The United States Patent & Trademark Office (USPTO)

The Client:

The United States Patent & Trademark Office (USPTO)

Highlighted Results:

- Moved beyond waterfall-based predictive requirements cycles
- Broke down siloed development and technology teams
- Improved various processes necessary to enable Agile continuous improvement

The Challenge

Long, Waterfall-based Predictive Requirements Cycles
As with most large organizations, the norm for initiating projects, features and releases was to estimate and plan far upstream in the project process. By the time execution and delivery occurred, so much time had passed that often requirements or underpinning technologies had grown stale or misaligned with the needs of their organization. There was often no accurate way to know what was needed until work was well underway and estimates could be refined.

Competition Between Technology Teams and Product Ownership
In many cases, duplicate teams were doing the same type of work, but for different offices and groups. This duplication caused institutional waste, as well as taxing the teams doing the work as competing priorities vied for their capability. There was no standard tools across the organization, so management didn't always know who was using what tool. This made it difficult to design efficient processes and build IT infrastructure blueprints that could be shared by different projects and teams.

Lack of Orchestration
Due to lack of orchestration across their technology infrastructure and IT service capabilities, as well as legacy systems, many of their systems had grown overly complicated. Most IT work revolved around individual projects, with no one entity in the agency having overall ownership of the enterprise architecture or the IT service portfolio. Furthermore, when a project was "done" there was no longer any funding available for the maintenance and support of artifacts created by that project. So over time, downstream infrastructure teams had grown heavily burdened with repairs and unplanned work around resolving problems.

Friction Between Development Teams and the Processes Necessary for Agile Continuous Improvement
At the USPTO, even after project work was scoped and initiated, it was very difficult for project teams to say no to a business customer or product owner. If the business put down a new requirement in the middle of a project, it had to get built. Exacerbating this challenge was the fact that the USPTO's large project portfolio involved thousands of software developers – almost all contractors. Contractors were rarely held accountable for key areas of work, which are typically very important to a mature Agile practice, creating a significant impediment to large-scale agility.
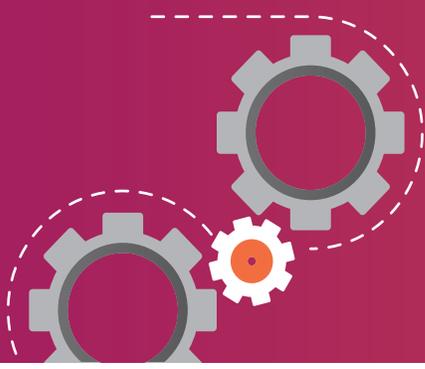
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The Solution

Coach and Train the Teams on Agile Practices

Over an eight-month period in 2016, ASPE targeted the main challenges addressed by the United States Patent and Trademark Office (USPTO) by proving coaching and training across a wide variety of technology and development teams. Coaching was conducted as a series of seven onsite engagements and working sessions, during which ASPE evaluated, collaborated and assisted with a number of issues and projects. Across this eight-month timeframe, ASPE's team worked with managers, branch chiefs, and teams, while simultaneously training their teams on Agile and DevOps practices.

Implement Better Tools for Managing Requirements

To help remedy the issue of waterfall-based predictive requirements cycles, ASPE's coaches worked with the USPTO's teams to implement processes which were more accommodating of emergent requirements and oriented less around assumption. ASPE trained engineers and branch chiefs on the implementation of Agile practices in application development projects, but also downstream of the application teams. Coaching services included guidance on the causes and ramifications of institutional work in progress (WIP) and tools for better managing it; including, Kanban techniques, a better understanding of queuing theory and functional batching, and coaching and training teams on lean process fundamentals. In many cases, ASPE revealed opportunities to either save money or spend in a more incremental way. ASPE's coaches also evaluated and helped facilitate value stream mapping exercises for branch chiefs, project and program managers, and project teams. Once facilitation began, the USPTO staff was able to develop better visibility and prioritization across their portfolio of projects. Managers and functional leads were taught how to conduct their own value stream mapping workshops in order to scale these visibility and prioritization practices deeper within the organization.

Decrease Waste and Increase Visibility into Systems through DevOps

ASPE instituted awareness of newer DevOps-associated processes and tools to promote the adoption of a more loosely coupled platform-based IT architecture. This drove awareness of practices which focused on specific service-level, outcomes rather than functionally batched efficiency within siloed IT departments. Once again, the main focus was on enabling the agency to map and visualize where system-wide inefficiencies were occurring, such as duplicate work from competing parties and tightly coupled technology dependencies that no longer mapped to the current business needs of the agency.

ASPE and USPTO worked together to change contracting language and contractor requirements to better align with Agile styles of development, delivery, and support. The coaching engagement also resulted in recommendation and guidance on using existing project scoping and funding protocols to institute process improvement projects. These projects were dedicated to discovering and implementing internal solutions which helped resolve many of the challenges the USPTO's technology teams faced.
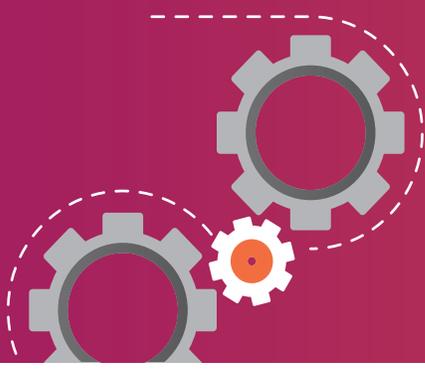
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The Results

By addressing each key challenge presented by the USPTO, ASPE was able to create customized solutions to help them become a more successful organization. USPTO outlined the following benefits from after receiving coaching, consulting and training services from ASPE:

- Moved beyond waterfall-based predictive requirements cycles
- Broke down siloed development and technology teams
- Decreased product ownership competition
- Increased orchestration and coordination of their technology portfolio
- Improved various processes necessary to enable Agile continuous improvement

About ASPE

Since 2001, American Society of Professional Education (ASPE) has trained all of the Fortune 100, thousands of professionals across the globe, and we understand the components of assessments, coaching, and training.

As the nation's leading IT professional development company, we specialize in building customized, enterprise solutions. Through our wide range of Subject Matter Experts, strategic partnerships, and our ACT model, your teams are given the tools and knowledge necessary to make your organization more efficient, more effective, and more successful.

For more information:
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