Give and Take

ID: 40

INTRODUCTION  
Give and Take is an app designed to fulfill location-based needs and connect individuals seeking specific assistance or resources. Whether it's finding a study partner in the university library to tackle a challenging math problem, preparing for a sociology test, or locating volunteers to support the elderly near your campus.

PROJECT GOAL

o create a robust platform that facilitates seamless connections and resource sharing within local communities. By leveraging locationbased filtering, our aim is to provide users with a convenient and efficient means to find and offer assistance, exchange resources and engage in reciprocal acts of kindness.

SYSTEM CONSIDERATIONS

●Real-time browsing and storage of requests.   
●Visualization of location information.

●Ensuring the system maintains an exclusive and secure environment.

●Facilitating communication between users.

●Provision of administrative user roles to manage the app.

METHODOLOGY

Integrating Google Maps as a map service and utilizing Firebase Real Time database for efficient data storage, to develop a dedicated system specifically designed for Ariel University students and staff. Through this system, users will have the ability to mark and share events on a collaborative map

IMPLEMENTATION

●Java Android components for the app's functionality.

● HTML and CSS for the client-side user interface.

●Cloud-based database for data management.

●Python server API for handling server-side operations.

●Seamless integration of the map service.

●Activation of the GPS sensor to ensure accurate location tracking.

SYSTEM DESIGN

The system is developed using the MVC (Model-View-Controller) pattern for Android development and follows a 3-Tier Architecture approach.

FUNCTIONALITIES

The platform offers the following key functionalities:

●Users can create and delete their own requests.

●User registration and login with securely stored details.

●A reliable, real-time, and interactive map shared among users.

●Seamless communication between application users.

●Requests are displayed on the map with dedicated icons.

●"Locate me" option to pinpoint the user's current location on the map.

●Notifications of new requests or events based on user preferences and within a selected radius of live or pre-determined locations.

ADMIN PRIVILLIAGES:

●Ability to block users and delete requests.

● Option to add events with special icons.

●Access to users' lists and users' requests lists.

SECURITY & SAFETY:

●Two-factor authentication for enhanced user protection.

● User registration requires verification of the university email.

●Phone number verification is conducted through SMS codes to ensure user authenticity.