Case Study

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 the 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 that has dramatically transformed the immigration experience for over 5 years and has changed the face of government IT forever.

USCIS: A New Vision for Immigration Services

USCIS provides immigration information and services to over 40 million people worldwide. For years, manual and time-consuming processes created a significant backlog for USCIS staff and frustrated 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, like Excella, the National Technical Information Service (NTIS), 18F, and the U.S. Digital Service, to build an innovative solution with a suite of critical digital services for immigrants, permanent residents, and citizenship applicants. This solution included digitized immigration forms accessible through a self-service online portal that allowed customers to get help, securely submit accurate forms, explore immigration benefits, and review case history and status.

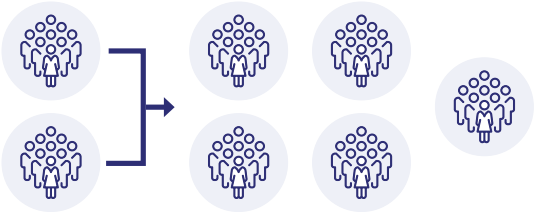
The Challenge:
Seamlessly Modernizing the Customer Experience

For USCIS, the technical challenge was twofold. The solution not only needed to transform the paper-based and manual processes of applying for and processing immigration benefits, it also needed to move them online without disrupting ongoing agency operations. USCIS could not wait years to deliver a solution. It was important to deliver real value early to build momentum, and then sustain the pace of improvement through incremental modernization. Effective software tooling and modern delivery techniques were essential to the site's success. USCIS emphasized Agile, DevSecOps, and Continuous Delivery to provide value early and often.

The Solution:
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. We led development teams to create and deliver myUSCIS in iterative, two-week sprints while continually gathering feedback from customers and agency staff. When modernizing the underlying system, the teams used an evolutionary architecture to isolate legacy applications, allow rapid implementation of the new customer-facing application, and ensure customer service was never interrupted. Using Agile methodologies, the teams worked iteratively and incrementally. Working software was delivered every sprint to benefit USCIS staff and their customers as soon as possible and continuously thereafter.

A modern technology stack enabled faster and smarter development. A wide range of opensource and cloud-based tools (Amazon Web Services, Docker, Ruby on Rails, React) provided flexibility and ensured future scalability. By automating tests, versioning infrastructure as code, and automating deployments on cloud resources (provisioned on the fly through Continuous Delivery pipelines using Jenkins), the team delivered consistent results and did so at speed, with hundreds of software updates each sprint. myUSCIS was built using modern technologies and methods that allowed scalability, reliability, and rapid response to market shifts.



Two small scrum teams (designers, developers, analysts, engineers, and scrum masters), scaled to five teams using LeSS (large scale scrum), adding an ethnographer and a research and metrics team to meet changing project needs.

Dedicated and empowered USCIS Product Owners effectively prioritized work and made accurate and reliable delivery promises by adopting Agile best practices, such as well-ordered visible backlogs, regular refinement sessions, and data-driven forecasting techniques.

Results:
Speed to Value

Minimum viable product (MVP) delivered in 4 months, followed by continuous updates.

DevOps engineers used AWS Cloud to deploy to production multiple times a day.

Agile engineering-enabled code commit to production in under 60 minutes.

Improved Employee Environment

Automation tools and specialized code repositories significantly reduced product release documentation burden.

Communication plan, training, and engagement strategy educated customer service representatives on new myUSCIS functionality releases.

A Human-Centered Solution Built to Serve

With 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 teams built a suite of digital products and tools that reduced operational costs while meeting the needs of USCIS customers applying for or renewing their immigration benefits.

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 minimum viable product (MVP). Agile and change management expertise supported and aligned agency processes as they moved to the cloud and delivered features to users faster through dozens of deployments each day.

Using advanced data and analytics techniques, the team analyzed users' application usage and reconfigured screens—renaming labels, adjusting text, improving layouts, etc.—based on usage pattern analysis. Multiple areas of expertise—data, UX, Agile, and change management—combined to deliver a more intuitive, user-friendly experience.

Results:
Enhanced Customer Interaction

20M

Consistently in the most-visited government websites, myUSCIS receives **approximately 20 million page views a month and supports tens of thousands of concurrent users with an availability of over 99.9%.**

Clearer website information helps the agency receive accurate information up front, reducing the need to modify and resubmit applications. It also reduces mispayments from applicants applying for incorrect or ineligible 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 with requests to simply confirm their application status. To better predict case processing times, Excella's data scientists developed a mathematical algorithm to analyze historical data and make effective predictions for processing times.

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. To acquire the full dataset, data integration developers coordinated with DevOps engineers to establish a continuous integration/continuous delivery (CI/CD) approach to extract large data ETLs from existing systems into a new cloud environment with nimble computing capacity for the advanced statistical models, ensuring that the predictive capabilities kept up to date with USCIS' improving processes.

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.

Significant drop in combined inquiries to immigration services officers who are responsible for responding to applicant concerns and questions.

Repeatability

Similar methodologies are being applied to many of the high-volume immigration forms, each with their own customized processing time prediction models, milestones, and status reports to applicants to reduce call volumes and inquiries further.

Feature-focused Development and Support

The H-1B Visa Lottery is a unique event for USCIS that has its own business workflows. Every year prior to 2020, truckloads of paper H-1B forms were filed. They were offloaded, checked by hand, and entered manually into USCIS systems. When the process completed, selected awardees were notified. The manual process offered little transparency, was stressful for applicants and their employers, and was costly. USCIS took advantage of the opportunity created by myUSCIS to create a new approach.

USCIS Product Owners worked with each of the five myUSCIS scrum teams to prioritize the work for all the associated forms, data, and support processes to move the H1-B process online. Excella's team members load tested the system, identified performance issues, and made appropriate adjustments to support the massive scale required. During the submission window a cross-functional support team stood ready to bolster production monitoring and rapidly respond to any issues. These steps made the first ever online H-1B Visa lottery in April 2020 a resounding success.

Once the decision was made to offer the H-1B only as an online submission, mature Agile processes and strong trust between developers and product owners enabled all five development teams to pivot, turn away from longer-term work, and focus on confidently delivering the necessary functionality on time.

Results:

Improved User Experience

H-1B users had an overwhelmingly positive experience with the new, online process. **Their average satisfaction rating was 4.8 out of 5**. They had increased confidence in the approach and welcomed how much easier it was.

Improved Efficiency

By moving online, the H-1B Visa process significantly reduced paperwork, streamlined the process for employers, and eliminated mailing costs. Only those petitions selected by the random process required a full petition, saving significant time, both for sponsoring employers and USCIS.

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, but it also 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 pieces of paper. This directly ties to cost savings. There is less paper to store, move, file, and process. It is also beneficial to the environment.

In FY 2019, 1,214,300 applications were filed online, a 10.4% increase from FY 2018. Over 600,000 forms filed online in the first six months of 2020 alone.

13% increase in the number of users to the USCIS websites in FY 2019, over FY 2018.

Almost 275,000 H-1B beneficiary filings in April 2020, compared to just over 190,000 in 2019.

Today, myUSCIS, serves as an example of the simplified and streamlined customer interaction that has revolutionized government IT services. In 2016, it was awarded the **USCIS Director's Pioneer Award** for exemplifying ingenuity and innovation while reinventing the way that USCIS delivers services as well as the **ACT-IAC Igniting Innovation Award**. Excella is proud to be a partner in the U.S. government's effort to transform its approach to digital services for the benefit of people around the world.