Blended learning as a response to change in a merged technikon: an account of three modes of delivery in a web-based Communication Skills semester course designed for Engineering students at DIT

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Introduction

The degree to which people are facing revolutionary technological changes in the near future is matched only by the degree of inertia evinced by educational institutions, particularly tertiary institutions. Even when such institutions undergo sweeping changes, as in the case of the recent merger between Technikon Natal and ML Sultan Technikon, the reaction of most academic departments is to make desperate attempts to adjust and consolidate, and to think with nostalgia of "the good old days" rather than to introduce innovations. Yet as Taylor (2001) points out, an institution's survival in the face of imminent widespread technological change depends not only on changing the way it does things, but on changing the things it does, and a common factor in innovation is often the introduction of new learning technology systems (Kenny, 2002). The "Fourth Generation" learning model described by Taylor is already a reality for educators, involving interactive multimedia online, Internet-based access to World Wide Web resources, and computer-mediated communication. While Taylor is writing in the context of distance education, the "flexible learning model" described is just as appropriate for blended learning, i.e., a mixture of face-to-face and computer-mediated instruction (also referred to as "mixed mode"). Moreover, when a merged "super-technikon" such as the Durban Institute of Technology swells its student numbers to over 20,000 and sprawls over a number of campuses, some of the techniques used for distance education might well apply. However, as Glor (1997) points out, effective innovation is "not just a question of coming up with ideas, but also of developing and realising them successfully", and the transition "from strategic vision to university wide teaching change is ... a complex and largely uncharted one" (Lines, 2000). The Fourth Generation model of instructional delivery is in fact well within the capabilities of a growing number of the DIT staff who have completed the Pioneers Induction Programme to web-based learning (Peté et al, 2002), initiated in 2000, and are going from strength to strength with the current Pioneers 2003 group. This paper looks at an initiative by one of the Pioneers 2002 group (the author) to introduce a Communication Skills course in blended learning mode, mainly in the interests of enhanced delivery, but also in an attempt to find creative solutions to problems such as larger classes and diminishing resources. It will show that, while the assumptions about enhanced delivery were justified, in one case the initiative was all but sabotaged by the unfortunate convergence of multiple "merger glitches", which individually could have been relatively easily overcome, but collectively posed a serious threat not just to academic quality but to course continuance.

The Comm. Skills Online Project

The Communication Department caters for the needs of over 6,000 students, who will soon be going out into a working environment where the only given will be rapid technological change. Not only does our Department need to prepare students for technically enhanced communication, but, with a reduced staff complement (only eight full-time lecturers) and increased student numbers, there is an urgent need to explore the use of technical enhancements for quality course delivery. The *Comm. Skills Online Project* was designed to run partly online and partly as a conventional face-to-face Communication Skills course. The course centred around an Internet Search project in which teams of students looked for Professionally Relevant Internet Sites (the PRINTS project), with group work based around the project, and culminating in formal oral and written report back. The course was outcome-based and experiential, as with previous pilot studies run by the Department. However, the Internet search made it intrinsically web-based, and the acronym "WeLP" (Web-based Learning Project) was coined for such an approach. Three WebCT courses were set online for students use: *WebCT for Dummies*, *ditcom* and *Comm. Skills Online*. *WebCT for Dummies* is a basic student induction workshop for WebCT, which was designed to run live, but can be browsed online by students; *ditcom* is the DIT Communication Department's online resource base; while the *Comm. Skills Online* courses contained study guides, project sheets and other materials specific to the PRINTS project. (A more detailed description of the project, including study guides and project notes, can be found in the preliminary report on the *Comm. Skills Online* project at http://olc.dit.ac.za/bio/ResearchPapers/DeeP0301.doc).

As well as introducing students to the types of computer-mediated (including hypermedia) communication they would find in the workplace, our main intention was to enhance course delivery by means of computers and the Internet. Enhancements would not only be from the point of view of efficiency, but also, it was hoped, qualitative, i.e., offering opportunities for heightened cognitive and intellectual development. In particular, we were interested in exploring the interrelationship between traditional page-bound literacy, computer literacy and the development of academic literacy. It was hoped that the computer literacy developed in conducting Internet searches and using electronic modes of communication would reinforce and support both academic literacy as well as page-bound literacy, which is still the predominant mode in which academic literacy is assessed. The *Comm. Skills Online Project* was run in three variations of blended learning: optionally online, partially online and predominantly online. Our implementation of this project was dependent on student-lecturer allocations, as we are a Service Department and subject to supply and demand of diploma/degree student groups in other departments. The only overriding criterion was that, in the interests of fairness, the whole diploma/degree group had to be involved in the pilot study, whether this group consisted of 30 students or 300.

Predominantly online

The Survey and Chemical Engineering groups were small groups (17, 45 students), which could be accommodated within the general computer laboratories, which meant that both groups were able to use all of the computer enhancements provided for them, i.e., the mode blend was predominantly online. While this mode blend provided the most detailed data on the nature and effect of course enhancements, as well as their potential, it did not turn out to be the most balanced or produce the best results.

Partially online

The pilot study had originally been planned for the Electrical Engineering (Light Current) group, but the group size doubled unexpectedly to nearly 260 students (a fairly common phenomenon during the merger) and the course had to be run only partially online for this group because of a shortage of computer laboratory space. This meant that students could go ahead with the Internet search, but that most of them would not have access to the materials on the WebCT courses or communication facilities, as there was not the means for them to learn how to use these or to access them regularly.

Optionally online

Our choice of the IT group (±350 students) for the pilot study was motivated by exigency more than anything else: there was no other way the Department could cater for this group, as the request for servicing came extremely late, and we did not have sufficient lecturing staff to accommodate this request. The rationale for running a computer-enhanced course for such a large group was that IT students could be expected to have advanced computer literary and to have access to computer laboratories as part of their IT course. Since the Communication Department itself was unable to book computer laboratories for large numbers of students at the last minute, we termed this delivery blend "optionally online", as students would need to access online materials after Communication lectures and on their own initiative. While it was hoped generally that blended learning would lead to more efficient course delivery, the inclusion of the IT group mean that efficient delivery had become an urgent necessary outcome rather than a hypothetical consideration to be explored at leisure.

Results

It must be stressed that this was a curriculum development initiative and not a formal research project. The project was assessed by means of lecturer observations, assessment of student texts (including electronic texts), an informal student feedback questionnaire, and a staff meeting at the end of the project. The *Comm. Skills Online* project generated an incredibly rich layering of experiences in mixed-mode course delivery for the author, as I personally facilitated and assessed the work of over 230 students in all three mode blends. In addition, I supervised the computer laboratory work of over 300 students, many of whom had come to DIT from disadvantaged educational backgrounds and who were first-time computer

(and Internet) users. This meant that I was in a position to assess the effectiveness of the three different mode blends, with input on group specifics from the other project staff.

Effectiveness of the various mode blends

The partially online course delivery appeared to have been the most balanced mode blend and produced the best results: in spite of all of the resources posted online, the focused Internet search turned out to be the aspect of the course which offered the most potential, as it constituted an electronically enhanced type of academic literacy, and modelled basic research skills for the students. It could be seen to develop key reading skills, such as reviewing large amounts of texts rapidly, and brought into play higher order cognitive skills such as data analysis, assessment and selection. According to the feedback questionnaire, students had read much more as a result of the Internet search, and nearly 30% of respondents had read professionally related materials. It is unfortunate that the students in this group (Electrical Engineering, Light Current) did not have access to the WebCT email and Presentation Tool, as evidence collected from Survey and Chemical Engineering suggested that these have the potential to enhance students' print literacy. Email conferencing can develop fluency in writing, as well as key cognitive and reflective skills (Garrison, 1997:5). Moreover, there is evidence in the texts of the predominantly online groups to suggest that modelling of mother tongue idiom can be more effectively achieved by means of email conferencing than with conventional spoken or written interactions. The Presentation Tool could be seen not only to model students' work and to allow students to post online the kinds of resources they were researching on the Internet, but to stimulate them to produce better structured and polished written work since it was on public display. However, in the predominantly online blend (where students had these facilities) group work, and hence the ultimate performance of students suffered, as we were not able to book rooms for group discussions, and working entirely in a computer laboratory environment was found to inhibit group discussions. The optionally online group was a near-disaster, not because of any deficiencies in the mode blend (some excellent work was ultimately produced), but because it seemed fated to run up against every possible glitch precipitated by the merger. For this reason, it will be dealt as a special case below.

IT, the "Cinderella group"

The project staff who lectured the IT group (at first two, but eventually three lecturers) started muttering words like "jinxed" when referring to this group. Firstly, until our HOD allocated a part timer to assist us, we were short staffed. Next, the IT group was extremely volatile at the outset for reasons completely unrelated to the Communication Course or staff: while we sympathised with the students, the backlash of their displaced anger tended to sour relations with project staff. We were obliged to divide them into smaller groups, for which, however, there were no venues, and to deal pretty sharply with them until their attitude improved, which it did as soon as they were given individual attention and the project work gained impetus.

A tertiary institution undergoing a merger could be expected to present a host of minor as well as some major problems to academic staff. It is not my intention to play the game Berne categorises as “Ain’t it awful” (1964:96-98), even though, as the suffering was “inadvertent and unwanted”, our situation perhaps warrants some polite sympathy. This was not a game, however: in the case of the IT group we appeared to be locked into an impasse which could not be resolved through the usual channels no matter how hard we tried. Simply put, we were unable to obtain the necessary facilities, materials and equipment to run the course: unsuitable (or no) venues meant students were heavily reliant on printed materials, a backlog in duplicating meant that these were not available for a term, faulty AV equipment and a run on heat-burn transparencies meant that we could not efficiently inform students by other means than printed materials, and an unsuitable, crowded lecture venue with no AV and extremely poor acoustics (coupled with a large, disaffected group) meant that it was not a feasible option to dictate large quantities of briefing materials (not that there was time for this in the 13 weeks into which the course had to be fitted). The situation would have been bad enough with a conventionally run course, but we had contracted with students to offer them an online course with electronic enhancements, not only because of their career choice, but precisely *because*. this would have offered solutions to most of the above problems, which we had already anticipated (but not, granted, that all might happen simultaneously!) Student access to computers would have made course materials easily and immediately available to students, as all resources and materials had been posted online in the three WebCT courses. Incredibly, merger teething problems with venues and equipment had meant that at the beginning of 2003 the IT group did not have sufficient institutional access to computers to complete the Internet search or use the WebCT courses.

The worst problem overall and one which posed the biggest threat to successful course completion for IT was the lack of study guides, course notes and project sheets caused by completely unexpected duplicating backlogs of up to one-and-a-half months. The “turn-around time” for duplicating was 48 hours before the merger: after the merger, many of our 6,000 Communication students had not yet received their Course Notes by the end of the first term (apocryphal horror stories abounded, such as that of the Short Course offered to paying members of the public, where the course materials had not yet arrived long after the course was over). What frustrated all attempts to break the impasse in providing course materials was a budgetary freeze-down, arbitrarily applied and without warning or any consultation of academic departments. The only solution was for project staff to fund course materials out of their own pockets. There is no institutional mechanism for a refund for such purchases, which is why it is not a viable option for staff.

The prolonged impasse in obtaining facilities, materials and equipment to run the course led project staff to consider whether postponing the course would be more in the students’ best interests than continuance under these circumstances. What salvaged the course was the

funding of essential course materials by project staff, and the fact that integrated project work in small groups really works well with large numbers of multicultural students, as our previous pilot studies had demonstrated. Integrated project work in itself is a much more efficient way of dealing with large numbers of students than electronic enhancements when an institution's infrastructure does not support these enhancements. However, conventional (i.e., offline) project work does not offer the opportunities for the potential for intellectual development inherent in the computer enhancements, a more detailed account of which is given in the *Interactive Convergence* conference paper (Pratt, 2003b). Daniel and Cox's (2002) account shows inadequate technical infrastructure to be a common thread in the institutional factors inhibiting change. It was certainly a common thread inhibiting our attempts to enhance academic quality through e-learning in all groups involved in the project, and not just the IT group.

The Communication Skills course was revised so that the IT teams were offered the option of choosing alternative projects which did not require Internet (or computer) use. In a remarkable turnabout, most teams of IT students not only chose to complete the Internet search project, but also managed to create professionally-crafted web-page presentations (see the examples given in the Annexure) as well as a hard print copies of their report-back on the Internet search. It is our experience that our students are highly motivated to complete project work which is professionally related or relevant, particularly when they are able to demonstrate professional skills or areas of expertise publicly. True to form, however, the IT teams were not all able to upload their webpages on to WebCT because a virus attack put the only (well-equipped, that is) computer laboratory we were able to obtain out of action for the first session. Perhaps this could be said to be predictable, in the light of this unfortunate group's track record! However, as a result of the reciprocal interest and effort involved in setting up webpages on WebCT, relations between the IT group and project staff improved markedly, and most students who completed the coursework not only passed, but obtained above-average to excellent marks. Turning this course around was a complex and arduous task, and I must give my colleagues, Linda Herbert and Naadira Jadwat, full credit for their competence and dedication. As shown by the results of Lines' (2000) study, quality work in e-learning is driven, not by institutional fiat, but by "the intrinsic motivations of staff, their passion for teaching and commitment to students" .

Conclusion

In spite of the problems experienced, the *Comm. Skills Online* project was perceived by student participants and the rest of the Department's staff as being well-organised and effective: it was in fact one of the few instructional offerings that was running smoothly from the outset in 2003, as the merger had caused considerable disruption to academic programmes. Both staff and student feedback suggested that the students enjoyed the course and found it highly relevant to their eventual professional functioning: some of the IT

teams actually thanked project staff for giving them the opportunity to work in multicultural groups, as they realised that this would help them in their eventual work situation. The project also turned out to be a morale booster for the Communication Department, as we were seen not only to be coping with change, but also to be trying out something which was innovative and associated with advanced technology. However, the project demonstrated that efficiency and quality in course delivery require an institutional outlay on the advanced technology necessary to bring about the transformation in higher education. Such technology should not be viewed as the prerequisite of "the sciences" or elite small groups, but as an integral part of everyday academic and professional functioning for all students at all levels, particularly in first year. This will not become a reality until actual money rather than lip service is paid to academic quality, and academic quality is, after all, what our students are paying for.

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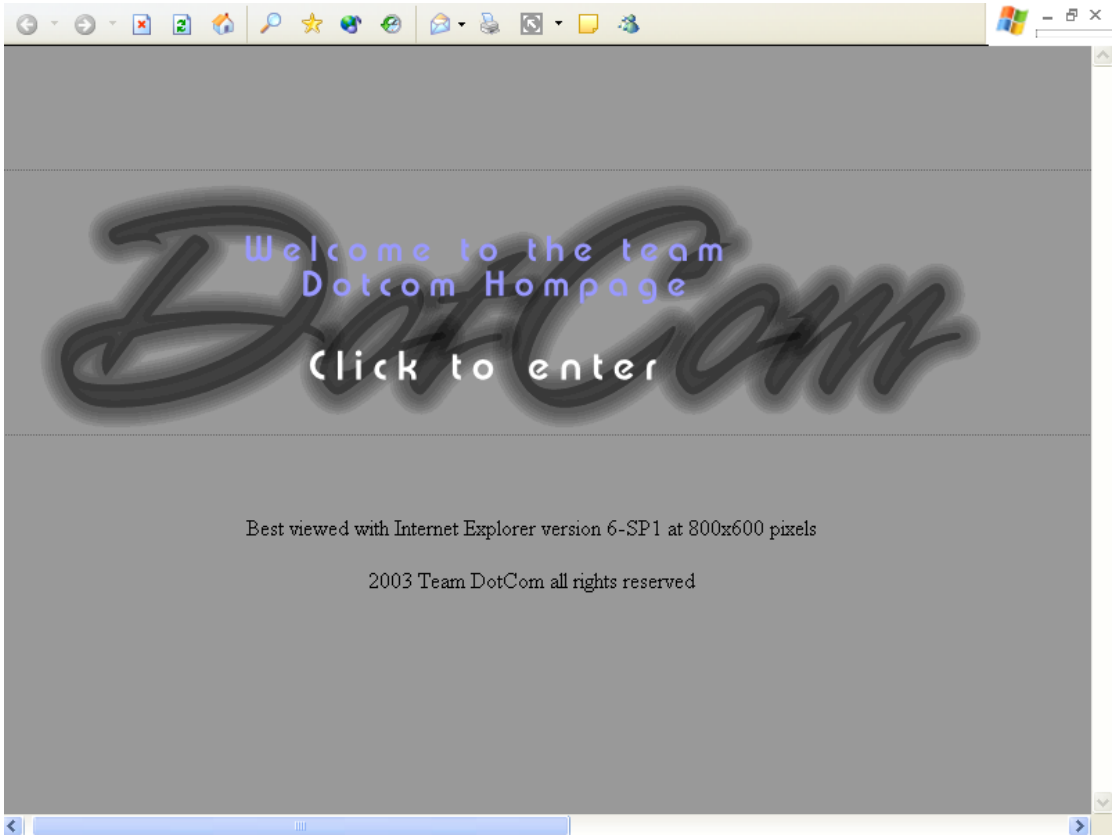
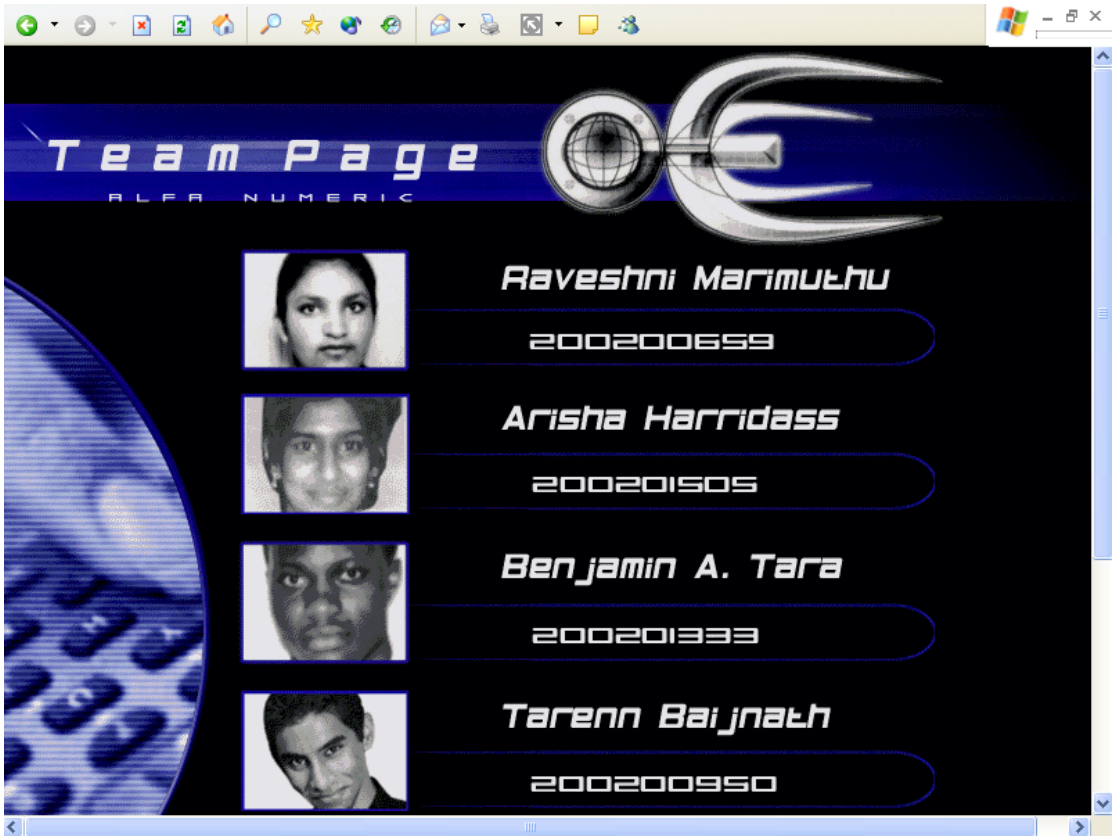
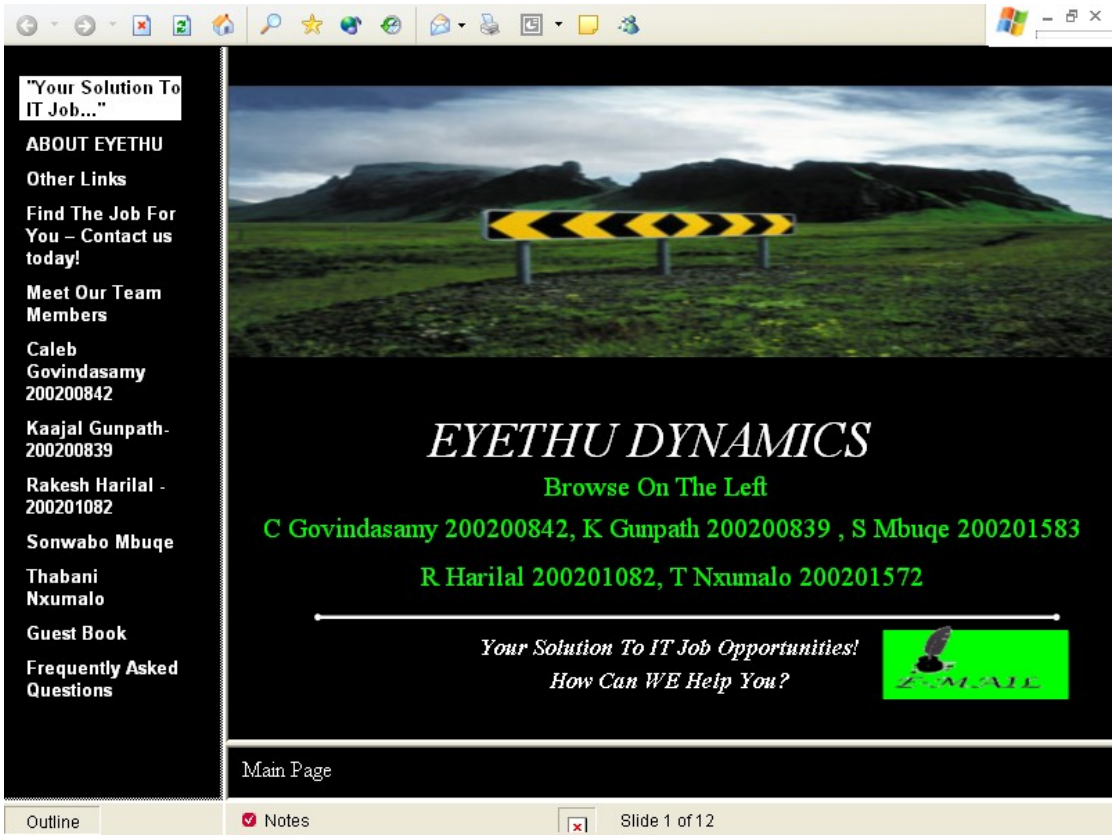
ANNEXURE: EXAMPLES OF WEBPAGES CREATED BY IT STUDENTS



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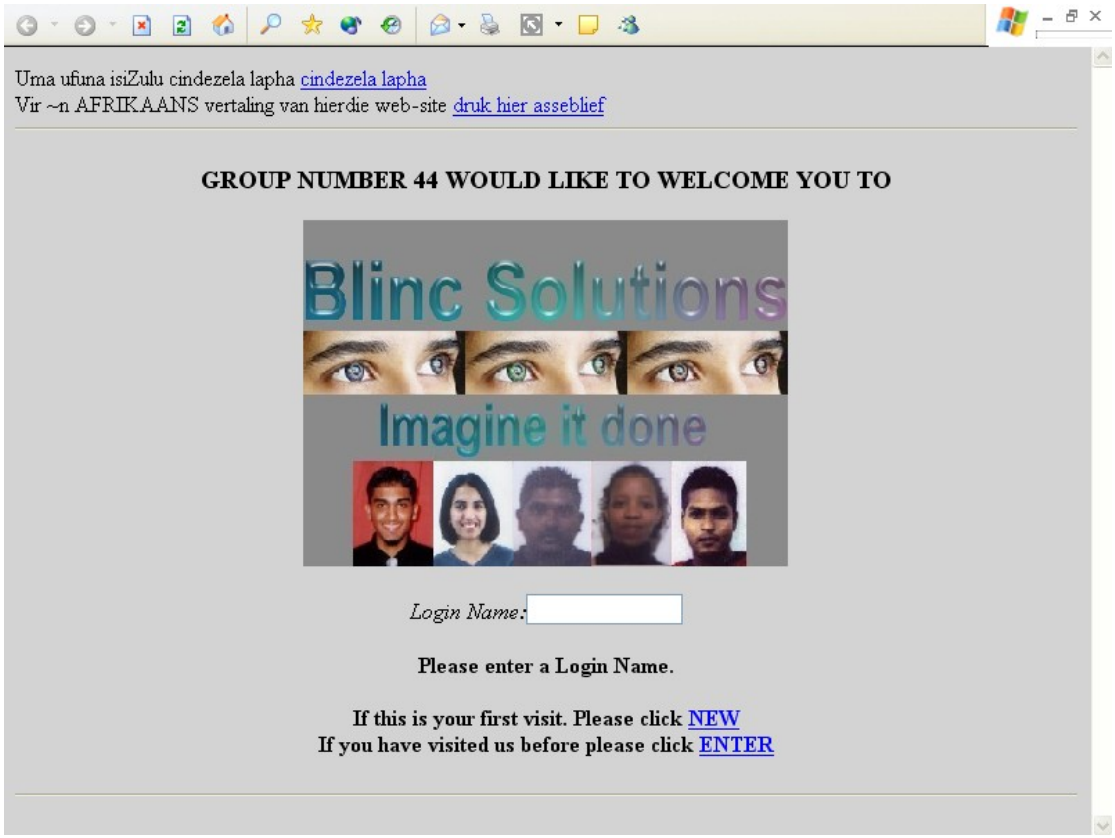
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