

Capstone Project: Build a Collaborative Task Management Web Application

Goals

This project should verify and reinforce the learning from all of the lessons of the course. Additionally there will be some stretch material to practice those 'learn enough' skills.

Overview

We are building a task management web application, with the ability to collaborate on projects with other people.

Requirements

These are written in an order that, if followed, may make your build process easier.

Annotated suggestions of how to complete these requirements are provided separately. Try building a task management application on your own first; if you get stuck, consult the annotated version.

The basics

1. A task (single string of text) should be able to be created from any page. So that it's easy for people when they remember they want something to be done.
2. A task can be edited and deleted.
3. When viewing an index of tasks, it should be possible to mark a task as completed. A "project" can be created, updated, and destroyed.
4. All task creation must be in the context of a project (i.e. Tasks belong to a project). When viewing a project, you can see all incomplete tasks for that project.
5. If a project is deleted, so are all of its tasks.
6. Creating, changing, and completing tasks do not require full page loads in order to update the database and the page being viewed.

Collaboration

1. A user can sign up, sign in, and logout. User authentication is done securely, and passwords are stored securely.
2. Projects must be associated to at least one user, and can be shared by any user in the project to another user.
3. The homepage shows a list of the user's projects.
4. A user cannot view a project that they are not associated to. Nor can they view or edit any task in a project that they are not associated to.

5. The project page shows the users' gravatars.

Bonus challenges

1. Push task updates to other live browsers.
2. Add a project burndown graph to show the rate of new tasks being added alongside the completion rate of tasks.