



Trust. Value. Velocity

G-Cloud 15

Mobile Application Development Service

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1. About Mastek

Mastek has been delivering Critical National Infrastructure programmes in the UK Public Sector for over a decade now. We are trusted with multiple contracts for the UK Government across Central Government, Health, Local Government, Policing, Public Protection, and Defence. The majority of our national services are delivered in a context of high uncertainty and complexity while collaborating in multi-supplier environments.

While working for these large and complex public sector organisations, we have continuously refined our management, delivery and underlying processes to reflect key learnings from the sector:

Working through a complex stakeholder landscape: We understand the importance of establishing effective communication channels, building trust, and fostering a collaborative working environment that empowers stakeholders to contribute meaningfully to the project's success. Our approach is grounded in a thorough understanding of stakeholder needs and requirements. We leverage our experience and expertise to design governance structures that promote transparency and accountability, utilising data-driven reporting mechanisms to ensure stakeholders have real-time visibility into project status and progress. At the Home Office, GDS, Ministry of Defence and NHS, we have a proven track record of working seamlessly with large stakeholder groups, including civil servants.

Standards and compliances: We comply with over 20 policies and standards, including Government Digital Standards and the Government CDDO Service Toolkit, which covers service standards, service manuals, TCoP, API technical, and data standards. Our stringent governance, methods, playbooks, and processes (manual and automated) span across service delivery phases, ensuring continuous compliance.

Policy-driven: Policies and procedures primarily drive Public Sector organisations. We need to be Agile and flexible to meet demands for policy/regulatory changes, geopolitical events, and ministerial commitments.

Culture: We adhere to the Civil Service core values of integrity, honesty, objectivity, and impartiality. Key behaviours we promote stem from a combination of Civil Service and Mastek values. These include being passionate, accountable, sustaining predictable and repeatable outcomes, not transferring risk, transparent, leading to enable, acting with transparency, practising a no-blame culture, and being flexible.

Mastek's global presence



Australia

Austria

Bahrain

Belgium

Brunei

Canada

Denmark

Egypt

Estonia

Finland

France

Germany

Hungary

Iceland

India

Indonesia

Ireland

Italy

Japan

Jordan

Kenya

Kingdom of Saudi Arabia
(KSA)

Kuwait

Latvia

Luxembourg

Malaysia

Netherlands

New Zealand

Norway

Oman

Philippines

Poland

Romania

Singapore

Slovakia

Spain

Sri Lanka

Sweden

Switzerland

United Arab Emirates (UAE)

United Kingdom

USA

Did you know?

75%

Around three quarters of Local Authorities in the UK who run Oracle have worked with Mastek on their digital transformation journey.

300,000 Users

Supported managing up to 750,000 logins per month to MOD through Identity and Access Management

Crime reduction

We designed, built and manage the UK's Strategic National DNA Database that helps Forensics and Law Enforcement Authorities investigate & stop crime

90% faster

We enabled the National Health Service (NHS) to drive 90% faster response times with a billion pharmacy prescriptions a year.

Technical Service Desk

We provide level 2 and ITSM support for the One Login service at Government Digital Service

22k

Our systems enable 22,000 schools to function efficiently every day of the year.

Healthcare and manufacturing

We delivered Finance, HCM & Supply Chain transformations for clients across health and manufacturing globally powered by Oracle Cloud

Transformation of trade

Transforming UK's trade with the EU and rest of the World by supporting Customs Declarations Services and its trade users.

99.99% Availability

We support the Home Office Biometrics (HOB) Platform, Having migrated it to an AWS platform.

Our digital and cloud services portfolio

Powered by Glide 4.0 and value-based delivery

Industry-aligned approach with business outcomes

Digital engineering and experience	• Cloud engineering & migration • Legacy modernisation • Low code / no code App Dev • DevSecOps • Enterprise integration	• MACH • Digital commerce • UX & CX • Platform engineering • Gen AI software development.
Oracle Cloud and enterprise apps	• Oracle Cloud applications • Oracle consulting • Oracle Cloud infrastructure	• Value-based delivery • Glide 4.0.
Data, automation and AI	• Cloud data modernisation • Business Intelligence & Analytics	• Data management • Intelligent automation • Data Governance.
Salesforce	• Sales Cloud • Service Cloud • Marketing Cloud • Industry Cloud	• Experience Cloud • Mulesoft.
Innovation labs and platforms	• Enterprise workforce scheduler • Connected enterprise • icx-Pro – intelligent part assistant	• iLeaseFinPro.
Cloud enhancement managed services	• Oracle managed services • Digital managed services • Commerce managed services	• Salesforce managed services.

Home Office Biometrics (HOB)

Public sector platform modelled 24x7 with 99.99% availability

Problem

- Transition business-critical Platform services from incumbent supplier with minimal risk
- Migration from private cloud to AWS Cloud.

Solution

- Migrated the infrastructure from private cloud to AWS
- Embedding Kubernetes Containerisation
- Introduced Docker and fully-baked AMIs
- Supporting the platform's self-service functionality using Jenkins Jobs
- Applying security updates to the OS base images through pipelines
- Instituting automated patching and testing for infrastructure images
- Support of configuration, test, and releasable artefacts through the pipeline.

Outcome

- **Zero impact** on live service
- **80% automation** of SIT
- Environment Provision **2 days to 1 hour**
- **5x scalability** in handling student BRPs
- Cost saving the authority circa **£9.5m/year.**
- Won the '**Best Use of Cloud Services**' award
- **35%** Incident Volume Reduction.



Government Digital Service

Problem

GDS initiated the One Login programme to create a single front door for identity verification and authentication, which could be adopted and scaled across all government departments. This would improve the user experience by providing the public with a single identification and verification service for the government, reduce costs as each department no longer required its own identity service, and reduce identity fraud and identity-enabled crime.

GDS released a tender in June 2023 to provide a Technical Service Desk (TSD) managed service for the One Login service. This service would provide a single point of contact for level 1 and 2 service support as part of the wider support ecosystem. It would be provided in the UK and replace the incumbent's scaled-down non-ITIL-aligned break-fix service.

Solution

In September 2023, Mastek were successfully awarded the TSD contract to deliver TSD on behalf of GDS. GDS had an extremely aggressive programme driven by the onboarding of HMRC as a user, which was a major milestone planned for February 2024, migrating new and existing HMRC users to the One Login platform. The TSD service was expected to go live in November 2023. This was an extremely complex programme which, within this timescale, would deliver:

- The contact centre provider for level 0 directly facing the public
- The TSD supplier in place, directly facing all government departments
- The TSD supplier in place providing L1 and L2 engineering support and monitoring
- Continued delivery on the One Login backlog of features
- Continued migration of smaller government departments to the platform.
- Delivery of a new ITSM toolset to be configured for use by GDS and the One Login programme, integrating level 0 to level 3 support
- Working as one team, Mastek quickly integrated into the programme, appointing the leadership team early in the engagement. We collaborated with GDS from the outset, ensuring we tailored the service to their expectations rather than delivering what was written in the contract.

Our leadership team consisted of:

- Service Management Vice President
- Programme Director
- Chief Technology Officer
- Programme Management office lead.

Outcome

At its height, the programme team was circa 15 strong, covering programme/project delivery, PMO, architecture, fraud, security, support, omni-channel and quality assurance. The service team is currently in place, providing circa 21 resources now covering end-to-end service management, service delivery and L1 and 2 engineering roles.

As the One Login migrations continue, Mastek is supporting Government departments onboarding to the platform as they transition into the new service and provide One Login a secure Technical Service Desk managed service with:

- Omni-channel access for other government departments via telephony, email and web form
- Provision of L1 and L2 engineering support
- 24x7, 365 days a week cover
- 24x7x365 eyes on monitoring service
- Fraud detection and security, GDPR compliant
- End-to-end (L0-3) incident and problem management
- End-to-end 24x7 Major incident management (MIM)
- On-call/call-out engineering support, incident and MI management
- Adherence to stringent SLAs on incident response, call handling and fix times
- End-to-end monthly service reporting alongside TSD KPI and SLA reporting.
- A shift left culture and mindset, reducing the impact of service on product teams (L3)
- Support with service maturity in the programme, preparing GDS to run critical national infrastructure.



Internet-facing platform & applications for Army Digital Services

Developed mobile app & web app
with 24*7 high availability

Problem

- New Defence Gateway Portal
- Combine all internet-facing applications into one
- Easy to use
- Enable easier access to the MySeries portfolio of products.

Solution

Designed and developed the following easy-use Progressive Web Apps:

- Defence Gateway Landing Page
- My Leave App
- My Expenses App
- My Health App
- My Details App
- My Appraisal App
- My Admin App
- COVID-19 Reporting Tool
- Commanders' COVID-19 Tool.

Outcome

- Delivered 20+ successful projects
- Deployment Automation
- £7.5m in savings annually
- Zero Downtime
- Environment creation in hours.



Delivered a platform for the Department for Health and Social Care

Delivered capability supporting 200k+ tests in a day,
traced millions of COVID-19 infections

Problem

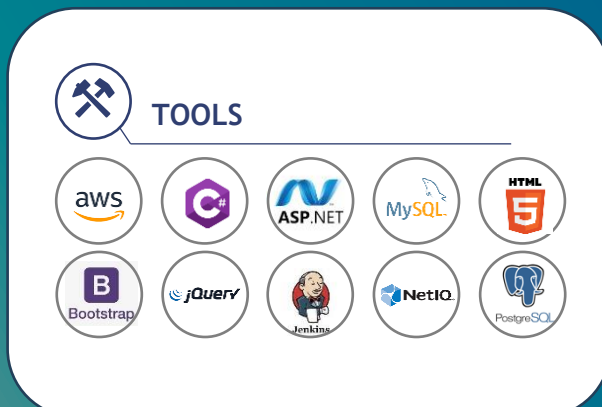
- Leveraging DevOps platform based on reusable GitHub, AWS, and Azure DevOps Pipelines
- Introduce more flexible, scalable, and reusable IaC capabilities
- Implement CI/CD pipelines.

Solution

- Uplifted from Cloud Formation into Terraform (IaC)
- Pre-built the AMIs using Packer, with automated security checks
- Immutable infrastructure, thus eliminating the risks of partial upgrades and patches
- Continual Cost Optimisation processes and other service functions, such as Change and Risk management
- Migrated into an organisation-wide collaboration toolset. This included Jira, Confluence, Trello, Miro, Teams, SharePoint, O365, Slack, etc.

Outcome

- 75% reduction in lead time due to pre-built AMIs
- Zero Downtime Deployments
- Delivered a Platform - Secured, multi-tenanted, hosted on Azure and AWS in 5 weeks
- Cost reduction achieved through close monitoring of resource utilisation.



Mastek and Technology in the Public Sector

Technical Capabilities	Relevant Technology Capability	Mastek Scale
Software Development Continuous Integration, Platform - Other Products, Cloud Collaboration Tools		Software Engineering 2354 FTE
QA and Test: API, Automated Functional and Compatibility, Accessibility & Performance		QA and Testing 774 FTE
Cloud Platforms Amazon Web Services AWS Microsoft Azure		Cloud Platforms 1046 FTE
Data BI/MI Components, Integration		BI and Visualisation 725 FTE
User-Centered Design		UCD 25 FTE
Office Automation Tools		Collaboration 4565 FTE

2. Summary

Our **Mobile Application Development Services** provide a seamless solution for building apps quickly, ensuring rapid deployment. We prioritise delivering intuitive experiences to users, enhancing engagement and usability. Our focus extends to enabling work from anywhere, fostering productivity and flexibility. With a commitment to scaling innovation, we deliver cutting-edge technologies to help you stay ahead of the curve.

We go beyond traditional mobile app development, utilising low-code application development tools and templates to expedite the process. Our platform enables businesses to rapidly build enterprise-grade apps, streamlining operations and enhancing efficiency. Whether iOS or Android, we specialise in crafting high-quality apps tailored to each platform's specifications.

Our approach emphasises hyper-personalised engagement, leveraging AI-powered assistants to effectively cater to individual user needs. With a blend of innovation and efficiency, our Mobile Application Development services ensure that your apps stand out in the crowded digital landscape, driving growth and success for your business.

3. Mastek's Service

3.1 Hybrid App Development

Hybrid App Development involves designing, coding, testing, and deploying mobile apps from scratch. Leveraging AI-driven tools, developers can automatically generate boilerplate code, receive intelligent optimisation suggestions, and detect bugs early in the process. This approach enables the creation of mobile apps that run seamlessly across multiple platforms using frameworks such as React Native, Flutter, Xamarin, or Ionic.

3.2 LCAP Mobile App Development

LCAP Mobile App Development: Our LCAP streamlines mobile app development by enabling developers to use simple drag-and-drop tools and templates. It speeds up the process with ready-made components and integrations, making it faster and simpler for professional and Citizen developers to create apps. LCAP mobile development also helps maintain a single source of codebase, leading to quicker launches and more innovation.

3.3 UI/UX Design

UI/UX Design: Designing intuitive and visually appealing user interfaces (UI) and user experiences (UX) for mobile applications to enhance user engagement and satisfaction. Powered by AI, our designs adapt in real-time to user behaviour, preferences, and accessibility needs, delivering a truly personalised journey. Intelligent design engines generate multiple creative variations instantly, accelerating innovation and reducing time to market. With AI-driven natural language and gesture recognition, we transform everyday interactions into seamless, human-like experiences that enhance engagement, satisfaction, and brand loyalty.

3.4 Mobile App Prototyping

Mobile App Prototyping: Creating interactive prototypes or wireframes of mobile applications to visualise the app's functionality, flow, and user interface before the development phase begins.

3.5 Mobile App Testing and Quality Assurance

Mobile App Testing and Quality Assurance: Conducting comprehensive testing procedures to ensure that mobile applications function correctly, are bug-free, and provide a seamless user experience across different devices and platforms.

3.6 Backend Development and Integration

Backend Development and Integration: Building and integrating backend systems, databases, APIs, and other server-side components required to support the functionality of mobile applications.

3.7 App Store Optimisation (ASO)

App Store Optimisation (ASO): Optimising mobile applications to improve their visibility and ranking in app stores (such as the Apple App Store and Google Play Store) through techniques like keyword optimisation, metadata optimisation, and user rating management.

3.8 Mobile App Maintenance and Support

Mobile App Maintenance and Support: Providing ongoing maintenance, updates, bug fixes, and technical support services to ensure that mobile applications remain functional, secure, and compatible with evolving platform requirements.

3.9 Mobile App Analytics and Performance Monitoring

Mobile App Analytics and Performance Monitoring: Implement advanced analytics tools and monitoring solutions to track user behaviour, application performance, and other critical metrics. These insights enable data-driven decision-making and continuous improvement of the mobile application. Additionally, leverage machine learning models to predict user behaviour, identify potential churn, and detect performance bottlenecks before they impact the user experience.

3.10 Security and Compliance

Security and Compliance: Providing security for a mobile app involves meeting standards and regulations to protect user data. Key steps include encryption, secure authentication, API protection, secure data storage, and adherence to relevant regulations such as GDPR or HIPAA. Regular security audits are crucial for ongoing protection.

4. Key Features

- Configuration for Super/Admin Users: Configuring super/admin users for a mobile app involves assigning elevated privileges and access rights to designated users for effective management and security.
- Design and development for scalability for peak user load: Designing and developing for scalability ensures a mobile app can handle peak user loads without performance degradation.
- Integration from multiple sources to provide data and make a seamless user experience.
- Provide interactive prototypes (Wireframes) defining the navigation and in-page behaviour
- Enabling graphic data: Enabling graphic data in a mobile app involves integrating multimedia elements such as images, audio, video, and GIFs to enhance user engagement and interaction with dynamic content.
- Enhancing and reworking an e-commerce app for Android and iOS involves refining user experience, optimising performance, and tailoring features for both B2B and B2C customers
- Enabling an Omnichannel experience for the end user in a mobile app means providing seamless interaction across various channels, such as web, mobile, and offline, ensuring consistent and integrated experiences regardless of the platform or device used.
- MFA for Security enhances security by requiring users to provide multiple verification forms, such as passwords, biometrics, or one-time codes, to access their accounts or sensitive information within a mobile app.
- Design Supports User Ranges involves creating interfaces, features, and experiences that cater to diverse demographics, abilities, and preferences, ensuring inclusivity and accessibility for all mobile app users on a large scale.
- Multilingual support enables the mobile app to accommodate users from various language backgrounds by offering interfaces, content, and communication in multiple languages, enhancing accessibility and user experience for a global audience.
- Gathering feedback and providing customer service for a mobile app involves implementing features like in-app feedback forms, rating prompts, and support channels like live chat or email to solicit user input, address issues, and enhance user satisfaction and engagement.
- Payment Gateway integrations with Apple Pay and Google Pay, or any third-party Payment integration.
- Enabling Multi-channel notifications for businesses to reach users through various platforms, including native app notifications, SMS, email, and push notifications.
- API-based integrations with E-commerce platforms or any end-systems to interact with mobile apps.
- End-to-end application testing for mobile apps involves comprehensive testing across all integration points to ensure seamless functionality and reliability
- Third-party integrations include Firebase, Analytics, and Social media accounts.
- Marketing consent collection and management in a mobile app involves obtaining user consent for marketing communications, promotions, and data usage and providing mechanisms for users to manage their preferences. This ensures compliance with regulations such as GDPR and CCPA while respecting user privacy and preferences.

- Mobile App Hosting involves deploying the application's backend services, databases, and other necessary components on cloud-based servers or infrastructure, ensuring reliable access and seamless performance for users accessing the app from their devices.
- A big data analysis engine for a mobile app enables efficient processing and analysis of large datasets, empowering businesses to derive valuable insights and make data-driven decisions on the go.
- Continuous Integrations/Builds on Android/iOS App Stores.

5. Business Benefits

Mobile applications can offer numerous business benefits, contributing to growth, efficiency, and customer satisfaction. Here are some key advantages:

- Mobile apps allow businesses to reach a wider audience, including users who prefer mobile devices over traditional desktops or those in regions with limited internet access.
- Cross-platform applications offer the benefit of generating Android and iOS applications from a single codebase, streamlining development and reducing time-to-market
- A well-designed and feature-rich app can differentiate your business from competitors, attracting new customers and retaining existing ones through superior digital experiences.
- Mobile apps can streamline internal processes like sales, inventory management, and customer support, leading to cost savings and increased productivity.
- Wireframes serve as blueprints, outlining the structure and functionality of each screen in a mobile app, while creatives breathe life into these wireframes with visual elements like colours, typography, and imagery.
- Flexible and scalable models in mobile app development offer broader coverage and cost reduction by adapting to evolving needs efficiently.
- Apps can significantly improve the overall customer experience by providing convenient access to products, services, and information, leading to increased satisfaction and retention.
- Apps enable real-time customer communication, allowing businesses to promptly address inquiries, resolve issues, and provide support, fostering positive relationships.
- Apps provide valuable insights into user behaviour, preferences, and trends through analytics, helping businesses make informed decisions and optimise their strategies.
- A presence on users' mobile devices keeps your brand top-of-mind, increasing visibility and reinforcing brand recognition, especially if users frequently interact with the app.
- Mobile apps provide a platform for targeted marketing campaigns, promotions, and offers, allowing businesses to adapt to market changes and customer preferences quickly.
- Apps with offline functionality ensure uninterrupted access to content or services, even in areas with poor internet connectivity, enhancing user satisfaction and retention.
- Mobile apps can serve as an additional revenue channel through in-app purchases, subscriptions, advertising, or facilitating sales of products or services.
- Apps enable direct and personalised customer communication through push notifications, in-app messaging, and tailored content, leading to higher engagement and brand loyalty.
- Flexible and Scalable models provide more coverage and reduce cost.
- Leverage Generative AI tooling for higher efficiency and productivity.
- A device lab facilitates testing on actual mobile and tablet devices, ensuring comprehensive evaluation of app performance across various platforms.

6. Technologies, Languages, Tools and Methods

#	Technologies	Languages	Methods
1	Hybrid-React Native(iOS/Android)	JS	Agile/Waterfall
2	Hybrid-Xamarin (iOS/Android)	C#	Agile/Waterfall
3	Native iOS	Swift/Swift UI	Agile/Waterfall
4	Native Android	Kotlin	Agile/Waterfall
5	Low Code Platform (OutSystems, Azure Power Platforms)	-	Agile/Waterfall
6	UI/UX	Figma, Adobe XD	-
7	Cloud Components - API Gateway Serverless Services, Databases (Relational/NoSQL), Containers	Azure, AWS	-
8	Logging & Monitoring	Kibana, MS Apps Centre, Google Analytics	-
9	Test Tools	In House Device Farm, Cloud Device Farm, Physical Device, Appium, Selenium, Postman, SoapUI, Jmeter, pCloudy, Browser Stack, SauceLabs	-
10	Generative AI	GitHub CoPilot, Amazon Q, Antigravity, Claude	-

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