

Student Computing in Cambridge

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Purpose

This paper presents a descriptive account of student computing in Cambridge over the last five years, from an institutional organisational perspective. In addition to providing some historical record, it is intended to furnish comparison material for students at other universities. It does not seek to promote a particular policy or ideology; a less impartial account of the policy debates in this area is the subject of a forthcoming paper by the same author. The aim of *this* paper is merely descriptive; no particular argument is presented or explanatory account offered.¹

Background

Cambridge University and its colleges provide computing resources to students; through the provision of connectivity to student rooms, Cambridge also permits students to use their own facilities in conjunction with the University's network. Students collectively or individually may thus provide subsidiary services to one another and, in the case of publicly available web servers, to the wider world.

It should be noted that Cambridge is a matrix organisation: most people will be members both of a University department associated with their academic discipline, and with one of the colleges, which are the locus of the University's social life, and provide accommodation and welfare support to the students. Each department and college has its own IT policy and staff. Central support for some computing needs, and management of the networks connecting the departments and colleges to the Internet, is provided by the University Computing Service (the CS), which reports to the IT Syndicate.

Institutions

Several institutions are involved in student computing in Cambridge. There exist organisations run by students, some of them formally constituted and recognised by the University; there are also relevant institutions which are not formally constituted (e.g., newsgroups) but which can lay claim to some sense of historical continuity and social identity, and of course there

¹The account offered in this paper is slanted towards SRCF and JCN, at least in terms of page inches, for which the author apologises: he just knows more about those two organisations than the others

are formally constituted organisations which are not run by students at all but which affect students' access to IT resources, such as the colleges and the CS.

Matters are complicated by the existence in Cambridge of automatic life membership of the University, so alumni are by definition members of the University, though they are not entitled to computing resources. Socially many alumni remain active within the University long after they have graduated, and this is reflected in some of the more informal computing institutions, which cater both to students and alumni.

	Formal	Informal
Student-run	CUCS SRCF CUSU CUCPS JCN JCR COs	Quake CUDES VPNs GROGGS ucam.chat chiark
Not student-run	CS	The Cabal

The two principal student computing organisations in the University are the Cambridge University Computing Society (CUCS) and the Student-Run Computing Facility (the SRCF). Both are formally constituted as University Societies. Additionally there exists the Cambridge University Computer Preservation Society, and these three groups are expected soon to be joined by a fourth society which will concentrate on campaigning on student computing issues. There are, or have been, many informal groups concentrating on specific matters such as Quake² and computer graphics³. At the individual colleges, there is some organised student computing activity.

Cambridge students are represented by bodies generally styled “students unions” or “Junior Common Rooms” (JCRs). At the University level, students are represented by the Cambridge University Students Union (CUSU), and each college has its own local equivalent. There is wide variation in the degree to which these organisations represent students on computing matters or are involved in the the provision of computing services.

There is no formal student representation at the highest University level, though there are elected student members of the University Council, which amounts to the same thing, and CUSU has a number of seats on various lesser University bodies. On the IT Syndicate, there is a position for one member who must be a student, the method of appointment of this student is unspecified, and the position was filled for several years by a PhD student who was also a member of his college's IT staff.

CUSU provides strong institutional support for the SRCF, and has done so since the inception of the latter, under a series of informal and later formal agreements. The SRCF is particularly dependent on the resources of CUSU in terms of physical space (which is at a premium in central Cambridge), electricity, network connectivity and long term continuity and stability. No formal rationale is given for the arrangement, though it would be trivial to justify it in terms of the commonality of the aims of the two organisations.

Across individual colleges the level of representation and service provision varies widely and ought to be the subject of further research. This paper presents only the situation at Jesus College, which is the college the author attended, and the college whose local students

²The CamQuake server runs from the Queens College Computing Office

³The now defunct Computer Graphics & Animation Society

computing arrangements formed the model for the SRCF. It should be noted that at some colleges undergrad students are formally or informally involved in the provision of the *College's* computing services, in some cases for real money. The author solicits feedback from readers concerning the situations in each college, for publication in a future version of this paper.

The situation in the colleges is significant as they are where students undertake a substantial proportion of their academic and leisure activities.

Other less formal institutions include various arrangements for virtual private networking and file sharing, and social and discussion groupings centring round particular communications forums such as newsgroups.

CUCS

The Computing Society has existed in one form or another for thirty years or so, with the purpose of providing a forum for the exchange of ideas on computing. At the time of writing this aim is undertaken through the organisation of (theoretically) weekly meetings, generally involving a designated speaker, followed by a discussion, followed by a trip to the pb for the conduct o Urgent Private Business. The Society is also supposed to publish an annual journal, though this has not occurred for several years.

In the early 1990s CUCS was a thriving and active society and is believed to have overlapped with the predecessor of the social group now mainly associated with ucam.chat and GROGGS (see below). CUCS is said to have been the focus of substantial controversy, though the precise issues are unknown to the author. By the late 1990s, however, CUCS had fallen on hard times and did not command much interest from undergraduates. It had foreign its registration as a University Society, lost its membership database (crucial to the operation of its constitution), and was sustained in existence by committees dominated by graduates and alumni.

The process of rebuilding CUCS and reviving interest in it continues today; the talks are now well-attended, though the committee still comprises graduates and alumni, there having been no AGM since the revival of the Society's fortunes.

CUCS has been involved in the creation of three specialised University Societies concerned with specific aspects of computing; CUCPS, the SRCF, and an embryonic organisation devoted to campaigning on student computing issues, which is as yet unnamed: CUCPS was created due to the refusal of the CUCS committee to host a particular speaker meeting. The SRCF was deliberately established as an institution separate from CUCS, which position was ultimately supported by the CUCS President and Secretary of the day. Similar rounds, references as "functional separation" motivate the establishment of the aforementioned nameless political campaigning group; moreover, s5 of the CUCS Constitution would probably preclude many of the desired activities of this new group.

The CUCS constitution is regarded as watertight by comparison with the SRCF's. CUCS has however been unable to be sure that it has been conducting constitutionally valid AGMs for the past few years as the Quorum is a function of the size of the Membership, the database of which has been lost.

SRCF

The SRCF was established in 1999 primarily for the purpose embodied in its name. This is specifically understood as existing to provide for a continuously available, remotely accessible UNIX shell system with conventional web and email facilities. Possessing neither premises nor network connectivity of its own, it relies on CUSU's connection to the University, which is managed by the Computing Service. Good relations with both organisations are thus crucial; the rôle of the SRCF Committee encompasses a great deal of this sort of liaison and organisational work, and it would not be an unfair characterisation to state the the SRCF is run by a self-perpetuating clique of politically astute and organisationally competent enthusiasts⁴

Not holding social meetings, but providing free webspace to members of the University, the SRCF has a large membership. The extent to which the members share any common set of ideals about how the SRCF should be run is unclear. It must be assumed that a substantial proportion neither knows nor cares about how the SRCF is run. This is a potentially unfortunate consequence of the SRCF's financial policies (see below).

The SRCF possesses a distinctive set of policies, some of which are hardwired into its constitution.

There is a strict separation between the concepts of the member of that of the user, and between the committee and the sysadmins. It is possible to be a member without being granted access to the SRCF's facilities (an thereby being a "user"), for instance in the case of a member lacking authorisation to use the University's network.

Under the constitution, the sysadmins are appointed (and presumably may be similarly removed from office) by the Committee. The overlap between the two groups has steadily decreased as the Society has grown, and their rôles tend to be kept strictly separate. Appointment by the (democratically elected) Committee avoids popularity contests for root access which might result in inappropriately qualified personnel.

Of particular significance is the financial policy, which (except during the first few months of the SRCF's existence) has been not to charge for membership, instead relying on donations often specifically solicited. This has had the effect of significantly lowering the barrier to access: many potential members of objected to the SRCF's non-zero membership fees as a matter of principle.⁵

A conservative view of the legitimacy of student activity would generally preclude the provision of services competing with those provided by the University authorities. The SRCF avoids public comparison of its facilities with those of the CS (roughly: no personnel budget for non-volunteer sysadmins; no guaranteed hardware budget; more liberal policies on user facilities such as CGI; stricter conformance to UNIX normality; universal availability) . but can rely on the fact that the CS simply does not provide a UNIX shell service to the generality of students (only graduates and those pursuing particular courses of study).

The SRCF's policies on many matters have been subject to great controversy and acrimony, to the point where there was for a few months a *de facto* two-party system. In addition to the conflicts between particular individuals and social groups based on little more than personality clashes and tribal loyalty, the following matters *inter alia* have been disputed by various antagonists: the establishment of the SRCF as an institution separate from CUCS, direct election of sysadmins, removal of membership charges, and degrees of restrictions on user activities. A host of arcane constitutional interpretation issues have also been contested;

⁴amongst whose number ...

⁵The Committee may at their disc

the SRCF constitution is regarded as particularly weakly worded and in some cases badly designed—the crucial rôle of Membership Secretary is but a constitutional convention.⁶

Constitutional amendments are likely to prove politically infeasible. The institutional configuration of the SRCF is essentially that the Society elects a Committee of four each year, there being no provision for replacing the committee short of amending the constitution to abolishing individual posts, and this group of four functions as an electoral college to appoint all other functionaries.

CUCPS

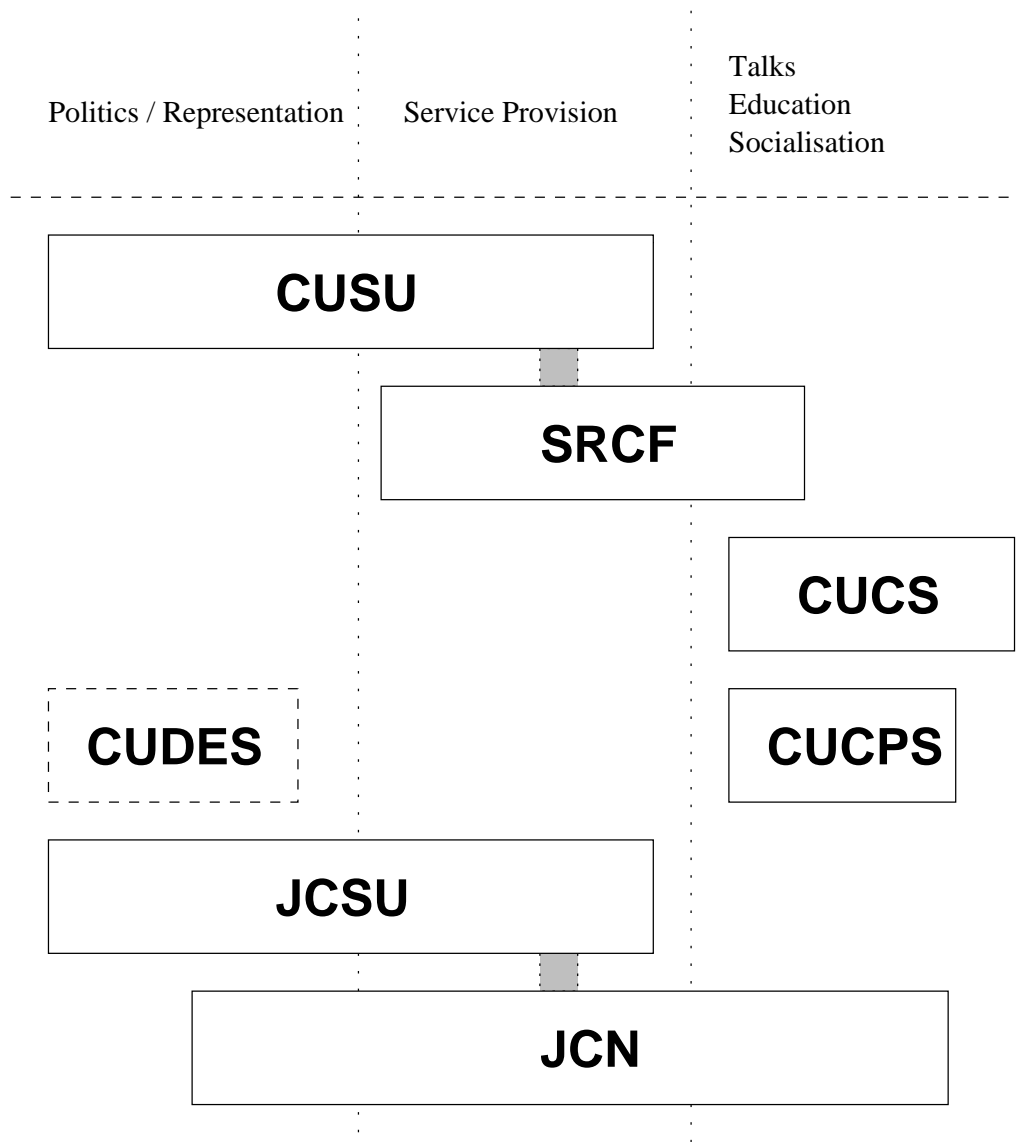
The Computer Preservation Society was founded in the late 1990s as a breakaway from CUCS. CUCPS focuses on a more limited domain: old computer hardware, computing history and nostalgia. CUCPS occupies the same functional space as CUCS, primarily offering talks to its members.

CUDES

CUHU⁷ is one of the working titles for the effort to create a computing lobbying and campaigning organisation.

⁶The again, so is the office of Prime Minister

⁷Cambridge University Digital Environment Society



The graph in figure one illustrates the empty space to be filled by this organisation (and the potential overlap with CUSU). The position of the organisations at Jesus College is included for comparison.

CUHU has the chance to avoid saddling itself with a constitution as weakly worded as the SRCF's, though it may seek to emulate the SRCF's delegation model.

Phoenix, GROGGS, ucam.chat, chiark

From the mid 1970s to the early 1990s, the CS ran an IBM mainframe called Phoenix, for which the CS provided the user interface software. Phoenix for most students was the only game in town, computing-wise. Until the 1990s, if a student had a computing account, it was likely to be on Phoenix. Phoenix spawned a whole subculture of its own, and is significant in the history of computerised Interactive Fiction.

The most durable legacy of Phoenix has been GROGGS (expand), a discussion system with high signal to noise ratio and no threading. GROGGS constitutes a culture unto itself, independent of Phoenix and is still extant, hosted on the SRCF since 2000.

GROGGS itself begat (at least culturally) ucam.chat, a newsgroup private to the University

news server and its closest friends. ucam.chat and GROGGS possess a social continuity stretching back for a decade; ucam.chat constitutes the principal online discussion forum for geeks in the University. Contributing to the social stability of this system is the presence of chiark, a UNIX box run by Ian Jackson, an alumnus of the University. chiark permits those who would otherwise not have access to ucam.chat to continue to participate, under an informal arrangement tacitly permitted by the CS.

There seems to be a strong overlaps between the users of ucam,* newsgroups and UNIX users. There is a particularly strong overlap between Debian Linux using free software advocates an the active chiark and SRCF constituencies. There exist VPN arrangements centred around these two social groups as well.

JCN

The edgily-named Jesus College Network is significant in University student computing terms for two reasons: it has served as the model for the SRCF in a number of ways, and as a social institution it possess a formidable political muscle and great influence in CUCS and the SRCF.

JCN exists at the college level, and is formally a part of the Jesus College Students Union (though the status of clubs as part of the Union is now contested). JCN was (in 1998) founded to ensure that the ere would always be competent UNIX sysadmins to run the new JCSU webserver. JCN hosts talks, provides training, undertakes software projects and provides services. JCSU server administrators tend to be JCN members. JCN was invited to send a representative to the College's computer committee, but this privilege has since been rescinded. JCN has nevertheless been politically active⁸ as a watchdog within the College on computing issues, particularly network charging. JCN's activities therefore cut across the three areas of talks, services and political activity.

JCN members (and like-minded individuals from other colleges) were one of the driving forces behind the creation of the SRCF, which would have been constituted quite differently (or not at all) in the absence of their activities. Th SRCF embodies or follows many practices established within JCN (appointed sysadmins, close institutional relationship with the student union, liberal disk quotas⁹, discouragement of non-personal UNIX accounts, etc. The committees of CUCS and SRCF have always had JCN people on them since JCN became established. JCN is sufficiently active as to be able to deal with CUCS on roughly equal terms: the two organisations cross-publicise each other's talks.

Acknowledgement

The author is grateful to Peter Clay for his assistance in the creation of the diagram in Figure 1.

⁸Some would say, too active for its own good

⁹you must have a quota, but you can choose any reasonable value; it's just there to stop the disk filling up unexpectedly. If the disk fills up, then more disk is bought, rather than user activities restricted