statements. While salaried professionals leave behind a trail of formal income signals, self-employed borrowers often don't — despite being financially stable and capable of repaying loans.

This is a critical issue in the context of digital lending and financial inclusion. The challenge is to bridge this visibility gap with data that is available, though not traditionally used.

Your Mission

Your task is to design a practical, and data-driven approach to estimate the **monthly or annual income or repayment capability of self-employed individuals**, using **only non-banking data sources**.

You are expected to think creatively — go beyond the obvious and explore **unconventional indicators of financial behavior or earning potential**. The goal is to simulate income visibility where structured financial statements do not exist.

Develop a methodology to predict income and repayment capability for credit underwriting of underserved populations in India using innovative, alternative data sources beyond traditional banking metrics.

Target Impact

Your solution should help extend credit access to:

- Rural households
- Urban informal sector workers
- First-time credit seekers
- Small business owners without formal financial records
- Gig economy workers

Preliminary Round Requirements

To be considered for the physical hackathon (where only 150 participants will be selected from 10,000+ applicants), you must submit:

1. **Technical Documentation** (5-10 pages) detailing your proposed approach
2. **Video Presentation** (5-7 minutes) explaining your methodology
3. **Data Point Specification** outlining your innovative data sources

Technical Documentation Guidelines

Your document should include:

1. Executive Summary

Brief overview of your approach and its key innovations (max 1 page)

2. Problem Analysis

Your understanding of the challenges in predicting income/repayment capability for underserved segments

3. Proposed Methodology

- Model architecture and statistical approach
- Feature engineering techniques
- Handling of missing data or sparse information

4. Data Strategy

- External data sources you propose to leverage
- Integration method with base data
- Preprocessing requirements
- Linkage strategy without using personal identifiers

5. Implementation Roadmap

How your solution would be developed and deployed in a real-world scenario

6. Expected Performance

Anticipated accuracy, precision, and recall of your approach

7. Ethical Considerations

Addressing potential biases, privacy concerns, and fairness in your model

Data Innovation Requirements

External Data Sources

Your submission must identify innovative external data sources that can enhance predictive power. We are specifically looking for creative use of:

- **Publicly accessible data** (government, open data portals, research datasets)
- **Commercially available data** (with reasonable acquisition methods)
- **Derived analytical data** (e.g., geospatial insights, aggregate indicators)

Data Categories to Explore

Consider these areas for innovative data (but don't limit yourself to these):

- **Geospatial and Environmental Data**: Satellite imagery analysis, proximity metrics, night light intensity
- **Government and Public Records**: Census data, economic indicators, infrastructure mapping
- **Economic Environment Indicators**: Local market data, employment statistics, industry patterns
- **Digital and Tech-Based Indicators**: Internet penetration, digital payment adoption, technology usage
- **Social and Community Data**: Education metrics, healthcare access, community development indices

For Each Proposed Data Source, Specify:

1. **Source and Accessibility**: Where and how this data can be obtained
2. **Integration Method**: How you will combine it with base data
3. **Predictive Value**: Theoretical or proven relationship to income/repayment capability
4. **Limitations and Challenges**: Potential issues with the data source

5. **Ethical Considerations**: Privacy, bias, and ethical implications

Video Presentation Guidelines

Your 5-7 minute video should:

- Introduce yourself/your team
- Clearly explain your overall approach
- Highlight the most innovative aspects of your methodology
- Demonstrate key concepts through visuals or examples
- Explain why your solution would be effective for underserved segments
- Discuss how your solution balances innovation with practical implementation
- Present with clarity, confidence, and enthusiasm

Evaluation Criteria

Your submission will be evaluated on:

Criterion	Description	Weightage
Innovation	Uniqueness and creativity of approach; novel use of alternative data sources	25%
Technical Feasibility	Technical soundness of methodology; statistical validity	20%
Data Strategy	Quality and practicality of proposed external data sources	20%
Implementation Viability	Ease of real-world deployment; scalability	15%
Inclusivity	Effectiveness across diverse underserved segments	10%
Presentation Quality	Clarity, completeness, and persuasiveness	10%

Physical Hackathon Information

If selected, you will:

- Receive anonymized base datasets with fundamental variables
- Be provided with reference identifiers for linking external data
- Have access to a computing environment for model development

● Be evaluated on actual predictive performance

Important Notes

1. **No Personal Identifiable Information**: Your approach should never rely on PII such as phone numbers, PAN, or Aadhaar as identifiers.

2. **Focus on Innovation**: We already have access to traditional data points. Your value comes from identifying novel, accessible data sources that provide additional predictive lift.

3. **Practical Implementation**: While innovation is key, solutions must be realistically implementable at scale in the Indian context.

4. **Ethical Considerations**: Your approach should minimize bias and ensure fair treatment across different demographic groups.

Submission Process

● Upload your technical document (PDF format) and video presentation to the UNSTOP portal
● Submission deadline: 27th May 2025
● Shortlisted participants will be notified by: 03rd June 2025