# PARKIT

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PROG30049 Enterprise Software Systems

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# Enterprise Software Systems Final Report

**Group Name**

 *Sophisticated Syntax Sages*

**Title of Project**

PARKIT

**Full name and Student Number of each member**

Frank Carusi - 991 656 165
Alexander Carvalho - 991 572 115
Syed Taha Faisal - 991 652 607
Ruiyan Shi - 991 669 580

**Description of application and scope**

With the increasing population and housing expansion, parking spaces have become a limited resource while many parking spots remain empty on a daily basis. Our group decided to make a web App "PARKIT" to help users use their parking resources more efficiently.

PARKIT is a user-friendly platform that streamlines the process of finding, booking, or listing parking spaces. Users can easily search for available parking spots within specific locations and even view a map of available parking. Property owners can list their parking spaces as well, and choose their own rates and hours of operation.

The scope of PARKIT is to bridge the gap between people who are in need of affordable parking with those who have available parking that is not being capitalized on. In the current economic landscape, people are constantly looking for ways to not only save money, but make money as well. By bridging this gap, we will increase the options in the market, allowing for consumers to experience the benefit of more competitive rates, increased knowledge and

options for parking. The main functionalities PARKIT provides include: browsing available parking, purchasing parking, and listing parking.

## Work Distribution

| Model/Class/View/Controller/Other | Assignee |
|---|---|
| Listing Model | Frank |
| Listing Provider Interface | Frank |
| Listing Operations | Frank |
| Listing Controller | Frank |
| AllListings, CreateLisiting, ListingDetail, DeleteListing, EditListing views | Frank |
| UML Diagram | All |
| Database Context/Database Structure | All |
| Image Model | Frank |
| Booking Model | Syed |
| Booking Provider Interface | Syed |
| Booking Operations | Syed |
| Booking Controller | Syed |
| BookListing View | Syed |
| Account Controller | Syed |
| Account View | Syed |
| ListingDetailsViewModel, AccountsViewModel | Syed |
| User Model | Ruiyan |
| UserLoginViewModel | Ruiyan |
| User Controller | Ruiyan |
| User operation / IUserProvider | Ruiyan |
| Address Model / Address Controller / Addressoperation / IAddressProvider | Ruiyan |
| WalletModel / WalletController / Walletoperation / IWalletProvider | Ruiyan |

| | |
|---|---|
| All Views for user, AllUsers, CreateUser, DeleteUser, Login, UpdateUser, UserDetails | Ruiyan |
| All views for wallet, AllWallets, Edit | Ruiyan |
| All views for address, AllAddress, Edit | Ruiyan |
| Home Controller | Alex |
| Interactive Web Map (Index) View | Alex |
| MapPoint Model | Alex |
| MapPointOperations | Alex |
| IMapPointProvider | Alex |
| LatLng Model | Alex |
| GeocodeApi Utility | Alex |
| Google Maps API / Google Geocode API | Alex |

**Tools and techniques to be used in the project**

- C#
- ASP.NET Core MVC
- GitHub
- Trunk Based Development (Branch -> Pull Request -> Merge)
- Sqlite
- Visual Studio 2022
- Microsoft Teams
- Class Designer (VS 2022 plugin)

**Contributions / deliverables of the project (please specify the uniqueness of the project**

PARKIT provides utility in easing the search and sale of parking in urban areas. Public parking is subject to capacity limits and absurd pricing, while PARKIT closes the gap by providing more public spaces to customers at lower rates. It also opens the door to people that want to capitalize on their own parking, generating a professional alternative source of income that benefits their community.

While public parking apps are available such as the Green P app,, PARKIT is novel in the way that it offers users the ability to list and purchase parking outside of registered public parking locations. What this means is anyone from homeowners with empty space in their driveway, to large corporations with underused office parking, are able to list their spaces on PARKIT. While most competitors restrict their users to existing public parking, PARKIT gives private parking to everyone at the owner's discretion opening an entirely new source of parking spots that are currently being underutilized a majority of the time. Just like how Uber was able to revolutionize the car transport for hire industry, PARKIT aims to similarly create a new parking space market where not only massive public parking lot owners can benefit, but anyone who has a parking spot that isn't being used 24 hours out of the day.

The main functionalities PARKIT provides include:

- browsing available parking (private & public)
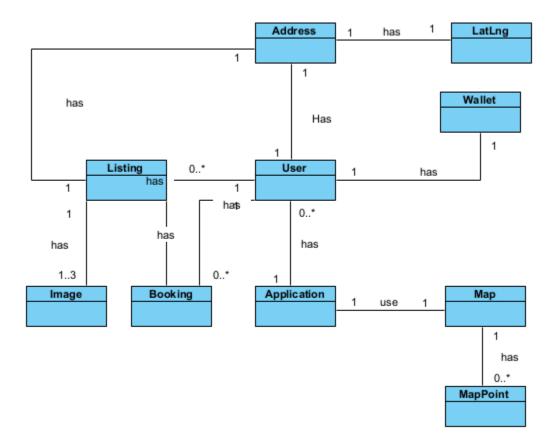
- purchasing parking (private & public)

- listing parking (private & public)
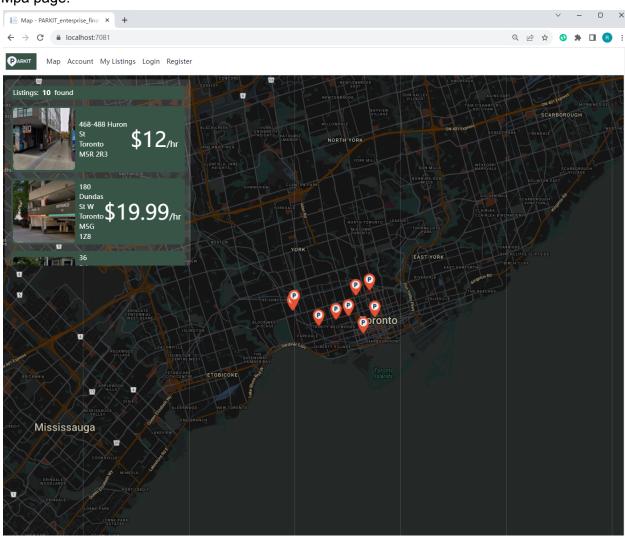
- register account and login system

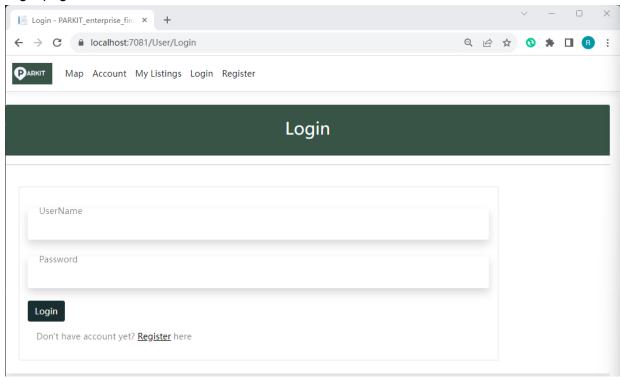**Demo Video + Code Explanation**

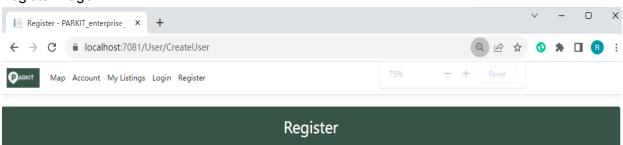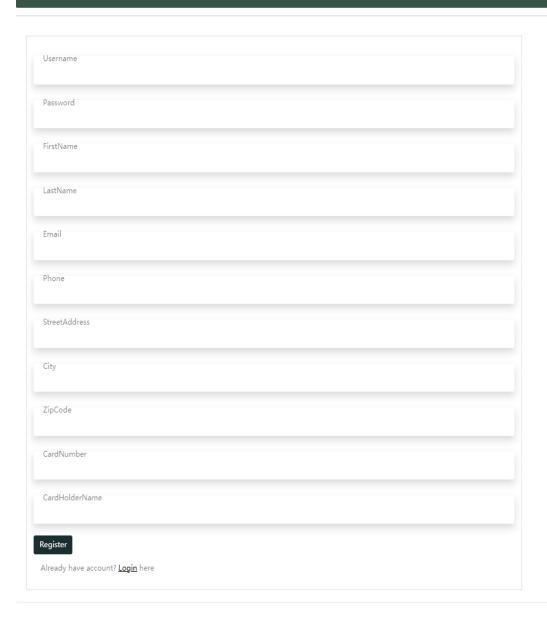**https://youtu.be/vYvxuGB8SbQ**
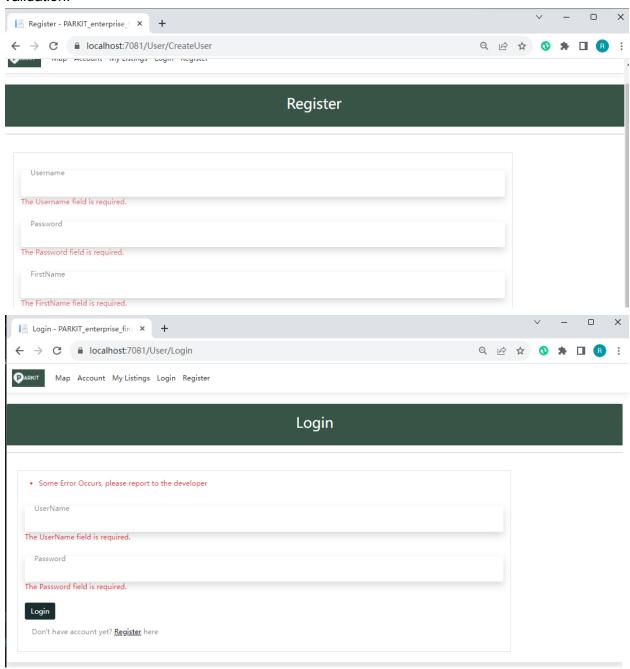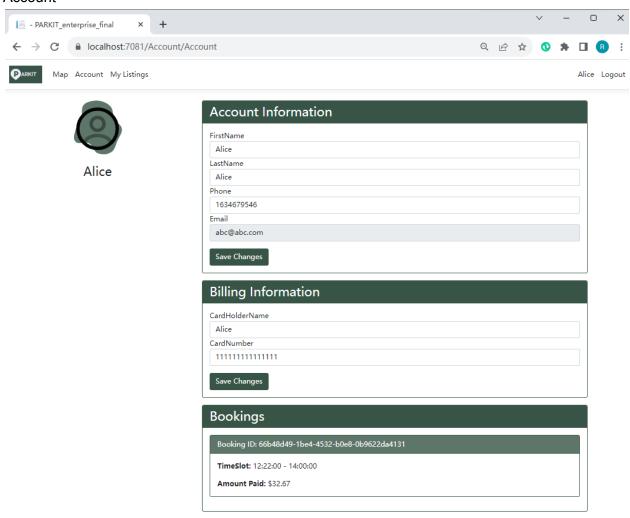
## UML Diagram

## Screenshots

### Mpa page:
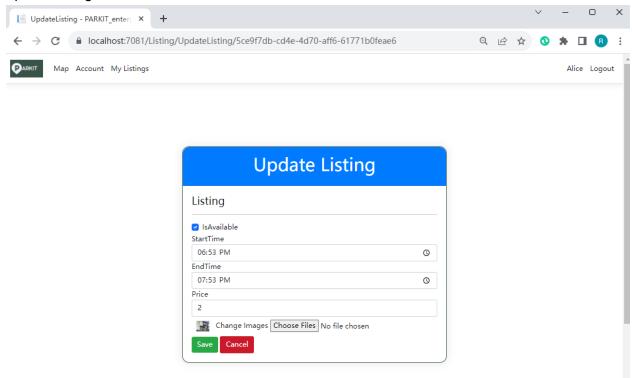
Login page:
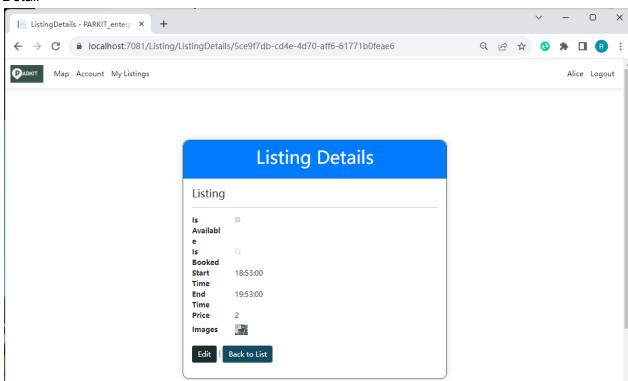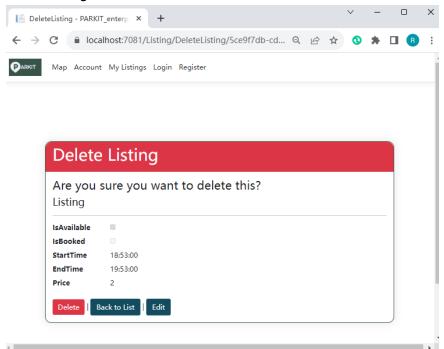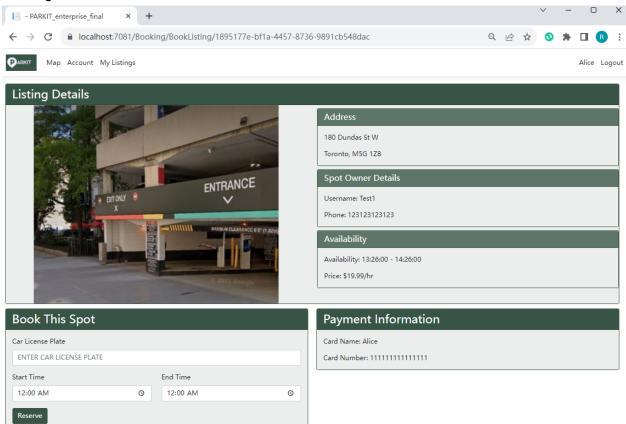
Register Page:

Validation:

## Account



## Listing

Update listing



Detail

## Delete listing



## Booking

Validation

## Book This Spot

Car License Plate

ENTER CAR LICENSE PLATE

⚠ Please fill out this field.

Start Time

| 12:00 AM | 🕐 | 12:00 AM | 🕐 |

Reserve

## Payment Information

Card Name: Alice

Card Number: 111111111111111