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Changing the Support Model for Students’ Hardware

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1. ABSTRACT

In September 2009 Loughborough University launched a PC Clinic service supporting students’ own computer hardware. Employing University students for a small number of hours each week to fit around their study commitments, and working in partnership with a local company co-located within the department, the PC Clinic provides initial diagnosis, and either a fix or referral to the hardware support partner which provides a chargeable repair service. The paper will describe the background to the service introduction, practicalities of setting up the PC Clinic, and lessons learnt.

2. BACKGROUND

For the fourth year in succession, Loughborough’s students have voted their university experience to be the best in the UK according to the latest student experience poll, published in the Times Higher Education magazine. Service departments, including IT Services, work hard to maintain this reputation, and are constantly seeking ways to improve the experience. The University was one of the first in the UK to provide wired internet to study bedrooms, and more recently has led in providing wireless access in social and learning spaces. There is a very high rate of student ownership of PCs, mostly laptops, and no restriction as to the type of computer that can be connected to the network. During the period 2006 to 2009 it became clear that students were experiencing a range of problems with their own equipment that fell outside the normal support envelope, and that this was affecting both their study and their wider “experience” in terms of their social life. In the Spring of 2009 the IT Services department surveyed students to discover the extent of the problem and to inform the solution that the University should provide or facilitate.

3. SURVEY

A web based survey was run during the last few weeks of the academic year 2008-9 and the results supported a significant change to the support model for student owned hardware. There was a need for extra services which could be separately charged, but the level of charges should be kept to a minimum. It also became clear that some existing support arrangements were not well known about, including the “Hall Network Advisers” – students based in hall and employed to assist others having IT problems.

To assess how students would receive the replacement of the Hall Network Advisors by a central clinic, where students could bring their laptops rather than visits being scheduled to their rooms, the following question was asked. “When your computer needs to be looked at, how would you prefer support to be provided?” Responses were as follows:

- HallNet Advisor (i.e. another student living in your Hall whom you can call) 27%
- Laptop clinic where you can bring your computer 56.1%
- No preference/don’t know 16.3%

This gave confidence to change the support model to a clinic for the academic year 2009-10. However free text responses confirmed that it was still important for us to visit Halls for students with desktops (as opposed to laptops) or who would otherwise have difficulty coming to us. (Around
21.2% of student machines were desktops during the year, 19.7% in the sample who responded to the questionnaire.)

4. **PREPARATION FOR SERVICE LAUNCH**

4.1. **Recruiting and Training Staff**

After discussing our existing HallNet and Network Advisors Guide with members of our Desktop and Network and Security teams, we established common types of problems (software, hardware and networking) and clarified areas of responsibility. The Network team were to support from the network port back, and the PC Clinic would deal with all software and hardware issues, including port replacements. From this, a job description and person specification were written, emphasising reasonably high technical and cross-platform knowledge, combined with high interpersonal skills.

We followed the University recruitment processes to have the posts graded, providing an hourly rate corresponding to the appropriate grade point, and approved for advertising.

Our target group for the post was current University students, and the majority of applications came from this group, both undergraduates and postgraduates. However we were surprised to find applications from outside this group, including recent graduates as yet unemployed, and others associated with the University attracted by the part time post for lifestyle reasons.

We intended to employ between 8-12 casual IT Support Assistants (ITSA}s), we received over 250 applications, and interviewed 20 candidates in three batches, one at the start of the summer vacation period, one at the end of the summer vacation and a third after the start of term.

Ideally interviews and appointments would have occurred during the last term of the previous academic year, however we were not ready in time, as we also created a new role to lead the PC Clinic and the Student Experience. Filling that role and ITSA hiring was therefore completed a week before Fresher arrival.

We organised a day’s training for the ITSA}s covering:

- what IT Services provides to students (services, software, network)
- overview of our network structure
- common problems seen on the network (wired and wireless)
- common software problems
- Acceptable Use Policy and associated responsibilities
- overview of our website, including where useful information is stored (inter and intra net)
- Health and Safety requirements

4.2. **Commercial partner**

The process for recruiting the commercial partner was conducted over the summer vacation period, in accordance with the university's procurement procedures. With the assistance of the University Purchasing Manager a tender was drawn up for provision of the hardware support service. After evaluation of tenders and clarifications, the “contract” was awarded to a small local firm who already provided a similar service (The IT Pit-Stop) from premises in town. As the actual contract for service is between the student and the company, the legal framework used was a “Memorandum of Understanding” between the supplier and the University, laying out the responsibilities and expectations of each. Appointment of the partner was again later in the year than we would have preferred, and they actually commenced shortly after the start of term. It would have been
preferable to get them on board sooner, not least because we would have been able market the new service more extensively.

### 4.3. PC Clinic Location and Initial Marketing

We felt it was important to locate the PC Clinic close to the Service Desk and existing computer labs, thereby allowing:

- existing students to find the Clinic easily
- smooth interaction between the Service Desk and the Clinic for username lookups, password resets, printer credits etc.
- a central location within IT Services

The IT Services departmental meeting room ($47m^2$) was taken over for the PC Clinic and divided into the PC Clinic and The IT Pit-Stop, providing demarcation for students between the ‘free’ and ‘paid’ services.

Time constraints limited our initial marketing, so we focussed primarily on Freshers. We spoke to the Hall Wardens group at their pre-Freshers arrival meeting, explaining what we were doing, and allaying concerns over the removal of the HallNet Advisors. For the students themselves, we had an ITSA in each Hall to greet arrivals, advertise the clinic, and hand out flyers advertising services. The existence of the new service was also highlighted at induction sessions for new students.

### 5. SERVICE IN OPERATION, AND LESSONS LEARNT

#### 5.1. Initial Workload

We set opening hours for the service as 1130 am to 530 pm Monday to Friday based on our experience of support hours used by students, intending to revisit this after a month’s service. The initial demand for the service was very high, with at least 30 visits each day to the Clinic during the first couple of weeks (Figure 1). As expected these visits consisted mainly of HallNet queries: how do I connect, how do I browse the web, and how do I access email?

Although busy and crowded in the Clinic (we hadn’t planned for students arriving with friends in tow), our resolution of software and network problems was between 95 and 100%, and hardware problems were fixed within agreed SLAs by the IT Pit-Stop. All of this helped with word of mouth advertising; moreover the high workload of Freshers Week meant all ITSAs were heavily involved, creating an excellent team building environment.

The systems we had in place worked well, with 98% of our HallNet users successfully registered and connected within 2-3 days of arrival. As students settled in and began exploring other IT services, the types of cases changed (Figure 1). Initially dominated by HallNet connections, we saw an increasing number of wireless configurations, followed, perhaps inevitably, by an increase in virus and hardware problems.
We had provided guidelines to the ITSAs that the service would act as a triage service allowing 10-15 minutes per computer, although this was never rigidly enforced. As the service developed, we relaxed the guidelines and encouraged the ITSAs to do more diagnostic work, including booking machines in for The IT Pit-Stop with a detailed problem description.

5.2. **PC Clinic Workload Monitoring**

We record the following information from each PC Clinic visit: Operating System, PC/Mac, Student in halls/private residence/Staff member, an email address and a description of the problem. We have five common problem types to speed up recording: HallNet connection; wireless connection; wireless printing; HallNet printing; and virus infection, these account for 61% of Clinic visits (Figure 2).
Capturing the email address allows us to send a survey link assessing the service. Although the response rate is low (13%), replies indicate that our most successful advertising is by word of mouth (45%) and email (32%). The PC Clinic service appears to be valued by students, and enhances their Student Experience, for example:

- Very Helpful and honest people because they are not after your money
- Such a relief to have an extensive free consultation and fixing of simple things before actually deciding to charge you for a major job. unlike most other places.
- This is a really good service but I only found out about it in my third year. I think more awareness needs to be made of it because it is really helpful and can save people money!

We queried students’ use of antivirus software (low-medium) and data backups (low) giving us two areas to focus resources on, particularly for next year’s Freshers. Our recent move to Google for student email dovetails well with data storage requirements for students.

PC Clinic visits have remained reasonably constant at 10-20 per day (Figure 1 does not include hardware failures that go directly to the paid IT Pit-Stop service), and as our reporting became more sophisticated we’ve been able to focus resources on fixing developing problems. For example, during a recent virus outbreak (Figure 1), discussions with our Networks team and Clinic staff isolated how the virus was being transmitted, allowing background network checks and communications to the students. We also noticed a number of problems with one of our pre-packaged for download software applications, allowing us to improve instructions and limit the number of installation options available.

5.3. **Staffing the PC Clinic**

Staffing the PC Clinic with students has allowed us greater flexibility, although we’ve needed to be aware of their University workloads. Our emphasis on social interaction with Clinic visitors means the team is able to clearly explain issues to the Clinic visitors.
We've been extraordinarily fortunate being able to employ staff who, in addition to social skills, were also quite technically able. But our view has always been that technical skills can be taught quickly, social skills can’t.

Using students has its own unique problems, workloads can creep up, and staffing the Clinic with one person leaves us susceptible to illness. The fragmented nature of student life, study and coursework means replacements are unlikely to be available at short notice. One unexpected problem for Clinic timetabling has been the University’s scheduling of tutorials and block taught courses. Timings for these are often unknown by the students until the week of the course, causing scheduling problems for both them and us. Inclusion of some non students in the team has eased this problem.

Organising ITSA team meetings has also proven difficult. The ITSAs’ coursework often prevents full team meetings, meaning most communication needs to be by email.

The recession created an environment where hiring new staff within the department was difficult, so the flexible employment contract of the ITSAs meant they have been assisting with email migrations, staffing the Service Desk, and providing networking support. Again this has created timetabling issues for staffing the PC Clinic, but we’ve been clear with other teams that the student’s personal study and PC Clinic staffing comes first.

5.4. Additional Resources / Self-Help

A combination of the survey, Clinic comments, and the ITSAs, provide us with an extensive focus group for the student perspective of our services. One consistent comment was that our website was difficult to navigate, and the information “too detailed”. We are currently working on this, dividing our Student pages into HallNet and ‘Additional Services’ while focusing information on the salient points.

The ITSAs suggested setting up a Facebook site, which we did, although it hasn’t been extensively used. But what it has allowed is advertising the PC Clinic on the individual halls' Facebook pages. Integration of the PC Clinic into our VLE should prove more successful, once some technical issues are fixed, allowing interactive forums to encourage student participation, with a less formal layout than the IT Services website.

5.5. Budget, Location and Staffing

We initially envisaged having PC Clinic staff fixing problems in halls, including network ports and computers students were unable to bring to the Clinic. This worked well for the first few weeks while we developed the service, but it became apparent that we could not afford to keep that many staff on the budget we were working with. Additionally, although we were aiming to reduce Clinic hours after the first month, the workload remained high, so the only reduction is during University holidays, when the Clinic is open one hour a day.

Students who don’t drop into the Clinic either ring or email the Service Desk, and at that point are encouraged to bring their machine to the Clinic. If this is not possible (for example, a desktop computer rather than a laptop, or a problem that seems to be network related), a member of the Staff and Student PC Service visits them.

The location of the Clinic, next to the Service Desk, is logical, except they are both located on the third floor of a hard-to-find building. The room itself needs repainting and redecorating, and was never designed for its current usage, lacking among other things, permanently lockable cabinets.
Our computer labs are being refreshed and moved to the ground floor of the building, and as part of this project the PC Clinic will be moving. The area has been custom designed, and the intention is to have an open area to stimulate group learning, separate from the labs, with the Clinic at the end providing fixes and advice (Figure 3).

Figure 3: Artist’s impression of the new PC Clinic.

5.6. **Budget**

The move to a more prominent location will necessitate an increase in opening hours and staffing. To cover when students currently use labs, along with responsibility for all student face-to-face support, we will be opening at 10am (currently 1130 am) and closing at 530 pm. For security and the increased number of drop-ins, we will staff the Clinic with two people. During holidays we will reduce opening times to three hours a day, reflecting the fewer numbers of students on campus. We’ve needed to increase the budget for the PC Clinic, but with our experience and feedback from the current year, we know it’s making a positive impact on the Student Experience.
5.7. **Free vs Paid service**

The interaction between the two aspects was intended to be distinct. We initially set up guidelines to describe how we saw the two services working.

### 5.7.1. Summary

- If Loughborough infrastructure, PC Clinic (ITSA)
- Hardware failure, IT Pit-Stop

<table>
<thead>
<tr>
<th>ITSA</th>
<th>IT Pit-Stop</th>
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</thead>
<tbody>
<tr>
<td>HallNet connections</td>
<td>Hardware problems</td>
</tr>
<tr>
<td>Wireless connections</td>
<td>Backup/reformat OS</td>
</tr>
<tr>
<td>Software installs/patches/antivirus</td>
<td>Unsupported OSs</td>
</tr>
<tr>
<td>Hardware diagnosis</td>
<td>Warranty repairs</td>
</tr>
<tr>
<td>Book in machines for IT Pit-Stop</td>
<td>OS installs</td>
</tr>
</tbody>
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This has worked reasonably well, although the survey results suggest some students don’t recognise the distinction. We are taking steps to clarify this, with the IT Pit-Stop team wearing branded shirts to differentiate them from the PC Clinic. A strong interactive approach has been fostered between the two services, meaning the support process appears seamless.

As part of the relationship with The IT Pit-Stop we hold monthly meetings to assess the service against SLAs, examine marketing opportunities, and develop procedures. These monthly meetings are in addition to brief weekly meetings held between The IT Pit-Stop and PC Clinic managers.

### 5.8. Marketing

As detailed in Section 4, initial marketing of the service was limited to flyers, bags and emails to Hall students during Freshers week, followed by a stall at the Freshers Fair. The PC Clinic was a new service, and as such we doubt we could have dealt with any more visits during the first few weeks; as it was we targeted a third of the student body (around 5000 students). These students would have had access to HallNet advisors in previous years.

Since then, and driven in particular by The IT Pit-Stop, we have explored additional methods of advertising the service to students:

- A stall in the main student catering area, complete with Xbox, to advertise the Clinic and our free antivirus software.
- Targeting IT Support staff within departments, encouraging them to inform students and staff of the service.
- Occasional emails to HallNet users targeting problems seen in the PC Clinic, although we’re very conscious of not over-emailing the students.

Other softer marketing methods are being trialled, although it’s hard to establish their efficacy. In addition to Facebook and the VLE, we are using a sandwich board outside the building, adverts on the lab desktop, a link on the Student Email landing page, and in an unique approach - guerrilla bike marketing.

We think we’ve exhausted most avenues for marketing. We’ve realised that students prefer contact via email, and emails from departments are more likely to be read. Next academic year we will be able to include mention of the service in pre arrival material.
We’ve recently opened the PC Clinic to Staff personal machines and Alumni. Pickup has been steady, and we’ve advertised using departmental IT staff and Staff newsletters. Alumni are being targeted through the Alumni email list.

5.9. Where now?

How we develop the service is an interesting question. There’s a limit to how many students we can target, although capturing first years means within three years the entire student body should be aware of the service. The main untapped area, from the IT Pit-Stop perspective, are Alumni. However we need to be careful to direct Alumni to The IT Pit-Stop, rather than overwhelming Clinic resources.

We see potential in delivering some software applications using virtual technology, although we need to consider how we approach licensing and installation of software (including the virtual client) onto personal machines. We’d also like the Clinic to become more interactive, and our foray into the VLE is an initial step here, eventually leading to Clinic queries being able to be dealt with by Skype/IM etc.

5.10. Lessons Learnt

Never underestimate demand for the service

Our initial budget was too low. The budget only allowed us to staff the PC Clinic for six hours a day with one person, preventing the ITSAs going out to Halls and fixing problems. Demand for the service prevented a reduction in term-time opening hours.

Personal skills over technological

One of the major reasons for the success of the PC Clinic has been the ability of the ITSAs to engage with the students. Technological skills can be taught, but the ability to explain what’s happening, how it can be fixed, and reassure stressed students, is an invaluable skill and difficult to teach.

Relaxed approach

We had proposed a booking system for the Clinic. It became apparent that students don’t want to work this way. Therefore both the Clinic and The IT Pit-Stop need to deal with peaks and troughs in workload. Students appear to be fine queuing, if it’s obvious that problems are being fixed.

6. REFERENCES
