

<b>Job title</b>	<b>Principal Software Engineer</b>		
<b>Job family</b>	<b>Technology, Systems &amp; Delivery</b>	<b>Band</b>	<b>D</b>

**Job purpose**

Responsible for the design, implementation and operation of effective software and tools, and sharing specialist knowledge in specific business and technology domains.

- Key responsibilities and accountabilities**
- Lead the design and development of effective software that meets strategic business needs for immediate team and broader BBC.
  - Ensure alignment of the team’s products and services with BBC technology and architecture strategy.
  - Provide knowledge and best practice to the broader BBC in areas of specialist knowledge.
  - Ensure the team’s approach to testing is fit for purpose.
  - Lead integration of the software with monitoring and support tools.
  - Provide technical knowledge, insight and leadership to peers and colleagues.
  - Review and give constructive feedback on others’ code.
  - Support product and departmental managers in communicating strategy and product fit and effectiveness to stakeholders at all levels.
  - Ensure the team’s software works well in its operating environment.
  - Be an expert on the BBC’s operating environments who team members can consult. Play a part in shaping those operating environments.
  - Ensure that the team’s technical product documentation is always complete, accurate and coherent.
  - Lead troubleshooting and resolution of issues throughout the product life cycle including out of hours support for incident resolution.
  - Work with other technical leaders in the broader organisation to define, document and distribute best practice and standards.
  - Lead and encourage continuous improvement of the team’s delivery and development processes.
  - Participate in the team’s software development methodologies such as pairing, code and documentation reviewing, and continuous delivery.
  - Work with project, product and technical leads to design software and create implementable specifications and tasks at product and roadmap level.
  - Work with third party providers where necessary providing direction, support and documentation.
  - Learn new technologies and keep abreast of existing technologies and help introduce them where appropriate.

- Knowledge, skills, training and experience**
- Essential**
- Experience designing and writing software for large scale applications in a fast changing environment with rapid release cycles.
  - Expertise in multiple mainstream development frameworks.
  - Expertise in business domains, relevant to the BBC.
  - Expertise with mainstream development and deployment tool chains (IDE, SCCS, CI).

- Expertise in database design and use in software applications.
  - Experience of open source practices.
  - Expertise in web architecture and key technologies (HTTP, DNS, distributed design).
  - Expertise in test driven development and broader testing and QA concerns.
  - Leadership experience of project working and professional software development processes, including agile.
  - Expertise in choosing and applying design patterns.
  - Leadership and collaboration inside and beyond the team. The ability to influence diverse and senior stakeholders effectively.
  - Takes responsibility for driving products and system to success.
- Desirable**
- Computer science degree.
  - Recruitment, management and mentoring experience.
  - Experience of supporting, modifying and maintaining systems and code developed by others.
  - Experience engaging with industry forums, interest groups or blogging and other broader industry forums.

<b>Job impact</b>	
<b>Decision making</b>	
<ul style="list-style-type: none"> <li>• Makes decisions about the design and development of software systems to meet business and product needs. The design has significant impact on capital and ongoing operational expenditure</li> </ul>	
<b>Scope</b>	
Finance:	Direct budget (for third party work) £500k.
Line Management:	No line management responsibility.
Ad-hoc Teams:	Expected to participate in cross D&E technology and product strategy forums (up to 50 participants). Expected to participate and lead (teams up to 20) in cross organisation project/solution planning and design. Expected to participate in organisation, talent management and other strategic planning exercises.

<b>Other information</b>	
<b>For Reward team use only</b>	
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

#### Principal Software Engineer – Children’s & Education

The BBC’s Children’s & Education team deliver amazing digital experiences that inform, educate, entertain and inspire the nation’s children.

We provide some of the UK’s most popular websites and apps, which bring to life the globally renowned CBeebies and CBBC brands.

Our apps are some of the most popular for kids. Our apps are consistently in the top 5 of their categories in the app stores (see link below for example):

[https://play.google.com/store/apps/details?id=air.uk.co.bbc.cbeebiesstorytime&hl=en\\_GB](https://play.google.com/store/apps/details?id=air.uk.co.bbc.cbeebiesstorytime&hl=en_GB)

We have over 350+ interactive experiences across BBC online, powered by our internally built game engines (see link below for example):

<https://www.bbc.co.uk/games/embed/gmm269xwnq?exitGameUrl=https%3A%2F%2Fwww.bbc.co.uk%2Fcbbc%2Fgames%2Fdanger-mouse-game%3Fcollection%3Dcbbc-top-games>

Our flagship apps and 350+ interactive experiences are all powered by the same platform. This allows us to build multi platform experiences with a single codebase using modern web technologies. We call this the Universal App Platform (UAP), and you can read more about it in the blog post below:

[https://medium.com/bbc-design-engineering/shipping-progressive-web-apps-everywhere-190a421c606a?source=collection\\_home---5-----5-----](https://medium.com/bbc-design-engineering/shipping-progressive-web-apps-everywhere-190a421c606a?source=collection_home---5-----5-----)

Organised in cross-functional, agile teams, we’re focussed on creating world-class experiences for our young audience.

#### What you’ll do:

As a Principal Engineer, you will be responsible for leading the design and development of high quality, web and mobile products used by millions. You will work with other discipline leads to architect, deploy and operate these products. You’ll be contributing hands on across multiple teams while leading technical projects delivered by both internal and 3rd party teams. We are looking for someone who can lead development, build sound architecture and foster best practices while mentoring other engineers to grow.

We don’t expect anyone to have experience of all the below, this just gives an example of the technologies and practices we value:

- Drive best engineering practices within your team(s), define and teach practices such as CI/CD, TDD, cloud architectures and pair/mob programming
- Work hands on in a team
- Contribute to the vision and long-term strategy in your domain of expertise
- Be a department-level expert in a particular area or go-to person for solving problems in your domain of expertise
- Mentor other engineers
- Be part of the BBC-wide developer community driving and influencing our key engineering decisions across the company
- Understand the landscape of mobile application development for iOS and Android
- Have a passion for modern web technologies
- Whilst not essential, having some working knowledge of WebGL/Canvas and frameworks such as Pixi.js and Phaser would be a bonus

### **We'd love to talk to you if you:**

- Have several years of working experience as a Software Engineer with some of the following technologies: JavaScript, React.js, PWA's, Hybrid App frameworks (Capacitor, Ionic, Cordova), AWS, Cypress, BrowserStack
- Have led technical projects
- Have extensive knowledge and experience working in an agile environment
- Can gain a deep understanding of the product and business goals, which you can translate into a technical solution
- Have experience in mentoring and supporting peers and engineering teams, fostering best engineering practises
- Actively invest in your technical skills and leadership abilities
- Have a deep understanding on how to build a well architected codebase upon clean code and test driven principles
- Have experience in identifying, debugging and resolving complex production issues
- Be able to find new, innovative and experimental ways of solving problems

### **What's important to us in Children's & Education:**

- We are a diverse team that prioritises collaboration
- We have a track record of developing our staff, and participating in schemes to boost diversity, graduates/apprentices/Step Into Tech are important to us
- We strive for self organising teams, and empower Software Engineers to take part in all aspects of the product
- We care about quality, with extensive automation, and TDD practices
- Data powered decision making - looking at real user information and using that to choose what to do next
- We work collaboratively within the department and beyond, looking to deliver joined up solutions where we can
- We value our people, offering 10% development time, a good work life balance and flexible working opportunities