# Project Assignment for the [Teamwork Crouse @ SoftUni](https://softuni.bg/trainings/1799/practical-teamwork-sept-2017)

Design and implement a **Single-Page Application**, using JavaScript, a custom web server and tools of your choice.

## Technologies

Your project must demonstrate the use of the following:

* **Back-End Web Framework** – create your own back-end, using a framework of your choice
* **Front-End JavaScript** – instant feedback to the user in an **interactive** web app
* **Structured Code** – split your code into modules and make use of **programming patterns**, such as MVC
* **HTML** & **CSS** – provide a UI for the user; **bootstrap** and other libraries are **optional**

You are allowed to mix and match libraries as you see fit, but be prepared to motivate their usage.

## Project Scope

Your project should implement **at least** the following **functionality**:

* User **registration**, **login** and **logout**
* All **CRUD** operation performed via **REST** (or a similar service, like GraphQL)
* An **admin role**, able to modify other users’ profiles or data
* Persist information inside a **database**

## Requirements

It is best to work on **your own idea** by creating a **custom assignment**. Consult your project idea with the trainers’ team, to make sure it meets the requirements (and is not too ambitious for the scope and timeline of this course). Demonstrate application of **course material** (authentication, templates, live front-end, fetching data, user roles, database persistence) and **research** outside the covered topics (like web sockets, graphs or external APIs). Bonus points will be awarded for original ideas and extra projects steps, like comprehensive unit tests or deployment.

You need to specify the topic and requirements of your project **in advance**. There is no deadline, but having an assignment early will give you more time to work on implementation.

***At most two teams may work on the same assignment! If you choose one of the sample assignments and it’s already taken by another team, you will have to pick a different topic (or make your own assignment).***

### Sample Assignments

You can use these assignments to get an idea about the scope of the project. All assignments will require a certain level of **research** and **additional knowledge**, not covered in the main course. You may consult the trainers for guidance and advice.

#### Online Ticket Store

Create a Web-based application for selling tickets for various venues (concerts, festivals, theater plays, etc.). The web application is supposed to include two parts:

* Categorized catalog of venues with ability to view detailed information and purchase tickets
* Administration interface for addition, editing and deletion of events

Provide the following functionality to all visitors (without authentication):

* View upcoming events
* Browse categories of events
* Advanced search (by category, date, price, location, etc.)
* View details about an event (information, location, date, price and availability of tickets)

In addition to the previous functionality, registered users can:

* Purchase tickets
* Manage their profile

Authenticated administrators should be able to:

* Create / edit / delete events
* Manage available tickets

Ticket count is updated live, to avoid conflicts. When purchasing a ticket, a user registration is required, but product basket is preserved.

#### Personal Ads for Cars and Parts

Create a Web-based application for publishing personal ads for cars automobile parts. The web application is supposed to include two parts:

* Categorized catalog of ads with ability to view detailed information
* Administration interface for editing and deletion of ads

Provide the following functionality to all visitors (without authentication):

* Browse categories of ads
* Advanced search (by category, price, location, etc.)
* View details about an event (information, location, date, price and availability of tickets)

In addition to the previous functionality, registered users can:

* Publish their own ad
* View contact information of other users
* Request promotion of their ad
* Leave comments on ads

Authenticated administrators should be able to:

* Moderate ads and comments
* Manage user profiles (ban users who post inappropriate messages)
* Promote ads (so they show higher up in the front page)

#### Online Live Chat

**This assignment requires the use of web sockets.**

Create a Web-based application for real-time text messaging. Users can connect anonymously with a nickname and participate in different chat rooms.

Provide the following functionality to all visitors (without authentication):

* Send messages anonymously under a nickname
* Join public chat rooms

In addition to the previous functionality, registered users can:

* Customize their profile with a picture and other personal details
* Reserve a nickname
* Create and join private chat rooms (with password protection)

Authenticated administrators have additional options, available in the normal views of the app. They should have the ability to:

* View the profiles of all users
* Mute or ban users who post inappropriate messages
* Join all chat rooms, including password protected ones

#### Travel Guide

**This assignment requires the use of a mapping API (Google Maps, bgmaps.com, etc.).**

Create a Web-based application to help tourists experience their destination by offering information about interesting locations near them. The web application is supposed to include three parts:

* Blog-like pages with articles about travel destinations
* Map of interesting locations around tourist towns and places a user has visited
* Administration interface for publishing articles and managing locations

Provide the following functionality to all visitors (without authentication):

* Read articles about travel destinations
* View recommendations on a map
* Advanced search (by category, nearby events, price range, location, etc.)

In addition to the previous functionality, registered users can:

* Leave comments on the map
* Mark the places they’ve already visited and post their pictures

Authenticated administrators should be able to:

* Publish and edit articles
* Manage locations on the map
* Moderate messages left by registered users

#### Productivity Board

Create a Web-based application for managing projects and tasks inside projects. Users can connect anonymously with a nickname and participate in different chat rooms.

Provide the following functionality to all visitors (without authentication):

* Preview functionality
* Registration form

Registered users can:

* Create and customize project boards
* Customize their profile
* Create tasks inside project boards and assign due dates
* Move tasks around and mark them as completed
* Invite other users to participate in the project

In addition to the normal functionality, project creators can:

* Grant and revoke permissions to collaborators
* View time-tracking details (how long each task was active, etc.)

## Team Organization

You **must** assign a **project manager** who will be in charge of keeping the team synchronized. It doesn’t have to be the most knowledgeable person, but rather the person who can **spare the most time** and can communicate with his teammates, delegate tasks and resolve conflicts.

Maintaining some form of **source control** is **mandatory** (GitHub recommended) – each team member must commit regularly.

A **task management tool** is **advisable** (Trello recommended) – try to split the tasks so that a single person can work on each semi-independently. Mark progress regularly.

## Deliverables

Your main deliverable is the **project repository** – commit to it the following:

* Complete **source code** of your project
* Units tests (**optional**)
* Documentation (**optional**)
* Design prototypes (**optional**)
* Links to other tools, used in the making of the project (Trello boards, etc.)
* Any other project assets you need for the final presentation

During your **final presentation**, you will need to **demonstrate** your product – either with a local server on your machine, or deployed online (GitHub pages or hosting of your choice).

## Public Project Defense

Each team will have to deliver a **public defense** of their work. At least **the team manager** should be present, but you may decide to bring additional team members, so that each technology used may be properly presented (e.g. one back-end and one front-end specialist). The teams will have **only ~20 minutes** for the following:

* **Demonstrate** the application’s functionality (in a concise manner)
* Show the **source code** and explain briefly how it works
* Answer **questions** from the trainers and audience

Hints for better presentation:

* Be **well prepared** for presenting maximum of your work for minimum time
* **Open all project assets** beforehand to **save time**: open your site in the browser, open your project repository page, boot up your IDE, etc.
* Test your laptop with the **multimedia projector** and ask for any output adapters in advance
* Prepare a short PowerPoint presentation (**optional**)

Answering questions is an **important part of the evaluation process** – if you do not leave enough time after your presentation, your **score** **will be reduced**!

## Assessment Criteria

* **Project – 25**
  + **Code Quality** (correct use of patterns, following language conventions, etc.)
  + **Functionality** (rich and seamless functionality, demonstrating application of course material and original research will be scored higher)
* **Teamwork – 50**
  + **Source Control** (use of Issues, Branches, regular commits by all team members)
  + **Task management** (coherent implementation process, following incremental steps)
  + **Project Scope** (you’ve met all goals that you started with)
  + **Team Communication** (team members are kept up to date with each other’s progress)
* **Defense – 25**
  + **Answer questions** (defend your work!)
* **Bonus – 10** (awarded for achievements outside this assignment)

## Consultations

For any **questions**, **advice**, **guidance**, contact the course lead at [v.kostadinov@softuni.bg](mailto:v.kostadinov@softuni.bg). You may also **schedule a meeting** for a live consultation or skype call, or **ask the trainers** in your other courses for **implementation** advice. Times will vary depending on availability, but consultations will usually be performed every Wednesday (must be scheduled in advance).

## Deadline

The public defense and evaluation will be held on **13-January-2018**. You must submit a link to your repository **no later** than the time you’re scheduled to present your work. An additional **presentation schedule** will be published on the course page in advance.