1. Job Details

Job Title: Systems and Applications Developer
Line Manager: School IT Services Manager

2. Job Purpose

To support the deputy team leader (post SEE-IT12), in provision of filestore, backup, and user account management. Applications and support programming for Solaris/Linux.

3. Main Responsibilities

1. Configuration, allocation and management of the School’s new filestore infrastructure, including on-line backup cycles. Backup of the Teaching Organisation’s private network data. 30%
2. User account generation and automation. 10%
3. Development and support of software applications for school administration, eg ordering requisition system, absence form, user and network registration forms. 30%
4. Solaris technical user support, oversees on-line documentation, eg FAQ. 20%

4. Planning and Organising

Postholder required to be self-organising wrt to job prioritisation, blending event driven and development work.

Much of the work is generated by events, e.g. fault finding, which may be urgent and require immediate attention and the postholder is expected to prioritise event driven work in consultation with senior members of the team. On development projects, the postholder would be expected to show initiative within the framework of the project.

5. Problem Solving

A good ability in analysis and support skills appropriate to computer systems problems.

Examples: 1. Label printer software, detection and reporting of printing problems. The label printer didn’t behave as the documentation suggested it should. This required investigation of its behaviour and devising algorithms to deal with its peculiarities (Unix serial port interface programming).
2. Automated quota reporting. Solaris’s "quota" command reports the names of file systems in an inconsistent ways. Needed to work out how to map its names to the disk partition numbers to make them uniform. Now developed this further, so that users can use an instant look-up web page to view their quotas.

6. Decision Making

The maintenance and development of new services requires decisions in respect of changes which will affect all users of these services. The postholder would be expected to be able to assess risks and provide advice to more senior colleagues in specific areas.

The majority of the day to day decisions, e.g. on how to fix faults, would not require upward reference, but anything out of the ordinary would require self initiated research or team discussion.

Example: [TLC] backup regime - when and how backups are to be performed to get maximum coverage without congesting the network or having the backups collide with each other in time. A major consideration was whether the two sets of backup servers should time their backups synchronously or asynchronously.

Example: Requisition form - Design was a trade-off between functionality and ease of use. A major consideration was the platform on which the program would run and its distribution to all the School’s users (X-windows, PC users use eXceed to connect (transparent via UnixMenu SEE-IT18 qv)).

7. Key Contacts/Relationships

Internally, customers range from students to head of school and externally included visiting academics and senior industrialists as well as number of affiliated organisations.
Technical support between other IT staff in the University.

Internal Example: in fairly frequent contact with members of the Finance team for receiving updates of information in the form and for assisting them with the processing of requisitions.

8. Knowledge, Skills and Experience Needed for the Job

The job is of a very technical nature normally requiring graduate level education, a significant level of hands on skill and a at least two years experience with a range of both operating system software and development tools The ability to solve problems in a timely and effective manner is essential along with technical documentation skills.

9. Dimensions

The School has 1200 undergraduate and taught MSc students, 400 research students and staff, altogether 2100 registered user accounts.

The School operates three managed and maintained platforms:

a. Solaris: 206 installations (incl 74 seat partionable teaching lab, 42 servers),

b. Linux: 548* installations managed via LCFG; 15 turnkey 64-bit servers.

c. Windows XP: 400 installations (265* "SEE" managed, 145* "AD" managed in five labs with UG compatibility).

[*]390 are dual boot Linux/Windows (technology developed in SEE and now exported to DST for the Microlabs)

d. In addition we provide network services (filestore, printing etc) to a further 40 personally managed machines (mainly user laptops) and a similar number of lab-experiment turnkey systems throughout the School.

Filestore: 42 Solaris servers, 14 Linux NAS boxes (cross replicating) (>100TB total). 90 network printer queues (60 printers). Web sites for 33 registered domains (hosted on 3 servers), mailservers for 16 domains (3 servers).

The School has designed, manages and operates a fibre network linking 13 buildings spread over the KB site together with a cat5E distribution to 2800 circuits in offices and labs. The School "backbone" centres around two Cisco routers connected directly to Edlan and Informatics respectively, 32 network switches (up to 168 ports each) with hot-spare inter-links. 25 WAPs provide wireless coverage throughout for mobile users and visitors. In three buildings, the data network also carry phone circuits (130 in total) for which connections are also managed by the IT team.

Applications: c240 Solaris, c30 Linux, c40 MS-Windows (25 MSIs for teaching labs), 20 licence servers of various types. Only applications that run on all three platforms are eligible to be classed as core applications within the School. There are 9 of these including basic maths and officetools: Matlab, Maple and OpenOffice.

The user help-desk uses the EUCS CMS with calls filtered by the college support team, and runs at between 150 and 200 open calls for the School team to resolve. All members of the team take a half-day duty turn, assigning jobs to the appropriate team member. The School’s IT help web site contains 204 pages (and about 2500 links).

10. Job Context

The post requires a wide ranging appreciation across a number of core services. The job is technically complex and challenging, as the technology, and hence the services, are constantly evolving. In order to ensure continuity of service, especially for taught laboratories for which rescheduling is virtually impossible, we have to provide redundancy and procedures.

11. Verification

I agree that this job description conveys an accurate description of the job.

[Signature]

Job Title
Name
Signature
date