

workflow-to-go® Case Study

“Working with PGS Software has accelerated our development and provided us with excellent competencies not mastered by ourselves.”

Søren Bæk, CEO, new´ish

Client's Profile

The workflow-to-go® platform gives businesses an easy way to improve their work environment, save resources and help employees avoid mistakes during a busy workday. The idea is simple but highly effective: just leave QR codes on appliances or devices your workers use. Then, a quick scan with a mobile device will allow them to receive all necessary instructions, checklists and procedures. For example, just one snap lets nurses of the University Hospitals in Denmark download a video guide for their oxygen machine.

1. CHALLENGE

The main challenge was to create a back-end solution and mobile applications for an innovative workplace assistant platform.

- ▲ The mobile application had to seamlessly process QR codes on different types of surfaces.
- ▲ It had to provide instant access to many types of media, including video guides.
- ▲ The existing back-end had to be expanded with a new module that included its own REST based API. Several new functionalities were planned for implementation, including a custom authentication system.
- ▲ High level of quality and reliability was a must, due to existing users in large medical institutions, including the University Hospitals in Denmark.
- ▲ We had to provide compatibility with a wide range of devices and mobile operating systems.
- ▲ The Windows Phone version of workflow-to-go® was our first ever WP app, therefore it had to be made without well-established tools or knowledge base.
- ▲ The team had to maintain the same workflow and user experience for iOS and Windows Phone applications, despite large differences in philosophies and standard OS components of both platforms.

2. PROCESS

Technologies – mobile apps

Android, Windows Phone 7, Metro UI, Barcode Scanning, Z-bar, REST web service, JSON, Action Bar Sherlock

Technologies – back end

Ruby on Rails, Backbone.JS, Bootstrap, MySQL

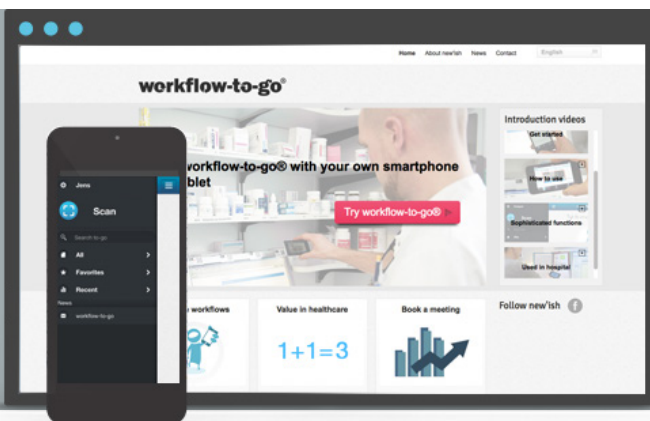
Resources

1 mobile developer, 1 back-end developer

Duration

400 hours for Android app, 300 hours for WP7 app, 4 months of back-end development

- ▲ **Design:** New'ish contacted PGS Software when the core application was already finished and successfully implemented in many organizations. The positive user feedback convinced new'ish that this platform was worthy of further development and expansion. They picked PGS Software as a partner that could provide it.
- ▲ **Back end development:** a single developer in direct cooperation with the client performed multiple back-end development tasks over the course of four months. At first his work was focused on building a multi-functional API that could be used to log the activity of users. Then, he added a GUI component that allowed for the display and smart filtering of all activity logs. Key challenges during the back-end work included a special custom remote authentication mechanism, that could check whether the user is allowed to download each specific piece of content and then would initiate download via a web server. This allowed to maintain a tight control over content and permissions, without putting large workload on the application server.
- ▲ **Development of the Windows Phone app:** its layout and functionality were based on the existing iOS software, but with some modifications. One of our suggestions was to make the app more in line with a new Modern interface from Microsoft. This turned out to be the first PGS Software app 100% prepared for the upcoming version of Microsoft's mobile OS, and it was developed in time despite scarcity of information and technical documentation.
- ▲ **Development of the Android app:** Shortly after the Windows Phone app went live, new'ish contacted us again and asked to create an entirely new version of the Android application. It had to provide compatibility with new API and newly updated back-end. Although the design was based on the iOS app, there were some important differences and challenges. For example, the integration of Facebook-like app view with an active QR-code scanner required some uncanny coding.



- ▲ **Testing:** during his work, the back-end developer performed a range of unit and functional tests. However most of the testing, including mobile apps, was performed by the client himself. It's worth to note that the code met all quality expectations and that mobile apps were admitted into both Google Play and the Windows Market without any issues.

3. RESULT

User benefits:

Easier introduction to a new workplace

Less time spent looking for manuals and information

Less mistakes and errors during the daily work

Better knowledge retention

Fast access to video and audio descriptions

Works with a wide range of mobile devices

Memorable moment:

strange issues that appeared when we have tried to display a complicated, Facebook-like interface over an active QR code scan. Turns out this was something not yet attempted in any other QR scanning applications.

Business benefits:

Reduced cost of employee training

Reduced number of potentially damaging human errors

Easy and cheap to implement, sustain and adjust

A great way to manage procedures and workflows

Helps to ensure employees are getting up-to-date information

Summary

Our cooperation with workflow-to-go® proves that just one PGS Software back-end developer and one mobile developer are able to bring client a lot of value. Working in direct cooperation with new'ish staff, they were able to both upgrade an interesting and innovative IT solution, and create mobile apps with unique functionalities that integrate on a low level with mobile OS components. What's striking is that the development for a mobile OS that was not well known back then actually ended up being shorter than for the other, established environment.



- ▲ **About the product:** workflow-to-go® is an innovative workplace learning solution, that lets employees execute, learn and rehearse procedures, processes and workflows related to certain object by simply scanning a QR code located on them. This breakthrough solutions creates much friendlier, more inviting workplace.
- ▲ **About PGS Software:** We are a 200-people public Polish IT outsourcing company specialized in software development. Our job is to convert your ideas into real-life custom business solutions unavailable with the off-the-shelf boxed products.