

Open Data and Green IT CodeCamp - Spring 2015

Sport Finder

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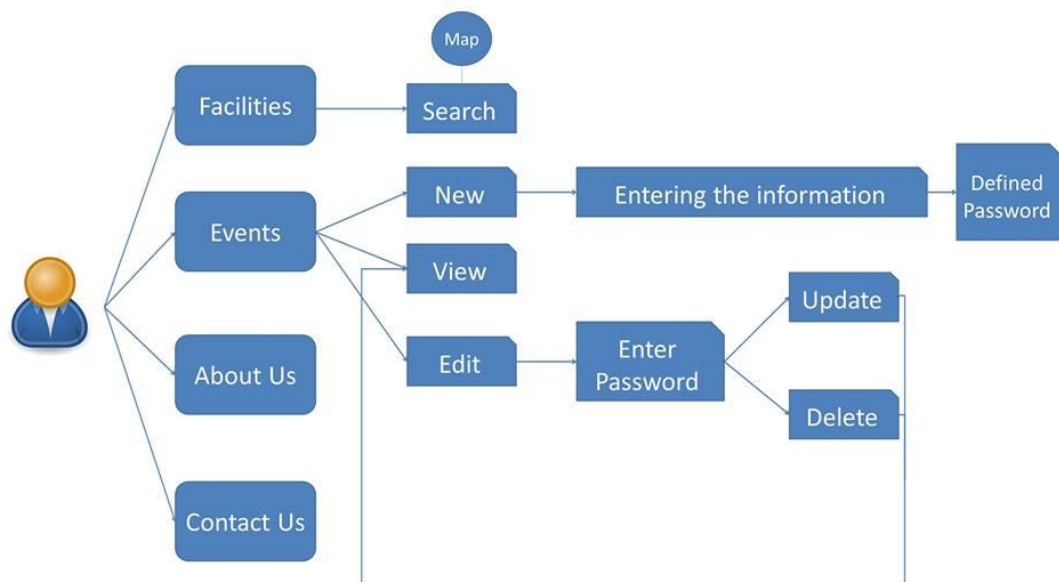


Introduction: What is Sport Finder

Searching for a place where to practice your favorite sport is now easy, fun and possible for everybody. Sport Finder is a web application mobile friendly where users can search for all the sport facilities in the city of Lappeenranta and locate them in a map. Sport Finder uses Open Data provided by the Finnish Government.

With Sport Finder it's possible to find all the sport events that will take place in the area of Lappeenranta. Anyone has the right to create an event that will take place in one of the public places that Lappeenranta offers for the citizens. The main purpose of this application is to make people more interested of sports, inform about all the available possibilities to practice sport in the city and to encourage people to create events and gather with friends and unknown people to practice sport in group.

Once you have created your event, you can access it with your password, edit or delete it. All the possibilities the user can find in Sport Finder are summarized in the following picture.



Picture 1: Utilities of the application



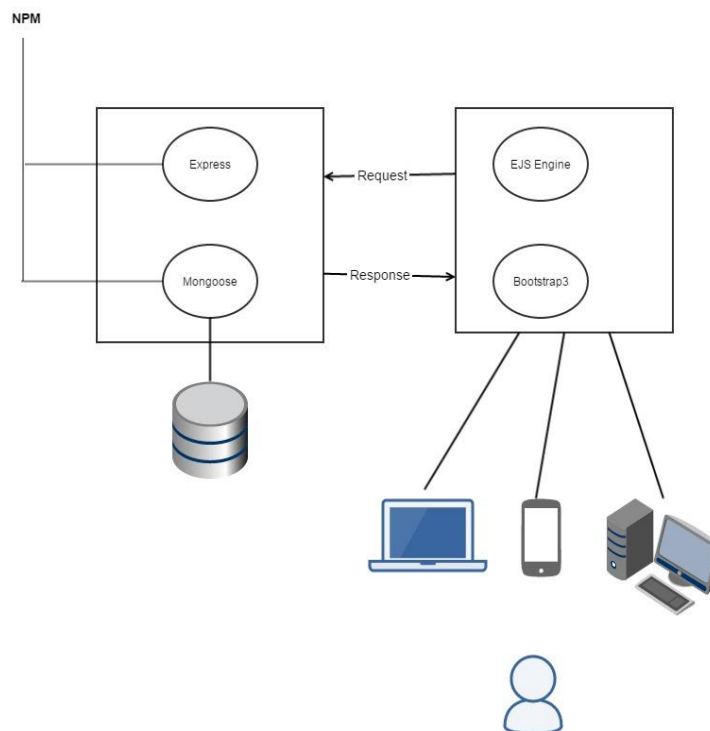
Architecture of Sport Finder

The project has been developed in the coding platform cloud9 for all the members of the team to have access to the code at the same time without problem of conflict with the version. The database we have been working with is MongoDB, concretely with Mongoose since we are working with Node.js and with web framework for Node.js: Express. Inside out DB we have two collections: Events and Facilities.

- The Events collection is where all the events created by users are stored.
- The Facilities collection stores all the sport facilities that the city of Lappeenranta offers. This collection has been imported from the csv file with the facilities that can be found in the web page Lipas (<http://liikuntapaikat.fi/lipas>).

For the client side we have used Embedded JavaScript (EJS) as our view engine. We made use of Bootstrap3 to make our application mobile friendly with an intuitive user interface and nice views for the customer.

The general architecture is defined in the following picture.



Picture 2: General architecture



Back-End Design

Node.js is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Using Node.js we could create a webserver at the same time we developed our application running on it.

Express.js is a web framework for Node.js with which we acquired simplicity and a cleaner code easier to read. With it we could manage the routes and organize the different views.

Using Mongoose we were able to define a schema of facilities and another schema of events. This is an example of our use of mongoose:

```
var eventSchema = new Schema({
  'ID':Number,
  'Title':String,
  'Description':String,
  'Date_':Date,
  'Place':String,
  'Address':String,
  'Access':Boolean,
  'MaxGuest':Number,
  'Password':String,
  'Created_at': Date
});
var Event = mongoose.model('Event', eventSchema, 'Events');
```

Front-End Design

The views of the application were rendered using EJS engine and styled using Twitter Bootstrap.

The next features were implemented in this version of the application:

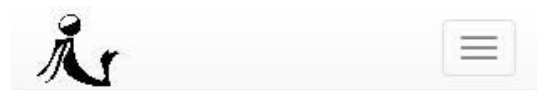
- Find sport facilities by type using REST.
- Locate facilities in the map using the Google API.
- Treatment of events (create, modify and delete).

The simple interface facilitates the usage showing the facilities in the map after selecting one type on the left sidebar menu. Regarding the events, all the events are listed in the same page and they include a button for simple editing after providing the password.



Introduce the facility you are looking for:

Bowling alley



Create your event right now!

Golf with friends

We will play golf for 2 hours, bring your own material!

Edit



Create Event

Title of the event

Enter title

Description

Enter the description

Date

Address

Enter the address

Public

☐

Select Facility:

--Select from options below--

Max guests



Facilities

Events

About us

Contact

your own material!

Edit





Results

Finally, we have reached the main goal of the application. This app can help the citizens for finding sport facilities and creating new events for group sports. The issue we confronted in the presentation day took couple of hours of work and the problem leads to unsuccessful presentation, but we completely fixed the problem.

We agree that we have learned new methodologies and programming language participating in this code camp, even the issue before mentioned proved us that we should be more prepared before beginning final presentation.

At last, using new environment (C9.io), frameworks (Express, Bootstrap), non-relational databases (Mongo DB with Mongoose) showed us a different programming approach.

Group Experience

We have learnt to work with new technologies like NodeJS and MongoDB, and new environment like <http://www.c9.io/>

We have learnt how to connect MongoDB with the logic and use the Open Data to capture the data that we need to create an application.

Using the Google API and Bootstrap framework for front-end design, the team has developed a simple application where the users can improve their experience when arranging a sport event.

Conclusion

Open Data give users a world of possibilities to develop new applications to make our life easier. Sport Finder will improve your sport experience solving the problems to find a place or activity to practice any exercise you want.

Besides improving people's quality life, while developing this application, the team members improved their coding skills using different technologies like Node.js and MongoDB. As a team we learned to share tasks, giving and getting feedback in order to upgrade our professional skills, helping and motivating each other.