In this document you'll find information about the technology used in the project.

Development environment

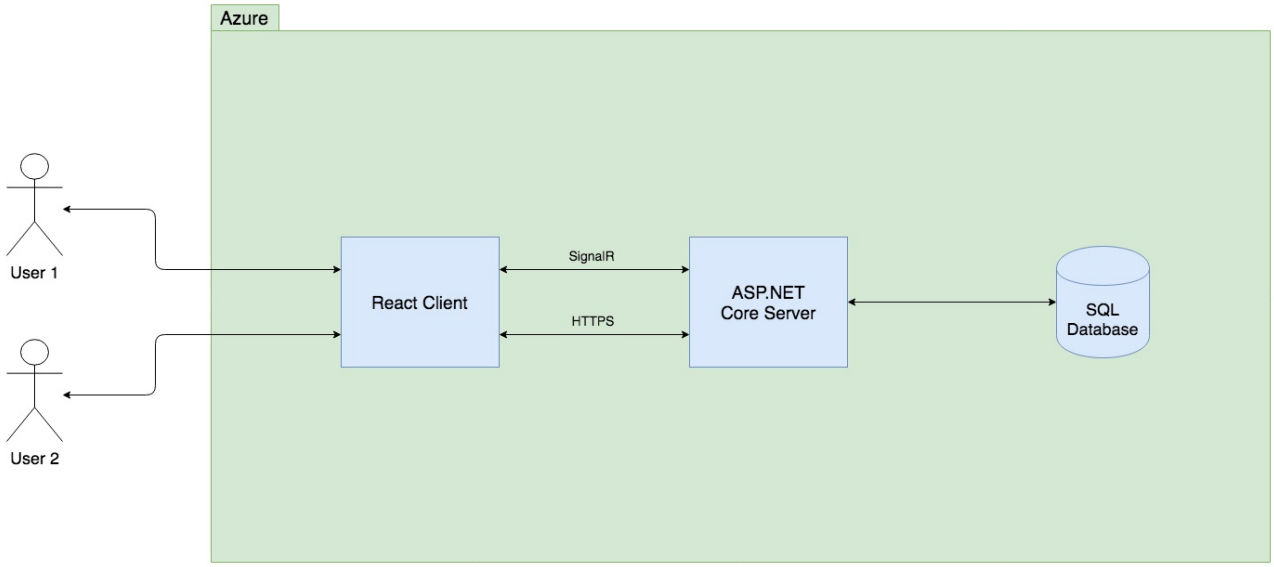
Operating systems: Windows, MacOS.
IDE: Visual Studio for Mac, Atom, WebStorm or any other optional IDE.

Programming language

Back-end: C# (https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/) in ASP.NET Core (https://docs.microsoft.com/en-us/aspnet/core/?view=aspnetcore-2.1).
Front-end: Javascript (ES6) (https://developer.mozilla.org/sv-SE/docs/Web/JavaScript) in React.js (https://reactjs.org/).

Hosting and Architecture

The client, server and database used in the project are all hosted within Microsoft Azure accorrding to the following diagram.



Client

React.js (https://reactjs.org/) client deployed to Azure (https://azure.microsoft.com/).

Client technical documentation (https://github.com/jimmybengtsson/grupp03-redriver/wiki/9.3-Technical-documentation-client)

Server

A ASP.NET Core (https://docs.microsoft.com/en-us/aspnet/core/?view=aspnetcore-2.1) server deployed to Azure (https://azure.microsoft.com/).

Server technical documentation (https://github.com/jimmybengtsson/grupp03-redriver/wiki/9.2-Technical-documentation-server)

Database

Azure Cosmos DB.

Database technical documentation (https://github.com/jimmybengtsson/grupp03-redriver/wiki/9.5-Database)

Code standard

JavaScript standard (https://standardjs.com/).
C# coding conventions (https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/coding-conventions).

Suggestions technology

Here you'll find the different suggestions to what technology to use to implement the customer's requirements. The suggestions are taken from an analysis made by the group on what kind of technology that is used in similar systems.

Real-time text chat: ASP.NET SignalR (https://www.asp.net/signalr).
Encryption: Signal Protocol library for JavaScript (https://github.com/signalapp/libsignal-protocol-javascript).
Real-time video calls and Live streaming: WebRTC (https://webrtc.org/start/).
Authentication/Authorization: JWT (https://jwt.io/introduction/).

Proof of concept

Proof of concept is a realization of a certain method or idea in order to demonstrate its feasibility. Here you'll find the proof of concept for the different technologies.

PoC real-time text chat

ASP.NET SignalR proof of concept code: PoC (https://github.com/jimmybengtsson/grupp03-redriver/tree/signalrpoc)
ASP.NET SignalR proof of concept URL: PoC (https://redriverclient.azurewebsites.net)

PoC Video call

WebRTC proof of concept code: PoC (https://github.com/jimmybengtsson/grupp03-redriver/tree/videochat-poc)
WebRTC proof of concept URL: PoC (https://redrivervideocallpoc.azurewebsites.net/)