# Keynotes

## Multi-media in action:

### The RIMM Project
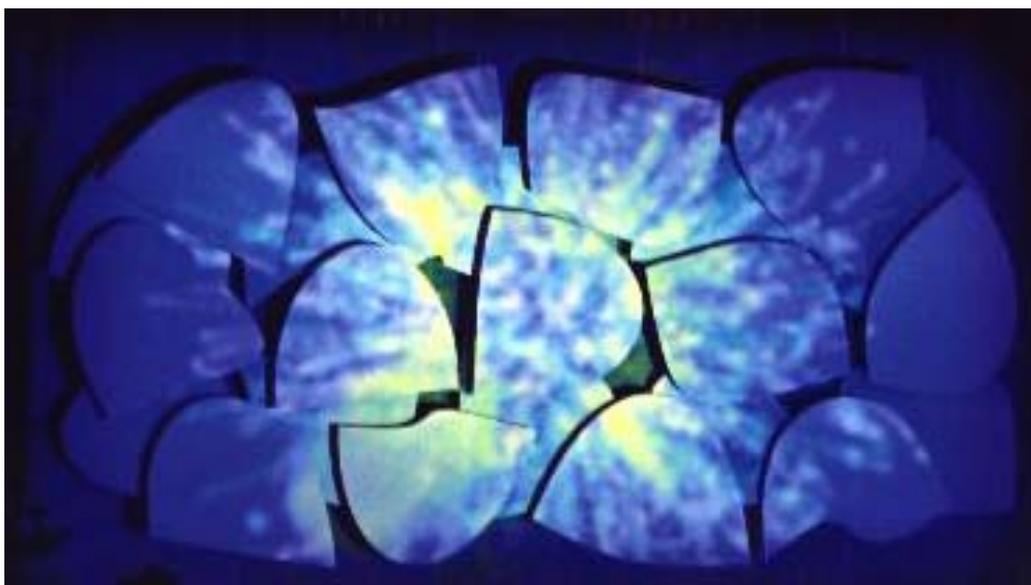
## From the Editor

On page 8 Rob Fletcher gives a detailed account of his role in a recent research project based within the Music department.

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As we continue to increase security on our network, the topic of passwords, and the necessary restrictions upon them, has been one which has excited much comment and a little abuse. Arthur Clune, writing on page 7, explains how password encryption works and the limitations that need to be in place to ensure a stable and secure system.

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Recent months have seen a spate of concerns expressed about junk email. Although for most people this remains a small or even non-existent issue, for others it can be a problem. Advice on how to deal with it can be found on page 3.

*Joanne Casey*

## Contents

## Feature articles

**Keynotes on the web**

**Back copies of Keynotes can be found at:**
**www.york.ac.uk/services/cserv/offdocs/keynotes/**

# Keynotes

## Classroom printing
### Brian Souter

In response to user comments we have recently modified the printer security cabinets to allow users access to the GO button on the classroom printers. This should reduce the number of fault calls and increase the availability of the printers outside normal hours. The notice alongside the GO button states: *If the display shows 'Load A4 Letter' or something similar, then press the GO button twice to continue printing. If the display shows 'Toner Low' or 'Input Jam' DO NOT press the GO button, but please phone the Information Desk on ext. 3838 to report the fault.*

## New PC classroom in Wentworth
### Brian Souter

As part of the alterations to the ground floor area in the Wentworth nucleus, the Computing Service will be provided with a new PC classroom to replace W/218. Although of similar size to the old room, it will be more accessible, particularly for disabled users, and will provide the opportunity to upgrade the furnishing, equipment and security. The work is expected to be completed shortly after the Easter Vacation although no decision has yet been taken on when to switch the facilities. This depends on funding for the equipment and a decision on using W/218 as a staff training room.

## Windows 2000 help pages
### Sam Vines

Users of the Windows 2000 Service will be happy to learn that the help pages (**www.york.ac.uk/services/cserv/help/win2000/**) continue to expand. Recent additions include information on importing your address book to Outlook, explanation of the differences between the M: and H: drives, and details of how to map network drives. Check back regularly as we aim to provide more information as new queries arise.

## Summer term courses
### John Illingworth

The Summer Term is often a period of lower demand for Computing Service Courses, but we have examined our course database and picked out the courses with the longest reserve lists, both this term and last, and rescheduled them for the Summer term. We are also running our mandatory schedule of basic office software courses, with the innovation that the basic introduction to Windows will now be held in a Windows 2000 facility, in preparation for the Autumn term when all classrooms will be Windows 2000. The following schedule is provisional until we have the room bookings confirmed:

### Everyday Essentials

These courses will be held from 2:15 to 4:15 on Wednesdays:
Week 1 Windows 2000 A/EW/004
Week 2 Word L/117
Week 3 Excel L/117
Week 4 PowerPoint L/117
Weeks 5, 6, 7 Access L/117

### Web Strand

These courses will be held in L/117 from 2:15 to 4:15 on Thursdays:
Weeks 1,2,3 HTML
Weeks 4,5 Cascading Style Sheets (CSS)
Weeks 6,7 Dreamweaver (primarily for Web Authors)
Weeks 8,9 UltraDev the part of Dreamweaver that knows about ColdFusion.

## Easter Bank Holidays
### Brian Souter

Users should note that the Computing Service will be closed on Good Friday (29 March) and Easter Monday (1 April). All systems will be running as normal but the Information Desk will be closed and no staff will be on duty. Availability of Computing Service PCs and printers is subject to the opening hours of the colleges and the King's Manor over the holiday weekend.

## Staff news
### Joanne Casey

Debra Fayter, formerly Iliad Course Co-Ordinator, has recently left us to take up a research post in NHS CRD. Debra joined the Computing Service in 1994 and was responsible for establishing the Iliad programme. We wish her every success in her new career.

We are pleased to welcome back Chris Reece who takes up the post of Systems Administrator/Programmer, and offer congratulations to Susanne Hodges who, having worked with the Iliad programme since 1998, has now been appointed Information Literacy Course Manager. We hope they both enjoy their new roles within the Computing Service.

Keynotes

# Frequently asked questions
## *Aimee Phillips and Joanne Casey*

### How do I configure my Online Directory entry?

To configure and test your directory entry go to the Electronic Infodesk (**www.york.ac.uk/services/cserv/edesk**) and follow the **Online directory management** link. You will be prompted for a Computing Service personal account. If you do not have an account please contact the Computing Service Information Desk. More information about the Online Directory can be found at: **www.york.ac.uk/systems/cfm/whitepages/aboutwhitepages.htm**.

### I'm using Windows 2000. How do I install foreign language support for MS Office and Internet Explorer?

Users can install foreign language support for MS Office and for Internet Explorer by following these steps:

- Close down ALL applications
- Go to **Start | Programs | Accessories | Microsoft Office Tools | Microsoft Office Language Settings**.
- This will give you a list of languages: you can select as many as you wish. Once you have selected the languages, click OK and close the Language Settings program.
- Start an Office application, such as Word. It will install additional files for the language(s) you have selected. This may take a few minutes. You will now have support for your language.

In Internet Explorer, any page you access which requires a foreign font should now display correctly.

In MS Office applications, you can use the foreign language support by using the appropriate font. For example, the SimSun font can be used to add Chinese/Japanese characters to a document by going to the **Insert | Symbol** menu, and selecting the SimSun font or Asian Text from the listing.

### I've been told to reset an application. How do I do this?

- Go to: **Start | Programs | Utilities + Extras | Systems + Supported Utilities**

- In the Window which appears, double click on **Reset Applications**.

- In the Dialog box which appears then use the drop-down list to find the name of the application you wish to reset. Click on the application name, and then click on **OK** .

- Launch the reset application from the Start menu (NOT via a desktop icon). Click **OK** on any dialog boxes that appear.

### How do I access my University email from home?

You can read your University e-mail from our University mail server whilst away from campus. You will need to configure your mail program to know about our mail server, using the following information:

Incoming (IMAP) mail server: **imap.york.ac.uk**
IMAP mail directory: **Mail/**
Outgoing (SMTP) mail server: *the server provided by your Internet Service Provider (ISP) or site*

You can find step-by-step instructions for configuring Messenger and Outlook Express at:
**www.york.ac.uk/services/cserv/docs/guides.yrk/eguide/eguide.htm**

You should **not** use the University's "smtp.york.ac.uk" server: it will not work properly for you when off-site.

### How do research students buy extended access to computing facilities?

Students who are registered as being in their writing-up period will need to pay for continued access to computing facilities. This will cost £21 for three months, and can be done via the Information Desk.

For answers to more frequently asked questions visit: **www.york.ac.uk/services/cserv/help/**

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# Campus Agreement
## *John Illingworth*

We seem to have been publishing articles for many months on how the Microsoft Campus Agreement will be in place real soon now. I am pleased to be able to tell you that, after a few final problems in delivery, we now have the signed agreement.

The agreement covers the most current versions of Office Standard and Professional Editions, Office Macintosh Edition, Windows Upgrades, Core Client Access Licence (CAL) FrontPage, and Visual Studio Professional Edition. See: **www.york.ac.uk/services/cserv/sw/ca_local.htm** for details.

The agreement costs in the region of £68,000 per annum and licenses the software on all PCs and Macintosh Computers owned or leased by the University. It is paid for out of the annual software charge levied on PCs and by a one-off charge per licence for unsupported and stand-alone PCs. The Computing Service has received no extra funds for this licence.

### Changes in the supply of licences

- Windows 2000 supported PCs will have the Campus Agreement software mounted automatically.

- Windows 95 Supported PCs may now acquire copies of the software covered by the agreement at no charge for the licence, but a CD-ROM copying charge will be levied where necessary. You will need to provide the name of the PC when ordering.

- Windows 95 Supported PCs will no longer have to pay for an upgrade licence when upgrading to Windows 2000. They will, however, still have to pay for technician time.

- Unsupported and stand-alone Windows PCs will continue to pay for the software at the Select price.

- New Viglen (and soon other suppliers from the official list) PCs may have Windows 2000 installed at no extra cost.

- All University owned or leased PCs will be deemed to have Core Client Access licences at no extra cost.

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# Dealing with junk email
## *Joanne Casey*

The University of York sees around 40,000 email messages a day arrive on its mail servers. A very small portion of these are unwanted 'junk' email, some of them of an offensive nature. Like the paper junk mail you receive through the post, the simplest way to deal with these is to dispose of them - judicious use of the delete key is your best ally.

### Why isn't it filtered out?

The Computing Service does block the major 'spammers' but it is difficult to stop occasional offensive emails from arriving in your inbox. The volume of mail we receive means that, even were it deemed acceptable to do so, there would be no cost-effective method of scanning all emails. Senders hide their identities, and change their email addresses and providers frequently. It's possible to put almost anything in the 'from' field (or indeed the other fields) of an email - this is just transmitted as text.

### What should I do?

Individuals who wish to complain to the originators of the email can of course do so, but by replying they need to be aware that they are confirming their existence and active use of email which can result in further messages, not only from the originator, but from others with whom they are in partnership who purvey products for different tastes. Our advice is to ignore emails that you object to unless they come from a respectable company who will remove your name if asked.

There is a tool called SpamCop (**www.spamcop.net/**) which can analyse the detailed mail routing information to find the ISP where the message was initiated and it will even draft a complaint for you; it is free to use and includes full instructions.

Emails offering you the chance to invest money should also be ignored. The message is to use your common sense and discretion as you would with any other form of communication.

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## Your reports on MAC
*Jenny Jackson*

The amount of free disk space on the Alpha Servers is nearing a worryingly low level. Consequently, on **Monday 25 March 2002** all output files which have been generated by running reports from the MAC System will be **expired**. Reports have a lifespan assigned to them, normally one day, therefore any outputs that have outlived their lifespan will be deleted on this date. If you wish to retain output reports for future use please use the following procedure to transfer them to your filestore (M: drive for Windows 95 users, H: drive for Windows 2000 users) or make a printed copy. You will need to be registered to access the Unix service:
**www-db.york.ac.uk/cgi-bin-auth/edesk_accounts**

1. Log onto the MAC system.
2. Enter 99;York in the Action Box
3. Select Student Manager/ Estates Manager/ Research Manager/ Finance Manager as you would normally
4. Select In-House reports.
5. From the Menu choices select View/Reprint
6. Enter F in the Action Box
7. Under User enter your user id and under the heading Type enter @
8. All reports that you own will now be listed.
9. Locate the report you wish to transfer you may view a report by entering V- ID Number in the Action Box.
10. Once you have ascertained which report you wish to transfer enter FT-ID Number in the Action Box.
11. When prompted for Node enter Tower or Ebor
12. Enter your user id and password (NB: your Computing Service ID not your MAC ID)
13. The report will now have been transferred to your M/H: drive

## Data Warehouse
*Nicola Normandale*

Two new servers have been ordered for the Data Warehouse - a Netra T20 to act as the main server and a Netra T1 to act as a test, development server which will also act as a backup. When these are in place, we will be able to provide a much more robust service for the Data Warehouse and our MIS web applications - ie. they should be down much less often.

## Health Departments merger
*Nicola Normandale*

In January this year, the Health Sciences and Health Studies departments officially merged. Work is now in progress to reflect this on the MAC system. It is not a quick task, as we have many in-house programs that exclude students or courses in department 29, which was Health Studies. All these programs have to be changed to identify the students and courses in another way. Once this work is complete, all instances of department 29 on the MAC system will be changed to department 26, the new Health department.

## YIMS update
*Geoff Houlton*

The MIS Group continues to be extremely active on a number of projects within the YIMS programme. This article provides a 'round up' of progress to date, and expected future activities.

### Payroll and Personnel System

The 'ResourceLink' HR/Payroll system commenced live running in December, initially for salaried staff. Further categories of staff, e.g. manual staff, weekly paid staff and casual staff, will be transferred into the system over the coming months. It is anticipated that the MAC Payroll & Personnel software will be decommissioned after the tax year-end in April.

### Time and Attendance System

The 'Workforce Timekeeper' T&A system commenced in earnest from 1 January. Over 500 manual staff are now 'clocking on' to work each day using the telephone and a PIN no./password to electronically record their hours of work. An interface into the new HR/Payroll system is due to commence operation at the time of writing.

### Finance and Research System

A formal procurement through the European Journal is underway. Colleagues from across the whole University are contributing to the selection process. The MIS Group are heavily involved in assessing the technical merits of each bid, and a final decision on a preferred supplier is expected during March.

We then move into the implementation phase. Current plans indicate a new Finance system will commence operation early in 2003.

### Student Records System

Another formal procurement through the European Journal is taking place to select a new Student Record system. Once again, MIS will be heavily involved in assessing the technical merits of each bid. A new system is expected to be operational by October 2003.

### Timetabling System

A combined Timetabling and Room Booking system has been bedding-in for some months. Work has been ongoing in this area to provide a stable and reliable system – both software and database upgrades are being planned for the coming weeks.

### And Finally

Given current constraints on staffing in MIS, along with other commitments to major projects such as HYMS (Hull York Medical School) and the e-University, it is extremely unlikely that MIS will be able to commit significant amounts of time to work in other areas. We hope that colleagues will bear with us!

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# The e-University: a personal view
## John Illingworth

Computing Service representatives attended a recent technical briefing concerned with the University's involvement in the e-University. Part of the pilot scheme will be a course in Public Policy and Management provided by this University.

First of all the e-University isn't a University. It doesn't grant degrees or have a Council, do research or have a lake or any of the other things we think of as characterising a University.

It is a company that hosts courses provided by existing universities. It provides the administration and the infrastructure, and a Web portal where prospective students can browse the details of the courses on offer, enrol, pay and participate. It also provides facilities for the contributors to create and edit their offerings. All the hardware and software will be held at e-University sites, with the main site being in this country. All the finances will be handled by the e-University who will take an agreed proportion of the fee income and pass the remainder on to the University providing the course. Students will be students of the course provider and will achieve qualifications from that body.

The Computing Service is likely to be involved in the business of transferring information about the e-students, their financial and academic status, between the e-University and the University of York. This will have to be regular, secure, accurate and compatible with the new YIMS systems. It may also be necessary for us to provide local facilities for the development of content, but this is by no means certain.

# Call Management System
## Brian Souter

The long-awaited call management system for the Information Desk was installed in September. One of the features of the system is that it enables us to record figures for the calls received, average time to answer and numbers of calls answered. Over the four months up to the end of January, the Information Desk received 4366 calls. Here we focus on the 1487 calls received during January.
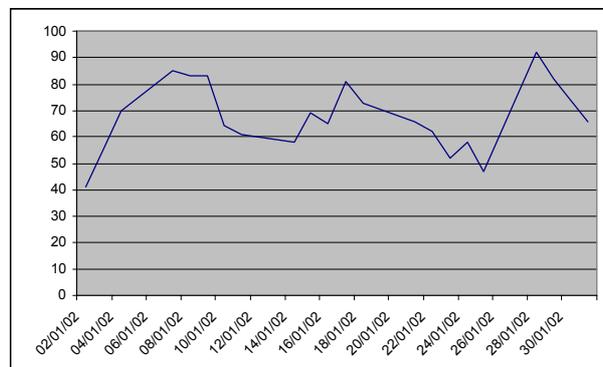


*Calls received each day*
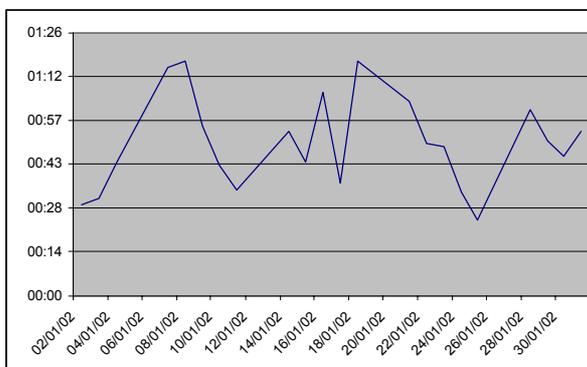


*Average time to answer calls*



*The new Windows 2000 study area in Halifax College provides 24 hour access to 31 networked PCs.*

## Using SSH and PuTTY

Three new user guides - **Using SSH on central campus systems**, **Using the Terminal and SSH client PuTTY** and **Setting up PuTTY to use public key authentication** - have recently been produced and may be accessed from: **www.york.ac.uk/services/cserv/advice/guides.htm**

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## Associate People Database
### Brian Souter and Jane Henley

Details of all salaried employees of the University are held centrally in the Personnel System. These records are used primarily by the Finance Department for salary purposes, but also by the Computing Service and Library to validate requests for their facilities. A subset of the data is transferred automatically and used to generate Computing Service usernames.

In addition to salaried employees, there are several hundred other people working in the University who are not employed directly by the University and who therefore do not appear in the Personnel System. As these *associate people* are outside the Personnel System it is important that their status and entitlements are clear, and that information about them is recorded and made accessible directly to such services as the Computing Service and Library.

To this end, the Computing Service and Library have been working together to establish a list of categories covering these people and to implement a system to record their details. A web application and database has been created and it is envisaged that departmental secretaries or other authorised departmental staff will input data which can be accessed by staff in the Computing Service and Library.

A decision was taken recently by Information Committee to implement this system and letters were sent to Heads of Departments and departmental secretaries in February. The new system will operate from the start of the Summer Term, Monday 22 April, when desk staff in the Library and the Computing Service will only register *associate people* if details are available on the database. Anyone not entered will be asked to contact their departmental secretary or other authorised person within their department.

The new system is designed not only to help desk staff in the Computing Service and Library, but to ensure registration is done smoothly. It should eliminate the need to question applicants or to ring departments for confirmation.

## Windows 95 is (sort of) obsolete
### Doug Moncur

As you may be aware Windows 95 is no longer a supported operating system as far as Microsoft is concerned. This means that they no longer provide updates, drivers and patches for it, and manufacturers of components are no longer obliged to provide drivers for this operating system. Those of you with long memories may remember that we went through this scenario with the Windows 3.11 service before it was finally killed off in 1999.

The crucial difference this time around is that we've had a coinciding change of processor architecture, going from Piii to P4, which means different motherboards and different low level drivers: no one has written any P4 low level drivers for Windows 95. This means that P4 based machines cannot run Windows 95. As the Piii processor is end of life, ie it has ceased production and manufacturers cannot get any more stock it is not possible to obtain machines that can run Windows 95. When upgrading to a P4 machine, if you require a supported connection you can only have a connection to the Windows 2000 service.

If you wish an unsupported connection, there is no restriction as to which operating system you choose, providing it runs on your PC. Your hardware manufacturer should be able to advise if you are unsure. Remember however that unsupported does mean unsupported. While the Computing Service will carry out basic network, email and browser configuration for a new unsupported connection for a fee of £50, you will have to install software and printers yourself and will have to ensure that you back up your data regularly yourself. It may be advisable if you are considering moving to an unsupported connection to discuss this with your Departmental Computing Officer.

Further information on the supported and unsupported services is available online at:

**www.york.ac.uk/services/cserv/pc/**

## Freezing the Windows 95 service
### John Illingworth

In view of the gradual move to Window 2000 we are no longer installing upgrades to major software items on Windows 95 nor installing any new centrally provided items. However, as Windows 95 is the standard classroom teaching system for the rest of this academic year it may be necessary to install some teaching software. After the upgrading of all Computing Service classrooms and Study areas to Windows 2000 in Summer 2002, we intend that the Windows 95 service will be completely frozen from 1st October 2002.

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# Password security at York
## *Arthur Clune*

As some of you may have noticed when trying to change your password, we impose fairly tight restrictions on the sort of password you can use on our systems. While these restrictions may seem heavy-handed, they are very necessary.

Some people say that they don't care about having a good password - there is nothing of value in their account. This isn't true. Even if you have no work in your account, how would you feel if someone logged into your account and sent abusive mail to your supervisor/Head of Department? We would track down the account which had sent the mail, and everyone then has a large amount of hassle sorting out the resulting mess. This is not just a theoretical problem - it has already happened.

To understand why our password restrictions are like they are you need to understand a little bit about how passwords work. (Note for those who know - this is a simplified version).

The Computing Service does not store your password in plain text anywhere. All we have is an encrypted copy of your password. Passwords are encrypted in such a way that there is no way to go from an encrypted password to the original password, but that the same password will always encrypt to the same thing. So, for example, the password 'betty' will encrypt to '45fgVf' and always to '45fgVf', but given the string '45fgVf' there is no way to work out the password that generated it.

So, if we don't store your password, how do we check that you have used the correct password? Simple. The system takes the word you type, say, 'betty' and encrypts it. It then compares this encrypted string with the encrypted string it has stored for your account - if they match, you are allowed to log in. If the encrypted strings don't match your login will fail.

So, why do we enforce all those bizarre rules about words not being in a dictionary?

If I want to guess your password, and I have the encrypted copy, all I have to do is work my way through a dictionary one word at a time, encrypting each in turn until I find one that matches. Then, since the encrypted string is unique, I know your password and can log in as you. Automated programs and electronic dictionaries make this fast and easy enabling me to check not only English dictionary words but also, for example, common French or German words, or the names of popular film characters. If you follow our password selection criteria I can work my way through an entire dictionary, but won't find your password.

The possibility of automated attack is also why we insist that your password must be more than 6 characters long and contain some numbers - the more possible characters in your password, the longer it takes to find. Unfortunately, passwords cannot be longer than 8 characters because some of our systems only recognise that many characters. Still, if our system accepts a password, it is a good password, and you can continue to use it for as long as you like.

Another common fault (which only applies to taught course student accounts) is leaving your password as the default password you were given when your account was first set up. If this applies to you, you will have received several emails recently asking you to change your password - please do it! We are working down the list, disabling accounts until the password is changed. This causes hassle all round - to avoid it, just go the Electronic Information Desk (**www.york.ac.uk/services/cserv/edesk**) and choose **Password Management** to change your password. Some hints on choosing a good password are given in the box below.

If everyone has a good password, then the whole system becomes more secure and stable for all of its users.

> ### Help - I can't think of a password!
>
> Don't think of "passwords" - think of phrases. Think of a memorable quote, eg 'The computing service has an annoying password system", take the first letter for each word and create the password 'Tcshaaps'. This is impossible to guess (it's not a word) and easy to remember (remember the phrase, not the string).

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# Computing Service work on the RIMM Project
## *Rob Fletcher*

RIMM: Real-time Interactive Multiple Media Content Generation Using High Performance Computing and Multi-Parametric Human-Computer Interfaces. The project RIMM was supported by the European Commission 5th Framework Programme; Information, Societies, Technology Programme as an Accompanying Measure Trial.

The trial aims to unite computer music technologies, surround sound and computer graphic generation all under the control of the performer. On 9 December 2001, **CONSTRUCTION 3, a Hyper-concerto for Soprano Saxophone and Multiple Media** was performed in Berlin at the Staatliches Institut für Musikforschung PK.

One month of my time, over a six month period, was funded by this grant to design and create a framework for the production of real-time interactive computer graphics. The result of this work was an Applications Programming Interface (API) which would allow programmers to write complex computer graphics applications. Particular emphasis was placed on control of animation, import of graphics materials, a network interface to allow control of the graphics from remote systems, and most importantly, a natural scheme to allow a programmer to create graphics "scenes" and to be able to switch between these scenes. In the context of a music performance, the different "sections" of a piece could be provided with a graphics performance designed to be synergistic with the music. The actual graphics design was guided by artist Peter Fluck.

The API was designed to be source code portable between SGI and PC systems, using the GLUT plackage for the windowing and events interface and OpenGL for the graphics programming interface. The whole concept of the system was centered around the notion of a "graphic object". This object could have many attributes, e.g. colour,

size, location, rendering type (rectangle, sphere, cone, circle etc). Any attribute of an object can be modified in real time, e.g. changing the location attribute would move the object to a new location. A scheme to provide automatic update of attributes per frame is also built in on a per object basis. Thus an object can be set in motion at a particular speed, or colour can be changed. Once automatic update is provided for an object attribute, there is a need to define a set of constraints (e.g. to confine motion to a particular part of the screen). Following on from this, there is then a requirement to define what happens when a limit in the constraint model is reached. This is all defined per object as "limits" and "wall functions".
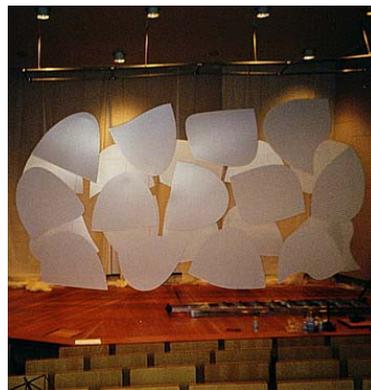


*The work in progress*

Images can be imported and mapped onto the surface of an object. Using the automatic update mechanism, a series of images can be replayed, thus providing real time "video". The object on which an animation is playing can still be transformed.

A full particle system simulation is built into the API allowing the programmer to develop complex "explosion" and "smoke" effects.

To further control events all API calls which can modify an attribute of an object, particle behaviours or attributes of the whole scene, can be scheduled for later execution. These "events" are bound to an object currently being displayed with a time (based in frames) defining when this event should occur together with a set of parameters.

Expanding on the object model, any object can have child objects, which match the parent object. However, the update model for children is different in that parent object updates are propagated to the child: it is easy to create a "flock" of objects which move around following the lead object, even though each child object in the flock can have its own behaviours. A mechanism exists to re-parent a child object or to make a child a parent object in its own right, releasing it from the influence of its original parent.

The API is simple to use and a complete performance piece with about 15 minutes of real time animated graphics was designed and programmed in a matter of a few days. The whole system is 3D with control over the depth buffer.

The video tracking component of the RIMM project had been used for an earlier piece of work, **Chaotic Constructions** in 1996. This system was designed and written to track objects in real time based entirely on their colour signature. The locational information from this component was used to interact with the graphics and also to feed a neural net which performed "gesture recognition". The idea was to be able to detect various "gestures", e.g. a "throwing gesture", and use this to in effect "throw" a note out into the 3D soundfield. In this instance an infrared object was tracked.

This project shows the very great benefits which can be gained by seeking and employing staff in a different department who can create tools such as these with little (or no) lead time being required. Techniques for this project were brought in from experience of graphics programming in many different disciplines; a factor which is fairly unique to those working in a Computing Service environment, but can prove to be invaluable when the time comes to be innovative.

More information is available at **www.york.ac.uk/res/rimm**

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# Contacting the Computing Service

Computing Service
University of York
Heslington
YORK YO10 5DD

Telephone:     (01904) 433800
Direct dial:    (01904) 43 followed by ext no.
Fax:             (01904) 433740
Email:          *username*@york.ac.uk

**www.york.ac.uk/services/cserv/**

## Information Desk

The Information Desk is your first point of contact with the Computing Service
Telephone:     ext 3838
Email:          *infodesk*
Open from 9am to 5.15pm Monday to Thursday, and 9am to 4.15pm Friday (*may be closed for training Wednesdays 2pm-3pm*), for problem solving, advice and information, fault reporting, network connections, file restoration, sales, course bookings and user registration.  Printed output can be collected from the lobby entrance which is open from 8am to midnight.

## Computing Service Staff

| | | | |
|---|---|---|---|
| Director: | Mike Jinks | 3801 | *kmj1* |
| Departmental Secretary: | Lorraine Moor | 3801 | *lsm1* |
| | | | |
| Head of Infrastructure: | Robert Demaine | 3808 | *rld1* |
| Head of User Services: | John Illingworth | 3803 | *jji1* |
| Head of MIS: | Kay Mills-Hicks | 2101 | *kmh8* |
| Head of Technical Services: | Doug Moncur | 3815 | *dgm1* |
| Head of Systems: | Andrew Smith | 3809 | *abs4* |
| Operations Manager: | Brian Souter | 3814 | *bs1* |
| Head of Networking: | John Mason | 3813 | *jrm13* |
| Information Officer: | Joanne Casey | 3805 | *jmc8* |

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| Linda Bailey | 3800 | *lcb6* | | Chris Kilgour | 4454 | *crhk1* |
| Sue Bolton | 2102 | *sjb28* | | Fergus McGlynn | 3822 | *fam6* |
| Mike Brudenell | 3811 | *pmb1* | | John Marsden | 3832 | *jpm1* |
| Lisa Burkinshaw | 3818 | *ljb4* | | Darren Munday | 3821 | *dam6* |
| John Byrne | 3812 | *jcb1* | | Nicola Normandale | 4695 | *ncn1* |
| David Chambers | 3742 | *dac6* | | Phil O'Connell | 3825 | *paoc1* |
| Michael Clark | 3745 | *mpc3* | | Aimee Phillips | 3897 | *amp11* |
| Arthur Clune | 3129 | *ajc22* | | Tamsyn Quormby | 4347 | *tq1* |
| Steve Downes | 3741 | *sd21* | | Colin Rea | 3817 | *cr9* |
| Ken Finch | 4452 | *kf1* | | Chris Reece | 3807 | *car7* |
| Rob Fletcher | 3816 | *rpf1* | | Peter Roberts | 3802 | *pdr1* |
| Kevin Gardner | 3739 | *pkg4* | | Sam Scott | 3817 | *svs2* |
| Chris Gowland | 3823 | *cg1* | | Daniel Shelton | 4349 | *ds23* |
| Sarah Hall | 3827 | *seh11* | | Philip Smailes | 3833 | *pjrs1* |
| Peter Halls | 3806 | *pjh1* | | Simon Thompson | 3894 | *sjt8* |
| Sue Hodges | 3839 | *sh32* | | Pete Turnbull | 3804 | *pnt1* |
| Geoff Houlton | 2100 | *gph2* | | Sam Vines | 3749 | *sccv1* |
| Jenny Jackson | 4455 | *jj5* | | Timothy Willson | 2123 | *ftmw1* |

Keynotes