The roles: **DevOps and Systems Administrator**

Department/section: **Systems / Operations**

Reports to: **Systems Team Lead**

General information

Improving lives by supporting professionals in the delivery of kidney care and research, The Renal Association is the leading professional body for the UK renal community. We have members working in clinical renal care, treating and caring for people with kidney disease, and those working in research, or related sciences and fields.

The UK Renal Registry is the part of the Renal Association responsible for the collection, analysis, management and development of a high quality clinical renal database. We use data submitted from the 71 adult and 13 paediatric renal centres across the country to create our databases. This data is then extracted for research and audit reporting which contributes and directs improvements in kidney disease care and management for renal patients.

The Job

As our infrastructure migrates from our current server based VMs to more cloud based deployments the DevOps aspects of this role will increase and the post holder will be at the forefront of advising best practice and overseeing the migration. The role involves the maintenance, and monitoring of IT infrastructure to allow us to efficiently carry out our aims.

1. Support of the UKRR's IT Infrastructure including server and database administration.
2. Maintain our servers ensuring they are patched, secure and updated, including managing regular penetration testing.
3. Monitor and log activity on the UKRR's Infrastructure for the purposes of security, performance and reliability.
4. Advise on software and hardware requirements for new and existing systems, taking account of future needs.
5. Help manage desktop and laptop real estate ensuring appropriate processes and software are available for staff to carry out their duties.
6. Ensure appropriate security restrictions are in place.
7. Coordinate changes for firewall and remote access with third parties managing our firewalls.
8. Ensure that all data is backed up and securely stored.
9. Install software as required, ensuring that it is correctly licensed and does not conflict with existing applications, managing software upgrades when appropriate.
10. Ensure SSL certificates are maintained and managed for all web services in use.
11. Document and maintain details of IT Infrastructure.
12. Document, maintain and improve IT processes.

Quality control

13. Ensure that all infrastructure is configured and managed to appropriate standards.
14. Maintain appropriate logs in support of annual Data Protection Toolkit returns.
15. Contribute to quality control by:

     o   assisting in performing quality checks of the databases and data, ensuring data accuracy and integrity, including when running existing processes or extracting data

     o   recommending improvements to processes, practices, or software that help maintain or increase data quality

Process improvement
16. Investigate, recommend and implement changes to systems and processes.
17. Assist with the design of new server/microservice systems.
18. Help develop devops processes for deployment and management of renal association systems.
19. Help build more resilient and scalable systems making full use of containers, cloud and devops.
20. Improve infrastructure in line with current and future business needs

Work as member of the team to
21. Provide input to the development, design & support for various internal systems and software and associated external processes.
22. Assist in integrating systems and databases with other software applications helping develop suitable deployment and management processes.
23. Contribute to development discussions and changes.
24. Configure and deploy software applications and in house software & systems.
25. Ensure all change requests are properly managed and documented through to delivery.
26. Investigate improvements to algorithms and speed of processes.

General
27. Identify and implement best practice including following the secure by design recommendations for Health systems.
28. Document working practices and UKRR systems procedures to ensure effective working and compliance with relevant legislation including the General Data Protection Regulation, National Opt out and other research based consents.
29. Undertake any other occasional, or ad-hoc duties, as required by management.

Person specification

This description encompasses a number of roles and we are looking for people who can offer some of the skills detailed, but are willing to learn skills in other areas as the roles develop.

All roles would require the equivalent of at least a first degree level of qualification ideally with experience in handling medical data.

All members of the team would be expected to demonstrate some of the following

An open-minded and innovative attitude to delivery, to ensure the most effective and appropriate tools and solutions are used.
A willingness to learn new technologies and move out of comfort zone to develop new processes
A willingness to understand the data and how it is used and validated
Proven effective planning, administrative and organisational skills
Team worker, including diplomacy and proven success working with different types of people
Able to demonstrate problem solving/initiative
High level of interpersonal skills with proven ability to communicate with a wide range of stakeholders at all levels
Demonstrable experience of effective record keeping and procedure writing
Any understanding of Renal terminology and data would be beneficial

To deliver our systems effectively, the following competencies or similar skills are required

Previous experience working successfully in a Systems administrator DevOps role
Any knowledge and experience of programming languages, including Python, PHP, JAVA, SQL (PostgreSQL, MS SQL) and Django a benefit
Knowledge of scripting and deployment strategies such as Ansible
Proven experience in managing windows (desktop & server) and linux servers and desktops
Some experience providing desktop user support would be an adavantage
Demonstrable knowledge and experience of Linux (RedHat/CentOS/Ubuntu) would be an advantage
Knowledge and experience deploying web servers and container technologies
Knowledge, understanding, experience of healthcare technologies, such as Mirth, HL7, FIHR, CDA, would be advantageous
Proven experience of effective systems testing
Experience of CI and automated build systems
Proven experience of change control management
Ability to document clearly deployment and usage of deployment scripts
Any Knowledge of system/server monitoring (sensu/uchiwa/grafana) would be beneficial

To deliver DevOps effectively, the following knowledge or experience would be of benefit

Any programming knowledge particularly in python
Linux server management and configuration ideally redHat/Centos
Experience of Windows and Active directory
Experience of running systems in a mixed windows/linux environment
Experience of software automation using ansible or similar tools
Docker and containerisation
Automated build and CI systems
Cyber security and hardening systems
Knowledge of VMWare / Veeam
Experience of cloud infrastructure

To deliver <u>web development</u> effectively, the following technologies are used

Web CMS experience, (Wordpress, Django, Drupal, civicrm)
Rest api / fastapi
Angular, javascript, vue.js,nuxt.js
Python, SQL, git, other languages

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To deliver <u>data science</u> effectively within the Systems Team, the following technologies are used

Python, pandas, numpy, SQL, data visualisation (dash, bokah et al), git
Notebook technologies (jupyter et al)
Tools like SAS, Stata
Handling biological data and matching medical records

Other relevant information

Some UK travel may occasionally be required with occasional overnight stays to provide support at UKRR meetings or events or in the course of normal duties.

Equality and diversity aims

As a member of staff you have a personal responsibility to ensure you do not discriminate, harass or bully or contribute to the discrimination, harassment or bullying of any colleague(s) or visitors or condone discrimination, harassment or bullying by others.

Risk management

Staff at all levels have a responsibility for ensuring that risks are managed, as an employee you will be expected to maintain a high level of awareness and assist in the process of reporting incidents, assessing risks and reporting unsafe occurrences and to co-operate with any investigations undertaken.

Health and safety

Under the Health and Safety at Work Act 1974, as an employee, you must take reasonable care for the health and safety of yourself and for other persons who may be affected by your acts or omissions at work. The Act also states that you must not intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety and welfare. As an employee you are required to report all accidents to the General Manager.

Information security and confidentiality

During the course of your employment you may have access to, see or hear information of a confidential nature and you are required not to disclose such information, particularly relating to patients or staff. All person identifiable information must be held in the strictest confidence and should be disclosed only to authorised people in accordance with NHS Confidentiality Guidelines [Caldicott] and the Data Protection Act 2018 unless explicit written consent has been given by the person identified, or where information sharing protocols allows it.

General information

This job description is not intended to be an exhaustive list of duties, but it aims to highlight the typical main responsibilities of the post. It may be reviewed from time to time in agreement with the post holder.

Approved by: **Date:**

Accepted by: **Date:**