

Access and Identity in the VLE

David Rush

School of Social Sciences, University College Winchester, UK

David.Rush@winchester.ac.uk

Abstract: This paper takes the viewpoint that existing VLEs are limited in capability and this constrains their use in a variety of ways. In particular the limitations that users of VLEs face in the design of e-tivities through restrictions in capability in the areas of access structure and identity definition and creation are described. Traditional hierarchical access structures constrain both individual and group work whilst the ability to create new identities would open a range of new e-tivities. Proposals are made for capabilities that could be added to VLEs in these areas to support e-Learning.

Keywords: VLE, access structures, identity, online anonymity, role-play, triggering events.

1. Introduction

Virtual Learning Environments (VLEs) occupy a pivotal position in the development of e-Learning. For the lecturer they offer more than simple facilities for access to learning resources and course administration. At their most advanced, because of their apparent comprehensiveness, they may completely dominate the way in which a course is delivered and assessed. However a lecturer has available only those tools built in to the particular VLE being used (see e.g. Garrison 2003; for a comprehensive comparison of VLE systems see WCET 2004). This paper argues that limitations of capability within a VLE can restrict innovation in e-Learning when attempts to translate successful learning activities from traditional modes of delivery to the e-Learning situation fail as a result of VLE restrictions. To overcome this, the specification of a VLE's facilities should be as comprehensive as possible and should include capabilities that may not seem to have any immediate educational use – at least to the implementers of the VLE. This approach of making VLEs rich in capability to encourage innovation can be explored by considering some learning activities that might be difficult to undertake with the present generation of VLEs and consider how specifications could be enhanced to accommodate them. In this paper we consider two specific aspects of this broad issue – access to resources and identity of users.

Some of the proposals here are already implemented in some VLEs and the same results can sometimes be achieved indirectly. We are suggesting that VLEs should include these facilities by default.

2. Access

2.1 An example

Consider an activity in which a lecturer asks groups of students in a class room to address a problem and produce the solution in the form of a document. Importantly, the lecturer wants each group to compare its solution with a sample solution and comment on the difference. In the supervised classroom this

presents little difficulty. The lecturer may wait until groups have produced their documents or set a deadline. In either case the sample solution will at some point be handed out, either to all groups simultaneously or to groups as needed, and the class will proceed. Now consider this activity as an e-tivity with each group constituted from remotely located students. At what point should the groups be able to access the sample solution? Clearly not from the start of the e-tivity. The lecturer could monitor the progress of each group and decide when to release the solution on a group by group basis, but this continuing oversight would require a lot of time. Better would be if the VLE simply allowed a schedule to be set for access to the solution document and this schedule could be varied depending on the particular circumstances of the group. Even better might be if the VLE were to allow access depending on events such as the group deciding they wished to see the solution. In practice most present day VLEs offer these capabilities only in a limited form. This simple example of attempting to structure an e-tivity shows that facilities to access learning objects are generally fairly restricted and limit experimentation. Here we are interested to describe more comprehensive facilities that might be of educational utility.

2.2 Access structures

In VLEs the starting point for the design of access structures seems to have been those of a typical multi-user operating system. For example Unix and its descendants allot access to entities such as administrators, single users and groups of users (Siever 1999). Access is organised as a set of permissions such as read, write and ownership. This answers, in part, the question – ‘Who has access?’. Other questions about access may be posed such as: ‘When is access given?’, ‘For what is access provided’, and ‘Where is the student located?’. The answers to these questions show the range of possibilities that might be deployed in a VLE.

Starting with the ‘Who?’ question, in the VLE there is typically a hierarchy amongst those with access as shown in Fig 1.

Figure 1: Simple access hierarchy

Figure 1: Simple access hierarchy

This shows that the hierarchy is organised around a course. It may include a course support team. The students and groups are those enrolled on this particular course. The higher up the hierarchy the greater the freedom of access. The students and student groups may have limited opportunities to add documents, other than postings to conferences and submitting material for assessment.

Such hierarchical structures ensure the security of operating systems and make for ease of administration and control in the VLE. Educationally they may not be so helpful. Consider a student group facing an assignment on a completely new topic. In early discussion, group members sense that they will want to emphasise ideas with which the lecturer who set the assignment disagrees. So they wish to create a conference to share ideas, but at this stage don't want the lecturer to have access to it. They want to have a firmly established basis before communicating with the lecturer.

Now consider what would happen if students (by which we mean individually and in groups) had similar access to that of the course leader. Typically a course leader can add documents and make them available at some point to students for reading but not editing. Indeed there may be no student access at all for a document still under development or one that students should not see at a certain stage of the course. If an equivalent capability were offered to students one consequence would be that course leaders would not be able to examine student documents until the students released those documents for that purpose. This would change the relationship between the course leader and their students to a more egalitarian one than that implied by the hierarchical arrangement. For some courses that might be quite inappropriate, but for others a course designer might welcome such a possibility. Students could then use most of the facilities of the VLE such as creating their own conferences, knowing that they would not be subject to the oversight of the course leader. The opportunity to explore and create independently of academic supervision might be very congenial to some students, especially at the start of studying a course. Obviously it is possible for students to use generally available facilities on the Internet to which course leaders have no access. However a student studying a VLE-based course will at some stage wish to get feedback from their lecturer and perhaps submit work for assessment. If the student's work is eventually to be incorporated within the structure of the VLE it makes sense that it should be created there and eventually made visible to the course leader with almost no effort, rather than having to be imported from a remote site with all the translation problems that might entail.

There are potential difficulties with this proposal; the access modes allowed to the various participants would need to be established carefully. Unmoderated material created by students could be visible across the institution and outside it. In itself this would not create severe problems because those with responsibility for the enforcement of institutional policy on copyright etc. would readily be able to view the material. More problematic would be if students were given not only private access to their material but the permission to grant that access to others selected by themselves, for example other students within the institution. Intra-group working can cause difficulties and it is not unknown for lecturers mediating in group disputes to require access to student material. These considerations mean that there would normally have to be an override mechanism that could be invoked in certain circumstances.

In section 2.1 we gave the example of a lecturer wanting to release automatically a sample solution. To meet such requirements we must answer the ‘When is Access given?’ question. One part of this is concerned with the time when access is granted. A partial solution found in some systems is to have AT and UNTIL dates. Similarly some systems allow the hours for a chat room to be restricted to a convenient time for participants. More useful and more widely applicable would be the capability to attach a calendar to each access mode for a resource. In our example we noted that a general triggering mechanism could be useful in delivering a course. There are many possible events that could act as a trigger, some originating with the student and some with the lecturer. Fig. 2 gives some of them, but it should be stressed this is a small selection of many that are possible. The process is envisaged as automatic once the trigger has been established.

Originates with	Trigger
Student	Student makes request
Student	Student gets/fails to get certain grade in a test
Group	Group makes request
Group	Group makes request and submits evidence that all group members agree with request
Lecturer	The class or selected members of the class get/fail to get certain grade in a test

Figure 2: Events triggering access

Turning to the ‘What is access for’ question we noted above that most VLEs offer a range of different types of permissions. Typically this range is adequate to provide for most educational e-tivities, if the permissions are granted widely enough. So for conferences there will be permissions to create a conference and delete messages from a conference but these permissions are often only assigned to administrator and course leader roles. Again this limits the amount of flexibility that, for example, a group of students has in tackling a task. A significant part of e-Learning is increasingly the choice and use of electronic tools. So a group faced with a task requiring collaboration at a distance might well wish to choose some or all of email, conferencing and chat in establishing how they will communicate. The group will need permission to create its own conferences and chat rooms for this choice to be a reality. They will also need to be able to set their own environment in deciding, for example, whether senders are able to delete messages. A related issue here is that of versions. Group working especially requires that access be given not only to the latest version of a document but also to past versions. Some VLEs allow this, but perhaps only for rather large sets of users, such as all students on a course, when what is wanted is that the versions of a document that are private to a small group are all available as the document changes rapidly. There may be merit in using the

comparatively simple wiki approach (Wikipedia 2004) in which web pages can be edited via a web browser, but earlier versions are immediately available.

The answer to the question 'Where is the student located?' whilst using the VLE, has often been - 'at a computer on campus'. Now however, even campus based students will access the VLE from off-campus and distance learning courses abound. In itself this does not present access problems of the types identified above. Nevertheless educational activity may require direct interaction with people who are not part of the institutional community. For example there may be a need for direct access to the specified items within the VLE for guests and collaborating partners and some VLEs allow this. Also as students undertake more real-world assignments involving projects for external agencies, allowing them to grant such external access might be needed to progress collaborative working. Extending permissions to grant access in this way would increase risks.

3. Identity

3.1 Identity in the VLE

In an electronic environment such as a VLE many aspects of the way in which we define ourselves are lost – we have no direct view of those with whom we are communicating and so do not get visual and aural cues when interacting. Against this, the style of textual contributions can be revealing and can establish a kind of virtual identity in the mind of the reader. This raises the question as to whether this limits the educational use of the VLE or whether it provides new opportunities. There have been several investigations of the role of identity in e-Learning (e.g. Freeman 1998, Chester 1998)

3.2 Establishing identity

Most VLEs do not allow students and staff readily to establish an electronic identity. It may be only a member of staff who can post text details and a photo. Students are often just a name on a list but electronic interaction, via defined e-tivities and meeting socially with the course lecturer and other students is of the essence. It is restricting to communicate with another if you have no more than a name. Many conference systems (e.g. PHPBB 2004) and online virtual worlds allow participants to display an online avatar and self-defined biographical details. The avatar needs to be no more than a photograph. For the purposes of teaching this should be a readily accessible possibility for both students and staff. It allows better understanding of other participants, especially in larger classes where students may not have met their lecturer before taking the class and it may be difficult if not impossible for the lecturer to know many of the students personally. It would help when the e-tivity requires groups to be constituted by the choice of the lecturer rather than of the student, thus resulting in groups whose members

do not necessarily know each other well. It is of course vital for courses delivered wholly by distance learning.

Electronically accessible student profiles are often promoted. These are meant to be viewed by people outside the institution as well as inside and they are of necessity rather formal as they aim to promote the student in the wider world. Their purpose is rather different than that of the avatar and biography that is needed for a course. There might well be an overlap between the two but for each course staff and student need to be able to establish their identity in relationship to that course.

3.3 Online anonymity

We now turn to cases where anonymity is used to cloak identity. We can find examples of this in traditional paper based education. Increasingly examination papers are submitted with a student number but no name, to ensure that marking is not influenced by perceptions of students. When feedback is sought from students this is often done anonymously, the better, supposedly, to get honest opinions. Some commercial VLEs now offer facilities to replicate this kind of anonymity when staff are assessing discussions and students giving feedback. In fact some even enforce student anonymity, thus unhelpfully restricting options for the course leader.

There have been many examples in e-Learning of a need for participants, both students and staff, to disguise their identity. This can be either by becoming completely anonymous or, more usually, by adopting an alias or pseudonym. Role-play is an application of e-Learning where identity is of the essence. The use of role-play in higher education has a long history (see Freeman 1998 for early references and Rush 1981 for one application). Role-playing provides a student with the opportunity to deploy knowledge and skills in a simulated environment. Advocates of role-play suggest that by experiencing the demands of the role and having to complete role tasks students gain insight into their subject. In a traditional role-play there are several difficulties arising from the direct face-to-face nature of the activity. Students may not have the personal confidence or inter-personal skills to perform their role. Also most role-plays need to be observed by the instructor, a time consuming task.

Role-play through e-Learning has been used on several courses. Electronically, role-play is a different experience. Participants do not communicate face to face but (usually) by asynchronous conference. Cues from observing body language are replaced by whatever cues can be gleaned from message texts. Here we give a brief description of one application (Freeman 1998) as an example. This relates to an area of business where finance and law interact, the regulation of Australian securities markets. Postgraduate students were asked to play the roles of major figures involved in this process, with strict instructions for anonymity. These roles were kept anonymous until a final meeting. There was an

enthusiastic reaction from students who spent considerable time on the activity. There was a positive response to anonymity from those who immersed themselves in their roles. It was also a benefit for those, such as overseas students, who might have found face-to-face role-plays more difficult. There was a view that anonymity allowed the role-playing to be more effective because it was easier to criticise others and there were no preconceptions of other players. The final revelation of identities caused some surprises, showing that real identities had been concealed. Online role-play is now starting to become more widely used. There is a comprehensive set of guides about online role-play on the Learning Designs website (Wills et. al. 2002).

Of course it is not only in role-play that anonymity is possible in electronic group working. A laboratory experiment (Connolly 1990) was used to evaluate the effects of anonymity on groups working electronically on an idea-generation task. In the experiment groups working anonymously in a critical environment produced the greatest number of original solutions and overall comments. Against that the groups with identified participants and a supportive environment were more satisfied with the activity. From the social science perspective several authors have written about the construction of electronic identity. One of these is Turkle (Turkle 1995), who concentrates on identity in multi-user electronic activities such as games. In such situations players can define for themselves several identities, allowing them to explore a range of personas, including that of the opposite gender.

The effect of using aliases on collaboration within online groups in an educational context is explored in Chester 1998. Many of the findings are similar to those of Freeman but there was an exploration of potential negative effects. One of these was the possibility of flaming, see e.g. Rheingold 1994. Certainly, examples of this were noted. It was speculated that whereas a disinterested student can manifest that disinterestedness in a normal seminar by an expressive silence, in an anonymous discussion group it can be registered by flaming. Another limitation encountered was that students found it constraining when they could only communicate textually. From these discussions of online anonymity, especially in an educational context, it would seem that there could be significant educational benefit to providing the possibility of anonymous working within the VLE.

3.4 Allowing online anonymity

We now consider the properties that an implementation of anonymity in the VLE could usefully have. There are two types of anonymity. One is complete anonymity, the other is discoverable anonymity. We can attempt to provide complete anonymity with 'guest' accounts as used on public access computers. This would make it very difficult to link a particular interaction with a real person. But for most educational purposes, above all those where students interact with others, doing this would have little value. The anonymous identity needs to

persist over several login sessions. To achieve this we need to use discoverable anonymity. By this is meant that the anonymous identity is linked to a real identity and that this linking is recorded on the system so that real identities, if not immediately known, can be discovered by administrators and course leaders. It would be possible to have the benefits of e-tivities that use anonymity simply by asking the course leader to register each student under a different user name and for the student to use that name for the e-tivity. This approach has several difficulties. It is inherently clumsy as the extra user name has to be passed on in secret. If the e-tivity should require several anonymous names per student it becomes progressively clumsier. It raises the question of what facilities should be provided to the new account. A student using their anonymous account may need all of the facilities of a normal account so that they can, for example, create an avatar and a biography reflecting their anonymous identity. More than this, the student using either the real or anonymous account may need to access information in the other account.

We make a proposal here for the inclusion of a facility in VLEs that would make the use of anonymous identities much simpler. This is that in VLEs each accredited user, staff or student, should have the capability of creating a new user account and should be able to choose the name of that account. This new account will provide the new identity. The detailed workings of this facility are given in the following table:

Property	Value
Number of accounts that can be created	System defined limit
Resources for new account	Taken from the resources of the creating account
Access from creating account	To all resources in created account
Access from created account	To all resources in creating account
Access to created account	As determined by account holder
Constraints on created account	Same as for creating account, except might not be given create account facility

Thus the relationship between created and creating accounts is hierarchical one-to-many and is essentially the delegation of what in many systems would be viewed as administrator privilege. It is envisaged that a course lecturer who wishes to create anonymous accounts for students will also use this facility, but now the accounts will be sub-accounts of 'real' accounts. However with this create account facility available, in e-tivities involving anonymous participants, students would usually create their own anonymous accounts and let the course lecturer know account names. Alternately the course lecturer would have a facility to query student accounts for the names of any sub-accounts created. The course lecturer would also be able to create a personal anonymous account

to contribute anonymously to discussions. This proposal is much more limited in its scope than that of Federated Identity Management (see e.g. Gates 2003), which addresses the issue of uniform access from a single account to many resources distributed over a network. Here access would be only to the system upon which the VLE is installed.

The availability of a facility to allow more ready anonymous working would almost certainly need to be introduced alongside a code of practice for its use. This code would need to specify the circumstances in which anonymity could be broken. It could be that in a role-play exercise the players would be happy to reveal their real identities, thus replicating a face-to-face role-play. However there might well be a need to give some guarantee that anonymity would be preserved, unless the anonymous account was used for some behaviour that had been publicly proscribed. Each institution would need to establish the details to meet its educational objectives for the VLE.

4. Conclusions

In this paper we have made proposals for enhancements to the facilities that are generally available in VLEs. This has been done in the belief that these are still early days in the development of e-Learning and that there is still a great deal of scope for experimentation. The implementation of these facilities would possibly change the focus of administration within the VLE and might be seen by some as increasing the risks of running a VLE. The difficulties should, however, be balanced by educational benefits. Only some of the implications of these ideas have been presented here. In the long term the extension of the ideas on identity to allow access to remote VLEs by means of federated identity management needs to be considered.

5. Acknowledgement

Thanks are due to Olu Taiwo for a helpful discussion.

References

- Chester, A and Gwynne, G (1998) Online Teaching: Encouraging Collaboration through Anonymity, Journal of Computer-Mediated Communication Available from <http://www.ascusc.org/jcmc/vol4/issue2/chester.html>
- Connolly, T, Jessop, L M and Valacich, J (1990) "Effects of anonymity and evaluative tone on idea generation in computer-mediated groups." Management Science Vol 36, No 6, 97-120
- Freeman, M A and Capper J M (1998) "An Anonymous Asynchronous Web-based Role Play" [online] <http://www.ascilite.org.au/conferences/wollongong98/asc98-pdf/freemancapper.pdf>
- Garrison, D R and Anderson, T (2003) E-Learning in the 21st Century RoutledgeFalmer London
- Gates, C and Slonim, J (2003) "Owner-Controlled Information", Proceedings of the 2003 workshop on New Security Paradigms, ACM Press New York
- PHPBB (2004), "What is PHPBB?" [Online] Available from <http://www.phpbb.com>.
- Rush, D (1981) "Advising Advisors - How should we train Advisory Staff?" IUCC Bulletin vol 3, 109-112
- Siever, E (1999) Linux in a Nutshell, O'Reilly, Cambridge
- Wikipedia (2004), "Wiki" [Online] <http://en.wikipedia.org/wiki/Wiki>
- Rheingold, H. (1994). The virtual community: Finding connection in a computerised world, London: Secker & Warburg.
- WCET (2004) "Course Management Systems" [online], <http://www.edutools.info/course>
- Wills, S. & Ip, A. (2002). enRole, Research, React, Resolve, Reflect: Developing and using online role play learning designs. Retrieved July 30, 2004 , from Learning Designs Web site: <http://www.learningdesigns.uow.edu.au/guides/info/G1/index.htm>