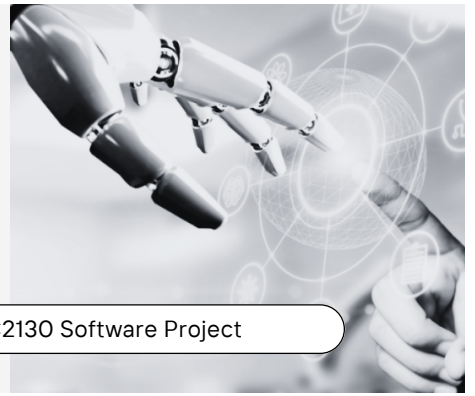


# Project proposal: Maths learning portal

CS-C2130 Software Project



## 1.Introduction

Join us to save learning maths!

Finnish primary and upper secondary school pupils' mathematics skills have fallen at an alarming rate. Not only is the level of proficiency falling, but the decline is steep compared to Finland's peer countries, although the trend is the same in other OECD countries.

Weak maths skills are already a problem in post-primary and upper secondary education. Many companies report a lack of mathematical skills among young employees.

Inadequate support for maths learning has been a key problem in primary schools for more than a decade. MathHub has been set up to tackle this problem. We are an NGO providing open and free digital support services for all pupils at primary and upper secondary school level.

More about us: <https://mathhub.fi>

## 2.Project goals

The primary objective of the project is to develop a learning portal with a video-based maths support service where support providers and users meet.

- Basic features: Administrative panel, quick and simple sign up, personal profiles, booking system, content management system, file uploading, video player, video streaming, text and video chat (support service).
- Students are free to use their creativity in designing the functionalities and features of the portal.
- We encourage exploration of the possibilities of artificial intelligence and machine learning.

## 3.Technologies

One of the big questions to be decided before the project starts is whether the platform will be a web, mobile or hybrid implementation. This will naturally influence which technologies will be used. Students can influence these decisions, and they can freely choose the best technology that suits the needs of the project.

- We recommend Git for version control, and public CI tools (e.g. CircleCI) for testing and deploying the software. The code must be documented and tested.

## 4.Requirements for the students

Overall the project is medium in terms of complexity. However, you can think big with this challenge! We value creativity, an open mind to new ideas, and a willingness to learn more about writing brilliant software.

- First and foremost we look for impact driven and motivated devs who are creative and willing to learn.
- We appreciate flexibility and ability to work in a team.
- User interface experience and app security experience, and experience in developing cloud based solutions would be a plus.

## 5.Legal issues

Intellectual Property Rights (IPR):

- A. All IPRs to all Results will be transferred to the Client.

Confidentiality:

- A. The client will share some confidential information with the students.

## 6.Client

The aim of the association is to promote equal learning opportunities and to increase student's mathematical competencies and interest in maths. We want to make learning maths fun, lower the threshold to start learning and make it more accessible.

We also aim to have a positive impact on attitudes towards mathematics at a societal level, and to make the potential and practical applications of mathematics visible.

Client representatives

- Product Owner: Inari Fjärd, Chair of the Board @ MathHub, inari.fjard@gmail.com
- Technical specialist: TBA
- Specialist in mathematics: Lauri Hellsten, Maths and physics teacher, Espoon yhteislyseo Upper Secondary School; Pedagogical Director @ MathHub, lauri.hellsten@gmail.com

The outcome of the project has real value to us. The product owner is committed to regular communication and meetings throughout the process. Other experts will be available on demand. In addition to office hours, scrum meetings can take place during the evenings and weekends. The working language is Finnish or English.

Building the portal is a long-term process. The portal will require further development, testing and maintenance after the course. We are looking to recruit a talented and enthusiastic developer who is eager to tackle challenges with their expertise. We value strong skills, enthusiasm and a sincere desire to solve complex issues through technology. This is a great opportunity for us to get to know each other better and for you to gain a deeper understanding of MathHub and the goal-oriented atmosphere we strive to create.