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| Last updated: | November 2019 |

**JOB DESCRIPTION**

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| Post title: | **Software Engineer; Web Applications Developer** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2136 - Programmers and software development professionals | | |
| Academic Unit/Service: | GeoData, Geography and Environmental Science | | |
| Faculty: | FELS | | |
| Career Pathway: | Management, Specialist and Administrative (MSA) | Level: | 4 |
| Posts responsible to: | GeoData IT Team Manager | | |
| Posts responsible for: | None | | |
| Post base: | Office based | | |

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| Job purpose |
| To deliver sustainable web application solutions, using open web standards and open source technologies, in support of the GeoData and the University’s IT needs:   * To work directly with the Web and software development team to deliver flexible and innovative applications in support of the GeoData’s enterprise and research projects. * To support those developments by means of documentation, training, automated testing and providing support for the team’s areas of responsibility. * In collaboration with colleagues, to propose new and innovative solutions to organisational challenges and make recommendations for continual improvement of systems and services. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | Implement enterprise and research infrastructure solutions using open source web development and database technologies with agile software development methodologies.   * Work directly with GeoData IT Team Manager and development team and directly with GeoData clients and funders to capture requirements and turn them into technical specifications, produce mock-ups and agree implementation details. * Engineer robust solutions using agreed tools ensuring new services work seamlessly with existing IT infrastructure. Automate processes where possible to improve delivery quality and timescales and to ensure maintainability through a services lifecycle. * Ensure services meet GeoData and University security policies and standards for both technical architecture and information management. | 55 % |
|  | Maintain systems throughout their entire lifecycle. Deliver reliability and continued quality of services by providing; resolution of defects, security incidents/improvements, technical and end user documentation and training, automated testing of changes, third-line support for these services where appropriate. | 30 % |
|  | Make recommendations for continual improvement of systems and services. Investigate new technologies and consider their impact to the services being delivered. In collaboration with colleagues, propose new and innovative solutions to organisational challenges. | 10 % |
|  | Any other duties allocated by the line manager or senior management following consultation with the post holder. | 5% |

| Internal and external relationships |
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| The post holder will be expected to undertake the following duties as part of an integrated team and will be expected to adopt priorities and engage in activities that promote the effective working of the whole team.  Internal:  The post holder will work closely with:   * Technical specialists and application development teams within GeoData * Academic and Enterprise staff at all levels across the organisation * Professional Services and Faculty colleagues across the University.   External:  The post holder will liaise with:   * GeoData clients and funders * Other academic institutions and related organisations to participate in collaborative activities and projects to the benefit of GeoData and the University as a whole.   It is expected that the duties will be performed in the light of the relevant activities in University enterprise and research infrastructure generally. The post holder will be expected to be aware of the activities and initiatives being formulated globally within the relevant specialist area and will be expected to take part in such activities should they be relevant to, and of benefit to, the work being undertaken locally. |

| Special Requirements |
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| To maintain the relevant level of professional expertise and qualifications to discharge the duties of a Software Engineer and to participate in a relevant professional development programme.  To have an understanding of how equality, diversity and inclusion applies to the responsibilities of the role and to actively promote equality, diversity and inclusivity in all aspects of the role.  The role may require occasional travel to attend meetings, events and conferences away from the office, nationally or internationally. Overnight stays away may be required.  There may be a requirement to work varying core ­­hours, and on occasion to work outside normal hours, to ensure that service commitments are met. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | A relevant technical, engineering or science degree and/or equivalent technical experience.  **OR**  Demonstrable experience in programming and systems analysis in at least two the following:   * PHP * JavaScript * Python * SQL & Database application building   Proven track record of adapting to and learning new technologies, programming languages and ways of working.  Knowledge of modern HTML and CSS and the impact that high quality mark-up can have on performance, accessibility and discoverability.  Awareness of current and emerging; web and database technologies, languages and frameworks, and an understanding of what problems each are best suited to solving and which they are not.  Relevant knowledge of information security issues and experience implementing secure systems.  Awareness of current and emerging web and database technologies and what problems each are best suited to solving and which they are not. | Extensive experience in multiple technologies:   * Containers/Docker * Modern JavaScript Frameworks * MySQL/PostgreSQL * Web Mapping/Geospatial Data management * Source code control/git   Knowledge and expertise in the following:   * Unit testing * Software design patterns * Continuous Integration * Continuous Delivery * User experience design * Event driven systems * System auditability * Linux Administration * Cloud platform patterns and practices * Agile development methodologies   Demonstrate commitment to maintaining professional knowledge and awareness through continuing personal and professional development. | Application & Interview |
| Expected Behaviours | Able to apply and actively promote equality, diversity and inclusion principles to the responsibilities of the role.  Demonstrate the Southampton Behaviours and work with colleagues to embed them as a way of working within the team. |  |  |
| Planning and organising | Ability to proactively identify, plan and manage own workload, including fully planning and owning minor technical projects.  Ability to work with others to:   * Agree requirements. * Agree and deliver work packages. * Meet project deadlines. * Design application-testing procedures. * Produce documentation to required standards. * Comply with release management procedures. * Consider operational support of a product during its design | Experience and understanding of change management processes | Application & Interview |
| Problem solving and initiative | Strong issue diagnosis and troubleshooting skills with logical and pragmatic thought processes. Ability to identify problem areas and follow problems through to resolution. | Significant experience of working with end users.  Ability to take effective and creative approaches to problem solving.  Confidence to challenge existing working practices and offer ideas.  Methodical, calm and clear thinking under pressure. | Application & Interview |
| Management and teamwork | Able to work as part of a highly technical team, and to collaborate effectively with other technical specialists on project work and towards the resolution of problems.  Ability to foster good relationships with colleagues and other members of the organisation. | Experience working in an Agile development team. | Application & Interview |
| Communicating and influencing | Ability to provide clear and concise documentation of all outputs and to review and improve existing documentation.  Effective presentation skills in order to convey technical concepts to both peers and line management.  A professional, customer orientated approach to service delivery. | Involvement in relevant technical communities, such as through technical blogging, attendance at workshops, or contributing to open projects. | Application & Interview |
| Other skills and behaviours | Confidence, experience and skills to take initiative, but know when to refer queries upwards. | The ideal candidate will have a genuine interest in web application development and be keen to further the excellent reputation of the University in this area through participation in conferences, seminars and similar events. | Application & Interview |
| Special requirements | The post-holder will occasionally be required to work outside normal office hours to meet the operational needs of the service.  Ability to identify requirements of users across an extensive user community. |  |  |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| **[X] Yes** | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| [ ] No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |