Chatter App Report

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# Motivation

**[Not sure what goes here]**

# Project Scope

*[This is a short description of why your innovation is useful and what it might achieve.*

*]*

1. The whole web app should be responsive, never had to use Bootstrap, so if someone did, let me know if it can be used for this (I think it can be).
2. Login to the app will only be done using OAuth, no site registration will be available
3. The web app will consist of 3 screens: Login, Profile and Chat
   1. Login will merely offer the user to login with different providers
   2. Profile will be stored on our DB and will be pulled in AJAX-ly
   3. Chat will contain:
      1. list of contacts. A button will be available above the contacts list, which will allow adding new contacts.
      2. chat window -> will contain all the chat history from all of the contacts. (maybe it should be saved in our DB so it can be reloaded when user comes back?).

It will also contain the free textbox for new messages

* + 1. video chat window, which is where the video will be played.

# Area of contribution

*[This should describe the general problem area. For example, what is a problem in educational environments and how might they be better developed through the application of a RIA.]*

**Functional Requirements**

1. The user shall be able to login using a pre-existing account from a third-party vendor such as Facebook or Google. There will be no need to register a propriety account with *Chatter*.
2. A profile page shall display all of the user’s viewable public details such as birthday, date joined, country, number of friends and a picture. Information within this screen will be editable.
3. The user shall be able to view a video stream of their friend’s webcam when engaging in a chat with them.
4. The user shall be able to converse with their friend via voice communication when engaging with a chat session with them.
5. The user shall be able to converse with their friend via text when engaging in a chat session with them.
6. A chat history window will exist to store all of the previous message that were sent between the user and their friends.
7. There will be a facility to allow the user to add new contacts as well as deleting existing contacts
8. There will be a facility to search for friends so that they can be added to the contact list

**Non-Functional Requirements**

1. All functionality for chatting with contacts will appear on a single page: video stream, chat feature, history, friend list, add/remove friends
2. The application will be responsive and therefore will render appropriately for different screen sizes including tablets and smart phones
3. All client side features will be tested using an appropriate test strategy and framework
4. The application will be limited to three pages: login page, profile page and main chat page

**Under Investigation**

1. Chat room features
2. Filesharing functionality
3. Use of AngularJS and BackboneJS

# State of the Art Review

*[This section should outline a literature review of the methodologies.*

*Describe investigation into current practice, case studies of other rich Internet applications, and academic/industrial research that is reported in conferences and journal articles. This should include a critical analysis of your selected approach. You must describe how you made an informed decision about both the innovation undertaken and the technologies selected. ]*

# User Interface Design

*[This section should outline how you arrived at the design of your UI.*

*You should include a detailed analysis of how the controls in your application deliver a successful UI experience. ]*

# Architecture

## Application Architecture

*[Outline the solution architecture for your application. You sould justify the approach you took, and how it supports the project scope. This means mapping back to the state of the art review when describing the features and functionality of your system. ]*

## Security

*[Evaluate industry standard error handling, and outline how you integrated these approaches within your application. ]*

# Toolkits and Frameworks

Discuss the toolkits and frameworks used and the justification for using them.

1. Login – Oauth (oauth.net). This open standard will allow users to login to the application using credentials from a third party provider.
2. Communication protocol – PeerJS (peerjs.com). This will allow the use of API keys to realise a peer-to-peer connection.
3. Responsiveness - Bootstrap (getbootstrap.com). This will be used for making the web application responsive for rendering on various devices. The default bootstrap theme will be used for the application.
4. Data Storage – As this implementation is not heavily based on server side architecture, simple file based databases will be used
5. Testing – Jasmine (jasmine.github.io). Client side features will be tested using the Jasmine JavaScript framework.
6. Backend – ASP.NET. The web application will be managed using Visual Studio and will render from the default.apsx page.
7. Endpoints – Web API will be used for REST endpoints.

# Data Transfer Strategies

*[This section looks at the access and transporting of data to be consumed/created by the RIA.]*

# Evaluation and Testing

*[You must include a short description of how your application was evaluated for its audience.*

*Critically analyse the testing methodology employed, as well as any debugging techniques you used in building the application. ]*

# Summary

*[This is a short section that includes a brief summary of what was achieved so far. Evaluate the approach you took, the tools you Advanced Rich Internet Application used, and the implementation of your applications. You should describe what changes you would make or future work that would benefit your application. ]*

# References

[Please refer to the Harvard guidebook. Ensure to correctly reference all resources using the Harvard style of referencing. ]