STL Playground Finder

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Description

STL Playground Finder comes from the idea of parents who struggle to find the best playground for their kids, spending hours online reading through reviews with minimal information about the features that the playgrounds might have.

Does the playground have any benches? Does it have a water fountain nearby? Is it special needs friendly? Is it within walking distance?

Our web application is created to combat these problems with an easy to use interface, a search feature that can narrow down the list of playgrounds, detailed playground pages, an interactive map that allows users to see locations and markers, and a login feature so that they will be able to leave reviews for other users to see.

Features

- **Playgrounds in detail.**
  - Information on playgrounds include: Images, Descriptions, Address, Map location, several key playground features.
- **Google Maps API** integration with location markers.
- **Searching.**
  - Users can search by keywords or by location.
- **Ratings and Reviews.**
- **Spring Security for Sign-Up/Login** functionality.
  - User functionality includes personal user page, adding new playgrounds, rating and leaving a playground review.
  - Admin functionality includes adding, removing, and editing playgrounds as well as deleting users.

Planning -User Stories

- **As a User, when I visit a Playground page, I can see detailed information displayed so I can better understand the playground's features.**
  - Being able to see details of a playground upfront allows a user to quickly find the kind of playgrounds they want based on different features, images, and other user reviews.
- **As a User, I want to be able to view a map, so that I can see all the locations near me visually.**
  - With Google Maps focused on their location, the user can see the markers of parks that contain playgrounds near them.
- **As a User, I want to sign up/login, so that I can add a playground that isn't in the database.**
  - Being able to sign up and login will allow the user to add any additional playgrounds that might be missing from the database.

Planning - Database

- **‘Playground’ Table**
  - Contains basic information about a playground such as name and address.
  - Connected to several smaller tables using foreign keys to contain information for playground features such as:
    - Accessibility
    - Amenities
    - Equipment
    - Shelters
    - Special Needs
- **‘Users’ Table**
  - Stores information for users and admins.
  - Supporting ‘roles’ and ‘user_role’ tables stores information to differentiate if a user is an admin or not.

Technology Stack

- **Language:** Java
- **Framework:** Spring Boot MVC
- **Database engine:** MAMP(phpMyAdmin SQL DataBase)
- **Template engine:** Thymeleaf
- Spring Security
- Hibernate
- Gradle
- Bootstrap 4, HTML5, CSS3
- Google Maps APIs with JavaScript

Demo

What I Learned

- Rendering Google maps (plotting, position) APIs using JavaScript
- Role-based Spring Security framework for securing Java-based application at various layers.
- Using Lombok plugin to decrease amount of repeating code make it more readable.
- Utilizing Bootstrap to create a modern looking UI for the web app.
- Work as team member, share responsibility, give feedback and share new knowledge with team.

What's Next

- Improve search page by adding filters to make searching playgrounds more specific.
- Show users current location on the map and calculate distances to playgrounds.
- A feature to upload images to each playground.
- A feature to allow users to favorite a playground.
- Add more features to User's page such as listing favorite parks, recent reviews, etc.