

# Benefits of redesigning the Train Guard PTC BOS, Using Flutter as a solution for a Hybrid webapp

We want to ...

Redesign Siemens Trainguard PTC BOS system, a Native Desktop app, based in WinCC and... ( some other technical details) servers

## What is it for or what it does?

The Train guard PTC BOS performs sequential operations in order to process, display or transform data. It connects a train terminal to a train station terminal, sending and receiving messages. Topics and Subtopics grope its structure navigational schema.

It works with Windows with subsets of graphical UI that displays information about the program it belongs to.

The BOS can be deployed as one or more BOS instances. Each instance can control zero or more Subdivisions and can be assigned zero or more BOS roles. Each BOS instance consists of a pair of BOS nodes. Each node pair consists of one active and one standby node.

For more info, visit:

## Why do we want to change it?

Joey's input, to focus everyone

## Our solution

Use a all in one framework such as Flutter a cross-platform framework with a single code base suitable for Desktop, Web and both IOS and Android.

## What do we know?

What do we know about Flutter vs native applications, to help stakeholders decide if its suitable for the project

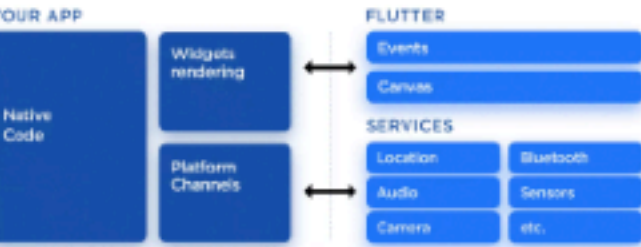
We know that the major drawback of most cross-platform frameworks is the unpredictable behavior of interface elements as well as slow animations.

At the same time, the development and support of native apps require significant investments. This is because developers have to adjust business logic, interface, and layout to the features of each platform. Hence, low-budget Flutter is becoming more popular with hi-tech businesses, compared to native technologies, as illustrated by the figure below.



## Flutter

Flutter is a popular cross-platform framework with a single code base, operating with Dart programming language. Launched only in 2018 by Google, Flutter has proven itself a convenient tool for creating animations and easily UI



## Is Flutter safe?

The use of Flutter can be particularly interesting for the banking sector. Flutter might even be safer compared to native apps since its source codes are

## What do we have

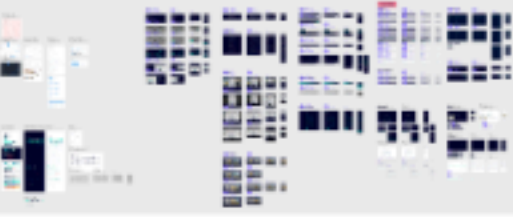
A UI redesign to show the new experience:

[LINK HERE](#)



A new UI design system that could work with any possible application, all related with the International Siemens Guidelines:

[LINK HERE](#)



## Benefits of the New Redesign

Right now the actual BOS UI uses a IDE system with its own Graphical User Interface (GUI) to interact with a user, that means that a developer starts a window to call other windows with buttons and actions

The New design brings the bases of Material Design, created by Google and some tweak of the Siemens Digital Design Guidelines, both to bring a new base of digital design assets.

The fact of been created using Google rules give us the compatibility to use it for cross-platform applications, to maximize the look and feel of our applications. Therefore these New Design is 100% compatible with Flutter.

All the design pieces was created on Figma, a standart collaborative tool for designers and developers.

## Other ways to gather exciting data for stakeholders from the UX perspective

### • User Testing

For example, the login journey shows that with the actual BOS app, we are spending 15 secs to open the main window to put its User and password, on the other hand, with the expected new UI with Flutter we will make 0.3 segs.

### • Survey to Developers, Clients

For example, 80% of our clients prefer/wants/know this or that

### • Talk directly with Developers

What info can we gather that helps to make stakeholders understand the resume of the top problems that our solution can solve. For example, We have these time-consuming and time-cost problems, and we can fix them with these

### • Heuristics Exam to the BOS UI

The Heuristics are these rule-of-thumb strategies shorten decision-making time and allow people to function without constantly stopping to think about their next course of action.

We use it when someone is trying to understand what is going on with a interface and why something its confusing.

We took this 10 steps an mesure the design, system or digital product, getting some times a score or notes,

This heuristics are just a part of a complete study that may involve Benchmarking, Survey, card sorting and other UX artifacts.

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# PITCH, HELPING TO GET SIEMENS BOARD ATTENTION

Working with the Siemens Mobility leader means adding work that could help him to:

- Create OKRs and a Pitch to attract attention and the money necessary from the Siemens directive to invest in the creation and redefinition of the actual tool, bringing absolute mobility with Flutter.

- Worked on documenting, creating presentations, adding Survey results, Stakeholders' solutions clustering, Defining Developer's pain points and bias, and the New Screens, to give the team leader tools to bring to the Siemens directive; we got the permission to start working with the division between Win CC OA and DevOps plus any backend activities.



# SECOND PROJECT: TABLET/MOBILE APPROACH FOR ON FIELD WORKERS

The Project owner from Siemens started talking with other directors that needed help with their projects. One of those was a tablet solution to report everything directly on the field; the worker could see the train's map in real-time, alert, send or deny permissions, and look at the general status; no one on the market has that.

Here we traveled and worked together for a spring of one week to deliver an MVP for a global Siemens Expo, winning the interest that detonated the idea of starting merging a tablet size with all the capabilities of the first project.

You can see the prototype here:

- [Siemens Tablet App](#)

