



Application Modernisation at The National Archives

The customer

The National Archives (TNA) is the official archive for the UK government, England and Wales. It is the guardian of some of the most iconic national documents, dating back over 1000 years.

In particular, The National Archives' Web Archiving team (UKGWA) is responsible for capturing and preserving historically or culturally significant UK central government information published on the web from 1996 to the present-day including websites, tweets, images, and videos.

UKGWA uses a proprietary service built on legacy technology to harvest data which has reliability issues, inflexible data models, difficult integration points, fragmented workflows and a poorly designed, non-GDS compliant interface.

TNA tasked Mobilise with designing and building a cloud native, GDS aligned replacement service utilising new technologies, cloud platforms, and frameworks. This project involved exploring the existing user journeys and defining user needs, developing new data models, the iterative design and testing of a new user interface, and a myriad of backend office operations, whilst simultaneously replatforming the infrastructure and software.

The solution

Mobilise adopted an Agile methodology to maximise collaboration between UKGWA and the delivery team, that mitigated risk and accelerated delivery. Our Agile Delivery Managers began with planning activities, identifying high-level epics and refined them with UKGWA input. Roadmaps were then established to identify milestones in development before a discovery sprint began.

The discovery sprint was overseen by User Researchers, Developers, DevOps engineers and Architects to gather and refine the requirements for design, build, and migration of data to the new platform. Furthermore, requirements surrounding the user interface and current user experience were gathered in conjunction with GDS Service Standard and Technology Code of Practice through a contextual interview research approach

The discovery sprint allowed Mobilise to mitigate delivery risk by calling out early any potential issues with data transformation and integration with existing in-house systems. It also gave UKGWA stakeholders immediate input into the project and analysis of 'as-is processes' & pain points. This allowed for the creation of proposed future-state journey maps, which aimed to streamline inefficient processes, reduce manual work, and solve user problems.

Once discovery had finished and the project deliverables were refined with UKGWA, Agile Delivery Managers implemented a sprint-based approach to delivery - with the first phase of the project focused on delivering low-fidelity wireframe prototypes for UKGWA to test the proposed designs and provide feedback. A final design was then agreed upon, which allowed Mobilise to begin developing the backend system, data models, integrations, and high-fidelity prototypes for the frontend interface design, where the latter was iteratively tested with end users. Working collaboratively with UKGWA these workstreams ran simultaneously using sprint goals to ensure that milestones were achieved.

To ensure that data presented throughout the new service was reliable, Mobilise conducted extensive end-to-end testing of the service, including the validation of data, functional, non-functional, security and performance testing. Acceptance criteria was defined within each user story as part of the 'definition of done' to ensure that both testing and documentation was regularly updated, and quality assured by the UKGWA.

As the service matured, Mobilise developed the CI/CD pipelines to automatically build and deploy new features to multiple test environments across AWS. Utilising container technologies, Mobilise were able to rapidly provision AWS resources that leveraged AWS Well Architected principles, ensuring services were cost-effective, highly available and performant.

The Results

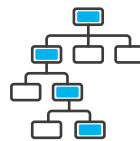
After deploying the new Service, TNA have realised the following benefits:



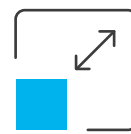
Vast reduction in manual 'toil' via UI automations, allowing more time for archivists to devote for value-adding work



A modern, user-centered UI design aligned with user needs, which aggregates multiple tools currently used by TNA into a single pane of glass view



Onboarding of new team members can now be accelerated with the reduction in technical debt, and simplicity introduced by the new service



The ability to scale based on demand using cloud technology coupled with open-source containerisation

By migrating the service from on-premise to AWS and replatforming the application into a microservice architecture, UKGWA are now able to leverage the cloud to dynamically scale to meet demand, future proof their infrastructure migration path, increase collaboration using container technologies and become cloud agnostic. Mobilise successfully completed development of the new service and transitioned support in house to UKGWA capabilities using our Knowledge Transfer Framework. Collaborating with UKGWA throughout delivery on technical operations ensured a smooth transition to enable TNA to become self-sufficient with their new service and underlying data.

Mobilise Team Capabilities

- Agile Delivery Manager
- Software Development
- DevOps Engineering
- Solutions Architecture
- User Research
- Data Analysis

Tools & Technologies

- Python, Django, Ajax, Javascript
- AWS (Athena, Glue, Redis, S3), PostgreSQL