PROJECT RESEARCH DOCUMENTATION

Torch
Rentyourscooter.com

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TORCH - PEER TO PEER E-SCOOTER RENTING

Microsoft Azure

spring

1 DETAILED DISCUSSION

Take the idea you have selected and develop it providing a detailed discussion on the system functionality and what you propose it should do. Who are the users?

2 EXISTING APPLICATION

In your research have you found anything close to this idea? List these in table form
and identify similarities and differences

3 PLATFORM, TECHNOLOGIES

What platform, technologies and libraries are you planning to use?

4 THE RISK

What are the main risks to the project? (ie, are you depending on 1 library to provide
key functionality?)

SECTION 1 - DETAILED DISCUSSION

The application is a scooter rental application. This application will allow users to list there electric scooter on the scooter marketplace for other users to rent out. The user will also be given the option to apply for insurance on there scooter incase of any accidents with the vehicle. The users on the application can create an account. They will also be allowed to search for an electric scooter by different criterias such as max-weight, speed, make, model and other relevant criterias.

The users will also be given an option to select which days they can let out the electric scooter. Furthermore this application will be integrated with a payment system for financial transaction and also with google maps so users can look at where the host is. The host can also choose out which amount to rent out his/her scooter per day. The users will also be given the opportunity to review a host after they have taken a ride. This rating system will be out of 5 stars with a comment on there service. The host will be given an option to cancel a trip.

This functionality will also be extended to the users as well, but within a given set of conditions. Users will also be able to report a host incase of misconduct. Hosts will also be given a profile section that will let users know more about them and total trips and overall star rating they have received. All the vehicles a host is currently hosting will also be on the users profile page, which will also give access to anyone that would like to take a trip from there. The users will typically be people who would love to use the service to travel, or just for leisure purposes.

An algorithim will also be developed where a user can apply for a premium subscription that gives a user a higer priority in the search list. Furthermore functionality for them to feature on the front page will also be allowed through paying for front page status. Hosts will also be able to set a surcharge on any use above the agreed amount.

SECTION 2 - EXISTING APPLICATIONS

Torch

	Torch	Turo
Purpose	Peer-To-Peer Scooter Rental	Peer-To-Peer Car Rental
Current Market Reach	Ireland	USA/CA/UK
Host Account	Yes	Yes
Promote Vehicle Listing	Yes	NO
Search Vehicle Availibility	Yes	Yes
Browse Vehicle By Make	Yes	Yes
Transaction cost	20%	15% - 40%
Insurance Cover	Yes	Yes
Maps Provider	Google Maps	Google Maps
Search By Location	Yes	Yes
Cancel Trip Tresh-hold	Up to 24 HRS	Up to 24 HRS
Surcharge Functionality	Yes	Yes
Write A Review	Yes	Yes

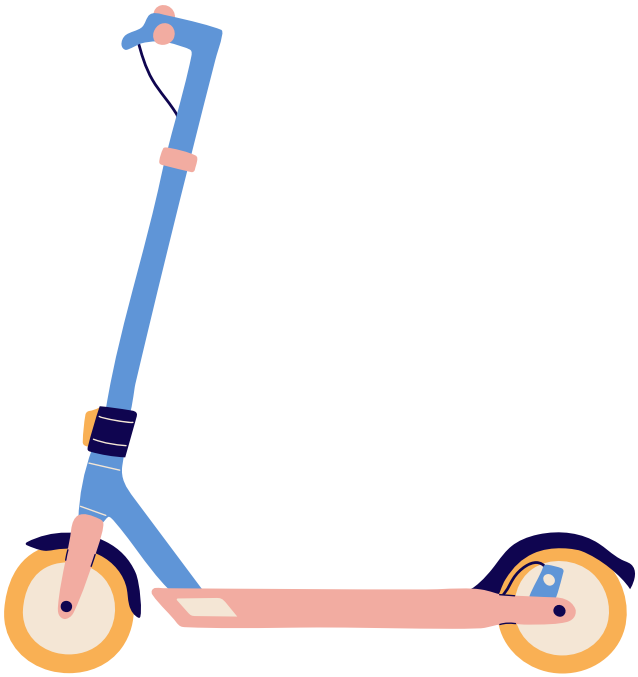
SECTION 2 - EXISTING APPLICATIONS

Turo is a car rental service. Torch is a scooter rental service that will allow users to rent out there scooter in the market place. This is similar to turo just the product differences that are not the same. The user will be able to become a host to be able to rent out a scooter just like Turo. The user will also be able to write a review on scooter trips they have taken just like the turo app. Unlike turo our service will initially be pointed at Ireland. My application will give users the ability to advertise there scooter listing on the torch website. Furthermore when a user wishes to book for a scooter, they can do so by make, and by date of availibility.

Turo

Car Rentals

Torch



Scooter Rentals

SECTION 3 - PLATFORM, LIBRARIES & TECHNOLOGIES

Front End

This apps front end will be powered by Spring boots server-side Java template engine thymeleaf. Bootstrap will also be used for website styling using the latest bootstrap CDN & jquery CDN. CSS3 will equally be used to stylize the website. CSS Grid will also possible be used and CSS flexbox will also be used in the project. Javascript will be used to help with user interactivity on the front end.

Back End

Spring boot will be used to power the back-end business logic of the application. I plan to use a H.2 database for the initial testing & setup of my application, and then to an Azure MySQL instance once the application is up. I will use dependencies such as Spring Data JPA, Hibernate, Spring Security, Swagger & any more extra dependencies that the project will need. Maven will be used for dependencies. IntelliJ IDEA will be my development IDE. The application will also use Tomcat for the web container. I will use the MVC architecture. Authentication will be handled using MySQL and Spring Security using a UserDetailsService.

Google Maps: I plan on using google maps into my application to give the user a visual representation of the application location data. Users will see where pickup locations for E-Scooters can be found.

Database & Hosting: I'm planning to use Spring JPA to interact with my database which will be an MySQL database instance hosted on Microsoft Azure. The web app will also integrate continuous deployment. through Github actions will help automate build and deployment. Relational database will help me keep track of relationships I need to perform querries to pull related data in UI.

SECTION 4 - The Risks

UI Risks

Although I have a good design related experience with CSS flexbox, I have never used CSS grid to a large scale capacity in any project. But CSS grid will prove helpful when arranging the structure of the page. I will try to replicate design features in the turo.com site. I have never used thymleaf for a large scale project so i would hopefully come across some helpful resources online. But I generally have a good grasp of css concepts and are able to get any additonal aid online.

Back-End Risks

I am not too familiar with the concept of table joins in the Spring boot architecture, so this may pose as something i will have to learn, as I will be dealing with relationships between data. I am also using the google maps API which I have never used before. Google maps would be a good addition to my ride sharing application. I have never used Spring boot in a large scale project, but i have a good grasp of the concepts and am able to get aid on online resources when needed. I will also be deploying the application as a WAR file with the Tomcat container on azure and not fully aware of the process of doing this, but if the steps are not too different than deploying a JAR file then I should be okay.