

<b>Job title</b>	<b>Software Engineer</b>		
<b>Job family</b>	<b>Technology, Systems &amp; Delivery</b>	<b>Proposed band</b>	<b>C</b>

<b>Job purpose</b>
Responsible for implementing effective software and tools for given designs.

<b>Key responsibilities and accountabilities</b>
<ul style="list-style-type: none"> <li>• Develop effective software that meets given specifications</li> <li>• Review and give feedback on others' code</li> <li>• Write appropriate tests using automated test driven techniques for ensure code quality</li> <li>• Integrate the software with monitoring and support tools</li> <li>• Support system integration in its operating environment</li> <li>• Write and review technical documentation</li> <li>• Help to troubleshoot and resolve issues throughout the product life cycle, including out of hours support for incident resolution</li> <li>• Participate in the team's agile planning and delivery process</li> <li>• Effectively participate in the teams software development methodologies, such as pairing, code and documentation reviewing and continuous delivery</li> <li>• Learn new technologies and keep abreast of existing technologies</li> </ul>

<b>Knowledge, skills, training and experience</b>
<p><b>Essential</b></p> <ul style="list-style-type: none"> <li>• Demonstrable experience writing and maintaining robust production software</li> <li>• Competence in one or more mainstream development languages and frameworks</li> <li>• Competence with one or more mainstream development and deployment tool chains (IDE, SCCS, CI)</li> <li>• Knowledge of the web architecture and key technologies (HTTP, DNS, distributed design)</li> <li>• Competence in test driven development and broader testing &amp; QA concerns</li> <li>• Competence in developing for operational concerns (monitoring integration, performance testing, security considerations)</li> <li>• Experience of project working and professional software development processes, including agile</li> <li>• Effective collaboration within a team – ability to speak up, challenge, agree and commit</li> </ul> <p><b>Desirable</b></p> <ul style="list-style-type: none"> <li>• Experience of database design and use in software applications</li> <li>• Takes responsibility for driving tasks to completion</li> <li>• Understanding of designing &amp; implementing for non-functional concerns</li> <li>• Worked in a professional software development environment on several projects (including experience in testing, design and release)</li> <li>• Experience of releasing their software to a production use case</li> <li>• Participated in reviews and inspections of code (sat with a peer or someone more senior)</li> </ul>

- reviewing your code)
- Software Engineering or Computer Science Degree or equivalent

**Job impact**

**Decision Making**

- Reports to Principal Software Engineer or Software Engineering Manager
- Tasks are allocated to the job holder by the team lead
- Undertakes tasks independently
- Independently writes tests to check quality of code
- Assesses feedback from reviews and incorporates as appropriate
- Troubleshoots independently or with the support of others where necessary
- Contributes to the teams iterative and collaborative design and implementation decisions

**Scope**

Finance: No financial responsibility

Line Management: No line management responsibility

Ad-hoc Teams: Participates in departmental hack days and external ad-hoc events (typically 5 to 20 members)

**Other information**

**For Reward team use only**

Job Code	
Definition:	Content

*This job description is a written statement of the essential characteristics of the job, with its principal accountabilities, incorporating a note of the skills, knowledge and experience required for a satisfactory level of performance. This is not intended to be a complete, detailed account of all aspects of the duties involved.*

**Appendix**

<b>Job title</b>	<b>Systems Engineer – Networking &amp; Broadcast</b>		
<b>Job family</b>	<b>Technical Systems and Delivery</b>	<b>Grade</b>	<b>G5-9</b>

<b>Job purpose</b>
<p>We are looking for an outstanding engineer with a good breadth of knowledge, covering broadcasting, networking and software technologies. This is a fantastic opportunity to help design, develop and demonstrate your networking and software engineering skills working in a cutting edge and challenging field.</p> <p>You will be responsible for developing and maintaining the software and hardware infrastructure to the advantage of TV and Mobile application development, including public and private cloud infrastructure, continuous integration and network services. To design, develop and support the products and services, which form the foundation of the BBC’s interactive TV output.</p> <p>You will be part of an award winning team that is responsible for the complete lifecycle from scoping through to testing and maintaining these key services across all a range of digital platforms. Services include Wimbledon, Glastonbury, Olympics, iPlayer on TV and the BBC Red Button service.</p> <p>The role is a split roll between Networking and Software Engineering with a System Engineering bias.</p>

<b>Key responsibilities and accountabilities</b>
<ul style="list-style-type: none"> <li>• Design / architect, develop and administer infrastructure solutions, selecting software and hardware components to meet requirements of our agile development teams.</li> <li>• Install, maintain and monitor systems running on both physical hardware and virtualised environments. Assist with the maintenance of live production software. Automate build and configuration where possible. Perform these tasks individually and with the assistance of team members</li> <li>• To develop, test, release and document applications using best software engineering practices to ensure timely service delivery and ease of maintenance</li> <li>• To provide time and resource estimates to assist in the planning of projects.</li> <li>• Detect failed or failing software and hardware components. Communicate possible impacts and resolve such issues.</li> <li>• Maintain a secure environment. Take all reasonable measures to mitigate the potential risks involved in operating internet-connected equipment. Apply BBC information security requirements.</li> <li>• To collaborate effectively with other technical teams to exploit new technologies to enhance the applications and service infrastructure.</li> </ul>

- To assist the Operations team with service launches by providing timely adoption documentation, training and assistance with problem resolution.
- To provide technical advice to the editorial and design teams on new application concepts and to establish their feasibility through prototypes.
- To review the work of other team members and to provide assistance as directed.
- To develop tools and methodologies to improve the effectiveness of the development process.
- To assist with training of new team members and trainees as required.
- To keep abreast of developments in software engineering and technologies related to interactive TV.
- Maintain knowledge of industry and competitor developments
- Develop expertise in new technologies and existing technologies and drive the introduction of them where appropriate
- Partner with the project manager and project support staff to enable them to provide effective and informed reporting

**Knowledge, skills, training and experience**

**Essential**

- Experience with two or more of the following skills, Networking (Cisco), Digital Broadcast Playout (TV or Digital Radio), AWS Cloud System Administration, Software Engineering
- Ability to rapidly acquire new software skills and to work with new technologies
- Internet protocols and technologies
- An appreciation of BBC output and a passion for technology in the new media environment
- A track record of producing maintainable code within collaborative environments
- A strong working knowledge of Virtualisation including VMware and Openstack
- Experience of working with source control systems

**IP Infrastructure Knowledge**

- Experience of configuring Cisco Routing, Switching and Firewalls.
- A solid grounding in Cloud Infrastructure and configuring VPN connections to On Prem.
- Knowledge of network topologies, and configuration techniques, such as VLANs

**Desirable**

- Experience in interactive TV technologies such as OpenTV, MHEG or Liberate
- \*nix experience
- Knowledge or experience of working with media/technology tools (hardware and software)
- Knowledge of web architecture and key technologies (HTTP, DNS, distributed design)
- Knowledge of broadcast or datacentre infrastructure installations including power, environmental and space layout considerations

- Knowledge and experience of procurement processes
- Knowledge of IP traffic management and proxies.
- Experience managing third party service delivery or support in an engineering environment
- An appreciation of good user experience and prepared to be the users' advocate
- Experience of mentoring and supporting less experienced members of the team
- Experience of interactive broadcast TV, IPTV, games consoles or mobile application development
- Experience working with Agile/Scrum/XP methodologies
- Competence and full understanding of automated acceptance testing tools and techniques

### Job impact

#### Decision Making

- Reports to Line Manager
- Tasks are allocated to the job holder by the team lead
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- Troubleshoots independently or with the support of others where required
- Contributes to the team iterative and collaborative design and implementation decisions.

#### Scope

Finance: No financial responsibility

Line Management: No line management responsibility