IT Helpdesk System

# The Current Network Infrastructure

Beaconhills College computer network consists of 1Gbit optic fibre between all buildings and 100mbit to the desktop. 802.11b/g wireless services are in place across all teaching areas at the Valley campus and will be in place by the beginning of semester 2 at the Village campus.

The Valley and Village campuses are connected via a 20mbit IP WAN.

Currently there are 100 wireless access points with another 65 planned. This will achieve 1 access point in each classroom.

Core switches at each campus are Hewlett Packard ProCurve 5406ZL with Wireless Edge Service modules capable of running over 200 wireless access points using the latest WPA2 security methods.

Each building houses an edge switch consisting of either Hewlett Packard ProCurve 5308xl, ProCurve 4204xl, ProCurve 4208xl or ProCurve 4000m.

There are 140 learning areas containing multimedia projectors in middle, year 9 and senior schools and a further 24 interactive whiteboards servicing the needs in our junior and early learning centres.

We offer an 8mbit link to the Internet with both email and Web filtering products in place.

The server structure is Windows 2003 and the network has approximately 1500 devices including Tablet PC, desktop, notebook, video conference, printer and projector. The Storage Area Network has a capacity of 6TB.



# Current Practices

Students are the ones that usually discover software and hardware problems on the network. The only way students can get their computer problems resolved is to tell a teacher or an IT Technician.

Teachers and students have found that they are having all sorts of trouble with computer maintenance such as:

* Students are unable to log in onto the network because of forgotten passwords, they are logged on to another computer or they have been logged out by the library, IT Technician or the Head of IT because they have done something inappropriate. Students and teacher are unable to know for which reason students have been logged out and only teachers can log a job in the schools existing system to deal with these issues.
* BeaconNet is the main method for students to access their course content. If students don’t know the course password they cannot access their courses. The only way is to ask their teachers the password, but the teachers don’t always know it, particularly if they are new teachers.
* If hardware and software issues arise only teachers can report these. If the IT Technicians are not in their office or near their computer these issues will not be attended to, even if they are urgent.

The powers that be have decided they need a much more efficient system created for fixing these problems, and have therefore turned to the smartest and most knowledgeable students in the school to create it – The Software Development students. There is also not a large budget for the project and they tend to work for the right price! The software application should be able to run on mobile devices. You will also be required to consider the security implications because the software will access the school network via personal wireless devices.

# The Application should do

* The software would have to allow the IT Technicians to have a privileged access to the system in order to view the lodged service requests.
* Teachers and students will be able to log and lodged service requests on their mobile. Some students that will act as volunteer technicians, they will also be given privileged access.
* The system must request the name, surname, campus, the type of issue (hardware, software, BeaconNet, log in issues, printers and other issues) that you will need to identify. There must also be text box for the users to enter relevant details and the ability to add documents to the service request. The job once entered must be submitted and saved.
* The system must allow for the ID of the broken computer to be entered. This will allow administrators to checks whether it is a new job or an existing job (i.e. A student or teacher has already flagged a concern with that computer)
* This will alert the IT Technicians and the volunteer technicians, who first view the workstation details which also includes looking at all users who have logged on to it in the past week.
* They then fix the problem with the workstation, which sometimes requires the ordering of new hardware.
* The technician updates the status of the job, and the teachers and students can therefore track the progress online.

# Your Task

Prepare a Software Requirements Specification that covers the following:

* Identifies key tasks involved in planning the solution associated with the analysing stage of the problem solving methodology
* Proposes a range of data collection method to be utilised during analysis
* Describe the networked environment in which the solution will operate (including the type of network, hardware, software and protocols).
* Represent the functions of the current system by developing a Use Case diagram for the system.
* Represent the data flows within the current system using a context diagram, and then convert it into a DFD.
* Using the DFD, explain the inefficiencies of data flow in the current system.
* Identify the scope of the solution:
* State the intended purpose of the solution Acknowledge all relevant constraints that affect the solution
	+ Describe the requirements of the software solution including functional and non-functional requirements
	+ Describe all relevant constraints that affect the solution
	+ Describe any security vulnerabilities that will affect the design of the software solution
	+ Demonstrate an understanding of the personnel and their role in the system

You may use the supplied template to create your SRS.