

AI CHATBOT PROJECT - SUMMARY REPORT

Student:

BSSE-1308 [Arnab Das]

BSSE-1319 [Labib Muntasir]

BSSE-1323 [Imamul Hossain Rafi]

OVERVIEW

This project is a full-stack conversational AI chatbot that uses Google's Gemini AI model to provide context-aware responses to users.

- Real-time chat interface with typing indicators and smooth animations
- Context-aware conversations - the bot remembers what you said earlier
- Beautiful purple gradient design that works on all devices
- Rich text formatting with bold text, lists, and proper line breaks
- Session management allowing multiple users simultaneously
- Clear chat functionality to start fresh conversations
- Secure API key management using environment variables

- Backend: Node.js with Express.js
- AI Model: Google Gemini 1.5 Flash
- Frontend: HTML5, CSS3, Vanilla JavaScript
- Key Dependencies: express, dotenv, @google/generative-ai, cors
- Architecture: RESTful API with session-based state management
- Security: Environment variables, .gitignore protection
- Conversation History: Last 20 message pairs per session
- Responsive: Mobile, tablet, and desktop compatible

API Endpoints:

- GET /api/health - Server status check
- POST /api/chat - Send messages and get AI responses
- POST /api/clear - Reset conversation history