

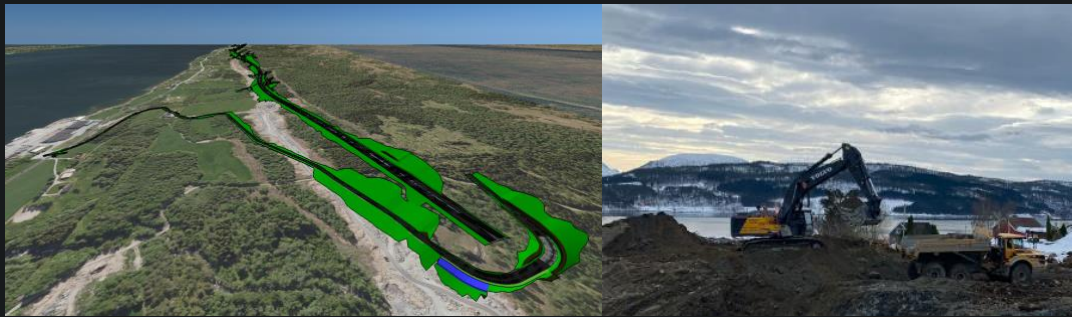
PROJECT PROPOSAL –



DIGITALIZATION AND AUTOMATION OF CONSTRUCTION FIELD REPORTING

1. Introduction

InfraKit is a SaaS solution that simplifies the construction of civil projects including roads, railways, and other infrastructure. InfraKit helps projects finish access to all related data stored in the cloud.



Construction companies are legally obliged to fill out reports related to the construction processes daily, including security, accident, and progress reports. Filling these reports is time-consuming, and they are easily lost in a pile of hundreds of other documents.

To tackle this, the objective of the team is to develop **InfraKit Forms**, a new **mobile responsive web app** to enhance the reporting process in construction projects. This tool aims to simplify the creation and utilization of reports, enabling data entry via mobile interfaces and generating professional PDF reports. Additionally, the collected data may be leveraged for AI-driven analysis, offering deeper insights and improved decision-making.

2. Project goals

The desired features are:

- **Reporting Template Creation:** Design and develop a flexible form template system that allows users to create customized report templates tailored to specific construction project needs.

- **User-Centric Interface:** Ensure the form filling is optimized for mobile devices, enabling easy data input directly from the construction field, even with gloves on. Embed Form UI to Infrakit mobile apps (Android, iOS), allowing field professionals to fill out reports quickly and accurately on-site.
- **PDF Generation:** Develop functionality to convert completed reports into standardized PDF documents, suitable for sharing and record-keeping, stored in a database.
- **AI Insights (optional):** Add AI tools to analyze the data collected through field reports. This could be, for example, summarizing multiple reports with a language model or detecting workers without a helmet from images.
- **Automatic reporting (optional):** Filling some form fields, such as current weather or the number of vehicles on the construction site, could be automated through API integrations.

12.02 DAILY DIARY AND REPORT	
<i>The Project Manager should ensure that appropriate members of the daily diary and report, and that a relevant and comprehensive record is obtained.</i>	
Name:	<input type="text"/>
Role:	<input type="text"/>
Project name:	<input type="text"/>
Date of entry:	<input type="text"/>
Programme week no:	<input type="text"/>
Section of work:	<input type="text"/>
Site working hours: (from and to)	<input type="text"/>
Temperature: (°C) (Minimum and maximum)	<input type="text"/>
Weather conditions:	<input type="text"/>
Works on site/supervised (including number and type of resources)	
<input type="text"/>	

Example report template

3. Technologies

- Git, React, Java or Python (recommended, can suggest other), AWS (optional)
- The team will be supported by senior/architect-level engineers all the way
- Knowledge of full-stack web development is a plus
- The outcome is extendable depending on the team's skill level. One could prefer focusing on honing the user-friendliness of the field reporting solution whereas a team with an interest in analytics and AI could focus on integrating AI solutions into field reporting
- No knowledge of the construction industry is needed!

5. Legal Issues

- Intellectual Property Rights (IPR): (A) All IPRs to all Results will be transferred.

- Confidentiality: (A) The client will share some confidential information with the students.

6. Client

We have a cozy office on the top floor of Accountor Tower (Keilaniemi) where we have space for weekly meetings and some desks available if you want to do development work at our office. We provide access to the required software and offer Coke & Snacks. At the end of the project, we will celebrate on a sauna evening or do something else fun.

Infrakit's representatives



- Jere Syrjälä, Product Manager (+5 years)
- Mikael Lenander, Associate Software Engineer – Recruitment from previous year's project with Aalto
- Sarah Meronen, UX lead (10+ years),
- Kim Toivonen, Team lead (5+ years)
- Visa Hokkanen, VP of Product & Engineering (20+ years)

Client representative(s)

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