



myUSCIS:

PIONEERING THE FUTURE OF GOVERNMENT SERVICES

The U.S. Citizenship and Immigration Services (USCIS) has a monumental mission: to protect and promote the American dream. Each year the agency helps millions of people around the world by providing information, facilitating immigration to the U.S., and promoting understanding of citizenship. After years of relying on paper forms and phone calls, leading to huge backlogs and long customer wait times, USCIS called on a team of digital experts from inside and outside the government to modernize their customer experience. Excella worked side-by-side with the USCIS team to design and deploy a solution in record time. The outcome is [myUSCIS](#): a groundbreaking website changing the face of government IT forever.

USCIS: A New Vision for Immigration Services

US Citizenship and Immigration Services provides immigration information and services to over 14 million people worldwide. For years this process relied on a complicated system of forms and phone calls, leading to huge backlogs for USCIS staff and frustration for their customers. In 2014, taking a cue from digital experts, USCIS envisioned a new integrated online experience that simplified and streamlined the process for their customers.

USCIS called on a team of innovators including Excella, the National Technical Information Service, 18F, and the U.S. Digital Service to build an innovative solution with a suite of critical digital services for applicants and petitioners, including, digitized immigration forms and a self-service online portal for customers to get help, securely submit forms with accurate information, explore immigration benefits, and review case history and status.

The Challenge: Seamlessly Modernizing the Customer Experience

For USCIS, the technical challenge was twofold. The solution not only needed to transform the paper-based and human-run processes of applying for and processing immigration benefits, it also needed to move them online while not disrupting existing agency operations. USCIS could not wait years to deliver a solution, making the tools and techniques used to develop the site essential to its success. The agency adopted modern Agile, DevOps, and Continuous Delivery practices to provide value early and often. Excella led development teams to engineer myUSCIS in iterative, two-week sprints while involving customers and staff from across the agency.

Agile, Open-Source, and DevOps Provide a Path to Success

Excella worked side-by-side with agency leaders and their customers to design a solution that was accessible, informative, highly personal and built with the future in mind. To modernize the underlying system, an evolutionary architecture approach isolated legacy apps



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from the fast-changing consumer-facing application, ensuring customer service was never interrupted. Using Agile methodologies, the team worked iteratively and quickly delivered working software to immediately impact USCIS and their customers.

A modern technology stack enabled faster, smarter development. A wide range of open-source and cloud-based tools (Amazon Web Services, Ruby on Rails, Java, Chef) provided flexibility and future scalability, enabling USCIS to deploy change repeatedly and reliably, scale, and respond to market shifts easily. By automating tests, versioning infrastructure as code, and automating deployments on cloud resources (provisioned on the fly through Continuous Delivery pipelines) the team delivered consistent results quickly.

Results

Speed to Value

- Minimal viable product (MVP) delivered in 4 months, followed by continuous updates.
- DevOps engineers using AWS Cloud deploy to production multiple times a day.
- Agile engineering-enabled code commit to production now under 60 minutes.

Improved Employee Environment

- Automation tools and repositories significantly reduced product release documentation burden.
- Communication plan and training and engagement strategy educates customer service reps on new myUSCIS functionality releases.

Agile in Action

- Two small scrum teams (designers, developers, analysts, engineers, and scrum masters), scaled to 5 teams using LeSS (large scale scrum), adding an ethnographer and research and metrics team to meet changing project needs.
- Dedicated and empowered USCIS Product Owner became better at prioritization and making accurate and reliable delivery promises by learning Agile best practices.

A Human-Centered Solution Built to Serve

Through an understanding of customer needs and a dedication to leading-edge technology, Excella worked with USCIS and its partners to reimagine the immigration experience for the 21st century by giving users what they need, when they need it, on any device. Focusing heavily on user experience (UX) and human-centered design, Excella's cross-functional team of designers, analysts, developers, and Agilists created



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and built a suite of digital products and tools that meet the needs of USCIS' customers applying for or renewing their immigration benefits each year and reducing operational costs for the agency.

Excella performed ethnographic research to better understand USCIS customers, resulting in detailed personas and journey maps. Through field offices visits, the team validated prototypes with real users and held design studios with stakeholders, designers and developers to quickly drive the minimal viable product (MVP). Agile and change management expertise supported and aligned agency processes to the cloud and enabled multiple deployments per day getting features to users faster for testing.

Using advanced data and analytics techniques, the team analyzed users' application usage and later renamed labels and restructured on-page text based on usage pattern analysis. From data to UX to Agile and change management techniques, differing best practices combined to support a more intuitive, user-friendly experience.

Results

Enhanced Customer Interaction

- myUSCIS receives approximately 20 million page views a month – consistently in the most-visited government websites.
- Clearer website information helps the agency receive accurate information up front and reduces mis-payments from applicants applying for incorrect benefits.

Data-Powered Customer Service

Building on the success of myUSCIS, USCIS enlisted Excella to further enhance customer service by providing accurate personalized processing times for US citizenship applicants using the N400 form. The agency's unreliable processing time estimates often led to frustrated applicants who overwhelmed high-cost call centers to simply confirm their application status. To better predict case processing times, data scientists developed a mathematical algorithm to analyze historical field office data, while natural language

processing (NLP) enabled automated responses based on application status.

Using predictive analytics and statistical analysis tools (Python and R) the team created models that improved the accuracy of predicted processing times through multiple discoveries and prototyping rounds, generating solid model accuracy of the sample data. To acquire the full dataset, data integration developers coordinated with DevOps engineers to establish a continuous integration/continuous delivery (CI/CD) approach for large data ETLs from existing systems into a new cloud environment with nimble computing capacity for the advanced statistical models.

Results

Transparency

- Greater insight for applicants, by showing processing times and displaying each milestone in the citizenship process.

Efficiency

- Reduced call volume by 8-10% by delivering accurate processing times online.
- Significantly reduced burden on immigration services officers who respond to applicant concerns and questions.

Outcome: Modern Efficiency for 21st Century Government

The flagship U.S. citizenship application and suite of digital products and tools not only provides applicants and petitioners with a better user experience, it reduces

administrative costs for the U.S. government. USCIS customers continue to receive value from an upgraded customer experience and, as the results show, are welcoming the digital move:

- Online filings now exceed paper filings – pushing USCIS closer to replacing paper forms with 100% digital submissions, in addition to reducing costs.
- USCIS now receives more than 5 million fewer pages of paper.
- 145,000 N400 forms received in 7 months.
- 308,000 I90 forms received in 9 months. ¹

Today, myUSCIS (my.uscis.gov), serves as an example of the simplified and streamlined customer interaction that has revolutionized government IT services.

¹ As of June 27, 2018.

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Email info@excella.com to learn more about this project.

About Us

Excella is an Agile technology firm helping Washington, DC's leading organizations realize their future through the power of technology. We work collaboratively to solve our clients' biggest challenges and evolve their thinking to help them prepare for tomorrow. Together we transform bold ideas into elegant technology solutions to create real progress.

Learn more at www.excella.com.

