

Institution

University of Bath

Originating Department

Computing Services

Contact Name

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Objectives of Registration On-Line

This project has allowed students to complete their 'start-of-year' administration using a single interactive website. This encompasses all students: new or returning, UG or PG, on- or off campus, full- or part-time. It has evolved from basic on-line registration 5 years ago to a fully integrated system including fee payment in 2003.

Bath's concept of annually registration involves students:

- Checking & correcting their details;
- Agreeing to abide with our regulations;
- Paying all outstanding debts and tuition-related fees for the coming year.

Students do this at their own pace using a secure, quick and intuitive web interface. The captured information is exchanged via our datahub with other systems including library cards, computing account, email, Students' Union, RESnet, etc to provide a hassle-free start to the year for our students. At the same time it provides the University with better quality statistics earlier, improved cash flow and much more effective use of staff time during the late summer.

Benefits for the University

The main focus of the project has been to reduce the huge concentrated effort at the beginning of the year to register and collect payments from students. The planning and organisation of a standard week-long registration session at the start of session was considerable, often involving large numbers of temporary staff. By investing in an on-line registration process the load on both staff and IT systems has now been greatly reduced, and spread over a much longer period. In 2004 students were able to register during the seven weeks before start of session with any face-to-face issues being finally handled in a few small rooms, compared to a full week's use of the University Hall previously. The increased time allowed staff to concentrate on complex student issues for those students who do have problems, rather than spending time on the mechanics of registering everyone. The hall and other venues have been freed up for both academic and social activities.

There have been significant financial benefits from the project as a whole. There has been a huge reduction in the amount of paper sent out, resulting in printing and postage savings. The greatly improved targeting of letters and emails both reduces waste and increases the effectiveness of communication. Cash flow has been improved, with significant numbers of payments being banked from mid-August onwards (see comparative graph in appendix 2). Alongside this has been much better management of payment methods. We have been able to move students from almost all paying by cheque to mostly paying by direct debit, with a growing proportion paying on-line with cards. Cheques, bank transfers and cash, which are all expensive to administer, have been steadily reduced to around 25%.

We now have operational detail and planning-level data much earlier in the year, helping us to make better use of resources and check our progress against plans more reliably.

Partnership

One of the most challenging but rewarding changes relating to Registration On-Line has been the acceptance of changing institutional practice together with modern technical solutions to provide a complete and effective business process.

Strong working relationships have been built across the departments involved, in particular the core of Computing Services, Student Records, and Finance. This has produced a climate in which substantial design decisions (for example deciding what payment methods we should offer and how should we encourage/discourage them) can be made with the confidence that they will not only be technically feasible, but also effective from a student's viewpoint and efficient and safe from a business perspective.

Benefits for Students

The main advantage for students is that Registration On-Line provides a single point where they can handle their 'start of year' administration at their convenience. A much-echoed comment from student surveys has been 'I didn't have to queue at all this year!', although we now seem to have created a culture that expects not to have to queue at all! This results in students being able to spend more time on both academic and social activities – a far better way for students to find their feet than the 'shared queue experience'.

Our communication with students has vastly improved, in terms of content, appropriateness and timeliness. There has been a significant move from providing large amounts of 'read this first' type documentation, to a more 'Just in Time' method. This starts with only showing relevant information to students, with context-sensitive help information on all web pages, along with a managed call-tracking system which directs queries to the appropriate staff groups. This more co-ordinated and coherent approach has greatly reduced the bouncing of students 'from pillar to post' when they have queries.

What we have found – and what surprised many of the team back in 2000 – is that the current generation of students has grown up with email and purchasing on the internet, and frankly expects their institution to have these tools available.

Description

Brief History:

Prior to the first version in 2000, registration culminated in a week-long face-to-face event in the University Hall, involving 10,000 double-sided A3 registration forms being checked by Student Records, mostly cheques being taken by Finance, Computing Services handing out account details after this, and the Library, Students' Union and others doing 'their thing' in a huge daisy chain of queues.

Registration On-Line has improved these processes over several years in a continually evolving approach. The two big changes were the initial provision of a worldwide self-service solution for checking and updating details from 2000, and allowing payment and full registration from 2003:

2000	Initial version, providing checking and updating of students' details.
2001	Enhancements to user interface and related processes.
2002	Major re-write to interface to a new (SITS) student record system.
2003	Full online payment options included to provide complete registration facility; major overhaul of user interface.
2004	Further enhancements to user interface and business processes, and improved links to computer account management systems.

User Interface

In many ways the entire fate of this project rests on the quality of the user interface. The original requirements focused on:

- The ability to work quickly and easily over a narrow band connection or from the proverbial 'internet café in the outback'.
- The ability to explain complex processes (for example, the intricacies of some HESA fields) without providing training.

Considerable effort is spent on continually enhancing the user interface, and every year it has been improved. The underlying principle involved has always been efficiency, and it carefully does not try to be fancy or clever. This does not mean that 'form follows function', but that it tries to make the process as quick and easy for students as possible, while retaining a high level of data quality.

Increasingly this has resulted in making the system more appropriate to individuals, with only relevant information being shown to new students as opposed to returners, research students, etc. Careful decisions have also been made about what should and shouldn't be attempted on the web. In a complex process like this, a good awareness of when the human face of the University should be readily at hand is vital.

Technologies

The key technological aims for Registration On-Line are performance, ease of maintenance, and browser compatibility. This last requirement has reduced over the years with improved browsers, but is still occasionally an issue. Therefore a minimum of languages, etc has been used:

- Oracle PL/SQL packages make up the business logic, taking advantage of the extensive knowledge of this language and Oracle generally within the department.
- Perl then provides a presentation wrapper, though a small amount of business logic is done here for performance or user interface reasons.

In addition to the underlying interface to the SITS student system, several other areas have been outsourced. The decisions here have been made with a view to our key competencies of integration, general Oracle skills and understanding of business process, and the expectation of long-term maintenance. Therefore the following areas use external packages:

- Card payments (both instant and by instalment) use WorldPay.
- UK address checking uses QuickAddress from QAS.
- Bank account code checking for direct debits uses BankFinder from AFD.
- All queries are managed using Request Tracker from Best Practical Solutions.

We have very deliberately avoided using cutting-edge technologies, both for compatibility reasons and ease of maintenance.

Evolutionary Development

Many smaller requirements can be reacted to quickly, in particular changing the information given to students. This is very effective should we start getting a large number of calls about a particular area. We make significant use three main sources of ideas for enhancements each year:

- Students are asked to rate ROL and give their comments as part of the annual Computing Services survey. The responses are analysed to draw out more general improvements that can be made.
- Support queries are examined to see where people are having problems. This typically leads to improving the user interface to make it more intuitive.
- A registration review is organised covering all departments involved to suggest improvements for the following year.

This is a fairly standard method of quality assurance, but our persistence in doing all these reviews every year for the last five years, coupled with a commitment to rigorous testing, provides us with a very robust system that is widely appreciated by students.

Knowledge Transfer

We feel we are seen as a leader in this area as witnessed by the number of enquiries and visits. A formal presentation has been given to the AUA and we have hosted informal visits from almost a dozen HE institutions. Colleagues at one university recently commented that 'many Universities claim to offer online registration, but Bath is the only one we have come across that really does'.

A significant amount of information is publicly available on our web site. Although information at <http://www.bath.ac.uk/student-records/getreg/gr-new-rol-look.htm> is mainly focused at helping students it also gives others an insight into how we've solved certain problems.

Supporting Documentation

See appendices.

Staff Involved

A great many people have been involved in the five years this project has been running, but the following are the key persons involved in the move to full registration and payment during 2003:

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Ian Robinson	I.Robinson@bath.ac.uk	General Manager, Students' Union

Support of Institution UCISA Representative

This submission has my full support, I believe that the achievements demonstrated over the last five years match most of UCISA's Award for Excellence criteria i.e.: -

- Innovation
- Systems integration
- Leadership
- Self-service implementation
- Business management improvements
- Returns on investment
- Collaboration (with our Registry)

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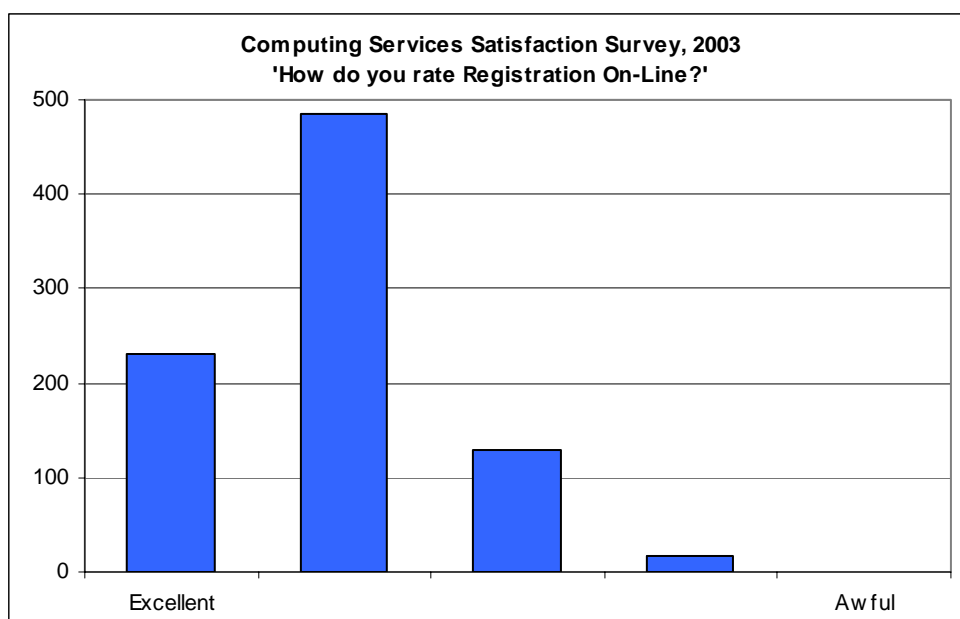
Rod Angood, Director of Computing R.A.Angood@bath.ac.uk

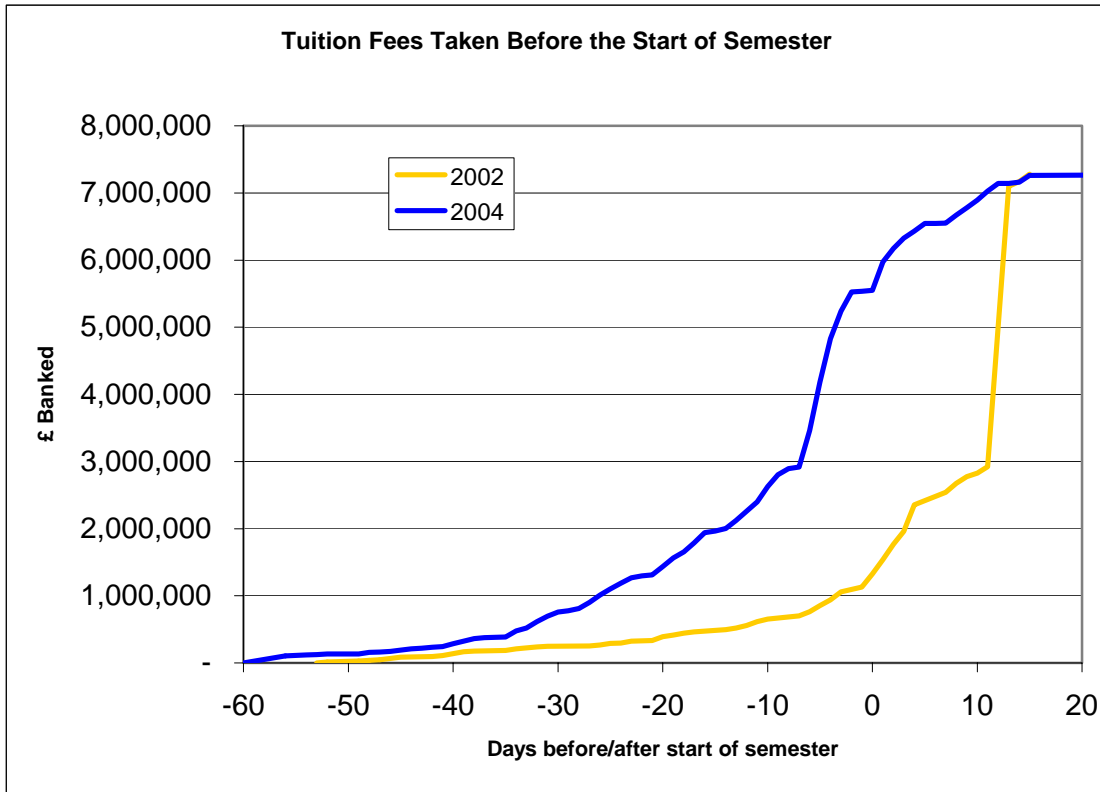
Appendix 1: Registration Timetable for 2004

This table shows how a typical year of Registration On-Line runs. Note that several of the facilities offered are available all year round (paying debts, altering addresses etc), but most are specific to the start of year.

Throughout summer	New direct applicants move to 'Unconditional Firm', limited access computer accounts created to enable applicant's access to ROL.
Sun 15 Aug	We receive A-Level results. New UCAS applicants start moving to 'Unconditional Firm' with limited access computer accounts.
Thu 19 Aug	Students receive their A-Level results.
Mon 23 Aug	Letters and emails (for those living overseas) start to be sent to new students' home addresses. These welcome the students, give them usernames/passwords and ask them to start registering, along with links to the getting started web pages. Emails also sent to returning students asking them to re-register.
Thu 26 Aug	First major peak of ROL usage, over 500 people fully register and pay their fees, their computer accounts are opened for full access.
Subsequent weeks	Registrations continue, with usage normally peaking on Mondays and tailing off through the rest of the week (see graph on page 6).
Mon 4 Oct	Last week before the start of semester – ROL usage has its highest peak at 750 people.
Thu 7 Oct	Induction for new students starts on campus. 83% are already registered by this date. The remaining 17% have access to dedicated public PC's and ROL advisors in the Library. Library cards start to be issued to new students.
Mon 11 Oct	First day of semester.
Tue 19 Oct	Reminders emailed to returners who haven't registered saying their computing and email access will be removed on 25 th October unless they register. Approximately one third of these heed the message and register during the week.
Mon 25 Oct	Computing access removed for returners who haven't yet registered (although they can still access ROL). There is a flurry of registrations before credit control start their processes.

Appendix 2: Supporting Statistics





Note that the cash-flow graphs shown above exclude any money taken by direct debit - this happens later. The large leap around the 10th day of semester in 2002 marks the end of the week-long face to face cheque collection exercise, when they are all cashed. The main improvement is that £5.5M was banked by the start of semester in 2004 compared to £1.1M previously.

