

Application and Study Material onboarding

Introduction

[Mafy](#) is the company behind the web application Mafynetti, which is used by roughly 1/3 of the Finnish high schools in their preparatory courses for the high school matriculation exam.

The Mafynetti application is used by students for an extended period of time, typically multiple months, during which students become very familiar with the application.

However, the application has been perceived as complicated to grasp initially, and therefore adding interactive onboarding tips is desirable.

To vastly grow the scope of the project, elements of interactivity could also be added to the study material that is created inhouse.

Project

The goal of the project is to ensure that new users of Mafynetti get a good understanding of the different aspects of the application right away through just-in-time onboarding tips. Examples of tips include, but are not limited to, the following:

- An interactive, step-by-step guide of how to complete different types of exercises within the application.
- Instructions on how to install the Progressive Web App for the specific Web Browser/Platform the user is using.
- Explaining the logic behind our automatic rehearsal feature, so that the students understand when the application will ask them to rehearse certain exercises.
- Explain "simple features", such as individual UI-elements.
- Explain actions that the user may wish to take based on their earlier behavior, such as recommending that the students utilize hints, if they have recently answered exercises incorrectly without the use of hints, although they were available.

There are many more use-cases, and we encourage the student team to come up with their own suggestions.

While the project may seem front-end heavy, it also includes back-end components, for example:

- Saving the viewed onboarding tips per-user, so they are not shown again unnecessarily.
- Fetching available onboarding tips, so that onboarding tips can be edited without the need of publishing a new app version.
- Create a tool for Mafy's administrative staff to add/edit/remove onboarding tips.

Another way of further growing the scope of the project is to incorporate interactive elements into Mafy's material development.

Our study material is developed by our staff using inhouse tools, and new course version are exported nightly.

An example of interactivity could be step-by-step walkthroughs of the already-existing model solutions to exercises in a course. This would significantly grow the scope of the project, as the team would have to also expand the existing inhouse tools and nightly material export to facilitate the interactive tips.

Technologies

As the goal is to add the interactive tips to our existing web application, the simplest choice is sticking to the existing tech stack, which consists of commonly used, modern web development frameworks and technologies, such as:

- [React](#)
- [TypeScript](#)
- [Firebase](#) and other [Google Cloud Platform](#) (GCP) services

We mostly use Material UI as a basis for our React components, but welcome other alternatives if they are more sensible for a specific use-case.

For version control, we use Git and GitLab.

Requirements for the students

Knowledge of the aforementioned tech-stack is helpful, but not required.

The most valuable qualities the student team can have are the willingness to learn and the eagerness to take initiative. The aforementioned technologies are well-documented and easy to approach.

Our own development team uses the aforementioned tech-stack, as well as Scrum and CI/CD-practices, and can therefore provide the team with assistance if necessary.

Legal issues

Signing an NDA is required. While the student team will be working on features separate from the work of our own development team, an NDA allows us the convenience of giving you access to the same project resources as our own team and allows you to work within our office spaces if you wish to do so.

The client retains all IPRs to the results. However, if the solution is general enough to e.g., create an NPM-package that could be useful in other React projects and the student team wishes to do so in order to boost their portfolio, such arrangements can be made.

Client

Mafy is a company with offices in Helsinki, Tampere and Jyväskylä, employing over 30 full-time employees.

Our web application, Mafynetti, is used by tens of thousands of Finnish students on an annual basis, and offers courses for the matriculation exam, as well as other areas such as medicine, DI and kauppiis entrance exams. Our material is also available as a self-study.

All of our material is created inhouse using our own tools, and new versions of changed contents are published in a nightly export, allowing us to make improvements much faster than any of our competitors.

In recent years, we have emerged as the most successful provider of preparatory courses for those aspiring to study medicine, whom have historically been our main base of customers. In 2022, the following percentage of students admitted to the respective universities for medicine studies, based on the entrance examination, attended our courses:

- Helsinki yleinen: **73.68%**
- Helsinki yleinen ruotsinkielinen: **57.89%**
- Tampere yleinen: **80.30%**
- All new medicine students in Finland: **71.63%**

Mafy will have the following representative(s) partake in the project:

Product Owner (PO)

Zacharias Levander, Partner, and Chief Technology Officer

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Additional information

The company and PO have participated in earlier software projects with good results and is therefore familiar with the course concept. By implementing the project using our chosen tech-stack, students may be offered paid internships following the project. Throughout our past projects, we have hired a total of 6 students in the summer following the project, and 4 of these (including the PO) continued on to part-time and eventually full-time employment following the summer.

A Scrum Master, Rasmus Palmberg, has been pre-selected for the project.