

Role Profile

Role:	Ticketing and Retail Senior Software Engineer
Directorate:	Customer and Growth - Ticketing
Salary Band:	Band 9
Post reference:	TK32
Job Evaluation Ref & Date:	31/07/19
Role statement of purpose:	Senior Software Engineers contribute to the overall Software Development Lifecycle Process, and are responsible for helping to establish and apply Architectural & Software Engineering principals that ensure that products and services developed by TfGM are fit for purpose Senior Software Engineers of are able to translate user centred designs, end user requirements, user stories, service expectations and technical designs into end-to-end technology solutions that meet the needs of their users and underpin the delivery of business services.
Reports to:	Specialist Technical Architect

	Key Role Outputs (KROs) <i>these set out what must be achieved for the post holder to be successful in the role</i>	Key Actions <i>These set out how the KROs will be achieved – the activities required.</i>
1.	Delivery of high quality and cost-effective technology solutions that meet the operational goals of the business	- Leads and guides the work of less experienced Engineers, delivering software products which make up services for our citizens to consume - Contribute to the direction for product teams and the wider Ticketing Function. - Works with POs, UX Designers, Architects, BAs and other Engineers to turn concepts into production-ready and user-centred services - Transforms business requirements into production ready designs and code, agreeing designs with Technical Architects and other stakeholders - Establishes methods and tools needed to support delivery and/or continuation of software engineering activities - Ensures infrastructure needs are provisioned effectively and proportionately in support of solution delivery

2.	An effective and efficient development environment supportive of delivery team timelines and goals	• Manages the make-up of unit test suites to ensure their effectiveness over time • Ensures that automated unit and integration tests address required non-functional scenarios (Security, Integration, Operational Logging, etc) • Defines and ensures adherence to version control strategies in a cross-functional environment • Ensures reuse across our technology solutions through the effective use of patterns, libraries and configurations • Manages technical debt across our technology solutions, working with POs and Delivery Managers to ensure code remains viable for future use • Creates a positive and collaborative working environment
3.	Software designs and methods that are reflective of current industry best practice	• Designs and leads the strategies for building reusable libraries and services across our products • Develops medium-long term technical strategies for product lines and the Ticketing Function • Builds service front ends that are consistent in standards and quality, both internally and with GOV.UK • Produce comprehensive technical documentation for wider consumption across the Ticketing Function. • Ensures the outcomes of requirements gathering provide for the needs of the Ticketing Function.
4.	High levels of customer satisfaction with TfGM services	• Identify and support the resolution of infrastructure faults • Provide 3rd line support on products developed • Ensures production problems are identified, and fixes identified and scheduled with the appropriate delivery teams and their Product Owners • Analyses and reports on technical debt, ensuring strategic decisions are taken in conjunction with stakeholders
5.	Makes a positive contribution to Software Development standards and processes at TfGM	• Is committed to continuous improvement in ways of working • Contribute to ongoing discussions and sharing of best practice with wider groups within TfGM • Lead Engineering teams, providing technical leadership and guidance, coaching and mentoring less experienced Engineers • Provide support, and share your specialist knowledge and experience with other people • Support discussions at a senior departmental level • Play a role in recruiting into the Ticketing Function

		• Trial innovative ways for the Ticketing Function to improve on and enhance the way it works • Share work and ideas inside and outside the Ticketing Function for example by representing TfGM at external events.
Compulsory Outputs (COs) <i>these set out what must be achieved for the post holder to be successful in the role</i> Key Actions <i>These set out how the COs will be achieved – the activities required.</i>		
C1	Ensure you comply with all applicable organisational legislation and policy:	• TfGM Safety Management System (In particular, section SMS 201 Roles and Responsibilities) • PCI DSS standards, policies and procedures • Bus Operator contractual management • Dignity at Work policy; • Information assurance and security in line with Cabinet Office requirements; • Risk management • TfGM policies and procedures • Equality and diversity legislation • TfGM Vision & Values • Act in accordance with TfGM's behaviours and competencies • IS & Ticketing Operations policies and procedures • IS Security Policies and Procedures
C2	Any other reasonable duties as required	The post holder is representative of Ticketing and is expected to: • Conduct themselves in a professional manner and with due courtesy at all times. • Be flexible within the workplace and adapt to meet the requirements of service, specifically within this role, occasionally being required to work outside core hours (e.g. evenings, weekend and overnight). • Be on call as part of a rota to ensure the team provides 365/24/7 on call for major incidents cover.

Key Interdependencies

Key Contacts

- Partners and suppliers
- People within the Ticketing Department
- Delivery Managers, Project Managers, UX Designers and Business Analysts

	• Leads within Ticketing Department • Head of Ticketing • Product Owners and “Heads of” across the business
Direct reports	Software Engineers and Associate Software Engineers
Budgetary responsibility	None
Location	TfGM, 2 Piccadilly Place, Piccadilly, Manchester, M1 3BG

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Created					
By: Simon Mather Nov 2018	Mark Cunliffe Oct 2025				

ROLE: Ticketing and Retail Senior Software Engineer <i>(Knowledge, skills and experience required at selection stage)</i>	
E	Essential Experience:
E1	ENGINEERING BEST PRACTICE - Experience working with a technical architect to specify a products architecture and development approach - Experience leading and influencing the evolution of low-level architecture - Keeps up to date with current industry thinking and coaches engineers around them - Demonstrates strong application design capabilities - Experienced with PCIDSS, GDPR, OWASP and secure development practices - Has developed code for reuse and with demonstrable experience of explaining the benefits of reuse to stakeholders and product owners
E2	DATABASE IMPLEMENTATION - Significant experience with SQL and no-SQL databases: SQL Server, Postgres, MySQL, or MongoDB - Detailed understanding of low-level design, performance and tuning (Race conditions, locking, etc)
E4	APPLICATION INTEGRATION - Experience building public facing and internal REST interfaces - Experience designing and implementing security designs for APIs
E3	QUALITY AND AGILE DELIVERY - Defines approaches to understanding user stories and guides others in doing so - Experience of leading teams in a complex, multi-disciplinary environment, delivering products within specific timescales and working alongside multiple senior Stakeholders. - Co-ordinates build activities across systems and ensures good levels of testing. - Able to identify and implement opportunities to optimise the software development process - Proven experience of working within an Agile environment using SCRUM or Kanban with effective CICD processes that expedite delivery
E5	OPERATIONAL EXCELLENCE Experience of using feedback from Service and Operations, and from production metrics to continuously improve quality of service
Additional experience required of specialists in “Front End Engineer”	
E6	DIGITAL DESIGN - Experienced in building services that work and perform quickly across different devices and browsers using modern HTML, CSS and JavaScript techniques - Understands the concept of semantic HTML and conversational APIs - Has relevant industry experience in UX and IX design. Usability concepts and W3C standards for accessibility
E7	DIGITAL DEVELOPMENT Extensive experience working with JavaScript frameworks such as Angular or React

	- Experienced in frontend architecture and building the front end using continuous deployment - Experience of defining modern standards and best practice design approaches, and managing adherence
E8	DIGITAL DELIVERY Experienced in cross-browser, device, automated and accessibility testing, to test, fix and remove barriers to accessibility
Additional experience required of specialists in “Full Stack Engineer”	
E6	FULL STACK DEVELOPMENT - Sound experience developing Microservice architectures - Experience of working with commonly used open source libraries: Spring Framework, Apache, Dropwizard or their .Net equivalents - Applied understanding of software design using OO and Functional styles - Extensive experience working with the JavaScript language and frameworks such as Angular or React - Experience of defining modern standards and best practice design approaches, and managing adherence
E7	DEVELOPMENT TOOLS - Experience working with linux distributions such as CentOS, Ubuntu, Fedora - Extensive experience managing and maintaining version control systems such as GitLab, Bitbucket and GitHub - Implementing and ensuring fit for purpose branching strategies - Implementing and managing end to end CICD tool chains
E8	WORKING IN THE CLOUD - Experienced designing and deploying complex software solutions to AWS - Experienced in the use of container services such as Docker, Kubernetes and similar technologies - Familiar with serverless technologies and the advantages they offer - Experienced managing delivery pipelines for solutions in the cloud
Additional experience required of specialists in “MS Dynamics Engineer”	
E6	DYNAMICS CRM PRODUCT - Extensive experience working on enterprise CRM applications - Has prepared and presented benefits cases for Dynamics CRM - Has implemented a wide range of Dynamics CRM features in a complex environment
E7	DYNAMICS CRM DEVELOPMENT - Expert in C# Programming, AL and associated coding standards - Expert in .Net Framework - Experienced in the use of Azure services - Understand Dynamics entity relationships - Promotes configuration over customization - Understands performance tuning and exception handling in Dynamics - Understands permissions, OAuth and CORS

	Implements designs that experience minimal impact during patching and upgrades
E8	DYNAMICS CRM TOOLS - Visual Studio - Dynamics SDK - VSTS - Package Deployer - Lifecycle Services - Azure
D	Desirable Experience – SFIA version 6:
D1	Requirements Definition & Management - Level 5
D2	Testing - Level 6
D3	Programming / Software Development - Level 5
D4	Database Design - Level 6
D5	Technical Specialism - Level 6
D6	Relationship Management - Level 6
EQ	Essential Qualifications – Technical, Vocational or educational:
EQ1	GCSEs or an equivalent
DQ	Desirable Qualifications – Technical, Vocational or educational:
DQ1	A degree or equivalent industry experience
DQ2	Certifications in Java and / or C# programming
DQ3	Certifications on Amazon AWS, Azure, Docker, Kubernetes or similar
DQ4	ITIL Foundation
DQ5	Agile / Scrum certified
EA	Essential Attributes:
EA1	RELIABLE by doing what we say we will do
EA2	HONEST in our communications and our feedback
EA3	RESPECTFUL in how we behave
EA4	REWARDING by recognising a job well done
EA5	EMPOWERING by enabling potential to be realised
DA	Desirable Attributes: