

# REVOLUTIONIZING TOUCH INTERFACES FOR WINDOWS DESKTOP

*CollectivePoint creates an advanced touch-centric photo app for custom ruggedized Windows tablets*

## Opportunity

The client manufactures and sells rugged Windows-based tablet computers for a range of industries, including healthcare, insurance, law enforcement, construction, and more. They offer several models that run both Windows 7 and Windows 8.

They originally purchased a third-party application for the built-in cameras. However, licensing fees were prohibitive and the app lacked many features that end users needed, such as the ability to zoom and crop images on the fly. In addition, app's user experience was poor.

The client engaged CollectivePoint to develop a custom solution that would:

- work well on both Windows 7 and Windows 8 systems
- offer improved user experience
- provide a richer feature set
- allow for ongoing development and maintenance

## Solution Focus

CollectivePoint developed an architecture based on .NET 4.5 and Windows Presentation Foundation (WPF). The application relies on DirectShow to manage image manipulation.

The new application incorporates custom iconography and a new, vastly improved user experience. Users are able to take photos, scale, crop, annotate, and share them – all from within the application. An enhanced gallery allows them to easily view, sort, and manage large numbers of images.

---

In order to create an application that is extensible to other platforms, CollectivePoint chose an MVVM architecture. This allows our common layer to be shared among multiple front-end platforms. The current application is supported on Windows 7 and 8 desktops, but the architecture allows for the addition of a Windows 8 App Store view while reusing 80 percent of the code.

This technique will also accommodate the development of an Android front end if needed.

---

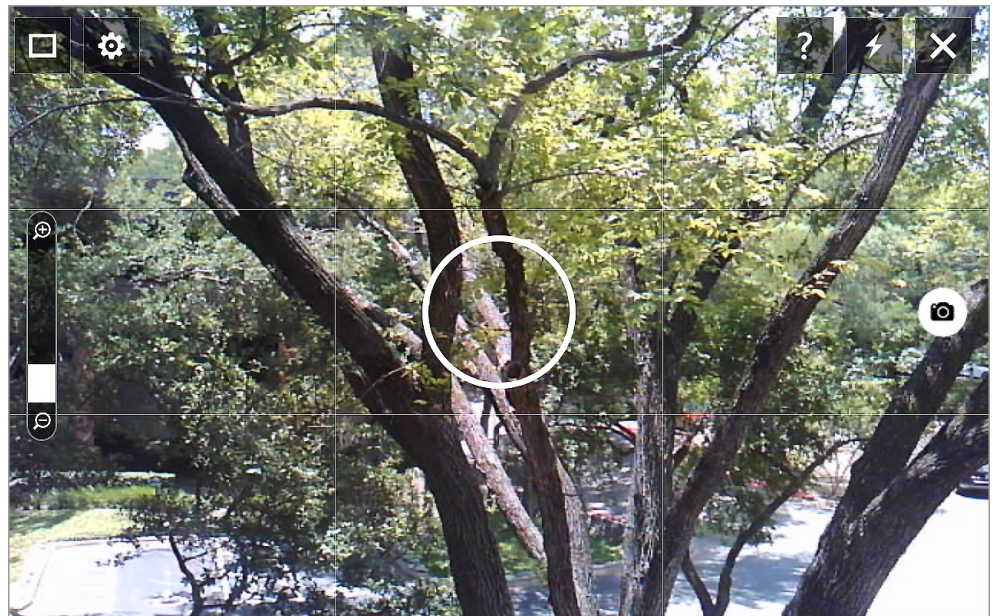
The application runs on all of the client's devices, which have varying screen sizes, resolutions, and aspect ratios. CollectivePoint solved this by evaluating the minimum available resolution and basing the application on a relative model that scales to the appropriate size based on the device. The technique is similar to that used for responsive web site design.

All devices include an array of sensors, including accelerometers, magnetometer, and GPS. The application must utilize input from all of them, including location awareness, device orientation, and more.

## Solution Technologies

- WPF
- XAML
- MVVM
- DirectShow
- .NET 4.5
- Visual Studio 2012

The application was also designed and built to accommodate a variety of input methods, including standard touch, stylus, and gestures. In addition, the application can easily be modified to accommodate inclusion in the Windows 8 app store, or even as an Android app.



The app features a robust, easy-to-use interface.

## Team Composition

Team Size: Small

- Project Manager
- User Experience
- 1 Developer
- Quality Assurance

## Team Flexibility is Key

Because of the range of devices and application complexity, the project offered several management challenges, including how to efficiently develop for and test each one.

CollectivePoint's Agile project structure kept the team focused and allowed them to quickly adapt to project changes. The developer and QA analyst were co-located, allowing nearly instantaneous feedback between the two. This short feedback loop saw many defects fixed the same day that they were found and greatly reduced the number of issues reported by the client.

## Results

The application is currently being deployed and has been well received. The new application has a much-improved user experience, especially on Windows 8 devices. The application that it replaced was a desktop-style app that didn't accommodate the updated interface and touch features in Windows 8. The addition of annotation and image manipulation capabilities has been a hit with users.

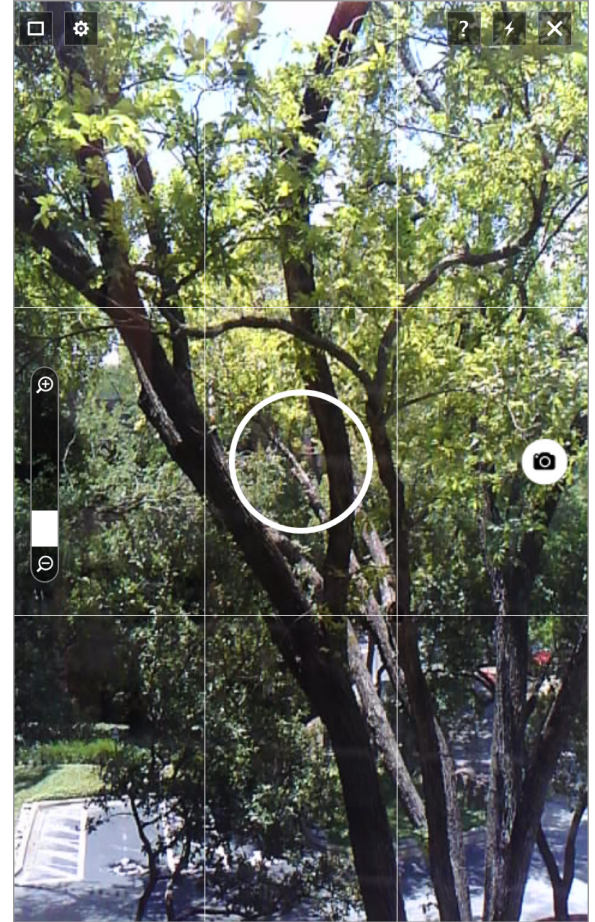
## Next Steps

CollectivePoint is already working with the client to determine the scope and specific needs for the next version of the app. Development will begin on the next release soon, with targeted completion in Fall 2013.

Are you looking for a similar solution? CollectivePoint can help you determine your needs and then create a user experience that will place your product head-and-shoulders above the competition.

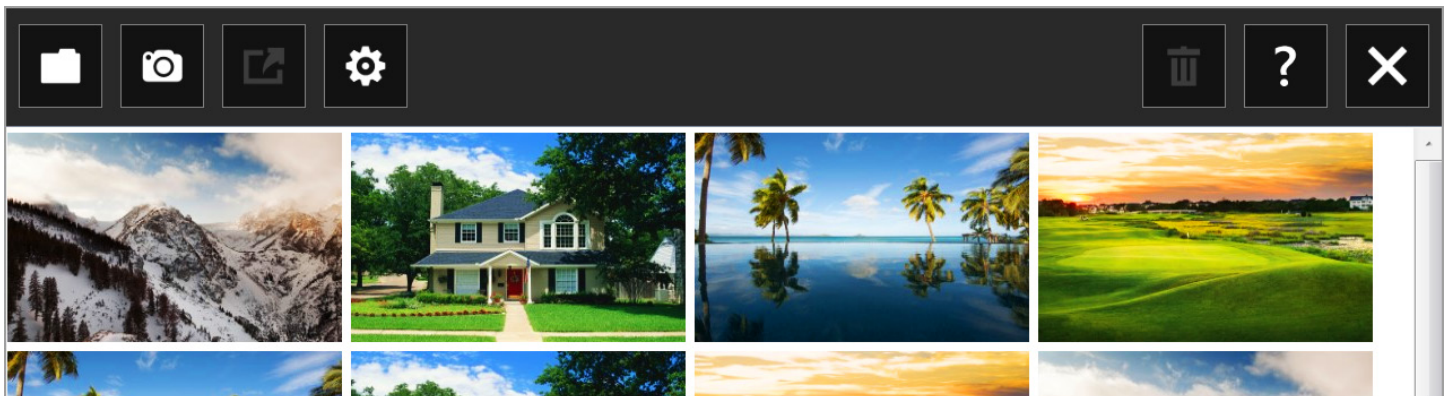
Our Agile lifecycle, expert developers, and eagle-eyed QA analysts will ensure that your customers receive a product whose quality and usability are second to none, while delivering maximum value for you.

Call us today to see how we can help you.



The app adjusts its orientation based on input from the accelerometer.

The gallery allows users to view, share, and edit images.



CollectivePoint LLC · 512.537.3700 · [info@collectivepoint.com](mailto:info@collectivepoint.com)