Project Plan for Degree Projects
Department of Computer Science

General Information

Title:	Reel-time communication using a peer-to-peer network in the web
External company:	Name of the company (if you do your degree project at an external company)

Persons involved

Student 1:	Henry Pap	hp222fq@student.lnu.se
Student 2:		

Supervisor:	Mauro Caporuscio *mauro.caporuscio@lnu.se*
External supervisor:	Your supervisor at the company (if you do your degree project at an external company)

Background

Describe the background to the problem area of your degree project. Max half page.

Problem formulation

Briefly describe the problem you plan to investigate, its limitations, and what results you expect. You can read about suitable problems here.

Motivation

Briefly describe why your problem is interesting for science, society or industry. Use references in IEEE format[1, 2].

Objectives

O1	How to achieve scalability for real-time peer-to-peer network in the web.
O2	Determine the most suitable peer-to-peer topology.
O3	Achieving low latency for real time multiplayer games.

Method

A systematic literature review will be conducted in order to gather background knowledge about peer to peer network topologies. For determine the most suitable peer-to-peer network topology a comparative study has to be done thus ranking the topologies. And by experimentation on them with their corresponding settings, achieving the best topology based on both low latency and scalability.

From the experiment-results, picking the most suitable topology and implementing it using webRTC API and then verify and validate it.

Methods used

1. Systematic Literature Review

2. Comparative study

3. Controlled Experiment

4. Verification and Validation

Time plan

Date	Milestone
2019-02-15	Systematic Literature Review for background knowledge (SLR)
2019-02-20	Degree project plan finished
2019-03-08	Reading and gather the information generated from the SLR
2019-03-10	selecting 5 peer-to-peer topologies
2019-03-17	Writing the peer-to-peer background part based on the selected topologies
2019-03-20	Exploring the webRTC API by both reading the specs and testing with simple implementations
2019-03-23	Finishing the background with webRTC
2019-03-25	Writing the motivation and aim (re-using this document with some retouching)
2019-03-27	Starting with the (method?) and result
2019-04-05	Experiment with the different topologies to achieve low latency and scalability
2019-04-15	Implement the most suitable topology into web environment using the webRTC API
2019-04-20	Verifying and validating the implementation
2019-04-22	Discussing the results based on the evaluation
2019-04-23	Discuss the picking of the 5 topologies
2019-04-27	Finish the conclusion
2019-05-01	Finalizing the thesis
2019-05-03	Preparing the presentation

References

[1] A. Chalmers, *What is this thing called science?*, 4th ed. University of Queensland Press, 2013.

[2] C. Darwin, "On the origin of species by means of natural selection," *John Murray Publishment*, 1859.