

Technology and communication in  
Al Akhawayn University in Ifrane: Web mail

SSK 1202

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## Abstract

This study, covering 97 members of Al Akhawayan University (AUI), began with an ambition to investigate the effects of the use of an email service (Web mail) on the communication within a Moroccan University: AUI. A review of the literature has quickly uncovered the limited research carried out in this area. Yet, a comparison of AUI Web mail with American universities showed many similarities and differences which helped assessing the efficiency of AUI Web mail. The results of this study are presented after the design. They were gathered both from the interview with an administrator of ITS (Information Technology and Systems) and from the surveys filled out by students, faculty and staff. A central finding is that a major fringe of Web mail users does not have access to this facility all the time, especially off campus. Nevertheless, there is quasi-unanimity among AUI community that Web mail is efficient, which remains a questionable finding because the present study did not use a specific tool to evaluate how the studied population conceives “efficiency of communication”.

## Introduction

A huge part of scientific research was concerned about the improvement of communication technologies. The internet has been a blessing that has brought fresh air to the static world of classical paper mail or expensive phone calls. A tool that was firstly intended to ensure secure exchange of information during wartime turned in few decades to be the most prevalent means of communication, making the world a small village where everybody can interact. This is what can be called the globalization of communication. As a part of global development, technology has become a mandatory tool allowing exchange of information among people in the entire world. People surf the net to extend their knowledge about different issues, and exchange beliefs and ideas with people from other backgrounds. Such sharing of information is facilitated by the use of email. In fact, electronic mail has become an integral part of modern daily life in developed countries thanks to its numerous benefits. Sending and receiving emails requires at most a couple of seconds and is most of the time at the cost of an Internet connection only which makes it the fastest and cheapest means of communication. This optimistic view applies at least to the countries where technologies are affordable and where, unlike developing countries, elementary needs such as food, schooling and health care are not major problems.

This research paper deals essentially with the use of technology for communication inside a developing country, Morocco. The entire study is taking place in Al Akhawayn University as an example of a modern style university within a developing country. AUI has developed a set of technological tools with the purpose of enhancing communication within the AUI community. The main tool it relies on is the AUI Web mail which was designed to ensure a “highly functional and robust product” (AUI Web mail, help section). AUI students, faculty, and staff tend to communicate among each other through the Web mail. For instance, student/faculty relationship through emails involves mainly exchanging information about the

course, such as homework, assignments, appointments, teachers' notes, quizzes, and grades. Frequent use of the Web mail at AUI makes it a major way of communication; however it seems that it is not fully efficient since many complaints are made concerning the technical part of the Web mail.

This research study raises the issue of the actual status of Web mail use at AUI. Web mail use by the AUI community is intended to facilitate communication within the academic context. However, its efficiency could be altered by inappropriate use. In fact, an increasing number of complaints are heard amongst AUI community but it seems that nobody has so far carried out a study to investigate the reasons behind this problematic issue. Indeed, the fact that AUI is relying almost completely on the Web mail for its internal communications brings up a set of assumptions that seem obvious but could in fact be wrong. Assumptions raised include whether all AUI community has equal access to Web mail, whether everybody knows how to use it correctly. Security is another concern in this research; AUI community has a vague idea of how secure Web mail is, with a special focus on privacy policy. In addition, some complaints from members of AUI community concerning the efficiency of Web mail would raise a question about the standards used in designing Web mail, whether they meet users' needs and expectations. In other words, one would have reservations about the extent to which the goals set for the Web mail have been reached and whether AUI community itself has something to do in the efficiency of this whole system.

This research is important because the Web mail problems affect directly the daily life of AUI community, and unfortunately it seems that the intended outcomes are not fully reached for unidentified reasons that could be human (Web mail users) or technological (ITS administrators). On the other hand, this study may lead us to find practical solutions to these problems that could be implemented by ITS to maximize the benefits from Web mail and by

the CAD to add new features to the SSK1203 that would allow students to efficiently use Web mail. The research questions are:

Does all AUI community have equal access to Web mail?

Does everybody know how to use it correctly, especially master students who do not usually take SSK1203?

What about security of Web mail?

What about privacy policy?

In addition, some complaints from members of AUI community concerning the efficiency of Do standards used in designing Web mail meet users' needs and expectations?

To which the goals set for the Web mail have been reached?

What is the role of AUI community itself in the efficiency of this whole system?

### Literature Review

This research project is tackling the issue of Web mail use at AUI since it is a major tool in internal communication. In fact most announcements are done using it, and the increasing number of complaints among AUI community raise a question concerning its efficiency and whether Web mail has fulfilled all the purposes it was designed for. This project tries to analyze the position of Web mail in everyday communication within AUI and tries to identify the problems related to its use. Once the problems are identified, the project is going to determine their source, whether they are because of users or the inappropriate design of the Web mail, and try to find adequate solutions to handle them. Similarly to AUI, other institutions all around the world, mainly universities, use the same technological tool for communication, e.g. intranet. Information gained from review of other institutions use Web mail will provide an insight into the results generated by this research.

Very little research on the efficiency and effects of electronic mail on internal communication in universities or similar closed communities exist. However, email as a tool in learning or course communication has been studied.

Kinthead (1987) from Utah State University analyzes some types of written interchange communication, through email, within colleges. Kinthead claims that email language between students has become “quick, convenient, and fun” and it is a “release for creative writing”. Absalom & Marden (2004) carried a study related to the same topic; particularly it highlights some of the aspects of e-mail communication between native and non-native speakers at The Australian National University. The results of this study show that generally these aspects include “more spontaneous and natural style compared to other written genres,” an “individual and expressive language both in terms of content and typographic elements,” and “greater expressive freedom with respect both to traditional written forms and oral discourse” (p. 423). Both articles agree on the role that emails play in the creativity in expression, and the improvement in the learning of the language being used. These two articles will be helpful in assessing the effectiveness of communication through Web mail in AUI, especially when it comes to student-to-student correspondence and student-teacher correspondence.

Mills, Eyre, & Harvey (2005) wrote a text explaining Charles Sturt University’s experience with e-learning in Asia as e-learning is becoming an integral part of the educational environments. This paper studies how e-learning (including e-mail) should be adapted to different cultural contexts and how it can affect the relationship between students and instructors from diverse cultural backgrounds. They found that “the e-learning model adopted in Australia is not the best model to follow in Hong Kong; and if extrapolation from this experience is valid, then the best model for Hong Kong may not be the best for Singapore, and so on” (p. 52). Based on this text, an investigation on at what extent the AUI

Web mail is designed to fit with all cultures present in AUI can be carried on. And if ever in the future the university decides to engage in distance learning, will the current features of Web mail be enough or should they take into consideration other features, and what are these additional features.

Renwick, S. (2005) ran a survey on faculty members at The University of the West Indies. The survey explores the knowledge of respondents about e-resources, their use of them and their access to them. The study confirmed to some extent “the lack of knowledge and use of MSL-specific (Medical Science Library) resources and supported the suggested problem that its e- sources are underused” (p. 26) The findings of this study support to a certain degree one of the assumptions of this research project which is the misuse of the Web mail at AUI. This paper was helpful in the current research, particularly for the data gathering tool, because this survey used comparable items for questions.

Angell & Heslop (2000) in his book “The Element of the E-mail Style” discusses the various features of e-mail so that one can take maximum advantage of it. The evaluation of the structure of the AUI Web mail and the communication through it will be based on this book that enumerates the standard elements of effective Emails especially those related to the security, privacy, and speed.

Rowe (2003) discusses the decision of an American university to upgrade its email system. It explores the reasons behind this change, and the effects it had on the academic and administrative work at the university. Rowe concluded that increasing the storage capacity of the new system (from 40GB to 144GB), making it faster than the old one, and integrating other useful features made students and faculty of Oakland University “discovering new ways to use the system as a research and study tool” (p. 50). This text is relevant for this research while discussing the present AUI Web mail features that need to be improved.

As it is already mentioned above, a comparison between AUI and other universities, in terms of the Web mail service, is necessary in this research. For that purpose three American institutions have been chosen: Massachusetts Institute of Technology (MIT), George Washington University (GWU), and University of Montana (UM). MIT has been chosen in this research as being the best information technology provider. GWU and UM are well known for their good reputation and they are partners with AUI in exchange programs. MIT provides a strong documentation explaining its Web mail system and it is available in their website. GWU also provides useful information about its Web mail in the sign in page. Moreover, it gives the opportunity for students to create their account on line; feature that is not permitted by AUI Information Technology System. Information concerning Web mail (its organization and its use) summarized in the websites of these universities is compared to the AUI Web mail mainly in the discussion part of this research and in the conclusion.

### Design

The objective of this project is to investigate the use of Web mail at Al Akhawayn University in Ifrane (AUI). In fact, little data is known about the use of Web mail within universities, and this has never been an issue of study as far as AUI is concerned. Thus, this particular topic will explore the different features of Web mail use at AUI, and will therefore require an exploratory research study.

In the search for answers to the research questions, the study will follow a method which implements the concept of triangulation by combining qualitative and quantitative research method techniques. In fact, the surveys will provide statistical data about the respondents' input, while the interviews will provide qualitative data in the sense they will permit to understand and identify the trends in the design of Web mail, by using the input of the designers themselves.

Data is collected through one interview and three questionnaires for the members of the AUI community. Firstly, three surveys are going to be respectively distributed to the three main user categories at AUI: students, faculty and staff. Secondly, interviews will be conducted with the designers of the Web mail at the Information and Technology Systems (ITS) office.

### Data Gathering Tools

In this research paper “Web mail at AUI”, two kinds of data gathering tools were used to collect relevant information.

The first tool that was used is surveys. Three different surveys were prepared; one for students, one for faculty, and another one for staff, in a manner that represents all the AUI community. The survey was in English.

The questionnaire is composed of two parts. The first for students contains three questions concerning some personal information (gender, school, and status). For faculty and staff, there is one question to specify the school or department to which they belong. The second part consists of eleven questions dealing with the respondent’s use of Web mail at AUI. This part contains open questions where the respondent expresses freely his /her ideas and yes/no and multiple choice questions.

The objective behind these questions is to know:

What do final users use the AUI Web mail for?

Have the students taken SSK1203?

What techniques and options do the respondents attempt to take advantage of?

What features have they never heard about and do they exist in the AUI Web mail?

Do they have access to it on campus and off campus?

How often do they check their Web mail?

How do they rate the Web mail features?

What are their expectations?

How do they perceive the communication through it?

What do they suggest to improve it?

The second data gathering tool used in this research is the interview. It was made with Mr. Elouedghiri El Idrissi, the information systems division manager. Two of the team members set an appointment with him and asked him few questions concerning relating to the technical and designing issues of the Web mail. These questions were based mainly on the suggestions and complaints gathered from the respondents to the survey.

### Subjects

The subjects of this survey are chosen randomly but the representativity of the sample is controlled by the respective proportions of each subgroup within AUI community, taking into consideration the size of each subcategory and applying the rules for appropriate sample size according to Gay and Diehl (1992).

The largest category of subjects in this study is students. According to the Dean of Student Affairs (Al Hayat Al Jamiya, AUI Publications, Fall 05), there are 1077 students in AUI. Then, the sample size is 108 students which represent 10% of the AUI students who will be randomly chosen within the predefined frames. These frames were defined according to the percentages of each category in the whole number of students. The target subjects are divided into categories as follows, with the application of quotas on the sampling.

The newcomers and freshmen are to be 16 students. This is because they are the basic standard of comparison between people who have their first contact with Web mail versus students who are more experienced and have been dealing with it throughout their studies at AUI. Their experience may be informative when one takes into consideration the fact that they have just taken the SSK 1203 course or are currently taking it. The efficiency of skills acquired in SSK 1203 is a potential variable that could explain the misuse.

The second category is comprised of all AUI students ranking from sophomores to juniors, 41 students of which 23 are sophomores and 18 are juniors. They represent the ones who witnessed the evolution of Web mail at AUI and are able to assess the progress it is making.

The senior and graduate students are the ones who have not taken SSK 1203, and there are 12 masters and 12 seniors. They are interesting in the sense that they acquired their email skills from a source other than AUI CAD courses and are applying it to Web mail.

This categorization of students is mainly based on their academic status because the factor of time spent at AUI could be a variable that would affect the use of Web mail at AUI.

Students were also categorized according to their schools in order to compare the different needs and expectations at the level of each major. For instance, a school may need bigger capacity of email storage, for sending zip files or pictures while other majors may require more formatting tools.

Once the students have been appropriately categorized, since the study uses other surveys for staff and faculty, the two latter may be considered as categories apart. Interestingly, one detail is that faculty and staff members have another email service called "Lotus Notes." Thus, they can critically detect the strengths and weaknesses of Web mail by comparing it with their other email service features. The other category that the study covers is staff members. Staff members are representative of the people whose use of Web mail is not restricted to academic use such as homework or class notes. They have a different use of Web mail that could be interesting to explore in order to assess the relevance of Web mail in all domains concerning AUI. The difference in staff's use of Web mail is mainly receiving and sending directives related to the functioning within the organizational structure of AUI.

Some ITS staff or if possible a responsible of the information systems will be interviewed in order to have the point of view of the people who designed Web mail, since so

far all the subjects studied have been final users of Web mail. This category will help to determine the main goals of Web mail and the way it was designed and implemented in order to reach its goals. This information combined with the other categories' answers will help to evaluate the extent to which these goals were fulfilled and the reasons behind some of the complications with it.

## Procedure

### The questionnaires

For each of the three questionnaires, each of the four members of the research team were given a quarter of the total number of surveys to be filled in. The surveys were distributed to 120 students, 20 faculty members and 20 staff members. Extra surveys were given out and any survey that was not complete or where the respondents did not answer seriously or compromises the respect of the quota values for the parameters (sex, under/grad, school, student status) was cancelled.

Internal validity was a major concern in this research. This is the reason why the survey distributors were trained to adopt a common communication strategy in dealing with the potential respondents. In other words, all four members of the data collection team followed the same steps during survey distribution: starting with a greeting and a request to have the respondents fill the survey, briefly announcing the subject and allowing 15 to 20 minutes for answering.

The whole data collection through surveys was performed between October 25<sup>th</sup> and October 31<sup>st</sup>, 2005, which coincides with one week during the holy month of Ramadan. Thus, some of the research procedures were adapted to the change in life style for AUI community. For example, most of the surveys were distributed at night in dorms or right before or after the *Ftoor* meal in places where students gather, for these are the times and places where the biggest number of surveys can be collected.

### Student Survey

The student questionnaires were distributed in the dorms of the campus in order to have the students respond comfortably to the questions, and to have equivalent place conditions for all the survey respondents. Since all members of the data collection team are females, the latter strategy could not be applied in males' buildings. Hence, for males, surveys were distributed in the game room and the cafeteria; because these are the places where most male students hang out just before and right after the *Ftoor* meal. One other way was collecting data from male students living on the ground floors in their buildings or asking students entering buildings to fill it out and come back at a fixed time to collect it. Since many students did not show enthusiasm to this alternative, it was discarded from the survey distribution strategies.

In the dorms, the questionnaires were distributed at night starting at 10 p.m. because during Ramadan most of the students stay awake late at night. The male questionnaires were distributed just before and right after the *Ftoor*.

Talking in English is considered by the majority of students on campus as being formal or boasting. Hence, the survey distributors dealt with the students in Arabic and French, with the purpose of creating a feeling of safety and confidence with the peer students.

### Faculty Survey

Collection of responses to faculty surveys took place in their respective offices. This is the most appropriate place to meet with instructors and to have them respond comfortably to the questions. As for the timing of survey collection, it was determined according to the office hours of instructors. The language used in dealing with faculty was English, since AUI is an English-medium university.

### Staff Survey

Similarly to faculty surveys and for the same reasons, questionnaires were collected in offices during the working hours. Depending on the department and the context, the language used in introducing the subject was either English or Arabic and French. However, the language of the survey was English.

The staff and faculty's survey results will not be used quantitatively, but rather in a qualitative way that would show only the trends of for every aspect studied.

### Interviews

As discussed before, surveys were used to collect data reflecting the point of view of Web mail users. In order to represent all the parties involved in the Web mail issue, it was necessary to gather data reflecting the point of view of Web mail designers. Surveys are not very effective in this second case. Some reasons are: the targeted sample is small; the research requires data that corresponds to the specific research questions and that can be easily triggered using well-designed interviews.

In order to make the interviews with ITS Web mail designers effective data gathering tools in this research, the data collection team was conscientious while designing the interview. To begin with, questions were formulated in such a way to answer the related research questions and to stimulate the respondents. The interviewers were trained to keep the interview on track whenever the interviewee would try to introduce irrelevant issues. The interview was carried in the interviewee's office to make him feel more comfortable. The questions were not asked systematically, but rather following the logical flow of the interview and paying attention to keep the discussion in the predefined track.

#### Problems encountered

Through the data gathering process, a variety of difficulties were encountered. During survey collection, it was observed that the preliminary results for the categories' questions (gender, school, academic status) were not meeting the quotas previously defined for each

category. Since respecting the quotas is a crucial issue in terms of representation, the team decided to cope with this difficulty progressively while distributing the questionnaires. In other words, the surveys were distributed in stages and the temporary numbers of each category were compared to the ones that should be achieved.

Another problem was the unwillingness of some students to fill the in the open questions, while these are significant tools to assess the input of respondents and probably discover new ideas about the research topic.

Concerning the interview, the main difficulty was to find the relevant person to interview. For this purpose, the team first addressed Dr. Rachidi, the Director of ITS, but unfortunately he was not available for an interview. However, he did refer us to Dr. Elouedghiri El Idrissi, the information systems division manager.

### Results

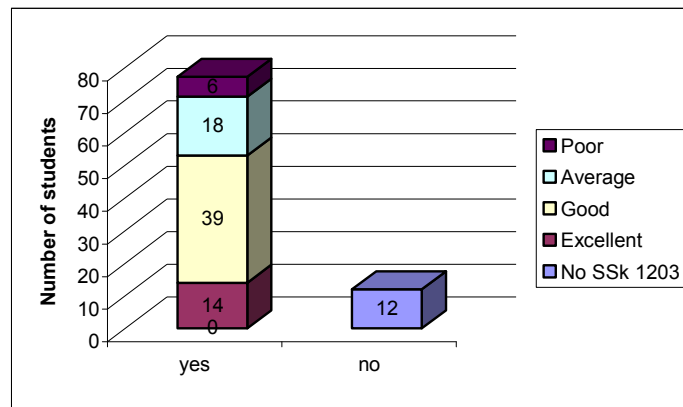
The sections below detail the results of the evaluation of Web mail use by AUI students, faculty and staff as well as the input of ITS designers.

#### Student survey results

The student survey was a means to evaluate AUI students' use of Web mail and therefore answer the research questions as far as students are concerned. The survey was distributed to 38 males (46 percent) and 44 females (56 percent). The preliminary questions of this survey have provided demographic data about the population studied.

Indeed, each of the School of Science and Engineering (SSE) and the School of Business Administration (SBA) is represented by about 40 per cent of the students' sample, while the remaining students belong to the School of Humanities and Social Sciences (SHSS). Undergraduate students are 85 per cent of the sample size and graduate students are 15 per cent.

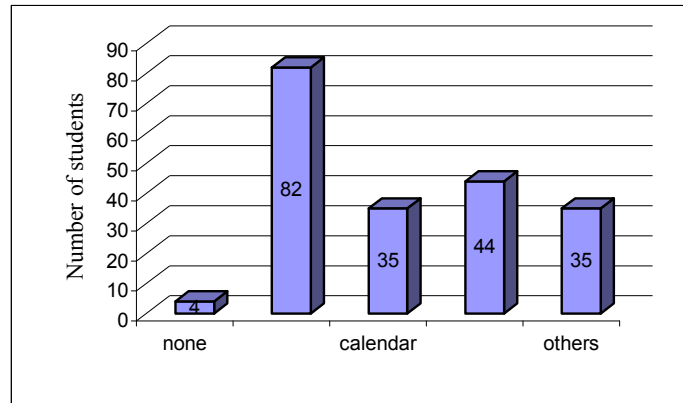
Figure 1: Students who took SSK 1203



n = 83

The first question reveals that only a minority of the subjects of this survey have not taken the computer skills course (SSK1203) and they are either graduate or senior standing students. The former do not have to take this course as part of their core curriculum, whereas the latter enrolled in the university when the course was not yet offered. The preponderant part of the students who responded positively to the first question rated the SSK1203 course to be good. An insignificant number of 6 students consider it as poor while the other respondents either say it is excellent or average. A big majority of students reports that they know how to use Web mail (90% of the students). In fact, evaluating the skills acquired by students about the use of Web mail would be assessed more objectively using their knowledge of each single feature of Web mail rather than using their overall subjective rating. This is what was investigated in the following question of which results are schematized in Figure 2.

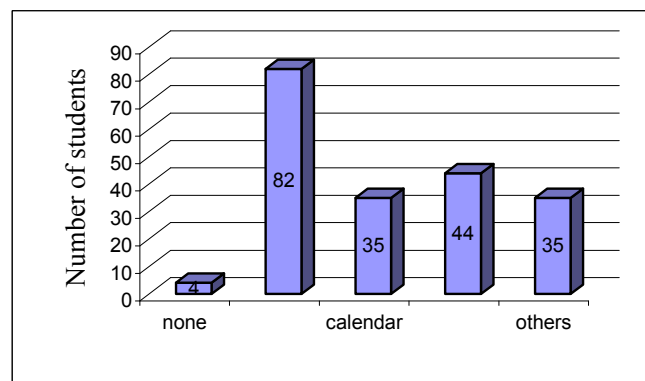
Figure 2: Features that students know how to use



n= 82

Students master using return receipts, the creation of email groups, and email folders more than they do the features such as new email prompts and changing settings and preferences.

Figure 3: Web mail skills



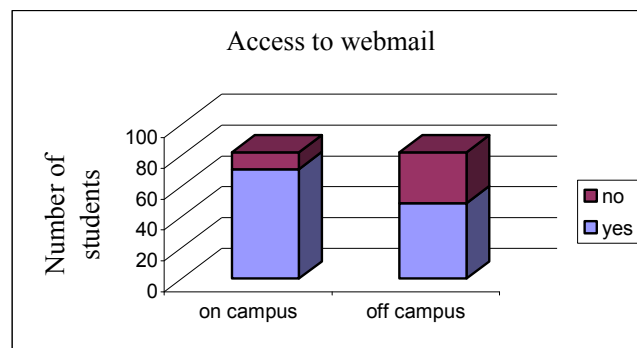
n = 82

As Figure 3 shows, fewer students know how to manage calendars or mention other features they know how to use such as out of office message or blocking emails. The latter are poorly known features even if they are tightly linked to the communicational aspect of Web mail.

In general, students use Web mail to send and receive emails and to build distribution lists, regardless of the features they know how to use. Indeed, emails are mainly used in the academic context, which is to send homework and to make announcements, as well. Fewer students report they also make use of Web mail for personal emails or to keep in touch with their classmates.

The results are interesting in showing that more than 10 percent of the students do not always have access to Web mail on campus, a fact that questions the equality in accessing this facility, and confirms one of this research's assumptions. (See Figure 4)

Figure 4: Access to Web mail

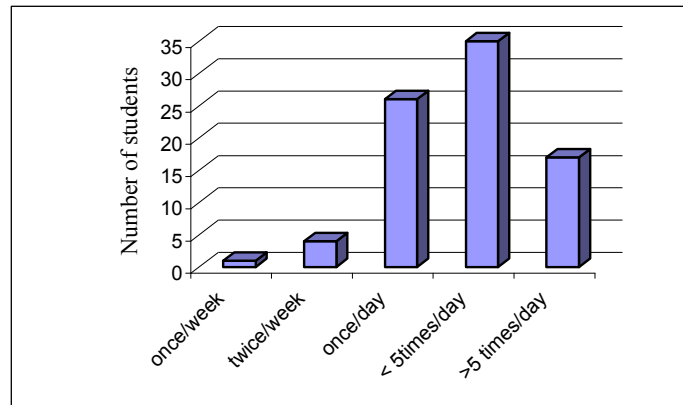


n = 82

Linking this finding to the communicational function of Web mail, it can be said that the unequal accessibility of Web mail does not serve the communication goals. This is increasingly confirmed, given that nearly half the students (40 percent) do not have access to Web mail off campus.

Overall, it is noticed that very few students do know about additional services offered by Web mail such as instant message and voice mail. This may trigger a contradiction with the result that students think they know how to use it.

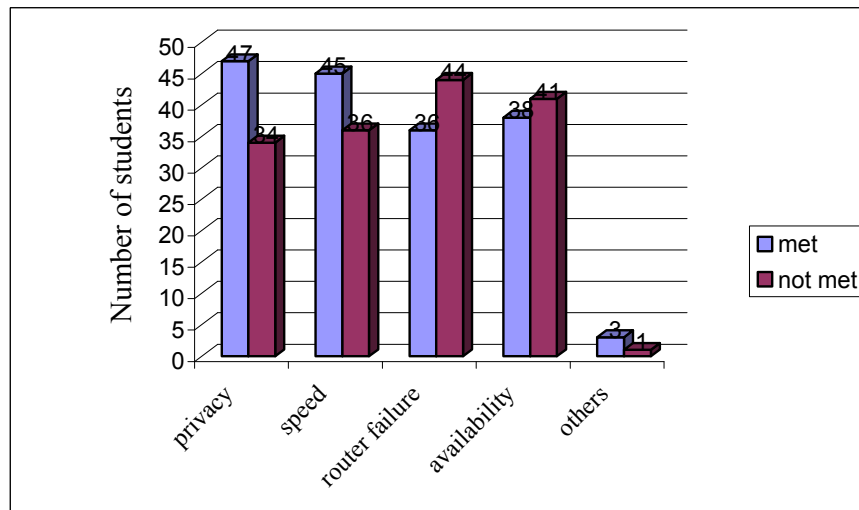
Figure 5: Frequency of Web mail use



n = 83

Figure 5 illustrates a particularly high frequency of use, with a large majority of 95% of students reporting that they daily check their Web mail boxes, and about 20% of them check it more than five times per day. Consequently, the frequency of use issue does not seem to be a barrier to communication through Web mail.

Figure 6: Students' expectations from Web mail



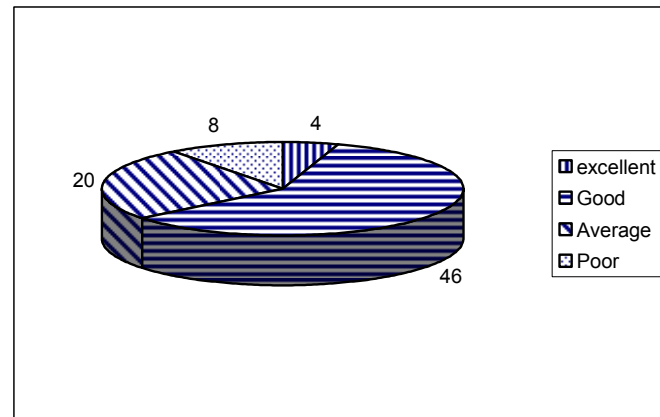
n = 81

As illustrated by Figure 6, privacy, speed, availability and router failure are all reported as expected characteristics from Web mail by nearly all students. However, the two primary concerns of students are privacy and speed, in such a way that they are considered

met by slightly more than half the population. This is inconsistent with the result of Question 8 where more than two thirds of the students rate security and privacy as good or excellent.

(See Figure 7)

Figure 7: Security and privacy rating



n = 78

Students' satisfaction is explained by the following factors: the expiration of the session after ten minutes of not using the account, the use of private passwords (Verisign Program). In contrast, other respondents affirm that ITS can have access to their emails and one of them even declares that his/her password has been changed (Question 8). Other criteria are provided in Question 9 where students base their answers on comparison to other email systems like Hotmail and Caramail. This approach is also used in this research by comparing Web mail to other universities' email systems, as explained in the literature review.

Students are also interested in the other expectations proposed in the survey. By experience, 53% students affirm they are not satisfied with availability and router failure. Three students of the total population report additional needs, which include memory capacity and spellchecker.

The results indicate that the majority of students evaluate the communication through Web mail as being efficient. They owe this to the easiness and speed of Web mail, the formal

contact with students and faculty on campus because they frequently check their mail boxes. On the other hand, other students claim the opposite, namely that some AUI community members do not check their emails frequently -especially the Student News- and the lack of speed and availability due to the server being down. Two students add the unavailability off campus and four others report the small size of memory which makes it difficult to send attachments.

Finally, students suggest essentially solving the previously stated problems of speed, privacy and availability off campus, with a particular emphasis on storage capacity of individual accounts. Added to this, respondents urge ITS not to do maintenance during the semesters to avoid network problems. They also raise the problem of the pop-up blocker which makes sending emails harder. A considerable number of students are also interested in more colors in their Web mailboxes and suggest changing the Graphical User Interface (GUI), and possibly engage SSE students in this process.

#### Staff and faculty surveys:

The results of these surveys show that most staff and faculty have access to Web mail on campus whereas for half of them there are some difficulties accessing it off campus. Concerning the efficiency of the communication using AUI Web mail, one of the questions showed that a majority of teachers and staff check their emails more than five times per day, whereas they don't read their faculty news that often. It is noticed that the tasks performed using email consist mainly of sending course material and receiving assignments. Regarding faculty's expectations from the Web mail and their rating of it's efficiency, they do not differ considerably from students' ones.

#### Interview results

When told that most of students suggested a change in the design of the Web mail interface, especially the colors, Dr. Elouedghiri answered that the ITS does not have full

control of the design. Indeed, he showed the interviewers the source code given by IBM. This source code is written in a form that does not show all the tags, including the colors functions. Therefore, the ITS has a limited customization scope. Nevertheless, there is an alternative option that allows students to choose the color theme by themselves, which is the i-note, a lighter version of Web mail that has less JavaScript and therefore allows some changes.

The speed of the Web mail, affirmed Dr. Elouedghiri, is dependent on many variables that cannot all be controlled by ITS. For instance, when mass mailers or virus attacks overload the main server, the speed is considerably lowered and sometimes it is better to disable the Web mail. One solution, proposed by Dr. Elouedghiri, to overcome the snowlines of the Web mail on campus is to access the Web mail using the intranet; this means that instead of accessing the Web mail through the AUI website, it is better to access it directly through the secured version : <https://nstud>.

To the interviewers' affirmation that the students do not have a lotus account as the teachers do, Dr. Elouedghiri gave interesting information. He explained that a project has been carried on by the ITS to make the students host their own email databases in their personal computers, this would enable students to have more secure and quicker access to their lotus notes. This option, if implemented, would also allow students to write emails offline and each time they get connected to the internet, an updated version of the database is uploaded. As a matter of fact, Dr. Elouedghiri declared that this rooming option is theoretically available.

### Discussion

A major finding of this study is related to the accessibility of Web mail issue. The student survey interestingly shows that Web mail is continuously accessible on campus to only 90% of AUI students, while nearly half of them cannot access it off campus. This result corresponds to one of the study's hypotheses, namely that not all the members of AUI

community are equitable in accessing Web mail. A complementary result is that 60% of the students are not satisfied with the availability of Web mail, and they owe this to their actual experience with using Web mail. This can be explained mainly by technical reasons. Indeed, the failure in accessing Web mail is part of the general problem of the interruption of internet connection. Actually, the AUI community receives sometimes notification emails from ITS anticipating connection interruptions and “apologizing for any inconveniences this - interruption- may cause.” (Rachidi, 2005) These interruptions that prevent AUI community from accessing Web mail are due to overloading in the central database of AUI main server, which is generally caused by viruses attacks or mass mailers. In this situation, providing a satisfactory internet service becomes technically challenging and it is better to interrupt the connection, as explained by Dr. Elouedghiri, the ITS division manager. Occasionally, specific email problems occur as documented in the email sent by Dr Rachidi, the Director of ITS, to AUI community on November 7th, 2005, stating that: “AUI is experiencing some email problems, more specifically, incoming email from sites (...)”. Concerning the limited accessibility off campus, Dr. Elouedghiri explained that this is beyond the frame of work of ITS and is generally linked to the quality of internet connection used off campus.

Regardless of the reasons behind it, it is plain that the current low rate of accessibility to Web mail affects the communication among AUI community members. Thus, even if a part of the users have access to Web mail, they cannot exchange emails with those who cannot access it for any reason.

Furthermore, communication efficiency is also affected by human factors. In fact, most students say that this communication is efficient whereas the rest claim it is not. The arguments of the first group include essentially that Web mail is easy to access and frequently checked out by users. By contrast, the second group argues that the facility is not always available and that AUI community members rarely check their mail boxes. Following the

norm of adopting the opinion of the majority of respondents and not the minority, one might disregard the small proportion of the group of students who claim the inefficiency of communication. To explain the clear divergence in opinions between the two groups about communication, a link of these findings to results of other questions is to be made.

Indeed, the argument of the minority group about the restricted availability of Web mail is supported by the previous finding that the access is inequitable and therefore not easy, contrarily to the point of view of the majority group. It is important to notice that some of the respondents belonging to the majority group have answered that Web mail is not continuously accessible to them, but they still claim that communication is efficient because of easy access. This paradox questions the reliability of the majority group and can be interpreted by the fact that they positively responded to the directly formulated closed question, that is “communication efficiency” but, they –unconsciously –negatively responded to the more implicit question about the “continuous access”. The latter question, gave the respondents the opportunity to evaluate one aspect of efficiency in communication possibly without knowing it. These rather contradictory results could incur out of fear from saying the truth or because students cannot assess what efficient communication means exactly.

Yet, the majority group’s argument, that is users frequently check their Web mail which enhances communication, is supported by the results of one question from the students’ survey.

From the above cited analysis of results, one cannot judge the quality of communication through Web mail, as it cannot be decided which of the two factors (frequency of use, continuous accessibility) affects more communication.

The interview and survey answered the research question concerning the standards used in designing Web mail and the extent to which they meet the students’ needs and expectations within the academic context. As shown in the interview, the standards used in

designing Web mail do not take into considerations the specific needs of AUI students but are rather conceived at the level of the mother society (IBM) which designs a template that lets a reduced margin of customization.

As for the users' needs, there are two primary concerns; privacy and speed. For the speed it cannot be controlled by the ITS since it depends on the debit of internet connection of the user. As far as privacy is concerned, Mr. Elouedghiri denied the saying of students and faculty who think that ITS accesses their Web mail account. He affirmed that ITS administrator does not actually access the AUI community account even though it is possible for them to do so. This is part of answering the research question concerning security and privacy. The other part of security was also addressed by Mr. Elouedghiri who stressed the quality of security of the Web mail that is ensured by Verysign Secured Seal Program.

One of the concerns of this study was to assess the skills related to using the features of Web mail, with respect to the learning outcomes of the course SSK1203. Mr. Elouedghiri revealed that ITS has delegated to the CAD the mission about familiarizing the students with the Web mail and its various features. This is the reason why there is no tutorial section provided by the ITS except the help section which provides only information about the different features. This is contrary to the MIT Information System & Technology that provides a very thorough tutorial section about how to use Web mail. This is also the case for some partners of AUI such as The George Washington University. Nevertheless, there exist other partners which, similarly to AUI do not provide "How To Use" section, for example the University of Montana. In fact, this strategy of AUI in delegating this task to CAD was fruitful since the data collected shows that students master the principal features of AUI Web mail.

For faculty and staff, the rate at which they check their emails is superior to that of students, which implies that they are communicating through Web mail. However, one

contradiction could rise from the fact that even if teachers check their emails several times per day, they mainly use Web mail for purely technical tasks such as sending course material and receiving homework which does not require nor enhance communication within AUI community.

### Conclusion

On the whole, it is observed that the trends related to the use of Web mail are approximately common to both students and staff and faculty. Actually, they both use this email service frequently and have difficulties accessing it especially off campus. Overall, no trend can be discerned with respect to communication through Web mail. While there are some challenging technical problems that are still pending, AUI community members seem to be satisfied with the efficiency of Web mail in communication. Nevertheless, they express some concerns that can be taken into consideration by ITS to upgrade Web mail. The contradictions raised by these findings require further research to evaluate communication through Web mail, mainly by evaluating Web mail users' conception of "efficiency of communication".

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## Appendix A

Web mail at AUI (student's survey)

All data are treated with full confidentiality

The purpose of this survey is to evaluate the use of "web mail at AUI." Your answers to these questions are greatly appreciated.

General information (this data portion will not be used to identify you as an individual).

- Gender:  Female  Male
- School:  SSE  SHSS  SBA
- Status:  Graduate  Undergraduate
- Freshman  Sophomore  Junior
- Senior
- 

Have you taken SSK 1203 (Computer Skills) course?

- No Why Not? -----
- Yes Rate information gained concerning Web mail use
- Excellent  Good  Average  Poor

Do you know how to use web mail?

- No  Yes Features you use most (check all that apply)
- send/ receive email  calendar  distribution list
- others

Do you have access to web mail all the time?

Yes  no

Do you know how to:

- Create an email group  yes  no
- Manage calendar  yes  no
- Manage emails in folders  yes  no
- Return receipt of email  yes  no
- Set new message prompt  yes  no
- Change the settings and preferences (e.g. layout)  yes  no
- others: \_\_\_\_\_

Have you ever heard about these features of web mail:

- Voice mail  yes  no
- Instant message  yes  no

How often do you check your email:

- never  once a day  less than five times  more than five times per day

What are the uses you make of the web mail:

announcements  homework/notes  others: \_\_\_\_\_

How would you rate security and privacy of web mail:

Excellent  Good  Average  Poor

Based on what?

---

---

---

---

---

What are your expectations and needs from web mail and which ones are met:

privacy  Met  Not met

speed  Met  Not met

no failure in email sending/receiving  Met  Not met

availability  Met  Not met

others: \_\_\_\_\_  Met  Not met

\_\_\_\_\_  Met  Not met

How do you know:

---

---

---

Do you think communication through web mail is efficient?

yes  no

why:

---

Do you have any suggestions concerning web mail improvement:

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Thank you for your participation.

## Appendix B

## Web mail at AUI (Faculty's survey )

All data are treated with full confidentiality

The purpose of this survey is to evaluate the use of web mail at AUI.

Important: Please note that this survey deals with Web mail, not Lotus Notes.

General information (this data portion will not be used to identify you as an individual).

School:  SSE  SHSS  SBA

1. Do you have access to web mail all the time?

On campus  Yes  No

Off campus  Yes  No

If one of your answers is No, then have you tried to contact ITS?  Yes  No

2. What features of web mail do you use?

- Create an email group (e.g. class group)  Yes  No
- Manage the calendar  Yes  No
- Manage emails in folders  Yes  No
- Return receipt of email  Yes  No
- Set new message prompt  Yes  No
- Change the settings and preferences (e.g. layout)  Yes  No
- Others: .....

3. Have you ever heard about these features of web mail at AUI:

- Voice mail  Yes  No
- Instant message  Yes  No

4. How often do you check your email:

Once/week  Twice/ week  Once/day  < 5 times/day  > 5 times/day

5. How often do you check your faculty news:

Once/week  Twice/ week  Once/day  < 5 times /day  > 5 times

/day

6. What uses do you make of the web mail?

Announcements  Sending course material  Receiving homework

Others: .....

7. How would you rate security and privacy of web mail:

Excellent  Good  Average  Poor

Based on what? .....

8. What are your expectations and needs from web mail and which ones are met:

Privacy  Met  Not met

Speed  Met  Not met

No failure in email sending/receiving  Met  Not met

Availability  Met  Not met

Others: .....  Met  Not met

.....  Met  Not met

What are your criteria?

.....  
.....  
.....

9. Do you think communication through web mail is efficient?

- Yes  No

Why:

.....  
.....  
.....

10. Which of these do you communicate most with, using web mail?

- Colleagues  Students

Others.....

11. Do you have any suggestions concerning web mail improvement?

.....  
.....  
.....

Thank you for your participation.

## Appendix C

## Web mail at AUI (Staff's survey)

All data are treated with full confidentiality

The purpose of this survey is to evaluate the use of web mail at AUI.

Important: Please note that this survey deals with Web mail, not Lotus Notes.

General information (this data portion will not be used to identify you as an individual).

Department: .....

1. Do you have access to web mail all the time?

On campus  Yes  No

Off campus  Yes  No

If one of your answers is No, then have you tried to contact ITS?  Yes  No

2. What features of web mail do you use?

- Create an email group  Yes  No
- Manage calendar  Yes  No
- Manage emails in folders  Yes  No
- Return receipt of email  Yes  No
- Set new message prompt  Yes  No
- Change the settings and preferences (e.g. layout)  Yes  No
- Others: .....

3. Have you ever heard about these features of web mail at AUI:

- Voice mail  Yes  No
- Instant message  Yes  No

4. How often do you check your email:

Once/week  Twice/ week  Once/day  < 5 times /day  > 5 times  
/day

5. How often do you check your staff news:

Once/week  Twice/ week  Once/day  < 5 times /day  > 5 times  
/day

6. What uses do you make of the web mail?

Announcements  others:.....

7. How would you rate security and privacy of web mail:

Excellent  Good  Average  Poor

Based on what? .....

8. What are your expectations and needs from web mail and which ones are met:

Privacy  Met  Not met

Speed  Met  Not met

No failure in email sending/receiving  Met  Not met

Availability  Met  Not met

Others: .....  Met  Not met

.....  Met  Not met

What are your criteria?

.....  
.....  
.....

9. Do you think communication through web mail is efficient?

- Yes  No

Why:

.....  
.....  
.....

10. Which of these do you communicate most with, using web mail?

- Colleagues  Students

Others.....

11. Do you have any suggestions concerning web mail improvement?

.....  
.....  
.....

Thank you for your participation.