Computing Facilities Manager’s Report
27 February 2004

Contents

Summer Projects

Laboratory Refurbishments ........................................... 2
Laptop Lab Refurbishment ........................................... 2
Replacing computers in moog, leaf, bell, spoons, fife and gong ....... 2
Banjo lab refurbishments ........................................... 2
Refurbish moog, leaf, bell and spoons labs ......................... 3
Fit out the small room inside the gong lab ......................... 3
Enable USB ports on lab computers ................................ 3
New Infoterm ........................................................ 3
Video Cameras and Help Points ..................................... 3
Security Cabling into ME and EE3 Labs ............................. 3
New servers .................................................................. 3
Replace panopticon ..................................................... 3
A new network serving server ...................................... 4
A new network monitoring server .................................. 4

Software

Update our Debian distribution ..................................... 4
Update mozilla-based browsers ..................................... 4
OpenOffice ............................................................ 4
Xilinx/Foundation and ModelSim .................................... 4
NX ........................................................................... 4
Booking system for Windows ........................................ 5
Problem Tracking ....................................................... 5
CSE VPN .................................................................. 5

Other Issues

Acknowledging Local Involvement in Open Source Software ....... 5
CTAN hosting ............................................................ 5
Large format printing .................................................. 6

Lab Changes


Other Issues

Air Conditioning .......................................................... 8
EE3 .................................................................. 8
Old Main Building ..................................................... 8
Computer Room ......................................................... 9
Computer Disposals .................................................... 9

1
Summer Projects

Most of the work of the Computing Support Group over the last couple of months has revolved around the summer project. Briefly, with a current status of each, these are:

**Laboratory Refurbishments**

**Laptop Lab Refurbishment**

This progresses, final drawings are being discussed with the architect, construction is likely to happen during the mid-session break.

**Replacing computers in moog, leaf, bell, spoons, fife and gong**

We have moved the banjo (thesis) lab computers into fife and gong with the intention of installing new computers into the banjo lab. The computers from the kazoo lab (see discussion later about the kazoo lab being dismantled) are currently being moved to the spoons lab. The new computers for the moog, leaf, bell and banjo labs were due to be delivered two weeks ago but are now due today (Friday 27 February and on Sunday). We expect that all the new lab equipment will be operational by the end of Monday of week 1. This is much tighter timing than we would prefer and we are currently under-impressed with IBM and their ability to deliver on time.

**Banjo lab refurbishments**

The plan to divide banjo (thesis) lab into two smaller, quieter, more manageable rooms with ergo-furniture progresses. Tables, partitions and computers have been removed. Construction work will begin any second now and we expect the two new labs to be operational by the end of week three. Until then, the lyre lab will remain in use for the thesis students who would otherwise be using the banjo lab.

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Refurbish moog, leaf, bell and spoons labs

The labs have been painted and have new carpet. The tables from the banjo lab have been moved into these labs. The security has been upgraded with the “hot wire” system. New computers should be in installed and operational by the end of day one of session.

Fit out the small room inside the gong lab

A new small lab of five computers has been created in the small room inside the gong lab. This mini-lab, available for small demonstrations, etc, is known as the mallet lab.

Enable USB ports on lab computers

This has been done for all lab computers which have USB ports at the front of the box. The only devices which are currently supported are “memory keys”.

New Infoterms

We are still looking for a compact, reliable computer to be used in and around the labs to replace the Compucon infoterms.

Video Cameras and Help Points

These will go into a number of foyers and entry point, primarily for personal security. Little work has been done yet. This can largely be done with little disruption during session

Security Cabling into ME and EE3 Labs

This work has been completed.

We have much appreciated the help of Peter Pavlov in managing much of the lab refurbishment work.

New servers

Replace panopticon

The is the server that manages the laptop lab. The new server will also handle VPN and wireless issues. The hardware will be identical to the current IPQ box, so that it can act as a warm spare in case of hardware failure of the very important IPQ server.

The server has been delivered and will be in place by the time the laptop lab refurbishments have been finished.
A new network serving server

This will provide DHCP, radius a other services (which currently run on bach). The hardware is actually the old server baton. Bach is our conform server, installing and checking software on all out CSG-maintained unix/linux computers. Baton now has new hardware.

The new server is not yet operations, the services are currently being provided by bach (a general purpose server)

A new network monitoring server

We periodically run network monitoring tools (such an nessus and nmap) looking for vulnerable or compromised computers on our networks. We will be using one of our older server boxes for this (rather than a random box on Peter’s desk) and shuffle services appropriately. This has not yet been set up.

Software

Update our Debian distribution

We have updated to a new snapshot of sarge. There may still be a couple of minor configuration or installation issues. Please let System Support know of any anomalies and they will be fixed as a matter or urgency.

Update mozilla-based browsers

Although these do come from the debian distribution, we usually roll our own for various reasons. These have also been upgraded

OpenOffice

This is now a standard debian package and does not need to be installed separately

Xilinx/Foundation and ModelSim

New versions of these have been procured and installed. These tools now run natively on all of our gnu/linux computers.

NX

An interesting-looking system that provides usably fastish X connections across slow modem links (see [http://www.nomachine.com](http://www.nomachine.com)). We have not yet had time to look at this.
Booking system for Windows

The booking system for our labs has now been ported to our windows labs (well done Matt). The programs for making and checking bookings (book and tkbook) have not yet been installed, but there are booking terminals thereabouts for people to use.

Problem Tracking

System Support currently uses an in-house system to keep track of questions and answers. This system has been modified to be used by several classes and has generally worked well over time, but has a number of problems. These include:

- Difficulty in searching archived questions and answers.
- People submitting problems cannot query the status of the problem.
- It is not immediately amenable to use by other groups without a fair bit of re-coding to cater for their particular requirements.

Request Tracker looks like the most interesting option so far, but more investigation is required.

CSE VPN

There is now an operational CSE VPN (PPTP) service. This should be documented and announced very soon; in the meantime anyone who is interested in using it should contact System Support.

Other Issues

Acknowledging Local Involvement in Open Source Software

Some months ago, the Computing Committee decided that the school should host a

Web page listing all major open source contributions originating from within the School including name of the project, short description, hyperlink, and status of the the project.

Ian Wienand has created the machinery to look after this page. This now needs linking in to an appropriate place in the School’s new webbery and minor changes to suit the School’s new style.

This is yet to be done.

CTAN hosting

We are likely to be taking on the role of ctan.unsw.edu.au, picking it up from Ian Maclaine-cross of Mechanical Engineering (who “saw a need” some years ago, thanks Ian).

This is yet to be done.
Large format printing

Several sections of the school have a need for large-format printing, but it is unclear whether we have enough need to justify buying and running a system just for our own use. We raised the matter with the Engineering Computing Committee, whether it was sensible to have a join facility for all schools to use. There was some interest, but the opinion there was generally that there were other service on campus that already provide good support for poster printer. If anyone is interested, the first port of call is probably Steve Preece of “Scientific Illustrations” in the Faculty of Science on extension 55711.

Lab Changes

There are some changes to the usage of two of our general access computing laboratories. In short, we will be giving the kazoo lab back to Electrical Engineering and the lyre lab will become an Advanced Networking Laboratory.

A recent brief on the matter reads:

There are several strong incentives to make a couple of changes to our use of several of our labs for session 1. This includes removing two small labs from general access and setting up two new research labs.

This is a story still being written, I have tried to summarise the current state in the notes below. Feel free to contact me if any of this is unclear or if I seem to have omitted any important factors.

Background points include:

1. reducing student numbers, total (in all years) of undergraduate students and course-work masters students (the people that use our labs) have fallen from a peak of 1748 in 2002 to a likely 1239 in 2004.

2. pressure to hand (some of) EE3 lab space over to EE. Whilst we might be inclined to hold on to any available resources, keeping the current number of labs in the light of fewer students is becoming less defensible and (if we expect others schools/units to play fair when we need resources) we should to be willing share spare resources.

3. desire to set up advanced networking lab for Sanjay who has a donation of significant equipment from Intel.

4. desire to set up projects lab as part of Sri’s revamp of the Computer Engineering degree (we have not seriously had a hardware projects lab since our move to K-17).

5. desire to find a home for the $200,000 3-d visual access grid doo-hickey (screen, projectors, cameras) we have acquired from medicine. There are some space constraints on where it might go; it is likely to be fairly intrusive wherever it sits. Although it can be used as a video conferencing unit, I understand it is
more accurately a distributed 3-D virtual reality experimental unit.

**Current and projected general access lab usage:**

I spent some time looking at student numbers, lab numbers and lab loads over recent years (since 1998). Not surprisingly they show a relationship between student/computer ratios (which have varied between 4.5 and 7) and lab load.

Sessions with a student/computer ratio of over 6 have had a very saturated labs, corresponding (talking to the Help Desk staff) to high levels of stress in the labs. A good ratio appears to be between 5 and 5.5 which leads to reasonably high levels of utilisation (80 last 5 weeks of session), but not to stressful levels of saturation.

The data on lab numbers and lab loads comes from: [http://www.cse.unsw.edu.au/~stat/lablogins/](http://www.cse.unsw.edu.au/~stat/lablogins/)

We currently expect 1239 students in 2004 session 1.

We currently have 323 general access lab computers. We could give up in the order of 70 lab computers and still provide reasonable service. We probably do not want to give up that many (this year) because:

a) as first year enrolments are lower, a higher proportion of students will be in later years and hence tend to be a heavier load on the labs

b) space given up is difficult to reclaim, and enrolments next year might be very different.

Additionally, the thesis lab tends to be under-used; only for a few hours in the heaviest weeks are more than 40 of the 46 computers in use. We should be able to reduce the size of that lab to 40 computers without a significant impact on the usefulness of the lab.

**Possible options:**

1. Give EE320 (the kazoo lab) back to EE. It is the most outlying of our labs and probably the best option to lose. It is also the lab of most interest to EE. It currently has 17 computers.

2. Use the western appendage of the banjo (thesis) lab for the access grid unit (it will require a wall and door to isolate it from the refurbished banjo lab)

3. Re-zone EE316d (the lyre lab) for Sanjay. This lab is separated from the other labs and has its own swipe access. It would be useful for 24 hour research/experimentation. It would probably be sensible to share the facility with EE.

4. Keep options open for Sri’s projects lab. At this stage I cannot imagine we will be doing anything for session 1. We have potential space-capacity for later this year or next year.

These would lead to:
• a total loss of 34 general access lab computers (2 small labs)
• a loss of 6 thesis lab computers
• a new advanced networking lab (possibly shared with EE)
• a new access grid thingummy
• a possibility of a hardware projects labs in the next year or so.

Overall comments:
After several years of "bigger and better" (well, at least "bigger and bigger") the idea of reducing our scope and resources feels something of a let-down. But another door opens, etc. This gives us an opportunity to embark on aspects of the School’s Strategic Plan, particularly:

students should have the opportunity to be exposed to and participate in research and development during their training; in particular 4th year projects should be as challenging and innovative as possible.

Final caveat:
Special purpose labs are an attractive option in that they allow us to sensibly use labs (and possibly computers) which are no longer needed as general access labs, in a way that is consistent with he School’s strategic plan. And they are more fun.

But they are harder to look after and, unless much care is given to how they are configured and managed, they may well required extra resources (CSG or elsewhere) to make them work.

Other Issues

Air Conditioning
This continues to be an issue for the school. The three general areas of problem are:

EE3
The standalone units in the labs on the third floor of the Electrical Engineering building are getting old and have been in urgent need of maintenance for some time. Work to do this is currently being effected and should be finished shortly.

Old Main Building
The units cooling the three newish labs under the Physics Theatre appear to have been poorly specified, with the result that at time, particularly when the Physics Theatre is not in use, there is little or no cooling in the labs. We have had to close the labs for much of the summer because of this.
Remedial work is being planned. In the meantime the labs should be usable once the Physics Theatre is again in use when session starts.

Computer Room

The increasing heat load in the School’s main computer room has meant that the dual redundant units are no longer able to keep the room satisfactorily cool if one unit is out of service. This has been an issue several times. We hope that the work increase the cooling will happen during the mid-session break (there may be some interruptions to computing services).

Computer Disposals

Disposing of old computers has been something of an issue for some time. Part of this is that the University’s rules on disposing of assets has typically meant that they have to be offered a couple of times on the University Tender list; where tender bids are often rejected by the appropriate administrative arm of the University (presumably because they do not return fair value to the University); and storing large numbers of computers and monitors for many intervening months is not practicable.

We have recently been talking to people from Wesley Mission, who run an employment training service which takes old computers, trains people of repairing/refurbishing them, then donating the revitalised computers to worthy causes. Donations to Wesley is acceptable to the University and helps keep a lot of equipment out of land-fill (at least for a few more years).

Wesley are happy to take recommendations for where the computers should go. If anyone knows of local school, etc, which would benefit from any of these computers, please let Mariann know and she can pass that on to Wesley.

Staff Stuff

New Staff

We have two new System Support people to replace Walter Guan and Sam Calder.

Rob Lawther has been working with us for some months temporarily filling Walter’s position. He is now been appointed to a permanent position. He has been working on the undergraduate Help Desk for several years and has recently been wearing the famous yellow shirt of O-Week.

Of himself, Rob says:

??? Rob’s stuff goes here ???

Mark Wotton is a postgraduate in the School and has been working with us since the start of the year.

Of himself, Mark says:

??? Mark’s stuff goes here ???
Returning Staff
Claire D’Este has returned from researching in Paris since the middle of last year. Welcome back Claire.

On Secondment
Slade Matthews has been appointed to a six-month secondment as the School’s inaugural OH&S Compliance Officer. Other announcements will be made about him and his new role (which will start at the end of week three).

On Maternity Leave
Angie Sweiss/Szczepanik, who is our Undergraduate Help Desk Manager, is on maternity leave for the duration of 2004 after giving birth to a cootchy cootchy coo pair of twins. Good luck Angie.

George Emsies will be filling her position all year. George has been working as Angie’s assistant for over a year, is well acquainted with the work and is currently doing a fine job of getting the labs and the Help Desk and its staff ready for session.

George’s position of Assistant Manager will be filled by Farhad Poacha who has been working on the Help Desk for some time.

On Paternity Leave
David Brunato has also recently required parenthood and is currently on leave to enjoy the few few weeks of delight. He is expected back next week, but will probably be taking a little more time later.

Amalan, who can’t see his way clear to coming to work
Amalan Sivaguru has been suffering from eyesight problems for some time and is currently on leave while this is being attended to. We expect him back later in March.