INCITY

COMP 4920 Senior Project Design Project Presentation, Spring 2024

Department of Computer Engineering
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Introduction

InCity is a mobile application designed to help users plan their activities and routes when visiting new cities. The app uses user preferences and interests to provide personalized route suggestions.

Users can create profiles, input their travel details and interests, and receive tailored recommendations for places to visit and activities to engage in.

InCity also offers real-time data to ensure that the suggestions are current and relevant, helping users make the most of their time in new cities.

Purpose

Our purpose in developing this application is rooted in addressing common challenges faced by travelers and city explorers, while enhancing their overall experience through personalized and efficient planning.

1. Simplify Decision-Making:
One of the most daunting aspects of visiting a new city is deciding where to go and what to do. InCity aims to simplify this decision-making process by providing users with tailored recommendations based on their preferences.

2. Maximize Enjoyment:
Traveling should be an enjoyable experience, yet the pressure of making the right choices can sometimes detract from the fun. InCity ensures that users can make the most of their time in new cities by offering suggestions that match their interests and preferences.

Purpose

3. Provide Convenience:
Planning a trip often involves stroll various sources of information, from guidebooks to websites to personal recommendations. InCity consolidates this process into a single, user-friendly platform. By integrating real-time data and personalized recommendations, the app offers a seamless and convenient experience

4. Enhance Exploration:
At the heart of the InCity application is the desire to foster a sense of adventure and exploration. The app encourages users to step out of their comfort zones and discover new and exciting places they might not have considered otherwise.

5. Support Efficient Planning:
Time is a valuable resource, especially when exploring a new city. InCity helps users create efficient routes that optimize their travel time, ensuring they can visit more places without unnecessary detours.

Design

The InCity application is built using a layered architecture that separates the frontend, backend, and data storage components. This design ensures scalability, maintainability, and efficient data management. The application is developed with a focus on user experience, leveraging modern technologies to deliver real-time, personalized recommendations.

Frontend Design:
Designed for simplicity and ease of use, ensuring users can easily navigate and interact with the app.

Backend Design:
The backend is structured as an unified application that handles all server-side operations. Components include user management, interest management, route planning, and real-time updates.

Data Design:
The data design of the InCity application focuses on efficiently managing user information, preferences, route details, and real-time updates. The use of a NoSQL database allows for flexible and scalable data storage.

Technologies Used

Frontend:
The frontend of the InCity application is built using Expo React Native, a powerful framework for developing mobile applications.

Expo React Native enables us to create a single codebase that runs seamlessly on both iOS and Android devices. This ensures a consistent user experience across platforms, providing a responsive and interactive user interface (UI).

To manage the state efficiently, we use Zustand, a small, fast, and scalable state management library.

Zustand allows us to handle state changes with minimal boilerplate, ensuring that our application remains performant and easy to maintain.

The design focuses on simplicity and ease of use, allowing users to easily navigate through the app and interact with its features.

Technologies Used

Backend:
The backend of the InCity application is developed using Java Spring Boot, a robust and comprehensive framework for building scalable and secure server-side applications.

The backend is structured as a monolithic application, which simplifies development and deployment by maintaining all functionalities within a single codebase.

Java Spring Boot provides a wide range of tools and libraries for building RESTful APIs, facilitating smooth communication between the frontend and backend.

The backend handles various operations such as user authentication, preference management, route generation, and real-time data processing, ensuring efficient data handling and secure user interactions.

Technologies Used

Database:
For data storage, the InCity application uses MongoDB, a flexible and scalable NoSQL database.

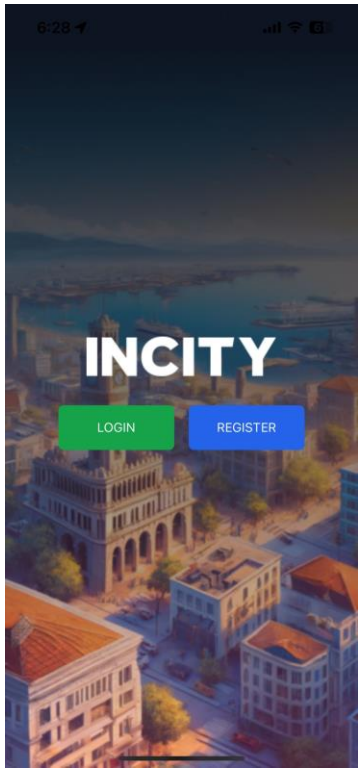
MongoDB is ideal for managing unstructured data, making it perfect for storing diverse user preferences and interests.

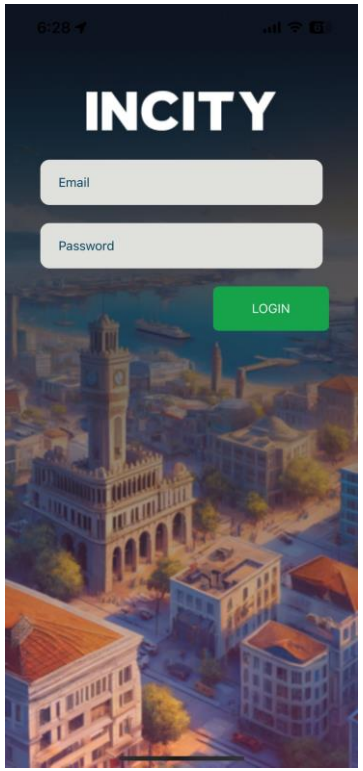
The database is designed with collections that store user profiles, route details, and real-time information about places and events.

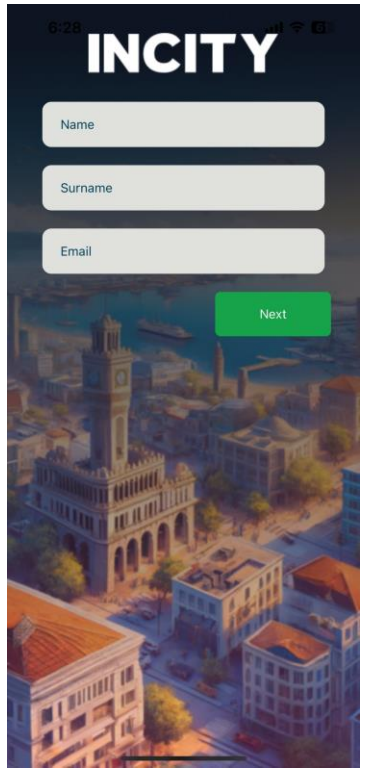
MongoDB's allows for easy handling of various data types and structures, while its scalability ensures that the database can grow to accommodate increasing amounts of data.

Application Overview

Login/Signup:

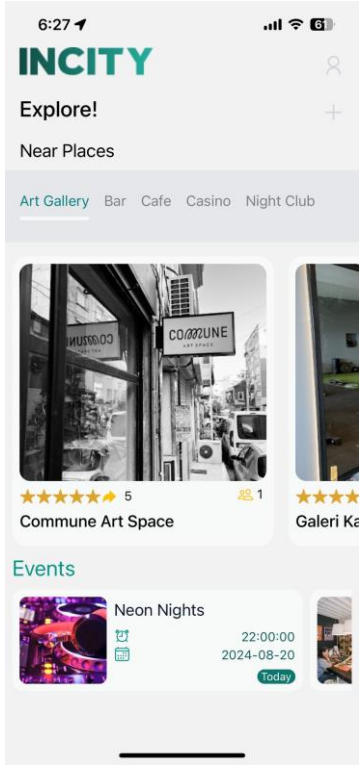




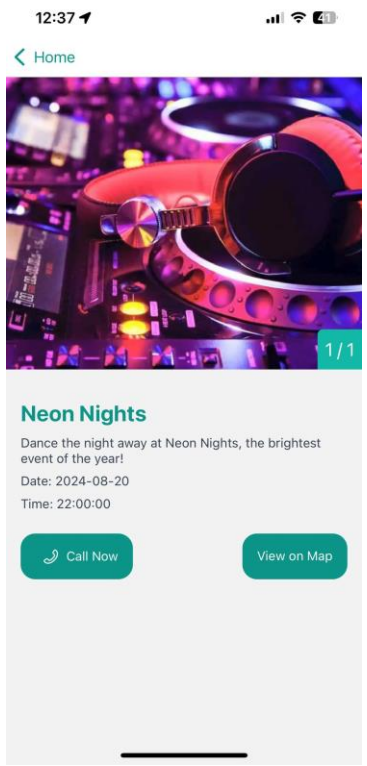


Application Overview

Home Screen:



Event Detail Screen:



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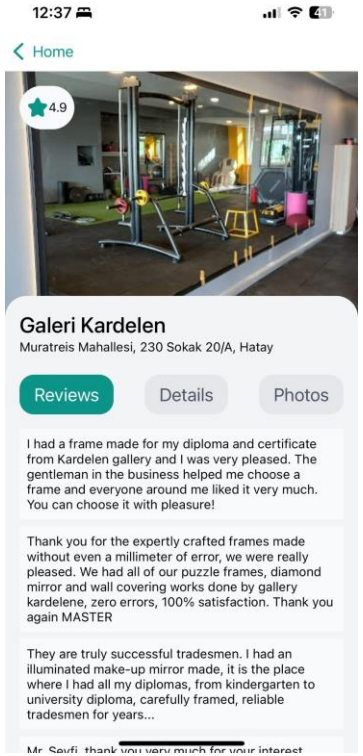
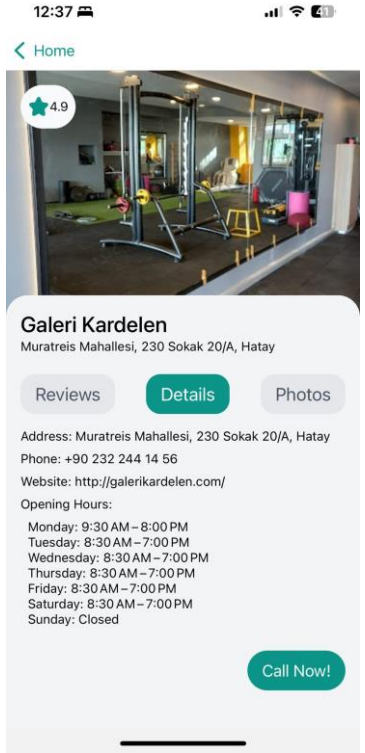
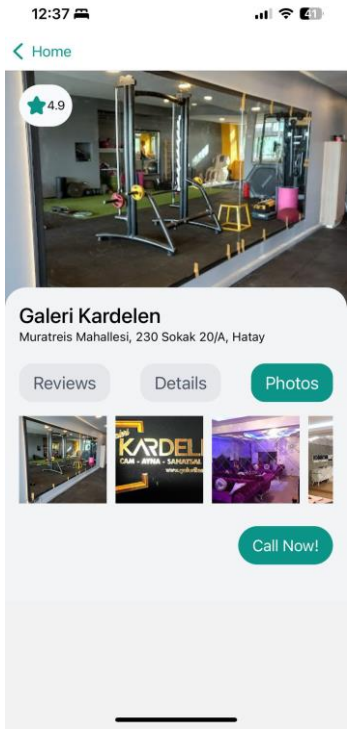
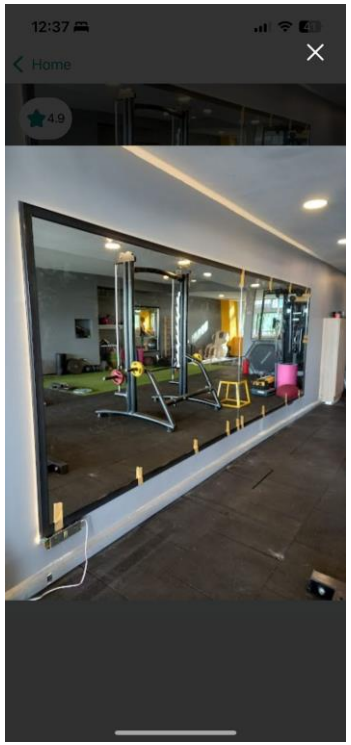
Application Overview

Detail Screen:









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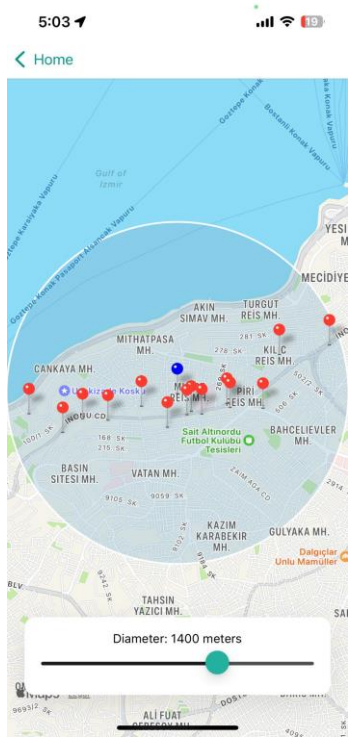
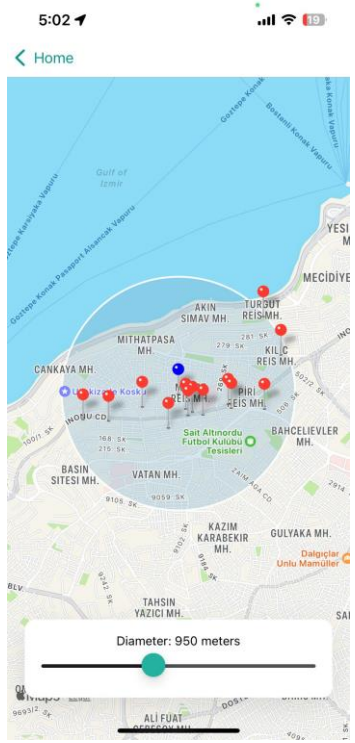
Application Overview

Explore Screens:





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Thank You!

QUESTIONS?