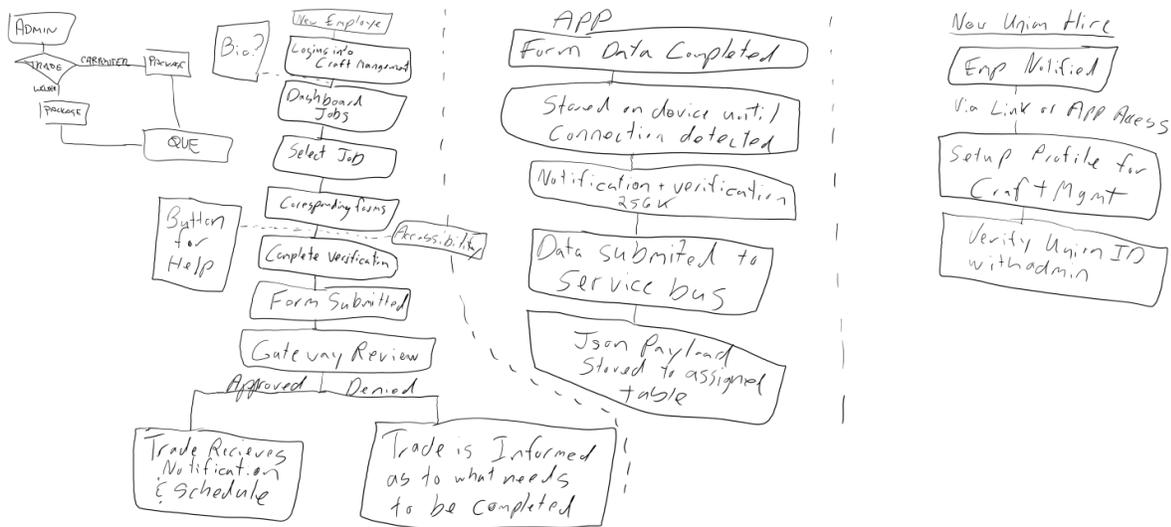




## Goodbye paper: PCL Construction builds its first-ever digital on-boarding process

### **How new technology and tailored training are driving digital transformation**

Recently, the development team within PCL Construction embarked on a brave new initiative: to bring their antiquated on-boarding process into the new digital age. For decades, the system used by this Canadian construction leader to recruit and onboard new trades people had been virtually unchanged – a time-consuming, triplicate-form process, prone to error and high costs. In 2016, they approached Microsoft to help them make the transition from paper to clicks. With the inspired use of a paired programming development methods and advanced MS training on Xamarin, MS Azure and forms application 'best practices', an agile new solution is emerging, capable of expediting trades on-boarding like never before. What's more, a team of newly-trained PCL developers are continuing to improve digital on-boarding efficiencies through 2017.



### The challenge: a costly, paper-based on-boarding process:

For decades, PCL Construction's on-boarding process for new tradespeople has been completed manually on triple impact paper. This antiquated process meant an onslaught of inefficiencies, errors and increasingly high costs in both form printing and data input hours. Applicants were still required to complete up to 60 pages of information on paper, regardless of previous employment. Once the form was completed, the document was submitted to a team of PCL Human Resource employees who were tasked with the time-consuming chore of entering the information into the Craft Stream application manually. For a ground-breaking construction company, this outdated on-boarding process was in need of more than a renovation; a major rebuild was top priority.

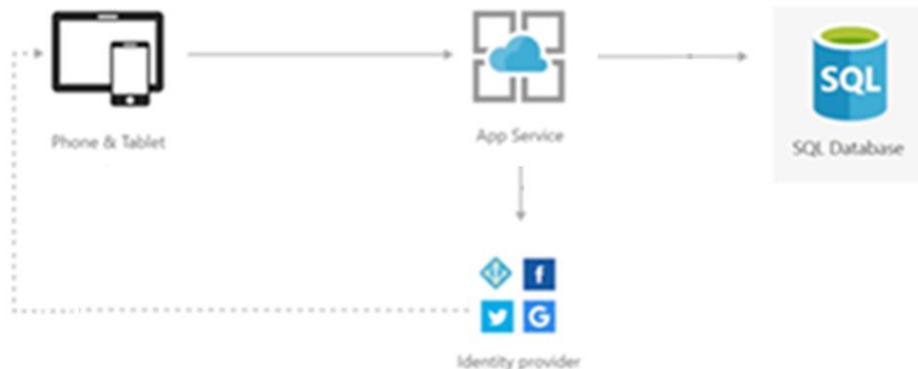
### The solution: an agile and secure digital form application:

Although the PCL team was initially poised to build a native iOS app, the Xamarin solution won them over. In addition to the functionality, agility and security it offered, there was an opportunity for the developers to upgrade their skills, specifically on cross-platform Xamarin.Forms application development. As well, cross-platform development would allow them to capitalize on an earlier purchase –Surface Pro 2 hardware – that could be utilized at some job sites to on-board tradespeople.

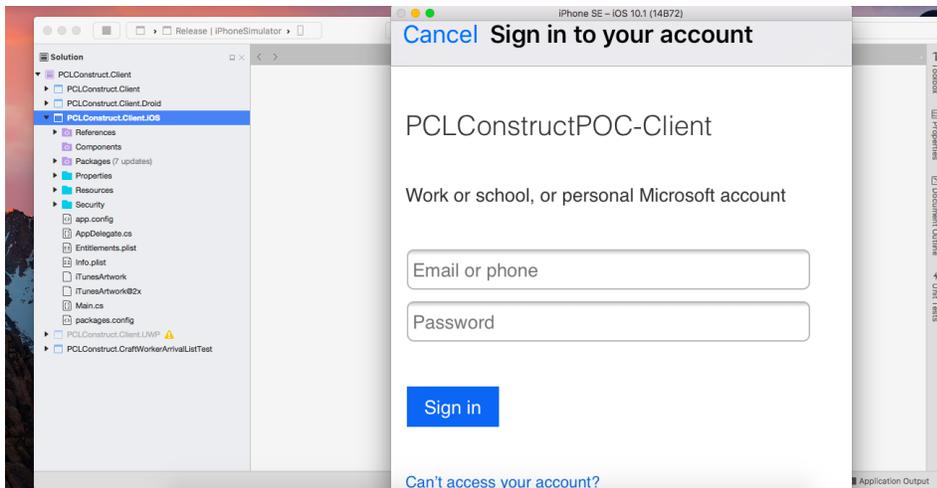


Development work began on a proof-of-concept Xamarin application that would automate the capture of new employee data. PCL Construction's goals for this solution were the following:

- Create simplified, digital new hire forms
- Make the digital forms accessible to new hires via an IOS app on iPad devices
- Connect the forms with the already existing Craft Services database
- Use the existing authentication database for user management
- Provide secure data storage and communication practices



The solution that emerged was **The Craft Services Stream Application Database**. This proprietary, internally-developed solution now allows the company to post and track jobs across the entire organization. The on-boarding of thousands of tradesmen – a competitive advantage for PCL for decades – is poised to transform to a whole new level of efficiency.



**The on-boarding of thousands of tradesmen – for decades, a competitive advantage for PCL – is poised to transform to a whole new level of efficiency.**

#### **Four lessons learned:**

**1. Speed and efficiency through pair programming development method:**

. The two teams focusing on the Xamarin client employed the pair programming method, which measurably accelerated the learning and the development process.

**2. Agility through Azure Mobile Services:**

The selection of Azure Mobile Services – easily supported by Xamarin - meant superior time to implement and better ease of use for the developers to address future updates.

**3. Tailored Skype training allows team to learn, meet goals**

This was the first-time use of XAML for the PCL team – and the complexity of Data Binding was a potential challenge. Microsoft MVP Mark Arteaga's special skype workshop gave the team a "real world" Xamarin development perspective (Authentication tools, data storage, encryption utilization) and training tailored to their immediate needs and development goals.

**4. Solid application security through Azure Mobile App Services**

The team used Azure Mobile App Services to ensure that the application would be locked once the form had been submitted. The straightforward implementation ensured security practices would be upheld while also leveraging the existing Azure AD and Multi-factor Authentication investment.

## **The future? Full steam ahead on digitized forms:**

With initial mastery of the Xamarin.Forms application, the sky's the limit. Under the continuing guidance of Microsoft's Mark Arteaga, now an approved vendor for PCL Construction, the team is moving forward on developing more dynamic forms to better serve their new digital on-boarding process.

*"With the Microsoft suite of solutions and focused application training, our team is making huge strides, not just in digitizing our on-boarding process, but in driving a culture of development excellence throughout the organization."*

Blaine Stearns, (Head Solutions Architect ,PCL)

## **Related links**

- GitHub repos - <https://github.com/WirelessLife/PCLConstruct>