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Atlantic Technological University

AI-Powered Customer Support Platform

Final Year Project

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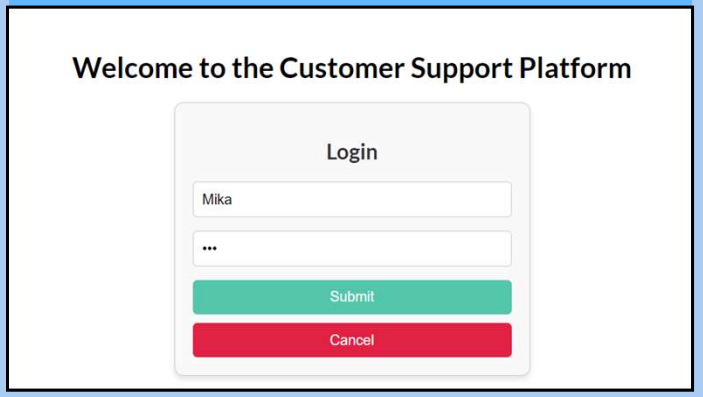
Project Summary

Customer support is a main part of any business, but managing customer questions effectively can be challenging. With a passion for user experience, programming, and web development, I have created a modern customer support platform. This platform enables customer support agents to handle customer tickets, manage customer information, and track their work performance through an intuitive web interface. Agents can easily view, create, assign, filter, update, and delete tickets, add new customers, and communicate with customers through an agent inbox and simulated phone calls. The customers are simulated using an AI model that generates realistic customer questions and responses. The platform provides statistics to monitor agent performance according to their phone calls with clients. It also supports agent authentication and a customisable theme. By focusing on accessibility and ease of use, this project aims to make customer support more effective and user-friendly for both agents and customers.

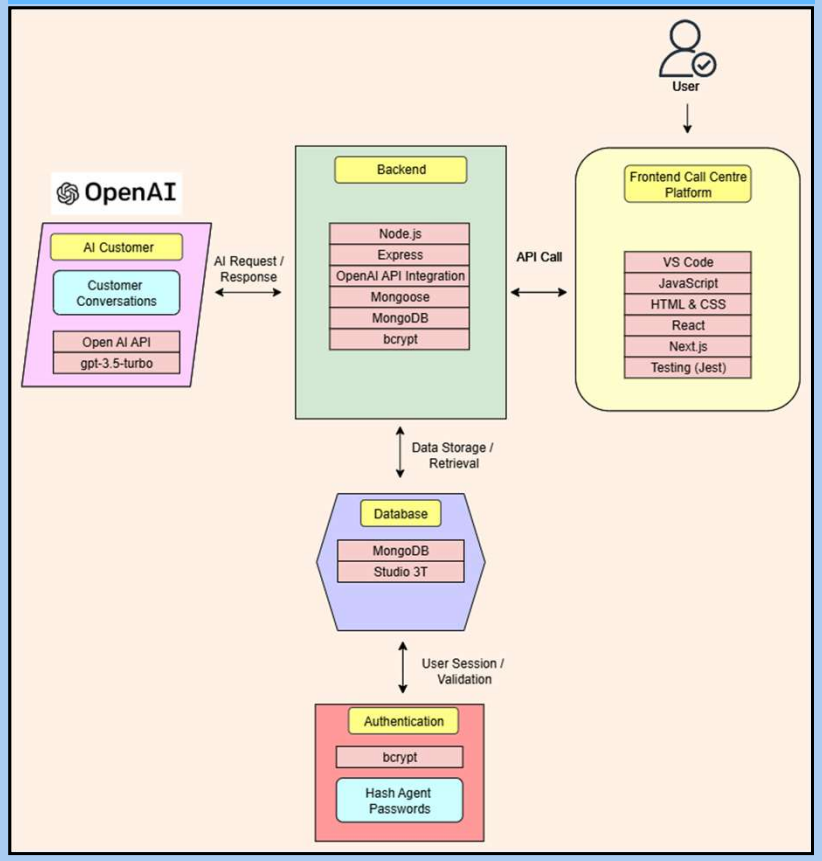
Applications

- Designed for customer support teams to effectively manage customer questions and issues.
- Suitable for businesses of any size that require customer tickets and real-time communication with customers.
- Useful for organisations aiming to improve agent productivity and customer satisfaction.

Authentication



Architecture Diagram



Software

- The platform consists of a React and Next.js frontend for an intuitive user experience and fast performance.
- The backend is built with Node.js and Express, providing RESTful APIs for ticket management, customer data, and authentication.
- MongoDB Compass is used for scalable data storage, with Mongoose for schema management and Studio 3T for database visualisation.
- It integrates OpenAI's GPT-3.5-turbo to enable AI-powered customer conversations in the inbox, allowing the AI to act as a customer and simulate real-world support scenarios for agents.
- Features include real-time ticket updates, agent-customer messaging, simulated calls, and performance analytics.
- The application supports both dark and light themes, responsive design, and accessibility standards.

Skills and Technologies

- Visual Studio Code
- JavaScript
- React
- Next.js
- HTML / CSS
- MongoDB Compass
- Studio 3T
- Frontend Project
- Backend Project
- Authentication (bcrypt)
- OpenAI API
- CRUD
- RESTful API Integration
- Express.js
- Routing
- JSON
- Mongoose
- Local storage
- Website Dark / Light Theme
- Responsive Design (Flexbox)
- Jira Project Management
- Error handling
- Testing with Jest
- Environment Variables
- Problem-Solving Skills

Results

Below are images of the agent inbox, the agent's tickets once they are created, the logout button and the MongoDB database collections used in my project.