

## Bringing the arts online

The Pittsburgh Cultural Trust (PCT) operates a consortium of seven of the city's major arts organizations, allowing them to leverage costs and maximize exposure. The foundation community within Pittsburgh has been extremely supportive financially of these collaborative efforts. A shared website, [www.culturaldistrict.org](http://www.culturaldistrict.org), advertises events, provides information, solicits donations and sells tickets for all member organizations. It was intended to provide a single site that Pittsburgh-area arts patrons could rely on for up-to-date information, event ticket sales and services across all seven member groups. Software from Tessitura Network powers the shared site. Tessitura Software® supports ticketing, donations and other critical functions for many of the major cultural arts organizations in the U.S., Canada, U.K. and Australia. Pittsburgh Cultural District member organizations each maintain their own branded websites, but are directed to the shared site for event ticket sales.



As a non-profit organization, cost control is crucial and the consortium has to balance support costs while at the same time keeping the joint site up to date. The original implementation of the website lacked a content management system (CMS), making it difficult to test and release the frequent event notices and promotions. In addition, a second shared site existed – [www.pgharts.org](http://www.pgharts.org) - where ticket sales and other event information was also publicized. This sometimes caused confusion for patrons when directed to the [www.culturaldistrict.org](http://www.culturaldistrict.org) site for ticket purchase, or when event information was not up to date. As a shared ticket-sales resource, limited features and payment options forced online sales to be lower than phone and box office sales. This was a situation member organizations wanted to turn around for cost reasons.

## Highlights

- PCT realized value from the project in just five months with record online ticket sales for a new requirement that arose after the project was well underway. The planned first release became the second release, which was delayed only a few weeks.
- Significant new usability features have spurred online ticket sales. They are on pace to meet the long term goal of exceeding telephone and box office sales, a key PCT cost savings and customer experience improvement.
- Experience design consultation saved half the cost of the critical Select Your Own Seat feature by recommending an option that was just as effective but technically simpler to implement.
- With the new infrastructure and the Radiant CMS, the PCT support team is now able to keep up with member requests for new content release to the site.
- The mixed onshore/offshore project model allowed PCT to learn the Agile methodology and optimize its own processes for the future while keeping the project within its budget.

## Technology

Language Platform: Ruby, JavaScript  
Web Framework: Ruby-on-Rails  
Persistence: Active Record  
Database: MySQL  
Unit Testing Framework: RSpec, ScrewUnit  
Web Testing Framework: Cucumber with Selenium  
Web/App Server: Apache with Passenger Module  
Version Control: Git  
Continuous Integration: Go™ (Cruise- Enterprise Edition)

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### Improving the customer experience

The Cultural District Consortium discussed requirements with the individual organizations and functional users. A key issue for all was the desire to increase the level of online ticket sales and ultimately make this the leading sales channel. To do this, additional functionality including online seat selection and subscriptions – key reasons patrons still were forced to phone or go to the box office – would have to be created. This was in addition to the need to increase organization branding and speed updates of new events and information to the shared site so that the new site could ultimately serve customers as the primary gateway to the arts in Pittsburgh.

A request for proposal (RFP) was issued for redesign of the online ticketing, content management services, site maintenance and hosting for the joint website [www.culturaldistrict.org](http://www.culturaldistrict.org). ThoughtWorks worked closely with PCT management to fully understand the business requirements, priorities, and constraints for the project. Going a step further, we had a team build and demonstrate a working prototype of Select Your Own Seat (SYOS) capability. This gave PCT confidence that the ThoughtWorks team could work effectively with the Tessitura API and deliver innovation at the same time.

Our proposed rapid delivery timelines and our reputation for on-time projects met their need to have the SYOS and season subscription capabilities online even earlier than originally expected. In addition, the proposed use of an offshore development team to keep costs low and the use of open source tools, such as the Radiant CMS, meant PCT could keep the project within the bounds of a grant to get the work done. PCT was also quite interested in ThoughtWorks' use of Agile for the benefits of iterative, incremental development, which provides early and periodic delivery of business value instead of the traditional 'big-bang' approach in which business value is realized only towards the end of the project.



### Getting a running start

We ran a three-week inception, an Agile process where we gathered requirements in the form of business scenarios (called "stories"). We then estimated, prioritized and planned those requirements into releases. Once the roadmap was created and agreed upon, development on the first PCT release - a basic site to replace the old [www.culturaldistrict.org](http://www.culturaldistrict.org) site - was scheduled for completion in June 2010, just six months following the project start. Subsequent releases would follow at rapid intervals through October.

Weekly builds with user review and feedback started right after the inception. Since this was the first time the PCT developers were working on an Agile project as well as with the Ruby on Rails framework and Radiant CMS, we ensured that a ThoughtWorks developer was able to pair with their development team to provide coaching on technology and development practices.

### It's the Customer Experience that matters

As a consumer-facing website, a compelling user experience and graphic design would be critical to attracting the target audiences of ticket buyers, subscribers and donors. Features had to be intuitive in order to encourage a higher level of self service, leading to a better user experience at lower cost.

An experience design work stream was incorporated into the project for the entire journey. Instead of a traditional approach in which branding, mock-ups, and wireframes were created in advance of development and then frozen, the iterative approach meant the user interface evolved in parallel with development. Users and designers had the benefit of reviewing a new, working website every week. Because each iteration was just a small chunk of development, the cost of changes at any stage was much less than working from original wireframes only to have to incur significant rework later in the project. Furthermore, the designers had the benefit of knowing what features or changes would be more or less costly, based on developer estimates informed by experience in building the actual site.

For the new [www.culturaldistrict.org](http://www.culturaldistrict.org), the results speak for themselves. This elegant yet easy-to-use platform was developed within the cost and schedule constraints of the project and early evidence points to increased online sales.

“ThoughtWorks has worked with us as a partner not just as a client. This has meant occasionally working extra hours to hit a deadline, and working flexibly within our budget constraints. We have seen a huge difference between ThoughtWorks and other consultants – and it is very much appreciated.”

Rona Nesbit, Executive Vice President

### New process means transparent progress

Every week at the end of the iteration, ThoughtWorks conducted a showcase with marketing managers from all organizations and key users, along with the steering committee, to review functionality under development, to monitor project risks, and to track performance against both schedule and budget. With weekly reviews of working software by everyone and updated budget and schedule estimates PCT was able to manage project challenges, as well as potential scope and spending increases. Decisions could be made to rebalance priorities or scope as needed, before any schedule impact was felt.

“With any other vendor we would still be reviewing and refining wireframes. The fact that we have delivered the Phantom micro-site and are about to go live with the new [culturaldistrict.org](http://culturaldistrict.org) is really impressive.”

Dan Hoffer, PCT Director of Technology

### You want what?! Team responds to business change

One of the benefits of the Agile methodology – the ability to respond to changes without losing ground on the project – came into play during development for the June release. PCT asked if it was possible for the team to shift focus to the development and deployment of a micro-site that would support the marketing campaign for “Phantom of the Opera,” their largest event of the year. The campaign needed a site to support those ticket sales by early May 2010.

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The team was able to meet this late-breaking requirement and deliver business value in less than five months of development. The originally-targeted first release was still subsequently deployed in July 2010, just a few weeks later than originally planned, even though the team had temporarily shifted course. The micro-site exceeded sales figure expectations on its first day.

## Agile and ThoughtWorks mean fast time-to-value

PCT began realizing business benefits in just five months from inception, and then at least every eight weeks thereafter with incremental releases. New features, such as Select Your Own Seat, seat maps and group sales, were added over time. The regular releases allowed for high priority feedback to be delivered dependably – an ‘Aha!’ moment for the business users - again showing the value of the new Agile process. The fourth release for the project in the first week of November delivered ticket subscription functionality along with the ability to exchange and donate event tickets online.

PCT and the seven Consortium member arts organizations now have a new joint marketing and ticket sales website, which is generating more online sales than both phone and box office sales. New functionality along with the new CMS, allows organizations to add and maintain events seamlessly and build their separate branded paths while one shopping cart ensures seamless online transactions. Adding new branded paths for a new member organization can be easily accomplished. Content for events can be added along with images and other related multimedia via the Radiant CMS.

## A sustainable future

Looking forward, PCT developers are now experienced with the Agile process and changes can be readily added as they are prioritized by the member organizations. Likewise, a development and testing infrastructure is now in place that supports the Agile process and those future changes.