

ArtSoft
— consult —

The Art of Software Development

**Communications solutions
and services provider**

Key Information



Industry:

Telecommunications



Project duration:

5 years



Team Size:

5 specialists



Technologies:

- Java, JavaScript, TypeScript, MySQL
- AWS Cloud, ActiveMq, Redis, Spring



Services:

- Business analysis
- Architecture and software design
- Software development
- Testing services

Highlights

- The software is a secure **communication tool** designed for **military and government use**.
- The core product requirements focus on **security, scalability, and performance**.
- Some challenges include implementing 2FA authentication, multi-step registration flow, and adapting desktop navigation for mobile.
- The ArtSoft team utilized Angular, Bootstrap, and a custom Angular Material framework, for the front-end **solution**.
- **Microservices architecture** was adopted to enhance application scalability and **minimize system downtimes**.

Product Overview

The software is a **highly secure** communication software intended to be used by the army or governmental institutions. The software has clients for mobile (iOS and Android) and desktop (Windows). The user management and product configuration are supported via a web application.

The company has two products:

Platform - is a mobile communication solution combining multiple services such as calls, instant messaging, and file messages, with sophisticated security mechanisms and advanced end-to-end encryption technologies.

Account - is a responsive management tool under the user's control that provides access to some administration tasks such as device, payment, and account details/management.

Requirements

The base product requirements are related to security, scalability, and performance. The team worked according to the **agile Scrum** methodology, and feature requirements were received from the product manager.

The client requested an **administration portal** where a platform user needs to register, authenticate, and be able to manage accounts, subscriptions, and connected devices. It had to be responsive and needed to use the **latest technologies** in the matter of front-end solutions.

Challenges

Among the challenges there is the 2FA authentication, multi-step registration flow, one side-menu, and one navigation bar on the desktop transformed into one mobile menu on all mobile resolutions, adapting the material design and classic bootstrap elements to accommodate the design specifications, and last but not least table restructuring from desktop to mobile design.

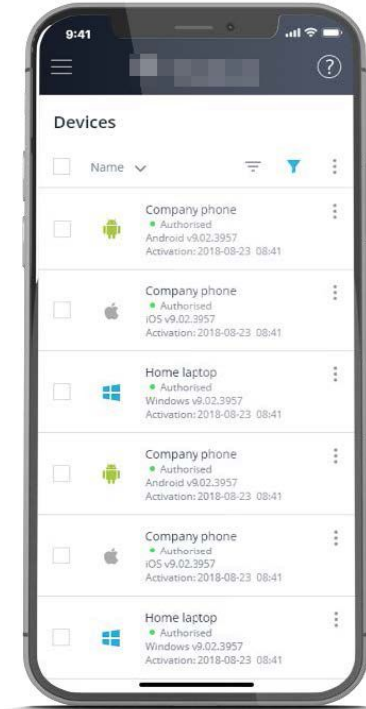
Provided Solutions

As part of the solution for the front-end application, the ArtSoft Consult team used the most recent versions of Angular and Bootstrap along with a custom angular-material framework. The team also used a NodeJS HTTP server and microservices connected to the back-end APIs.

CSS3 was used to **restructure** elements where they could **not be accommodated with classical methods**. To ease the development process the team used custom components for inputs, selects, and tables, this way simplifying the addition of new elements later in the evolution of this application.

The microservices architecture was used to provide **scalability** of the application and reduce **system downtimes**. The asynchronous communications between services were implemented using Vertx (a lightweight, non-blocking event processing toolkit).

Microservices development and operation tend to be more complex than Monolith development because of their distributed nature, so we used Ansible to automate the deployment of the microservices.



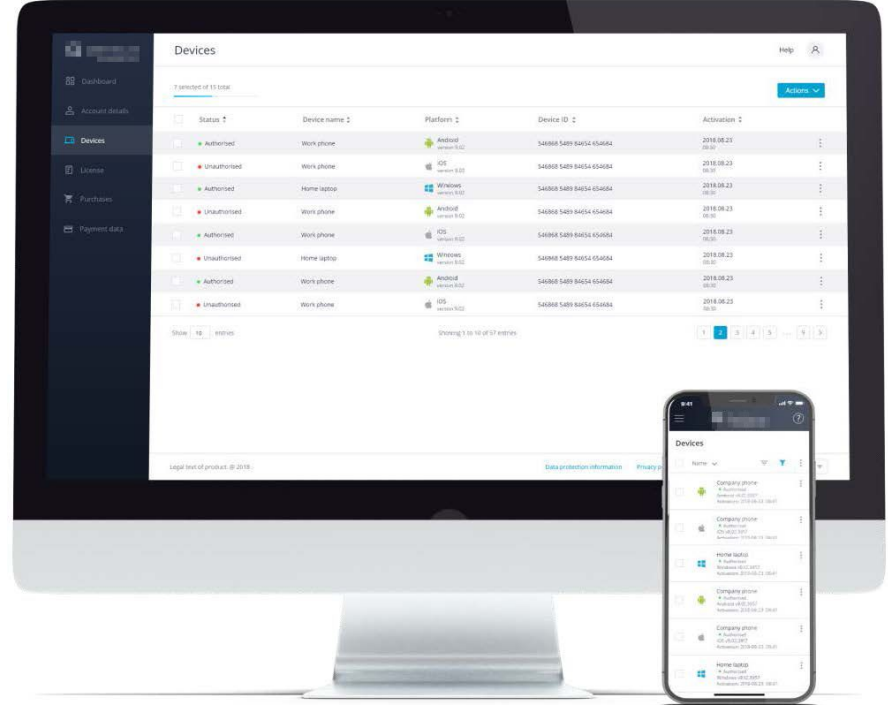
“ Client Words

“We have been using the service from ArtSoft Consult since December 2015 and we are very satisfied with our choice. Over time, the team provided us has shown to be extremely competent, responsive, and fast learners, and it did integrate seamlessly into our current development setup, both at professional and personal levels.

The communication from ArtSoft is perfect on all levels such as notification of people leaving the team and new jobs, communication between our teams here in Zürich and their teams in Cluj as well as the full reporting of their management about contract changes, timesheets, and others.

The IT department from ArtSoft was also fast and has shown great experience in deploying a new network and VPN connection. We can only recommend ArtSoft Consult for task-sourcing and outsourcing activities.”

- Director of Development



Let's get in touch

ArtSoft Consult is a trusted partner in the IT industry, providing tailored solutions to address your unique business challenges.

With our proven expertise our team delivers innovative solutions and development services.

Drawing from years of experience and industry insights, we deeply understand this industry and we look forward to working with your business.

For more details on our services and team, please [contact us](#).



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