Bytecraft_

Project Proposal - Timesheets

Track time, have fun with it | CS-C2130 | Software Project

Introduction

We are a new IT-consulting company on the Helsinki/Uusimaa scene. Despite the company being new, we have centuries of experience as Software Developers. Well, probably not centuries, but a lot, gathered in prestigious TOP10 consulting companies in Finland. But we hadn't yet met a company which puts the developer quality experience first, so therefore there was a need for Bytecraft - for Software Craftsmanship (https://manifesto.softwarecraftsmanship.org/) as the core value of our company.

We have most of our working hours full in consulting projects, providing steady value for customers. But at the same time we have the need to track the used time better, with more automation in the solution. This isn't our core business though, so we thought maybe you, bright students from Aalto, could help. The end product should be easy to use for our employees and provide good reporting capabilities.

Project

In its core, it's about tracking the time of employees. Not the hottest of topics, but bear with us, there are also some fun parts to all of this. Typical uses of timesheets application is to

- *Employee can input and edit the daily hours*
- *Different report and listing views for hours (think diagrams and flashier UI features)*
- *Admin views for project / employee tasks*
- *Reminders and notifications*
- *Possible integrations to different accounting solutions*

If these are the typical parts, then what is left open is how to use the software. This can mean for example:

- *Web UI*
- *Progressive Web App (PWA)*
- *Mobile UI*
- *Desktop UI*
- *Different kinds of bots, e.g. Slack Bot*
- *Command Line Interface (CLI)*

- *HTTP/gRPC etc. API*

This we leave up to the student team to decide, as long as there is a good backend core, the UI solution can be "anything". More important than the used platform for UI, is the **user experience**. Current solutions we are using, might not tick all the boxes in pleasant UX, so there is room for improvements, and hopefully we can find them together.

Some additional fun features for the project could consist of **gamification** of the inputted employee hours. We have quite an easy way of calculating the pay of employees, so having for example some achievements to inputted hours and the earned billable hours could provide those highly needed success moments for us grinding the hours. Also something like leaderboards could work. All suggestions for gamification features are welcome. The total scope of the project is very flexible, and it can be scaled to the speed of development.

One extra thing to mention, Bytecraft **will support your technical work** more than your average project. We value well crafted software, and we are going to give you some extra sessions on those topics. Like, *how to use version control properly, how to setup build pipelines, how to write clean code* and so on. So, if you are interested in **kickstarting/boosting** your **software engineering practices**, do choose us.

Technologies

You can freely choose the best technology that suits the needs of the project. For example in the backend some technologies could be:

- *Kotlin/Scala* (or any JVM-language)
- *Python*
- *Node.js* with JS or Typescript
- *Deno*

The UI has to be decided where the student team wants to steer it, but some technologies could be:

- **Web apps**: *React, Vue, Angular, Svelte* etc..
- **Native mobile**: *Kotlin or Java Android, React-Native, Flutter* etc..
- **Desktop**: Web Apps with *Electron*, *Native* ones

We recommend *Git* for version control. The backend could be run on a cloud platform, for example *AWS*. The group can freely choose how to run the app, it can mean for example ranging from *Docker* containers to *serverless* backend functions.

NOTE: We are not expert in all of the above technology examples, the technical support we can provide is better / quicker for some technologies than others.

Requirements for the students

We challenge you to take initiative in designing and realizing a solution to our presented problem. We do not expect you to have earlier experience with the technologies, but choosing a familiar technology within the group could help for a better end result. Two attributes to highlight for the project are:

- UX is probably the most important single attribute of this project, so an open mind on defining the user experience will help
- Willingness to learn more on writing good software

Legal issues

The results are published under open source license MIT. Signing the non-disclosure agreement (NDA) included in the Aalto's contract template is required. NDA is solely required for convenience reasons to be able to provide company premises as working space for students. The resulting code will be under an open-source license.

Client

Following representatives from Bytecraft are available:

● Antti Siukola	Product Owner
● Antti Ahonen	Technical support

Also other additional technical support, depending on the chosen technologies

Bytecraft office is located at Pasila, Helsinki. The railway station is right next to it. Depending on the Covid-19 situation, some meetings or learning sessions could be arranged there.

Bytecraft is a quite young company, but as earlier stated, we have a lot of experience in IT-consulting. We are also firm practitioners of *clean code*, *clean architecture* and all that jazz. Every detail of software building blocks matter: from a line of code to compositions of multiple services. Automating is a crucial keyword in achieving all this, be it automating the tests, build, pipelines or even code generation.

But we aren't just about code, we can also provide you with some fun events for team building. We've heard that pizza & beer is popular, maybe something on those lines (if Covid allows).

We are also highly interested in sharing the Software Craftsmanship -skills further in the future through possible apprenticeship or junior developer roles.

Check more from: https://www.bytecraft.fi/ (sorry, Finnish only atm)