Web Engineering

Exercise 5

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- Build a gallery application that uses real-time communication between multiple devices.
- The application consists of two parts.
  - The first is intended to be loaded onto large screens and will only display a single image.
  - The seconded part is designed for mobile devices and displays a set of images. The user can select an image which will be shown on the large screen. The mobile device thus functions as a remote control to the large screen.

- You can find a video on the course website that demonstrates the desired behaviour.

Technologies

- Node.js: https://nodejs.org/

- Socket.io: http://socket.io/

- Application skeleton available on course website

- You are allowed to use frameworks such as jQuery or CSS frameworks if you consider them helpful.

Requirements

- **Dependency management**
  Package.json should be configured correctly to include Socket.io. If the *node_modules* folder is deleted, running *npm install* should install Socket.io.

- **Image synchronization**
  Selecting an image on the remote should update screens accordingly.

- **Advanced connection management**

Requirements - Advanced connection management

- The remote should list the available screens in the system.

- New screens should be added to the list in real-time and without user interaction (no refresh buttons!).

- The list should indicate for each screen if the remote is connected to it or not.

- The remote should be able to connect to and disconnect from screens, depending on the current status.

- Image updates should only be sent to connected screens.

- Disconnecting a screen should clear the image from the screen.

- If a screen leaves the system it should be removed from the list on all remotes.

- If a remote leaves the systems, all screens that were controlled by the remote should be cleared.

Exercise 5
Schedule

Introduction
Ex. 5

7th May

21th May

Assessment
Ex. 5

| **12:15 – 1p.m.** | **IFW A 36**

| **1:15 – 2 p.m.** | **IFW A 32.1**