

SOFT352 – Client-side Web Scripting

Workshop 5

Autumn 2018

This exercise uses WebSockets to send and receive messages between a server and multiple clients.

1. Create a folder for today's exercises. Using the command prompt, `cd` into the new folder and install WebSockets for Node using the command:

```
npm install websocket
```

2. Write a script called *server.js* that creates a socket and accepts connections on port 9000. When receiving a message, the server should answer with the message *"handshake from server"*.
3. Write a client web application that creates a WebSocket and send the message *"handshake from client"* to the server.
4. Install the *readline* node package and extend the server so that it can accept command line input from a user. Whenever a user inputs some text, this should be sent to the client.
5. Extend the client application so that it can receive messages from the server. When a new message is received from the server, it should be displayed in the client along with the time it was received.
6. Extend the server so that it can keep track of multiple connections. The initial handshake message from the server should say how many clients are currently connected. When new text is entered by the user it should be sent to all connected clients.

7. Extension question:

Use WebSockets to write an instant messaging application. Your server should:

- Keep track of connected users;
- Confirm which of a clients' contacts are online;
- Receive messages from a client and pass it on to the intended recipient (not broadcast to all!).

The client should:

- Provide a list of contacts from which the user can select one to send a message to;
- Allow the user to enter a message;
- Display a message received from another contact.

Your server can be based on a command line interface, but your client applications should be based on a web page.