The Habit Builder

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Description

The Habit Builder is a productivity web-app that allows users to time practice sessions of any skill or habit they are trying to acquire. It records the length of each session and then plots that data to a dynamic chart for easy visualization of progress. This provides a flexible way for users to monitor whether they are meeting their productivity goals for many different tasks in one place.

Features

- User registration and authentication with Spring Security
- User data persisted via mysql and Hibernate ORM.
- A stopwatch timer that tracks and records practice sessions
- A dynamic chart that plots logged sessions over time
- (WIP) Alerts users when they have reached their daily goals
- (WIP) Android mobile app version

Planning - User Stories

- Users can time and record sessions with a simple press of a button
- Users can see the progress they have made on each task plotted to a graph
- Users have access to a more detailed session log in case they want a more granular review of their efforts
- Users can craft custom tasks to be tracked, each with different goal times.

Planning - Database

Model classes:

- User
- Task - these are the Habits users are tracking
- TaskSession - these are the individual practice sessions owned by each Task
- User_Role - a table containing all available authorities
- User_User_Role - an association table between User and User_Role

Technology Stack

- Java
- Spring
- Thymeleaf
- Hibernate/Mysql
- Spring Security
- GSON
- JavaScript
- Bootstrap

Demo

What I Learned

- How to use Spring Security
- The basics of JavaScript and using scripts inside Thymeleaf templates
- How to pass complex data from the model to the front-end JavaScript using JSON.
- How to use the Java SE 8 Date and Time library
- How to render Date and Time objects in Thymeleaf using the Thymeleaf extras library

What's Next

- Implement a more robust and useful version of goal times, with alerts for users when they have reached their goals
- Multiple views and sorts for the chart
- Improve front-end input validation
- Android mobile version