Project Proposal

# Feedback and Analytic System (FANS)

## 1. Project Title

Feedback and Analytic System (FANS)

## 2. Introduction

Customer feedback plays a crucial role in improving business performance and customer satisfaction. Restaurants, shops, and service-based businesses often lack an organized way to collect, analyze, and act upon customer feedback. FANS (Feedback and Analytic System) is designed to bridge this gap by providing a digital feedback system that not only collects responses but also leverages Artificial Intelligence (AI) and analytics dashboards to identify recurring issues, predict business impact, and assist managers in decision-making.

## 3. Problem Statement

- Businesses struggle to get authentic, real-time feedback from customers.  
- Traditional paper or manual surveys are ineffective and time-consuming.  
- Owners lack tools to analyze large-scale feedback data effectively.  
- There is no predictive insight into how negative experiences affect sales, reputation, and customer retention.

## 4. Objectives

The primary objectives of FANS are:  
1. To provide businesses with a digital feedback form platform.  
2. To store and process feedback data in a structured format.  
3. To use AI/ML models to identify patterns, sentiment, and frequency of issues.  
4. To create a dashboard that visualizes insights such as most common complaints, satisfaction trends, future predictions, and frequency of specific problems.  
5. To improve decision-making by providing real-time analytics and predictive modeling.

## 5. Scope

- Users: Restaurants, retail shops, cafes, salons, and service-based businesses.  
- Features:  
 • Customer-facing feedback forms (web/app-based).  
 • Admin/business dashboard with analytics.  
 • AI-driven sentiment analysis and predictive modeling.  
 • Notifications/alerts for recurring issues.

## 6. Proposed System

Modules:  
1. Feedback Collection Module – Web/mobile forms with ratings and text feedback.  
2. Data Processing Module – Database storage and text preprocessing.  
3. AI/Analytics Module – Sentiment analysis, frequency detection, and predictive modeling.  
4. Dashboard Module – Graphs, charts, issue tracking, and performance prediction.

## 7. Technology Stack

- Frontend: React.js / Flutter  
- Backend: Node.js / Django / Flask  
- Database: MySQL / MongoDB  
- AI/ML: Python (Scikit-learn, TensorFlow, or PyTorch)  
- Visualization: PowerBI / Tableau / Chart.js / D3.js  
- Deployment: AWS / Azure / Firebase

## 8. Methodology

1. Data Collection – Customers fill in digital feedback forms.  
2. Preprocessing – Data cleaning and structuring.  
3. Model Training – AI/ML models trained on collected feedback.  
4. Analytics & Dashboard – Visual insights for business owners.  
5. Continuous Learning – Models improve with new feedback data.

## 9. Expected Outcomes

- Businesses get real-time insights into customer satisfaction.  
- Recurring issues are identified automatically.  
- Dashboard predicts negative impacts (e.g., sales decrease).  
- Improved customer retention through actionable insights.

## 10. Benefits

- For Businesses: Better decision-making, higher retention, improved brand value.  
- For Customers: Improved service quality.  
- For Industry: Scalable, AI-driven feedback system.

## 11. Implementation Plan

- Phase 1: Requirement gathering & UI design.  
- Phase 2: Feedback form & backend database.  
- Phase 3: AI integration for sentiment analysis & predictions.  
- Phase 4: Dashboard development.  
- Phase 5: Testing and Deployment.

## 12. Future Enhancements

- Integration with social media reviews (Google, Zomato, Yelp).  
- Voice-based feedback analysis.  
- Recommendation engine for businesses.  
- Multilingual support for customer inclusivity.