



Universitetet  
i Stavanger

DET TEKNISK-NATURVITENSKAPELIGE FAKULTET

## BACHELOROPPGAVE

Studieprogram/spesialisering:	Vår 6 semester, 2019
Data	Åpen / Konfidensiell
Forfatter(e):	Signatur
Christoffer Holmesland	.....
Jørgen Melstveit	.....
Gaute Haugen	.....
Fagansvarlig: Erlend Tøssebro	
Veileder(e): Erlend Tøssebro	
Tittel på bacheloroppgaven: Webapplikasjon + mobilapplikasjon for bruk til interaktiv undervisning - DAT200	
Engelsk tittel: Web application + mobile application for use in interactive teaching - DAT200	
Studiepoeng: 20 stp	
Emneord:	Sidetall:  + vedlegg/annet:  Stavanger, 15/05-2018

# Innholdsfortegnelse

<b>1</b>	<b>Innledning</b>	<b>1</b>
<b>2</b>	<b>Teori</b>	<b>2</b>
2.1	Babel . . . . .	2
2.2	Bootstrap . . . . .	2
2.3	Connect History Api Fallback . . . . .	2
2.4	Cookie Parser . . . . .	2
2.5	Dotenv . . . . .	2
2.6	Eslint . . . . .	2
2.7	ExpressJS . . . . .	2
2.8	NodeJS . . . . .	2
2.9	Passport . . . . .	2
2.10	Passport Openid Connect . . . . .	2
2.11	Socket.IO . . . . .	2
2.12	SQLit3 . . . . .	3
2.13	Vue . . . . .	3
2.13.1	Vue Cli . . . . .	3
2.13.2	Vue Router . . . . .	3
<b>3</b>	<b>Referanser</b>	<b>4</b>
<b>4</b>	<b>Vedlegg</b>	<b>5</b>

# 1 Innledning

## **2 Teori**

### **2.1 Babel**

test

### **2.2 Bootstrap**

test

### **2.3 Connect History Api Fallback**

test

### **2.4 Cookie Parser**

test

### **2.5 Dotenv**

test

### **2.6 Eslint**

test

### **2.7 ExpressJS**

test

### **2.8 NodeJS**

test

### **2.9 Passport**

test

### **2.10 Passport Openid Connect**

test

### **2.11 Socket.IO**

Socket.io is the most commonly used WebSocket for Node.js, which makes it the most supported and with the most active community of the alternatives. Socket.io is built using the ENGINE.io and creates a connection between the server and the client in real time, with bidirectional event-based communication. In this application, multiple users will send updates to the server, and the server will send out various updates to numerous clients at the same time. This would have been very complicated and time-consuming to get right with AJAX or regular HTTP requests. When a Socket.io function is set up, it's easy for the functions only to send the information that is meant for that client. Socket.io also have a feature called "rooms" where the server can add a connection to a virtual room. Then when a quiz is running, and the server needs only to update clients connected to that quiz. It will broadcast its messages to that room, and then only clients connected to that room will get that message. This makes

Socket.IO ideal for making the server handling more than one quiz at the time. Also, all the socket.IO functions are asynchronous which makes the wait time for a response a lot shorter.

## **2.12 SQLit3**

test

## **2.13 Vue**

Vue is a framework in Node.JS for building user interfaces. Vue makes a single page application which makes the load in one HTML file and the javascript and CSS needed for the first page. Then when the user clicks around on the page the main javascript loads in component or views in as more javascript and css. Then the DOM gets updated with the new components. These updates make the navigation and interaction on a webpage feel more smooth and responsive. When programming the client side of the application, the HTML, CSS, and javascript will get its own container inside the Vue file. When you have written the application one needs to use the Vue CLI to compile the code.

### **2.13.1 Vue Cli**

The Vue CLI is used as a developer tool to start, build, manage and deploy a Vue project. When setting up a Vue project, there are some options to how you want to set it up and what plugins you want to use. Some of the plugins available help with linting, templating the "pages" and setting up Vue features. One of those features that was used in this project is Vue router.

### **2.13.2 Vue Router**

Vue router tries to mimic the multipage application by using routes that are URL paths and views that are Vue component that should be used to be the template for a page. This leaves the user with the impression that the single page app acts like a multipage app, but the website feels more smooth and responsive as the webpage don't load in another HTML file. It replaces elements in the DOM using javascript.

### 3 Referanser

## 4 Vedlegg