The Design And Implementation Of An Internet-Based Distance Learning System ("Global School District") Tailored To The Needs Of A Developing Country-- The Philippines

by

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Abstract

Web server and interface technology to realize a vision of distance learning and cultural exchange amongst high schools and colleges of all countries— a Global School District concept. This work delivers a plan for achieving the vision and discusses an experimental implementation now starting in the Philippines. The experimental implementation incorporates a means of web communication, sample distance learning materials from the intellectual property classes at MIT and the Academy of Applied Science, computers to be provided for two universities in the Philippines, funding for shipping and personnel, and faculty here and in the Philippines to take part in the joint teaching of courses next year.
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Chapter 1:

Introduction

The goal of this thesis is to develop and initially implement a plan for realizing a vision of distance learning and cultural exchange amongst high schools and colleges of all countries—a *Global School District* concept. The Global School District program would enable high school students and teachers in developing countries with real-time access to the best teaching, education systems, student and teacher exchanges, and libraries in the world.

Dr. Robert H. Rines and his students at MIT, funded by the non-profit Academy of Applied Science, developed a server that uses the web to provide this reliable, real-time teaching and student-teacher exchange. After initial testing, the project was temporarily halted to await suitable students and teachers, and further school interest. The work of this thesis picks up on the project and now delivers a plan for achieving the vision, and discusses an experimental implementation with a less sophisticated server and web interface, now starting in the Philippines.

The experimental implementation incorporates a means of web communication, sample distance learning materials from the intellectual property class at MIT, specialized com-

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puters to be provided for two universities in the Philippines, for use both by university and local high school students and faculty. This work differs from the approaches of predecessors’ distance learning, as will be explained later.

Guide to the Thesis

The main contribution of this thesis is the development of a detailed, working plan for achieving the first step in the vision of the Global School District implementation, providing access to teaching and education systems, libraries and data repositories around the world. The plan and its initial implementation are more particularly described in Chapters 4 and 5, and the motivation for my approach in Chapter 2.

The thesis is organized as follows:

Chapter 2 provides background and discusses the state of information technology in developing countries. It includes information about trends in computing in both rich and developing nations, and presents the advantages of developing information technology in the third world.

Chapter 3 describes the relation of my work to several computer literacy and distance learning initiatives of predecessors.

Chapter 4 describes the plan for development and implementation of the Global School District project, including (1) a means of communication, (2) suitable materials for instruction, (3) suitable computers, (4) funding and (5) people.
Chapter 5 discusses the details of the experimental initial implementation of the plan outlined in the Chapter 4.

Following a presentation of the contributions of the thesis, and potential future directions for the work, I have included as appendices, block diagrams of the network configuration to be used in the initial experimental implementation. Block diagrams of the plan for the Global School District development, and a detailed log of the history of the initial implementation are also appended.
Chapter 2

The Case for Information Technology and Education

A global marketplace has emerged from the revolutionary advances in information technology and telecommunications. Through high bandwidth information transfer across international borders, the internet brings significant, beneficial changes to modern life. For example, with e-commerce, consumers can shop online for clothes and books, trade stocks, conduct banking transactions and bid on goods in name-your-price reverse auctions. In education, web pages, interactive web-based projects, and online discussions allow easy international collaboration and idea exchange. Free online chat, email, news and teleconferencing has revolutionized communication. The internet impacted transportation with interactive road maps, online weather reports and online ticket purchase for airlines, buses and trains. The internet has clearly brought sweeping changes to our lives, and this is only the beginning. The Human Development Report 1999 (1) recognizes the internet as the fastest growing communication tool ever, with 150 million users in 1999 and an estimated 700 million by 2001.

Developing countries that do not have the internet and advanced information technology are falling behind in the global marketplace, and this is catastrophic. In the future, rich and industrialized countries will continue to upgrade their information technology, reaping its benefits. Developing nations will be denied access to advantages of Information Technol-
ogy (IT), and will have no place in the global marketplace. In particular, the gap between the rich and poor will be exacerbated, and the issues and concerns of the people in developing countries will be left out of global agenda. As Michael Dertouzos states in 1997 (2):

> With the productivity gains made possible by all the information and information tools at their disposal, the rich nations and rich people of the world will improve and expand their economic service, thereby getting richer. As they get richer they leverage the Information Marketplace even further, thereby experiencing exponentially escalating growth. The poor nations and poor people, by contrast, can't even get started. They will tend to under use information resources, because they can't afford them. They will gain no such leverage. There will be no rising spiral. They will stand still, which in relative terms means falling exponentially further behind the rich.

The widened gap between the “have’s” and the “have-not’s,” combined with increased isolation, leaves potential for revolution and radical political action that threatens the security of the global community. In addition, increased poverty jeopardizes health and standards of living in these countries. Exclusion of Information Technology from the developing countries also hurts the global community because the size of the marketplace is limited to the countries with IT for e-commerce, instead of being truly global. Additionally, a country’s ability to educate its youth to compete in the global marketplace will not exist if the youth are denied access to Information Technology. Isolated and in destitution, with no way to educate the youth, such countries have little hope for the future. Thus, exclusivity
based around Information Technology can endanger the peace of the global community and create catastrophic conditions in developing nations.

On the other hand, Information Technology is perhaps the fastest and most powerful tool we have for making the developing nations competitive in the global marketplace. Information technology can accelerate economic development and bridge the gap between rich and poor, developed and developing or under-developed. Through e-commerce, web advertising and cheap communication amongst vendors, information technology can promote new small business. Increased awareness through web-pages and emails can help make government more accountable and efficient. Information Technology can decrease isolation, and improve health and standards of living through economic growth.

For example, the Philippines and some countries in the Caribbean perform data processing tasks for the United States and Canada in a practice known as "teleporting." These data processing tasks arise in fields of banking, accounting, personnel, social services, and legal services. The total value of this business is estimated in the billions of dollars per year. Discussing the benefits of internationalization of services in developing countries Braga, states in 1996 (3):

*Progress in Information Technology is making it possible to unbundle the production and consumption of information-intensive service activities. These activities...play a fundamental role not only in service industries but also in manufacturing and primary industries. In the United States, for example, as much as 65-75 percent of employment in*
manufacturing may be associated with service activities. With progress in Information Technology, outsourcing--supply by an external entity of a service previously provided in-house has become feasible. And, as communication costs continue to fall, the potential for international outsourcing grows.

Information Technology Education is the best way to help developing nations. Compared to "teleporting," education will empower people in developing countries to do more significant work and make more money than the compensation for data processing--they can, indeed, be writing their own web applications and taking their own piece of the lucrative software industry. Eventually, these countries could compete with American and Japanese software vendors, experiencing an enormous potential for economic gain. Information Technology Education can help countries become legitimate competitors in the global marketplace, surpassing their current junior role of data processing for other countries.

Information Technology Education in developing nations is a solid investment that leads to widespread, lasting social change and economic development. Educating children to understand and take advantage of the power of information technology will raise up a generation with the intent and ability to compete in the global marketplace. Reaping the economic rewards of this IT education, this first generation can begin a cycle of education that can lead to lasting solid economic growth and prosperity. From the web-based start-up companies in the Silicon Valley and greater Boston communities, it is clear that there is explosive potential for economic growth. With a strong education in information technology, that same potential can exist in these countries. Taking advantage of diverse perspec-
tives and cultural differences, people in these countries can combine their knowledge of Information Technology to develop innovative applications of its power and take it in directions that the developed nations have not foreseen. These counties have the potential to push the limits of technology and to contribute their efforts to the next generation of problems facing mankind.

Information Technology is changing the world and revolutionizing communication, providing change, new value and benefit to people’s lives. Developing nations do not have adequate information technology; and if this trend continues, the consequences will be severe for these countries and also for the security of the global community. Optimistically, Information Technology has the potential to rapidly bridge the gap between the rich and the poor, develop economies, decrease isolation and improve health and standards of living. One way to introduce information technology into developing countries is to put it in the schools.
Chapter 3

Predecessors

Educational institutions are learning to harness the power of the internet, and as a result, distance learning is becoming more common. This section is not intended to be a comprehensive review of the hundreds of online and distance learning programs, but rather a survey and review of a few projects. Most of the existing distance learning takes place between American universities, although there are some projects designed for elementary and middle school education. However, there are only two programs that deal specifically with distance learning in rural and developing countries, and both are different from the work undertaken in this thesis, in terms of content and method of delivery. This thesis extends the early Global School District efforts of Dr. Rines at MIT.

Earlier developed and beta tested by his former MIT graduate students from courses 6.901 and 6.931 and Dr. Robert H. Rines, under funding from the Academy of Applied Science, the first thrust of the Academy was the development of a prototype server that, via the web, particularly enables high school students to have reliable, real-time access to specialized teaching, student-teacher exchanges, education systems and libraries throughout the world. Following the initial tests, however, the project was temporarily halted to await suitable students, teachers and further school interest. This thesis picks up on the project, and now delivers a plan for achieving the vision, and discusses and experimental imple-
mentation with a less complicated server and web interface, now starting in the Philip-

pines.

Many American universities offer distance learning materials, and a few schools even offer degree programs. An example of such a course is the “C” programming class taught by the University of California Extension School (4). The course is designed for part-time college students, and offers animated chat and message boards, email, online quizzes and audio content that can be downloaded from the class web page. Other schools offering web-based distance education and on-line courses include: NYU, Washington State, University of South Florida, North Dakota State and the University of Kentucky. Schools offering on-line degree programs include: Atlantic Union College, Bellevue University, Bellevue University, Capella University Online Graduate School, Capella University, Capitol College, Champlain College, Nova Southeastern University and Nova Southeastern University.

The Argosy Institute (5) is funded by the National Science Foundation, and offers classes in psychology to students enrolled at other American universities. The classes are taught on-line via the web, and include online forums mediated by an instructor, reading materials, audio and video content and timed tests. In addition, the course makes use of a central database, part of the “Library Information Resources Network (LIRN)”, a non-profit consortium of Florida-based colleges and universities.
ChildU (6) is a distance learning program that offers supplemental and enrichment materials for elementary and middle school students. The program is private and aimed at developing the skills of individual students. New students pay a fee, and then take a placement test that assesses areas that they need to work on. After that, the students have access to lessons and practice tests. There is no instructor available, and therefore no on-line exchanges, but the students are encouraged to follow a customized program of study based on their performance on the placement test. Some schools are incorporating the materials in their classes, using the on-line tests and materials, but with real teachers in their electronic classrooms at the school.

MIT also offers distance learning programs through the Singapore-MIT Alliance (SMA). The SMA was created in 1998 as a partnership between MIT, the National University of Singapore and the Nanyang Technological University (7). The program allows Singaporean and MIT students to enroll in the degree programs of the other universities. In the summer of 2000, MIT will joint teach “Advanced Materials” and “High Performance Computation for Engineered Systems” as part of the Innovation in Manufacturing Systems and Technology (IMST) program. The program has announced a partnership between SMA and Microsoft to develop software for the distance learning. Face-to-face lectures, broadcast by satellite, are currently used in the courses.

Africa Virtual University (8) is one of two distance learning projects that was designed to provide schools in sub-Saharan Africa with access to content and materials from schools in America. Its objective is to “build capacity and support economic development by
leveraging the power of modern telecommunications technology to provide world-class quality education and training programs to students and professionals in sub-Saharan Africa.” The university uses TV satellites and video cassettes to exchange lecture materials. Books and email provide further course materials. The university does not use the internet as its primary delivery channel, because of the inadequate telecommunications infrastructure that exists in many sub-Saharan countries. They state that, “If courses were offered via the Web, students would have great difficulty accessing the material due to extremely slow Internet connection times. For example, it is not uncommon for a single web page to take more than 5 minutes to download using the telecommunications networks that exist in many African countries.” A sample class from the university is the Introduction to Computing course taught by Umass Amherst. The class features tutorials taught by TV/satellite, and covers basic aspects of spreadsheets, databases and telecommunications. Other universities participating in the Africa Virtual University include NJIT, Gulf Coast Community College, Dallas Community College and Carleton University.

UNITAR (9) is based in Malaysia, and was founded in 1997 by the Minister of Education of Malaysia. Its goal is to offer “quality, convenient and flexible learning delivered through information and learning technologies without compromising on personal development.” The school offers programs in Business Administration and Information Technology. Classes include tutorials, quizzes, web-based assignments and online discussion sections.

Most existing distance learning programs are aimed at exchanges between American Universities or American elementary and middle schools. The programs are geared towards
one way information transfer, not true exchanges between schools. The Singapore MIT Alliance’s efforts are exchanges, but they use very expensive and sophisticated satellite and video conferencing technology to achieve the interaction. Africa Virtual University uses video cassettes as the primary medium for delivery of the lessons, and there the exchange is also one way only. UNITAR uses web-based delivery, but their programs do not involve exchanges with distant institutions, and the exchange is also one way only.

The Global School District appears to be the only effort aimed at two-way information exchange between American schools and developing countries, using the internet as the communication medium.
Chapter 4

The Plan:

Providing learning, teaching exchange and education systems suitable for developing countries requires (1) means of communication and training in its use, (2) suitable materials for instruction, (3) computers, (4) finances to cover shipping and installation, and (5) people to perform the actual teaching.

(1) Means of Communication:

Reliable, real-time distance learning software is the best means of communication for achieving the Global School District. Such a system should preferably be web based, and should run independent of the kind of computer and the method of internet communication used by the participating schools. For example, the distance learning software may include a common web interface to integrate the various internet communication channels, including email, chat, instant messenger and web pages, integrating the synchronous and asynchronous communication channels over a common web interface would provide real-time access to activities like class discussions and presentations. Students interacting between remote locations could then participate as though they were in the same classroom. In addition, video-streaming technology embedded in the web interface would be excellent for providing lectures and demonstrations, online. Finally, after developing the software, training materials for the software should be developed to teach the participating
students and faculty on how to use the system and to experiment with new ways of teaching and exchanging information and ideas.

(2) Suitable Materials for Instruction

In addition to a means of communication, the Global School District plan also requires the development of suitable educational materials and content. These materials should be useful and of interest, and tailored to the specific needs of the students in particular fields of study and in particular geographic locations, and preferably not the kind of teaching materials presently available in the school curricula. Such content may include enrichment materials and resources to which students would not normally have access. The teachers and students, furthermore, can add to and enrich the materials database.

(3) Computers

Due to the poverty in developing countries, one must provide the high schools and colleges in those countries with computers that allow participation in the Global School District project. These computers should have access to the world wide web, and should run an internet browser such as Netscape. Thus, prerequisites to providing the computers are an internet connection and, of course electricity. In addition, phone systems and therefore internet connections vary from one country to the next, so it is critical that one examines the telecommunications resources at a proposed site, and then selects a viable internet network model given those resources.
(4) Funding

The implementation of the Global School District takes requires funding. One must provide for the costs associated with acquiring suitable computers, and then configuring the computers to operate with a web browser on the internet. Funds must also be allocated for packaging and shipping the computers to the selected site. Airfare must also be secured for personnel to install the machines at the selected site, and train the faculty and students there on how to use the software and the materials for instruction, and then to launch the global teaching and interchanges.

(5) People

One must identify motivated and responsible faculty and students who are interested in participating in the project of actively using the distance learning software, preparing their own learning materials for use with the software, and coordinate teaching with the faculty and students from other schools.
Chapter 5

Experimental Implementation:

An experimental implementation of this plan, developed in the work of this thesis, is now starting in the Philippines. This initial effort is a step towards realizing, albeit at a smaller scale, the vision of providing distance learning, teaching, exchanging and education systems to developing countries. As an experimental initial thrust, this effort will provide valuable feedback into the effectiveness of the plan, and will establish an initial model structure for the Global School District that can be extended by future efforts.

Key organizations and individuals involved in this experimental implementation are Dr. Robert Rines and his associate David Brown from the Academy of Applied Science, which, as an educational non-profit institution, engaged for many years in providing enrichment in mathematics, science, research, invention and innovation at high schools throughout America and abroad. Beatrice Duran of STAC, a non-profit organization working to improve information technology access in the Philippines, and Eliza Duerme of Cisco Systems and STAC are also involved in the project. The University of the Philippines in Manila on the large island of Luzon, and Samar State Polytechnic College on small Leyte island were chosen as the test sites for this initial implementation.
This experimental implementation-Appendix 3, will use the MIT web server as its means of communication. Sample educational materials are being formatted by me as part of this thesis work produced in the form of web pages. These web pages will then be posted on the MIT web server, which is maintained internally by MIT. Machines with web browsers will then point their browser to the MIT web server to get access to the sample materials. Developing a customized, device-independent distance learning application with reliable integration of internet communication techniques and embedded video streaming is well beyond the time frame and the budget of this present experimental implementation. On the other hand, the MIT web server is well maintained and can be extended in a fast and straightforward manner to handle course materials in the form of web pages.

For this experimental first effort, the materials for instruction are being developed from the intellectual property classes (6.901/6.931) taught at MIT (10). The class deals with intellectual property, specifically patents, trademarks, copyrights and trade secrets. The goal of these classes is to create better and more responsible scientists and engineers by educating them on intellectual property issues. The class is an elective taught by Dr. Rines in the MIT department of EECS, and provides an excellent opportunity to establish a strong exchange between MIT and schools in the Philippines. Materials will include lectures on patents, domain names and trademarks, copyrights, technology transfers and entrepreneurship. In addition, materials on the structure and history of the courts of the United States and the developments world-wide as they bear upon intellectual property will be included. Course final projects, including a project on the domain name laws of Asia, will also be
included in the sample materials. Discussion questions, to be used on a weekly basis in the class, will also be included among the sample materials.

In addition to providing access to remote teaching and information at the college level, the Academy of Applied Science will work with educators at the high school level, brought in by the Philippine universities. Math and Science teachers from the neighboring high schools of the University of the Philippines in Manila and Samar State in Leyte will thereby have access to education system techniques and information from American high school teachers in New Hampshire and Cambridge, Massachusetts, provided by the Academy of Applied Science. Through the Academy’s affiliated organizations, the teaching information will include an introduction to inventors’ networking organizations and how to create them, conducted by Joanne Hayes-Rines, editor and Publisher of Inventor’s Digest, Academy Vice-President, and Vice President of the United Inventors Association (UIA) of the USA (11). International patent considerations will be discussed by Bryan Harris, Director of the Patent, Trademark and Copyright Research Foundation, and by Donald G. Kelly, formerly of the U.S. Patent and Trademark Office and now Academy of Applied Science Chief Executive Officer. High school and grade school science research and invention competitions, programs and studies are to be presented by Jane La Casse, Academy Executive Director.

We will use Sun SPARC station 2’s and SPARC classic workstations, Appendix 4, with this initial effort. The computers were donated to the Academy of Applied Science by Hale & Dorr LLP. The computers are being configured at the Academy of Applied Sci-
ence with my assistance under the thesis project, and with Star Office, Netscape as their web browser, and linux for SPARC as the operating system.

It is not in the original vision of this thesis project or in the spirit of creative altruism to provide machines at institutions that are already highly competent in terms of internet technology. On the other hand, the workstations should, at some level, be placed where they can be best used. For this experimental implementation, however, we decided on a compromise between these orthogonal goals. Some machines will be placed at the large University of the Philippines, and some at the small Samar State Polytechnical College.

In terms of connectivity, the University of the Philippines has an ATM/Ethernet backbone which uses FORE systems, and so the school is well equipped to handle the machines and get them connected to the web. The proposed networking plan takes advantage of their existing networking facilities. Once installed and connected to the University of the Philippines’ ethernet, the machines will be assigned an IP address, and will be online. The proposed networking scheme is shown in Appendix 6.

Samar State is in the impoverished region of Leyte, and the school has but few personal computers with modems for internet access. The university, however, does have a Local Area Network of PC’s connected to Bits’n’Bytes, Samar Island’s Internet Service Provider. The bandwidth from the PC’s modems to the ISP is 33Kbps. The workstations will be configured with US Robotics modems running at 33Kbps, and one workstation will act as a proxy server for the other personal computers and workstations. The machines con-
nected to the hub are the clients, and the machine with the modem connected to the ISP is the server. In this configuration, the client machines request a web page from the server, and the server fetches the information and delivers it to the clients. The client machines will use a Bay networks hub and ethernet cable to run from the host machine. Appendix 7A and Appendix 8 present the alternative proposed configurations for Samar State Polytechnic College.

Logistics and Execution

The Academy of Applied Science has already assumed the costs for shipping the machines to the Academy’s warehouse, storing the machines and re-configuring the machines. Funds for packaging materials and shipping the machines from Boston to Manila have been provided by Ms. Eliza Duerme, with help from STAC. Airfare for the trainers to the Philippines (myself and the Academy’s David Brown) will be partially subsidized by the Academy. Ms. Beatrice Duran of STAC has made preparations for accommodations in the Philippines, as well as transportation from the University of the Philippines in Manila to Samar State College in Leyte.

Dr. Rines, along with his 2001 TA, Aaron Beals, and I will participate in joint teaching the first class of the Global School District project between MIT and the Philippines this fall.

Dr. Roel Ocampo from the University of the Philippines will take responsibility for coordinating with a class at the University of the Philippines in Manila, and identifying and
coordinating with a local high school science department. Under the supervision of
department chair, Dr. Rowena Guevara, the class will be included in both the curriculum
of the department of Electrical and Electronics Engineering, and the Technology Manage-
ment Center of the Colleges of Business and Law.

Professor Joseph G. Balisacan of Samar State Polytechnic College at Leyte will head the
Global School District efforts there in the Electrical Engineering Department, as well as
identify local high school science classes suitable for participation (Appendix 9).

In July I will leave with Mr. Brown for the Philippines, to oversee installation and initial
use of the Global School District system at the University of the Philippines and at Samar
State (Appendix 5). Following set up and instruction, Appendix 5, we will conduct an
introductory class between each of the universities and the Academy of Applied Science
in New Hampshire or in Boston or at MIT to test the system for the fall teaching schedule.
After the trip, I will provide a detailed report of the current efforts and the directions for
the Academy of Applied Science for further follow-through. Beginning in the fall of 2000,
I will help coordinate the joint teaching efforts amongst Dr. Rines’ MIT class, Samar
State, the University of the Philippines and the related local high school science depart-
ments.
Chapter 6

Contributions

Work of this thesis contributed a detailed working plan for achieving a first step of the vision of the Global School District concept that provides access to teaching and education systems, libraries and data repositories around the world. Specifically, the plan makes provisions for providing learning and access to education, tailored to the needs of developing countries. An experimental implementation of the plan will soon be underway at two universities in the Philippines, as described above. This initial Global School District effort integrates communication, sample educational materials from the intellectual property class at MIT and at the Academy, workstations, funds for shipping and configuring the machines and volunteer faculty and student teachers at MIT, the Academy and in the Philippines to participate in the joint teaching and exchange. Installation and configuring the machines will take place in July of 2000, with the first classes to be jointly taught in the fall.

Conclusion

Future efforts should seek to improve the method of communication used from the MIT and/or Academy server(s) to the envisioned web-interface that integrates internet communication techniques and video streaming to provide reliable and expanded, real-time dis-
tance learning. Extending the sample materials to include other classes, both at MIT and in the Philippines, and eventually providing more machines to more institutions would also be directions for continuing work.

Leveraging education to bridge the gap between rich, developed and poor developing nations is believed to be an important key in making the developing nations competitive in the global marketplace is a process that must start, before students reach the university. We must use the Global School District concept also to provide educators and faculty at the high school level, with access to teaching and interactive exchanges, and to education systems throughout the world. Thus, increased involvement between high school Math and Science teachers in the Philippines and at the Academy of Applied Science, is a most important initial venue for future efforts.
Bibliography and Sources


INTERNET BASED DISTANCE LEARNING SYSTEM FOR COMMUNICATING BETWEEN SERVER AND CLIENTS WHEREIN CLIENTS COMMUNICATE WITH EACH OTHER OR WITH TEACHER USING DIFFERENT COMMUNICATION TECHNIQUES VIA COMMON USER INTERFACE


Assignee: Academy of Applied Science

Filed: Oct. 24, 1996

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U.S. Cl. 709/204; 709/205; 709/203

Field of Search

References Cited

U.S. PATENT DOCUMENTS

5,442,771 8/1995 Filepp et al. 395/650
5,740,549 4/1998 Reilly et al. 705/14
5,841,976 11/1998 Tai et al. 395/200.34
5,862,330 1/1999 Anupam et al. 395/200.34

OTHER PUBLICATIONS


ABSTRACT

A novel user-friendly method of and system for integrating the use of a plurality of different communication techniques for over-the-Internet interfacing between a central server storing a plurality of different information topics and user identification information and a plurality of independent user computer stations which have selected common information topics and are widely geographically separated, for such purposes as information and dialog networking of schools and other groups with common topic interests, and enabling real-time intercommunication amongst such users and with the server, and including growing the information on the selected topics through Internet feedback to the server of user dialog and supplemental information relating thereto; the method creating a virtual common room atmosphere for all the users (such as the same virtual classroom) wherein, irrespective of the diverse geographical locations and actual distances of the varied user stations from one another and from the central server, real-time interactions are enabled amongst all simulating as if the users were all actually in the same room at the same time and participating together.
Appendix 2
Steps in GSD Software Development

GSD software requirements, specs and implementation plan developed

GSD Software Implemented

GSD Documentation developed

Trial Website developed

GSD Testing

GSD Software Fully Functional
Interested party at site ID's

telecommunications resources assessed

site implementation plan/schedule approved

viable network models explored; model selected

Shipping to California

Shipping to Manila

Delivery, Installation

Network Configured

students/teachers trained

student on GSD

maintenance

evaluation
Appendix 4
Hardware Diagram

Delivery and Storage

computers assessed

computers configured with Linux for SPARC

Network hardware assessed and configured

network topography selected
Appendix 5
Training Schedule

train the trainer

presentation/training materials
developed: software

students and teachers trained

presentation/training materials
developed: hardware

local technical support trained
Appendix 6

Network designed for implementation at University of the Philippines, Manila, Philippines

donated machines are assigned a new IP address, and then can plug into the University's ethernet
Appendix 7

network designed for implementation at Samar State Polytechnic College, Leyte, Philippines
Appendix 8
alternative network configuration
for Samar State Polytechnic College

SPARC Workstations

33 Kbps modem

Samar ISP
Andres-
I have some good news! We can give you all the UNIX
stations/monitors/keyboards that we have. We have to discuss some
logistics since the firm is phasing out the UNIX system and thus won’t
have all the computers to give at once. Also, they have no room here to
store them and is hoping that you can arrange for regular weekly or
biweekly pickup of the equipment.

Call me at my office and we can chat!
Thanks,
Keum

Andres,
Right now all we have are some Sparc Classics, IPX’s or sparc2’s avail-
able and
several x-terminals. All with monitors and keyboards. We will have
sparc4’s an
d 5’s toward the end of our PC rollout that will not be until the end of
the ye
ar or early next year.

Do you still want these. If not we will dispose of them. You can pick
them up.
, I don’t have an exact count, as soon as this weekend.

Andres B Tellez wrote:

> Mr. Cusson,
> 
> My name is Andres Tellez, and a few weeks ago I spoke to Keum Park from
your
Mr. Cusson,

My name is Andres Tellez, and a few weeks ago I spoke to Keum Park from your firm about making a donation of SUN workstations to the Academy of Applied Science. I am very excited about the donation, and eager to get started on accepting the machines. On that note, I was wondering what you need from us. Keum had mentioned a letter and tax id # for the AAS, as well as a dollar estimate on the value of the donation. Is there anything else we need to do? Also, I'd like to meet to discuss how we can begin pick ups. Thanks for your time.  

regards,

Andres Tellez
225-9762

--

Tom Cusson
Hale and Dorr LLP
60 State St.
Boston, MA 02109
Tel. 617 526-5260
Fax 617 526-5000

+++ 
This e-mail message and any attachments are confidential and may be privileged.
If you are not the intended recipient, please notify Hale and Dorr LLP immediately -- by replying to this message or by sending an e-mail to postmaster@hale dorr.com -- and destroy all copies of this message and any attachments. Thank you.

Date: Tue, 12 Oct 1999 18:14:38 -0400
To: Andres B Tellez <guyver@MIT.EDU>
From: Wes Sonnenreich <wes@pharmatrak.com>
Subject: Re: hale & dorr donation
In-Reply-To: <199909292232.SAA03914@w20-575-17.mit.edu>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Andres,

We've now got 160+ computers sitting in our basement. We don't actually have the space to keep them for long, because we're renovating the basement.
on Sunday. This means we need to get rid of the bulk of them asap. The computers themselves aren’t the problem -- it’s the monitors. They take up a LOT of space. This is only the first batch also.

Do you have any ideas as to where we can put these? If not, we’ll get a storage space, but I’ll need your help moving them to the storage space this weekend (I’ve injured my hand and can’t really lift stuff).

To: lucha@MIT.EDU, tweather@MIT.EDU, mayli@MIT.EDU, dtpaul@MIT.EDU, kenrick@MIT.EDU, mcgill@MIT.EDU
Subject: help
Date: Thu, 14 Oct 1999 00:39:30 -0400
From: Andres B Tellez <guyver@MIT.EDU>

What’s up-

For my M.Eng thesis I am writing about setting up the internet in developing co untries, and using information technology to cut the growing gap between the ri ch and the poor. In addition to just writing about it, I am trying to do it. I got my first batch of 160 computers donated from this law firm, and I need help moving them from an office to some storage space. I need to move the computers this Saturday - I’m aiming for 12 o’clock. If you can help, please let me know.

thanks,

Andres

Date: Mon, 21 Feb 2000 21:18:33 PST
To: guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: Responses from the Philippines

X-Sender: eliza@redale.cisco.com
X-Mailer: QUALCOMM Windows Eudora Pro Version 4.1
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"

Andres,
Here are the responses from the Philippines. I just cut & pasted them from the emails that I got. Let me know if I need to put it in a more formal document for your adviser.
I'll send you another email regarding your other questions in your previous email.

From the University of the Philippines

To: eliza@cisco.com
Subject: sun workstations
X-SMTP-MAIL-FROM: roel@eee.upd.edu.ph

Dear Ms. Duerme,

Your email regarding the Sun workstations was forwarded to me and I relayed the offer to Dr. Mark Encarnacion <mje@engg.upd.edu.ph>, Chair of the Computer Science Department. Attached below is his response.

We truly appreciate your support. Thank you very much.

Roel Ocampo
Director
UP Computer Center

Mark J Encarnación <mje@engg.upd.edu.ph> Department of Computer Science
University of the Philippines Diliman / 1101 Quezon City / Philippines

Department of Computer Science
University of the Philippines Diliman

The Department of Computer Science (CS) is the youngest of the nine departments that comprise the College of Engineering (COE) in U.P. Diliman. It has its beginnings in the Department of Engineering Sciences in the mid 70’s when the first Computer Science program in U.P. Diliman was instituted. This was the Master of Engineering in Computer Science program which was administered by the ES Department, with the participation of the Department of Electrical Engineering, COE and the Department of Mathematics of the College of Science. In June 1982, the master’s program was abolished with the institution of the Bachelor of Computer Science program. The BCS program was also a joint undertaking of the ES, EE and Math departments, with the ES department still taking the lead role. The Computer Science faculty was based in the ES department. In August 1988, the ES department was renamed Department of Engineering and Computer Sciences (ECS) to indicate the expertise that existed in the department. Finally, in August 1991, the ECS department was split into two distinct departments---ES and CS---the ES department coming full circle and the CS department coming into its own.

The BCS program was revised this year. Among the various changes to the program is a change in name: it is now called the Bachelor of Science in Computer Science program.

The undergraduate population of the department has been growing. It started out in 1982 with 35 students, and now has 539.
In the second semester of 1995, the department instituted the Master of Science in Computer Science program. The program currently has 58 students and has produced 2 graduates.

We hope to increase the size of the graduate program over the next few years after the faculty members who are currently on study leave abroad return to the department.

The department has 19 full-time faculty members, 5 of whom are on study leave abroad pursuing doctorates. Out of the 19 faculty members, 8 have master’s degrees, and 3 have doctorates. By next year, we expect the number of doctorates to increase to 7.

The department currently has mostly Intel-based PC’s. It also has one Sun workstation and two SGI workstations, to which students have limited access. Should we receive the donation of 30 Sun workstations, we will set up a Unix laboratory to allow our students to gain more exposure to Unix and workstation platforms. Due to the high price of Unix workstations, the department cannot afford to purchase a sufficient number of them to make available to students. This severely limits the exposure our students have to non-Intel-based platforms.

The department and the university do not have the resources to pay for shipping the workstations to the Philippines. We are therefore hoping that the donors will be able to cover shipping costs to the Philippines.

Mark J. Encarnacion

From Leyte Science Centrum, an affiliate of the Department of Science & Technology (DOST)

Note that they are asking for some training to go with this hardware as well.

STAC is the California-based, volunteer non-profit organization which aims to help alleviate poverty in the Philippines through infusion of science & technology. STAC stands for Science & Technology Council and its members comprise of expatriate Filipino professionals here in the Bay Area. Like me, Betty Duran is a member of STAC and has started the CLIP (computer literacy program) in the Visayas region.
rs ago. STAC members have offered to help defray the costs of shipping
the workstations
from the Bay Area to Manila.

>From: leytestc@tac.weblinq.com
>To: beatriceduran@hotmail.com, eliza@cisco.com
>Subject: Unix computers
>Date: Thu, 17 Feb 2000 15:27:04 +1000
>
>Dear Director Duran:
>
>With regards to the Unix computers, the LSTFI and the Eastern Visayanons
>would be very happy and thankful to have that included in the earlier
>donated Macintosh computers. Such computers will be utilized to expand the
>services of the Information Technology Literacy Program in the Countryside
>[ILPCL] which LSTFI, DOST-8 & Province of Leyte is working now under the
>Computer Literacy Project [CLIP], a component of the Leyte Science Center.
>  
>We just further request that a training component on its software be
>included in the package of donation.
>
>Likewise, LSTFI is requesting if your group could facilitate the shipment of
>those equipments via Cebu City and FOB Tacloban port.
>
>Please be informed also that we would be hosting the
>Wonderworks!-Travelling Science Centrum come June 15 – August 15, 2000.
>This would be a big S&T fiesta in Tacloban (June 30-31) and National S&T
>week regional celebration on July 2000. We just hope that the package of
>computers & exhibits from STAC San Francisco & Silicon Valley Chapter would
>arrive here on or before the said celebration.
>
>Again, in behalf of LSTFI & DOST-Leyte, thank you for your continuing
>support for our common cause.
>
>I’ll keep you posted on any development.
>
>Thanks and more power!
>
>Nonoy Gula

From Bulacan State University
----------------------------------------

January 26, 2000

Bulacan State University
Malolos, Bulacan
Office of the President

Greetings from the Bulacan State University

We are very glad to know that you have this unselfish endeavor of providing computer hardware to students, like ours totaling 15,674, so that they can truly know the value of being "Computer Literate" to survive the present information explosion to be truly globally competitive.

Our institution which was founded in 1904, boasts of being the only state university in the province of Bulacan who has produced for a number of years now, consistent board toppers in various licensure examinations given by the Professional Regulation Commission (PRC).

In this connection, we will truly appreciate if our university be one of the lucky recipients for at least ten (10) UNIX workstations.

Very truly yours,

Rosario Pimentel
President, BSU

Eliza Duerme
eliza@cisco.com
Product Manager, Cable Network Management
Cable Products and Solutions
Cisco Systems
Inc.

(408) 527-7354
> Also, I tried getting in touch with the people that donated the computers to
> see if they could give me some root password info, but they haven’t gotten back
> to me. Do you have any other ideas about how the people receiving the machines can
> bypass that initial screen and then install something like linux or solaris?

Let me ask our sysadmins here at Cisco. There has to be a backdoor way of doing this.

> Also, about the responses from the philippines- I think my advisor would
> really be interested in seeing that, and I think it will be excellent for convincing
> him that this is the right use for the machines. I think that since you found the
> funding to cover the shipping costs, he will be excited to hear that we can really make
> this happen. It would be good for him to see what an impact the computers will have. He returns from his trip to China on the 27th of February, so I
> could show it to him then.

See my separate email. Again, let me know if I need to put it in Word Doc or something more formal.

> p.s. I’ll be back in the bay area from the 16th-25th of next month. I would
> like to get together just to touch base and plan some more about when we get these
> sparcshipped out there, and what will be involved in that.

Yes, we have to meet. Please pick a date from the following:
- Saturday, 3/18, pick a time between noon - 4 PM
- Monday 3/20 at 9 AM

We can meet at a place accessible by Bart (Embarcadero Center in SF ?)
After you hear from your adviser on 2/27, we can also teleconference so we don't have to wait till you get in the Bay Area to plan all the logistical items. You can call me using Cisco's toll-free number.
1-800-250-4800 & then enter my extension which is 77354

Send me an email before you call so I'll make sure I'll be in my office. I can even setup a toll-free conference bridge so your adviser can join us.

>By then I will have some progress on the inspection/determining the good ones from the bad.

Good!

Eliza Duerme
eliza@cisco.com
Product Manager, Cable Network Management (408) 527-7354
Cable Products and Solutions Cisco Systems

Date: Thu, 02 Mar 2000 20:38:17 -0800
To: "Beatrice Duran" <beatriceduran@hotmail.com>, guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: Trainer for Leyte
In-Reply-To: <20000218163741.24907.qmail@hotmail.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Betty,
I think I found a trainer for you. Andres Tellez is the young chap from MIT who is our liaison in getting the workstations from Boston. He is willing to go to the Philippines!! Please correspond with him directly on details of logistics, schedule, expectations of these training, etc. His email is guyver@mit.edu.

Is it possible that somebody provide him free lodging & food while he's there. Am sure that knowing Filipino hospitality, everybody would compete to host him.
It's also good for Andy to see firsthand how our Filipino schools outside of Manila are thriving against all the odds and are eager to learn more.

Andy,

Leyte has good beaches, great seafood. Not sure about surfing though.

This is exciting! Wish I could go too but I'll be in France (vacationing, I must apologize) around this time. I'd leave it to the youth to do the hard stuff while the older ones like me do the easy stuff :-).

eliza

At 08:37 AM 2/18/00 -0800, you wrote:
> Eliza:
> > Do you know who can do the training on the software of UNIX computers being requested in this e-mail? I wish that you or other STAC officers will be available to go to Leyte for the launching of their Information Technology Literacy Program or the celebration of Science and Technology (S&T) Fiesta and regional celebration of National Science and Technology Week.
>
> Betty
>
> >>>From: leytestc@tac.webling.com
> >>>To: beatriceduran@hotmail.com
> >>>Subject: Unix computers
> >>>Date: Thu, 17 Feb 2000 15:27:04 +1000
> >>
> >>>Dear Director Duran:
> >>
> >>>Loloy, forwarded to me your email. Please be informed that he is now on vacation leave as far as his employment here in DOST-8. He just leave for Australia yesterday. I believe he will keep in touch with you while he is in Australia.
> >>
> >>>With regards to the Unix computers, the LSTFI and the Eastern Visayans would be very happy and thankful to have that included in the earlier donated Macintosh computers. Such computers will be utilize to expand the
services of the Information Technology Literacy Program in the Countryside

[ITLPC] which LSTFI, DOST-8 & Province of Leyte is working now under the

Computer Literacy Project [CLIP], a component of the Leyte Science Centrum.

We just further request that a training component on its software be

included in the package of donation.

Likewise, LSTFI is requesting if your group could facilitate the shipment of

those equipments via Cebu City and FOB Tacloban port.

Please be informed also that we would be hosting the


This would be a big S&T fiesta in Tacloban (June 30-31) and National S&T

week regional celebration on July 2000. We just hope that the package of

computers & exhibits from STAC San Francisco & Silicon Valley Chapter would

arrive here on or before the said celebration.

With regards to your concern on Victor Domingo’s managed subdivision, I

tried to contact him but he is out-of-town. Rest assured that I will

personally facilitate your concern once he come back from Manila.

Again, in behalf of LSTFI & DOST-Leyte, thank you for your continuing

support for our common cause.

I’ll keep you posted on any development.

Thanks and more power!

Nonoy Gula

Get Your Private, Free Email at http://www.hotmail.com

Eliza Duerme
eliza
@cisco.com
Product Manager, Cable Network Management (408) 527-7354
Cable Products and Solutions Cisco Systems

Date: Thu, 02 Mar 2000 20:41:03 -0800
In addition to Leyte, I can also arrange for you to meet the president of the University of the Philippines (UP), as well as the heads & students of its CS department. UP is in Quezon City/Metro Manila while Leyte is one of the Visayan Islands. To go to Leyte, you have to fly to Cebu, I believe.

I think it’s good for you to see & talk to these people & hear what they say. I myself haven’t met them.

Let me know how long you can stay in the Philippines.

eliza

Eliza Duerme
eliza@cisco.com
Product Manager, Cable Network Management
Cable Products and Solutions Cisco Systems
(408) 527-7354

Date: Fri, 03 Mar 2000 16:26:48 -0800
To: guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: Fwd: Re: Trainer for Leyte
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

> Eliza:
> 
> Thanks for the exciting news about the trainor for the UNIX computers!!! I will make arrangements with Leyte Governor Remedios Petilla also the Chairperson of the Leyte Science and Technology Foundation, Inc. about
accommodations, local travel and other needs of Andy while installing and
doing the training at the Leyte Science Centrum and other institutions in
Leyte. The launching of the Information Technology Literacy Program in the
Countryside is on June 30 and continue with the regional celebration of the
National Science and Technology Week first week of July. Andy needs to be
there a few weeks in advance. I will communicate with him on details but in
the meantime PLEASE relay this message to him.
>
Thanks again!
>
Betty

Date: Fri, 10 Mar 2000 08:44:57 PST
To: guyver@MIT.EDU
From: "Beatrice Duran" <beatriceduran@hotmail.com>

X-Originating-Ip: [205.134.242.114]
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

Dear Andy:

In behalf of the COMPUTER LITERACY PROJECT of the Science and Technology
Advisory council, Inc., San Francisco and Silicon Valley Chapter, I thank you and sincerely appreciate your offer to conduct training on the UNIX software (and installation of the UNIX computers too?) at the Leyte Science Centrum in the province of Leyte, Philippines. Most importantly, I thank you, your Mom and Eliza Duerme (one of the most active and community service concerned STAC officers) for being instrumental in getting the computers for the Philippines.

I have initially informed Leyte Governor Remedios L. Petilla about you and your offer to share your expertise and time to their INFORMATION TECHNOLOGY LITERACY PROGRAM IN THE COUNTRYSIDE to be launched last week of June, 2000. Hence, she is hoping the computers will arrive in Leyte in time for this event.

When are you available? I suggest you invite another computer expert to
join you on this trip and help with the training (and hopefully installation of the computers too).

I’ll keep you posted with Governor Petilla’s response to inquiries about logistics, schedule and expectations of the training, etc.

Again, thanks for helping STAC and the COMPUTER LITERACY PROJECT in the Philippine countryside.

Beatrice "Betty" Duran
Project Director, CLIP

When are you available

Get Your Private, Free E-mail at http://www.hotmail.com

---

Date: Tue, 21 Mar 2000 08:21:14 PST
To: guyver@MIT.EDU
From: "Beatrice Duran" <beatriceduran@hotmail.com>
Subject: Fwd: reply/update from nonoy

X-Originating-IP: [205.134.241.134]
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

> From: leytestc@tac.weblinq.com
> To: "Beatrice Duran" <beatriceduran@hotmail.com>
> Subject: reply/update from nonoy
> Date: Tue, 21 Mar 2000 13:37:32 +1000
>
> Dear Ma’am Betty:
>
> Greetings!
>
> Good day. Thanks for the letter and the good news. I believed LSTFI and the Office of the Governor could take care of local accommodation of Andres Tellez. Just give us the details on his travel as to the duration, specific date, his likes & dislikes, etc... so that i could discuss it with the governor & LSTFI officers.
>
> I also have a news. The DOST Secretary Filemon Uriarte had visited the province last March 15-16, and one of the activity was his breakfast meeting with the Governor and LSTFI officials. During his visit he promised to allocate a P5.0million for Science Centrum building to be incorporated in the DOST 2001 Infrastructure Budget. This is already good to start the construction of the building. We are still soliciting from other sponsors, hoping that we could start the construction this year.
Did Dir. Vic Domingo sent already your request?  

We are looking forward on the visit of Andres Tellez and the arrival of computers. Thank you very much and more power.  

I told Loloy to contact you. He is also trying his best to have a group in Australia that would help our kababayans here in Eastern Visayas.  

Again thank you, and till next mail.  

Nonoy Gula  

Date: Tue, 28 Mar 2000 12:22:04 PST  
To: guyver@MIT.EDU  
From: "Beatrice Duran" <beatriceduran@hotmail.com>  
Subject: Re: Fwd: reply/update from nonoy  

X-Originating-Id: [205.134.242.30]  
Mime-Version: 1.0  
Content-Type: text/plain; format=flowed  

Andy:  

I will be coordinating with Leyte Governor Remedios Petilla about your trip.  
I'm glad you have two associates going with you.  

Before we go any further, I would like to inform you that before I came to the U.S. as an immigrant, I was the Regional Director, Department of Science and Technology (DOST) for the Eastern Visayas (Leyte and Samar) from 1987-1991. I worked with DOST for 26 years and I have been communicating with DOST officials ever since and trying my best with the help of Eliza Duerme and Christina Rodriguez and other STAC officers/members to solicit computers for our COMPUTER LITERACY PROJECT. This recent donation of UNIX and PCs will greatly help upgrade the information technological capability in that country and enhance the computer literacy of students, professionals ...  

I forwarded to you the list of prospective recipients of the computers. I will prepare a tentative itinerary for you. Please give me the names of your two associates and how many days you can stay in the Philippines. I
will also forward to you the information being requested by Governor Petilla. Since I am coordinating everything, send to me the info, other concerns, etc.

Thanks,

Betty

The arrangements include your meeting with Dr. Ester B. Ogena, Director, Science Education Institute, Department of Science and Technology; Engr. Lydia G. Tansinsin, former Assistant Secretary and currently consultant of DOST. The Bulacan State University in Malolos, Bulacan is one of the confirmed recipients of the UNIX so you and associates will go there too.

>From: Andres B Tellez <guyver@MIT.EDU>
>To: "Beatrice Duran" <beatriceduran@hotmail.com>
>Subject: Re: Fwd: reply/update from nonoy
>Date: Mon, 27 Mar 2000 16:38:56 -0500
>
> Betty-
>
>I'm sorry it has taken me some time to get back to you, I've been out of town and then swamped with school work. Anyways, thanks very much for working so hard to find room and board for me while I am in the Philippines. I sincerely appreciate all that you are doing on my behalf, and I am looking forward to meeting you this summer.
>
>Last week I was in San Francisco, and I met with Eliza Duerme about a couple of issues. First, I will work to get the workstations configured with Linux for sparc, and they should be ready to ship to California by June, so that they can be shipped by STAC during June/July. I will be in touch with Eliza so that once we can decide on a shipping date, I can make my plane tickets accordingly.
>
>Second, I wanted to ask about bringing some associates to help me configure the machines and do some of the training/lessons. Right now I would like to bring two people to help me. Eliza said that most likely, accommodations could be arranged for them, but I wanted to check with you just to be sure.
>
Also, I will begin working on some basic training/class materials. Recently
I've been thinking about providing materials to teach software engineering or
an introductory course on Artificial Intelligence. As I make more progress
on my plan, I will let you know.
>
regards,
>
Andres Tellez

To: roel@eee.upd.edu.ph, mje@engg.upd.edu.ph
Cc: eliza@cisco.com, guyver@MIT.EDU
Subject: plan for sparc workstations at the university of the philippines
Date: Wed, 29 Mar 2000 01:42:06 -0500
From: Andres B Tellez <guyver@MIT.EDU>

Mr. Mark Encarnacion and Mr. Roel Ocampo,

My name is Andres Tellez, and I am a graduate student in computer science at MIT. For my master's thesis, I am working on distance learning at educational institutions like the University of the Philippines. I am working with Ms. Eliza Duerme to provide machines that my advisor and I acquired. Ms. Duerme had contacted you about providing some sparc workstations to your institution. My thesis advisor and I are interested in learning more about your plans for these workstations. In particular, my advisor has notified me that the computers will only be provided on a case by case basis according to the planned use of the workstations. I know that you wrote that the machines can be used to build a lab, but my advisor wants to see solid plans for use from professors at your institution. He wants to see thorough incorporation of the machines in specific classes, because he is concerned about who will use the machines and what they will be used for. My advisor wants to ensure that the machines will be used to their full potential with faculty and students who are familiar with them. Could you please provide names and emails of faculty members interested in using the machines? Or, if some professors already have plans to make the workstations a central part of their classes, could you please have them contact me with their plans?

best regards,

Andres Tellez
Andy:

This is precisely what I wanted to suggest to you...to make it into a collaborative project of MIT and the computer science/information technology educational system in the Philippines. The person to contact is:

Dr. Ester B. Ogena
Director
Science Education Institute
Department of Science and Technology
General Santos Avenue, Bicutan, Taguig
Metro Manila, Philippines

SEI-DOST oversees the science and technology educational institutions all over the Philippine: universities, secondary and elementary schools with special science and technology curriculum.

She can provide you further with details about the five-year Science Education Plan of the Philippines, the Engineering and Science Education Program and most importantly the concerns that you mentioned in your e-mail.

I will forward it to Dr. Ogena and you can communicate with her directly but please do let me know what is going on.

In behalf of the Science and Technology Advisory Council, Inc. (STAC) I thank you and your Professor for this exciting opportunity.

Betty
You can contact Joseph G. Balisacan
Information Technology Program Head
Samar State Polytechnic College
Catbalogan, Samar, Philippines
e-mail: jobal@bitsnbytes.com.ph

Samar State Polytechnic College offers a course, Bachelor of Science in
Information Technology.

You can also contact Dr. Rosario Pimentel
President
Bulacan State University
Malolos, Bulacan, Philippines
e-mail: ibs@mozcom.com

She can provide you with the list of BSU professors teaching
computer/information technology courses.

So, good luck! With the right contacts in the Philippines, you
you should be able to get the information you need.

It is imperative for you to go to the Philippines to meet with Dr.
Ogena
and the prospective collaborators of your thesis.

Thanks for the cc. of the message sent to Dr. Ogena.

Betty

To: beatriceduran@hotmail.com
Cc: guyver@MIT.EDU, eliza@cisco.com
Subject: plans for use
Date: Thu, 06 Apr 2000 14:08:53 -0400
From: Andres B Tellez <guyver@MIT.EDU>

I have been doing some research on the shipping durations. To get the
machines
from
Boston to Oakland, CA using APL takes 7-8 days by train. The estimate
from STAC
is
1 month to ship from the bay area to Manila, which would mean the
machines have
to
be shipped in early June to be there for my trip to the Philippines in
July. APL
shipping goes from Oakland to Manila in 24-40 days, depending on the ves-
sel. To have
the machines there by mid may, I would need to see the plans for use as soon as possible. I have included a very rough sample of a plan for use that is hopefully general enough that the faculty can add/change it as they see fit.

-Andres

Plan for incorporating Sun Sparc workstations into Computer Science classes:

The 12 machines donated could be used to set up a laboratory for a software engineering class. During lectures, the students will receive instruction on software engineering practices, including modular design, procedural and data abstraction, writing requirements, specification and effect clauses for modules, program verification theory etc. Students could use the web to access lecture materials, assignments and solutions from the MIT software engineering class.

Using the gcc and gnu compiler and text editing tools, the students could use the workstations to write programs for their assignments, using the C and JAVA programming languages, and then compile and test their programs. With ethernet connections between the workstations, students can learn about cache coherency protocols and file access across a distributed network, because the files will be available to all users on the intranet.

In classes taught with distance learning software, the students could use the computers to access the web and get class materials, take tests, take part in online discussions and turn in assignments.
Andres,

Once again, thanks very much for the update and for putting the proposal together. I would just like to point out a minor detail: although we are currently negotiating with Cisco to become one of their Networking Academies, we have not used their products extensively for our Ethernet connectivity (we have an ATM/Ethernet backbone which uses FORE Systems, with due apologies to Eliza).

However, we are planning to deploy Cisco for the campus and building LAN expansion projects this year.

You might be interested to note that we are putting up a site for online discussion groups, a la egroups.com. The site will host issue-based discussions, personal group messages, and most importantly, academic course mailing lists. We've tried it on a smaller scale last semester for a Microprocessor-Based Design course (COE115) with 8 sections handled by six instructors using the same course plan, course notes, lecture slides, and lab manual. Any student from any section could post a question that could be answered by any instructor (or student) from any of the eight sections.

You may take a look at the prototype of our site at http://dg.up.edu.ph. The site is still under construction but we're testing it live with at least three discussion groups starting this month. We plan a full launch by June.

Again, thanks very much for your help and I'm looking forward to working with you on the proposed joint classes between MIT and UP, as well as other endeavors in the future.

Best regards,
Roel

Date: Mon, 17 Apr 2000 08:22:22 PDT
To: guyver@MIT.EDU
From: "Beatrice Duran" <beatriceduran@hotmail.com>
Subject: Re: final plan for sparcs

X-Originating-Ip: [205.134.231.189]
Andy:

My deepest gratitude to you and your thesis advisor for selecting Samar State Polytechnic College for the distance learning project!!!

Please let me know the timetable of your trip to the Philippines so I can help make final arrangements for your travel and to prepare the necessary and appropriate paperwork for tax-deductible donation of the workstations.

I suggest that, in addition to meeting UP officials, you also meet with Science Education Institute Director Dr. Ester B. Ogena and Undersecretary for Regional Operations, Department of Science and Technology; meeting Joseph Balisacan and perhaps Samar State Polytechnic College President in Manila.

I wish I could accompany you on the trip!

Please let me know of any concerns you may have.

Betty

Dear Sir Andres,

I am very happy to "hear" from you again. Regarding my internet connection,
I am accessing the net through our LAN. By the way, I forgot to tell you that
I am connected with BBCS (BitsnBytes) Data Systems, Samar's first ever
internet service provider. It's not that big, but it's something I could
tell to my grandchildren someday (hahaha...).

So, with regards to the networking and hooking up to the net, I guess I
could handle that. I just need some info regarding the sparc
workstations...maybe it's a little different to set up those. But with a
little help from you, I guess we'll have no problem.

Sir, in as much as I would like to help SSPC and it's faculty, may I also
include my alma mater, the Sacred Heart College to be a recipient of the
sparc workstations? SHC is also offering computer science and computer
related courses. Sir Andres, I have my heart also for SHC, I hope you
could also include the school where I came from.

By the way, both schools are on-line. Sir, there’s something I would like
to confide with you, can you help me with this? This is something personal,
so please let me know if it’s okay with you.

Once again, thanks for everything. I hope and pray that you’ll always be in
best of health. God bless us all!

Sincerely,

Joseph G. Balisacan

Date: Wed, 19 Apr 2000 04:06:40 -0700
Mime-Version: 1.0
Content-Type: text/plain;
    charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-Msmaill-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2615.200
X-Mimeole: Produced By Microsoft MimeOLE V5.00.2615.200

Dear Sir,

As with the SSPC’s LAN, it is connected through a 56Kbps LAN Modem. How-
ever, our phone lines here could support only up to 33Kbps. In this regard, if
our ISP (BitsnBytes) could do any help at all, we’ll be willing to be of
service, since BitsnBytes is connected via 64Kbps leased line to GNET
(Globe
Telecom), we have a CISCO router (low-end nga lang, BitsnBytes is still using 2509 series) and our subscribers are just dial ups (through tele-
phone lines).

I was not the one who configured and installed the Local Area Network in
SSPC since I was only hired last January 2000. However, I was the one who
is administering the network in BitsnBytes. I am familiar setting up net-
working in Windows 95/98 environment, Linux and I am currently studying WindowsNT
and Novell, only that I am not yet so acquainted with it because of lack of
resources...both in books and in hardware. I have no units for practice of
the said operating systems. In fact I just practiced installing WindowsNT
Server just a while ago but then I cannot practice tinkering with it for an
extended period co’z the unit on which I have installed the said OS will be
delivered tomorrow for a certain customer of BitsnBytes. Anyway, I will try
my best to earn extra money so I could provide for myself a unit which I will use for my exploration of NT and other OS’s.

Well, I hope you’ll find the above information helpful. Should you have any
particular question, please email me. I’ll respond to you as soon as possible.

Bye and thank you once again. May the grace of our Lord be always with us.

Joseph G. Balisacan

Date: Thu, 20 Apr 2000 13:27:39 -0800
From: Roel Ocampo <roel.ocampo@up.edu.ph>
Mime-Version: 1.0
Content-Type: text/plain
Content-Transfer-Encoding: 8bit
User-Agent: IMP/PHP IMAP webmail program 2.2.0-prell
X-Originating-Ip: 203.172.23.132

Dear Andres,

The proposal you drafted regarding the joint intellectual property class has
sparked a lot of interest on our side. Another academic department, the Department of Electrical and Electronics Engineering (EEE), is in fact interested to participate if possible, whether the donation of the Suns push through or not. I’ve attached a short note from the Department Chair of EEE,
Dr. Rowena Guevara, expressing this interest. I believe that EEE has enough
computers to provide its students online access for this class.

Aside from EEE, some other colleges or units here at the University that may be
interested in this class would be the Technology Management Center, which has a
graduate program in Technology Management, the College of Business, and the
College of Law. There is of course a need to keep the class size manageable. My point is that there might be a lot of interest on this side, and a joint undertaking like this could probably be sustained by the demand. It could very well go beyond being a "one-time" activity accompanying the donation of the Sparc machines.

Please keep me advised on the progress of the original proposal, and kindly let us know if it will be possible to expand the number and nature of participants for this joint class. If this is acceptable at least in principle, I will email Dr. Guevara so that she may also directly participate in our discussions.

Again, thanks very much.

Warm regards,
Roel

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Date: Sat, 22 Apr 2000 23:46:04 -0700
Mime-Version: 1.0
Content-Type: text/plain;
   charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-Msmail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2615.200
X-Mimeole: Produced By Microsoft MimeOLE V5.00.2615.200

Dear Sir Andy,

I am very much elated at the turn out of events. It seems that my wishes are coming true for Samar State Polytechnic College. As with the communication with high school math and science teachers, I guess I could present it to the board. May I just ask you if it would be possible to contact private schools, such as the Sacred Heart College (since I am a consultant in there, free nga lang...hehehe, sayang!) and have them included in the proposed communication link. I am sure they'll be very much interested because I have worked with them and besides, I am now working on incorporating the Internet
in the computer education programme for high school in Sacred Heart College.

Sir, could you possibly include Sacred Heart College on the allocation of STAC Computers? Even one or two would be highly appreciated. I am pushing this because I know my voice would be heard in Sacred Heart College...I am certain about it. The administration is very supportive to me.

As with the Samar State Polytechnic College, I will meet with the Education Department for this matter. Perhaps I could go and meet the one in charge by Monday. I’ll keep you posted, sir.

Please keep me informed on my petition to include Sacred Heart College, my alma mater. I can assure you that high school teachers there will be interested. And I think the proposed communication link would be a great way to help the school retain it’s high school employees, malakas kasi ang turn-out eh... almost every year bago ang teacher, and that’s the way it is since my high school days. I hope this could be an turn-around strategy for Sacred Heart College to retain it’s quality teachers for quality education.

One more thing sir, is there any possibility for me to avail of scholarship grant in form of training particularly in networking and communications? Hmmm...just asking...baka lang...aba, napakalaking blessing na yon.

Well, I think that’s all for now. May we always be guided by the Holy Spirit in our endeavors to improve the quality of our nation’s education. I am always thankful I am given this chance to work with you, sir!!! God bless!!!

Yours truly,

Joseph Balisacan

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Date: Sun, 23 Apr 2000 20:40:17 -0700
To: guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: shipping
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Am still trying to find out if there’s a way of shipping those sparcs straight from Boston to Manila. Give me till end of this
I found a Filipino-based (LBC Mabuhay) courier that will ship the boxes from
New Jersey - Mla - $84/box
New Jersey - Samar - $105

It’ll take 35-40 days.
The advantage of this is that they will deliver it at the final destination and
does not have to go to customs. I have used them a lot for packages to
the Phils.

Can you find out how much it’ll cost to ship the sparc5 from
Boston to New Jersey? The address at New Jersey is
480 WestSide ave
Jersey City NJ 07304

eliza

Eliza Duerme
eliza@cisco.com
Product Manager, Cable Network Management (408) 527-7354

Cable Products and Solutions
Cisco Systems Inc.
Date: Tue, 25 Apr 2000 08:49:43 -0700
To: guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: Shipping - quote & sizes
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I called Allworld Removals in Boston and they can pick up and deliver the 14 boxes from Boston to Manila for about $950. I need to pay about $200 to deliver from port to the University once it’s there.

a) How much was the estimate again to ship from Boston to California? I remember it was $60/box but I’m not sure now.

b) What is the weight? Is it 60 pounds each?

c) What are the dimensions of the box? I quoted 30" x 30" x 30". Is that correct?

eliza

Eliza Duerme
eliza@cisco.com
Product Manager, Cable Network Management
(408) 527-7354
Cable Products and Solutions
Cisco Systems Inc.

Date: Tue, 25 Apr 2000 13:42:40 -0700
To: Andres B Tellez <guyver@MIT.EDU>
From: Eliza Duerme <eliza@cisco.com>
Subject: Re: Shipping - quote & sizes
In-Reply-To: <200004251811.OAA07951@m12-182-14.mit.edu>
References: <Your message of "Tue, 25 Apr 2000 08:49:43 PDT."> <4.1.2
000425084517.00c38280@redale.cisco.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

andy,
the dimensions of the box and the number of boxes vary. And the weight too.
The pallets I suppose will protect the machines better.

At any rate, let me know what you decide. I need to know the final
- number of boxes (big & small or pallets)
- dimensions of each type of box or pallet
- weight of each box or pallet

The quote will vary depending on the above ...

Let's keep in touch.

eliza

At 02:11 PM 4/25/00 -0400, Andres B Tellez wrote:
>>> a) How much was the estimate again to ship from
> Boston to California? I remember it was $60/box but I'm not sure
now.
> Yes, that is a rough estimate from the post office. I believe that price
is for
> the monitors, so in that case we'd also need to put the computers them-
selves
> into
> groups of 3 or so, and then put those in a big box too. So, that would
be 4
> more
> boxes, for 18 total about $1200, just to get to California. So from that
point
> it looks like the Boston shippers are best.
>
>>> b) What is the weight? Is it 60 pounds each?
>
> Actually our tech never got back to me on the weight- I'll fire off an
email
> right
> now. I think it's more like 25-30 lbs for the monitor, and then another
15
> for the
> computer, and add 5 for the keyboard and mouse give 45-50 lbs.
>
>>> c) What are the dimensions of the box? I quoted 30" x 30" x 30".
> is that correct?
>
> That depends on if we use the pallets (heavy cardboard containers with
no top)
> or not. We can pack the machines in boxes and then put the boxes in the
>pallets,
> or we can just ship the boxes alone. We have smaller boxes for the
machines
> themselves, and larger ones for the monitors. A 30x30x30 would most
likely hold
> a monitor and some keyboards/mouse.
>
> Andy
Dear Andy:

We are quite interested in your plan. In addition, we have identified other uses for the workstations (I quote from an e-mail of Arnold Putong, one of our instructors):

> A number of CS198 projects this year and last year intensively used the workstations in the department. In fact they had to take turns using the machines. Some of the projects were (all about computer vision):
> Character Recognition from Video Scenes
> Interaction with On-Screen Objects Using Gesture Recognition
> HGEST-American Sign Language
> Vision-Based Driving Assistant
> Mouse Me Not! (last year)
> KarNuPeD (last year)
> Other group projects also used the machines to train their modules involving neural networks. These are compute-intensive and sometimes took weeks. They basically left them as background tasks while other things are being run.
> As an aside, I'm sure that Pros' CS198 and Artificial Intelligence students will never make these machines idle for one moment.

CS 198 is our senior project class, which typically involves designing and implementing a significant software project.

We have quite a bit of experience using workstations. We have one
Sun Ultra and two SGI Indy R5000's. I received my training at the University of Linz, where we used Unix workstations exclusively. Pros Naval, an assistant professor here, received his training at Kyoto University. He also uses our workstations heavily and has his students do their projects on the workstations. As mentioned by Mr. Putong above, our CS 198 students have to take turns using our workstations.

Regards,

Mark

--

Mark J Encarnacion <mje@engg.upd.edu.ph> Department of Computer Science University of the Philippines Diliman // 1101 Quezon City / Philippines

Date: Fri, 28 Apr 2000 01:10:49 +0800
To: <guyver@MIT.EDU>
From: "JOBAL" <jobal@bitsnbytes.com.ph>
Subject: distance learning

I am about to meet the supervisor for public high school math and science teachers here in our district. May I know the details of the proposed communication between the MIT (was it?) and the national high schools here in samar?

May I also ask again if this is also open to private high school teachers in math and science.

I hope you could give me the needed information for the said distance learning uplink.

Thank you very much and more power!
Dear Sir,

Thank you very much for the much needed information. Right now I am waiting for the math and science supervisors to discuss with them your concept of distance learning. I am sure they'll be very glad to know this and they've got to do something about this.

As for me, I am getting nervous and I cannot wait to see the local classroom having a real time exchange of information with the high schools in America. You have brought back my dead hopes and visions back to life...that of enhancing the quality of education in our country. I assure you sir, I am with you in working towards the accomplishment of your dreams.

I end this with high hopes and with prayers to our Almighty God that He'll shorten the time for this noble cause.

Thank you once again, sir Andres Tellez, and more power!!!

Yours very sincerely,

Joseph G. Balisacan
Dear Sir,

I have already met with the Math division supervisor for our district and her response was very good. In fact she was overwhelmed with the idea you presented in your thesis. Like me, she couldn’t wait till it’s becomes real and working. There’s just one thing that she’s worried about, "What will be our obligation in return" she said. I couldn’t tell her anything in response, sir. Could you please give me the details of this proposed linkage?

By the way sir, may I also ask for the specifications of the network server units? I’ll do some research about those. If it is not over, can I request for some reading materials regarding those servers, e.g. about it’s operating systems, it’s administration, etc. Sir, please help me on this. I am just worried because I know my knowledge is not sufficient enough to handle those. You very know that my exposure here is just limited to pc "clones". I am not familiar with the architecture of the forthcoming computer units intended for SSPC.

I really hope I’ll be able to handle it so I could utilize the donations to the fullest extent. In anycase, thank you very much.

With prayers,

Joseph G. Balisacan

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Date: Sat, 6 May 2000 20:01:49 +0800
Mime-Version: 1.0
Content-Type: text/plain;
    charset="iso-8859-1"
Content-Transfer-Encoding: 7bit
X-Priority: 3
X-MsMail-Priority: Normal
X-Mailer: Microsoft Outlook Express 5.00.2615.200
X-Mimeole: Produced By Microsoft MimeOLE V5.00.2615.200

Dear Sir Andres Tellez,

Any updates regarding the computers and the distance learning project?
Sir, may I know also the setup for the Internet Connection once the said project will be realized in our locality? Please let me know so I could check whether BBCS Data Systems (our local internet service provider at which yours truly is the systems administrator) is capable for the planned linkage.

I am just worried though....the number of subscribers is rising and I am sure that we have to upgrade our router not only for the purpose of accumulating more dial up subscribers but for your distance learning program too. I wonder sir, do you know someone who has links to routers (particularly Cisco)? And one who could give us discounts or special price?

It costs so much if we’ll be purchasing the router locally. So I am again imploring for your assistance regarding this. I know this is too much. But who shall I turn to? You were one of the few truly sincere persons I encountered in my entire life.

I know that if I will succeed, I could use BBCS to help more people with respect to Information Technology. I know that if my dreams would come true for BBCS, then my vision in interconnecting the schools, government agencies and non government agencies alike here in our place, would come true... a community enjoying the benefits of information interchange with the institutions abroad....of course you’ll be there at the other end.

In any case, thank you very much. I am really grateful for everything that you have done.

More power and God bless!

With prayers,

Joseph G. Balisacan

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Date: Fri, 12 May 2000 08:15:03 PDT
To: guyver@MIT.EDU
From: "Beatrice Duran" <beatriceduran@hotmail.com>
Subject: Re: update

X-Originating-Ip: [205.134.242.119]
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

Dear Andy:

As the world turns into a global village through an incredible informa-
superhighway, I believe that one of the great challenges is how this
technology (internet) can reach isolated, remote, underserved rural
communities in terms of affordability of hardware, other necessities,
etc. etc. etc. Hence, the experiences and hopefully, the success of your
distance learning project with Samar State Polytechnic College will
serve as
a model for other underdeveloped/developing countries and help pave the
way
for the infusion of appropriate technology critical to efforts in improv-
ing
the lives of the people there.

July is an appropriate month to go to the Philippines as the country
celebrates the National Science and Technology Week, first week in Metro
Manila, while the different regions (14) celebrate the event in other
weeks
of that month.

I suggest that, if possible, to let SSPC Joseph Balisacan be involved in
your training and installation of the system at U.P. Diliman so whatever
are needed for SSPC can be attended to before proceeding to Samar.

If you have any concern about your forthcoming trip to the Philippines,
please don’t hesitate to let me know.

Sincerely,

Betty

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n-Reply-To: <200005171549.LAA37123@m1-142-9.mit.edu>
Mime-Version: 1.0
Content-Type: text/plain
Content-Transfer-Encoding: 8bit
User-Agent: IMP/PHP IMAP webmail program 2.2.0-pre11
X-Originating-Ip: 203.172.23.132

Dear Andres,

This is great news. Let me make a few phone calls on my side to check on
the
necessary paperwork and other procedural stuff (e.g. if the University
has its
own customs forwarder / broker that needs to be notified, etc.) I’ll
email you
with the ship-to address as soon as I cover these details.

Thanks.
- Roel

Quoting Andres B Tellez <guyver@MIT.EDU>:
Dear Roel,

I finished my last final exam here and so now I can concentrate on getting the machines shipped over to the Philippines. We will be shipping ~14 machines, 10 for UP and 4 for Samar State Polytechnic University. Can you please give me the address at UP so we can send them?

Also, Ms. Duran informed me that there may be some paperwork needed to get duty free entry of the computers:

>>> Please inform UP President Nemenzo and SSPC President Villanueva, through Joseph Balisacan, that the computers will soon be shipped from Boston to Manila so they can prepare paperwork for the duty-free entry of the computers FOR RESEARCH AND TRAINING PURPOSES. It may be necessary for a letter/Memorandum of Agreement/Understanding between you/your advisor, UP and SSPC about this distance learning project (give the great benefits that will redound to the Philippines and that the results will serve as a cyber model (using the internet) for rural development in Third World countries.

I'd be happy to assist you in writing a letter—please let me know how I can help you. Anyways, we'll be configuring the machines with Linux for Sparc and Star Office. I think that for this first shipment, we'll be sending Sparc Classics. Please let me know your address there, as we would like to ship the equipment by the 23rd.

sincerely,

Andres

----------
Hi Andres,

For shipping purposes, you may use the following ship-to address:

Computer Center  
University of the Philippines  
Magsaysay Avenue cor. Apacible St.  
U.P. Campus, Diliman, Quezon City  
1101 Philippines

Contact person: Roel Ocampo, Director  
roel.ocampo@up.edu.ph  
Tel 63 2 926 8837  
Mobile 63 917 412 3472  
Pager 63 2 1277 57107

I made a few inquiries on our side and it seems unlikely that we will get duty-free entry. We will nonetheless try to make representations with the proper authorities to either get a reduction in the duty or an exemption if at all possible.

To prepare for the worst case where we might have to pay for the duties in full, may I request for the following:

1. An list of the items to be shipped from your side  
2. The value that you intend to declare when you ship the items  
3. The carrier that you plan to use in shipping the items (FedEx, etc.)

To get a reduction or exemption from customs duties, if any, we will also have to prepare a Deed of Donation covering the items. May I also know who the donor will be, whether it will be your adviser (in his personal capacity), your lab, or MIT as an institution. In all cases we will need the full names of the donor or the authorized representative and their addresses for the Deed, if possible. I will request our legal office to draft the document, forward it
upstairs, then send it over for review and signature on your side. By
the way, in the Deed of Donation, we usually mention the reason(s) why the dona-
tion is being made -- perhaps it would be better if your side could draft this
part of the text (I am still operating on the assumption that the primary reason
is still the joint intellectual property class).

Thanks.
- Roel

Date: Mon, 08 May 2000 10:52:58 -0400
From: Holly Foote <Holly@aas-world.org>
X-Mailer: Mozilla 4.7 [en] (Win98; I)
X-Accept-Language: en
MIME-Version: 1.0
CC: Joseph Balisacan <jobal@bitsnbytes.com.ph>,
   Jane@aas-world.org, Lacasse@aas-world.org, DGrant@aas-world.org,
   D@aas-world.org, Grant@aas-world.org, Kelly@aas-world.org,
   Sheldon@aas-world.org, Apsell@aas-world.org
Subject: Academy of Applied Science
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Dear Mr. Balisacan (Joseph) A brief note to introduce ourselves at the
Academy of Applied Science (rhr@aas-world.org) and to express our pleasure with the arrangements you are making with Andres Tellez, my teaching assistant at MIT and graduate student Academy member, and our technology director, David Brown, to launch our "Glogal School District" distance learning project this summer, and to prepare to start learning and other exchanges this fall with our MIT intellectual property class, Academy experts, and local science high school teacher-student classes.

More later.
Cordially,
ACADEMY OF APPLIED SCIENCE

Robert H. Rines, President
Jane LaCasse, Executive Director

cc: Jane LaCasse, Ex. Director
    Donald A. Kelly, CBO
    Sheldon Apsell, Chairman of the Board

Date: Mon, 08 May 2000 10:35:09 -0400
From: Holly Foote <Holly@aas-world.org>
X-Mailer: Mozilla 4.7 [en] (Win98; I)
Dear Mr. Encarnacian (Mark)

A brief note to introduce ourselves at the Academy of Applied Science (rhr@aas-world.org) and to express our pleasure with the arrangements you are making with Andres Tellez, my teaching assistant at MIT and graduate student Academy member, and our technology director, David Brown, to launch our "Global School District" distance learning project this summer, and to prepare to start learning and other exchanges this fall with our MIT intellectual property class, Academy experts, and local science high school teacher-student classes.

More later.
Cordially,

ACADEMY OF APPLIED SCIENCE

Robert H. Rines, President
Jane LaCasse, Executive Director

cc: Jane LaCasse, Ex. Director
Donald A. Kelly, CEO
Sheldon Apsell, Chairman of the Board

Date: Tue, 23 May 2000 07:27:18 -0700
To: "gfuller" <gayle@allworldremovals.com>, guyver@MIT.EDU
From: Eliza Duerme <eliza@cisco.com>
Subject: Re: SHIPPING INFORMATION
In-Reply-To: <000801bfaed1$adb54840$0201a8c0@gayle>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Gayle, let me introduce you to Andy Tellez (see email address above). He’s the MIT contact who’s shipping workstations from Boston. The number of boxes and pallets have changed so Andy will contact you directly. I will also be out of the country again on Thursday and won’t be back till June 1.

I have a couple of questions:

a) These are donations from MIT to the University of the Philippines. Re the paperwork, I can get a deed of donation and a letter from the Philippine Consulate so that these machines will not involve customs tax. However, I cannot get them done by Thursday. Andy would like to ship the machines this Friday. Is it possible that the above papers can be sent to the recipients
after June 1 (when I get back) and they show it to the Philippine Customs once they pick up the workstations?

I hope that the ‘deed of donation’ does NOT need to go with the shipped materials.

b) The quote below is for door-to-port, can you give Andy a quote for costs and contacts to ship from the Manila port to the UP University in Diliman, Quezon City?

c) I will be paying for the shipping using my credit card. I need to know the total amount by tomorrow, if possible before I give you my credit card number over the phone. Andy, please work with Gayle in providing details.

d) I would like to forego the insurance.

eliza

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Date: Tue, 23 May 2000 15:46:05 -0700
To: Andres B Tellez <guyver@MIT.EDU>, beatriceduran@hotmail.com
From: Eliza Duerme <eliza@cisco.com>
Subject: Re: Deed of Donation
In-Reply-To: <200005232235.SAA26272@ml-142-4.mit.edu>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Betty,
Can you tell me again how the tax-exemption works. I vaguely remember we need the 2 following documents: Please confirm:

1. A deed of donation from the recipients
2. A letter from the Phil. consulate

What exactly is the role of the Phil consulate? I.e. Wouldn’t 1 & 2 be redundant?
When do these documents need to be ready?
- when you ship the materials and therefore need to be part of the cargo?
or
- when the recipient claims the cargo upon its arrival?

eliza

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Date: Wed, 24 May 2000 16:47:52 -0700
To: "Beatrice Duran" <beatriceduran@hotmail.com>, guyver@MIT.EDU
Thanks, Betty.

Andy, when the shipper fills-up the paperwork, have her indicate that this is for Education and training certified by UP and DOST so we can get tax exemptions.

At 04:41 PM 5/24/00 -0700, you wrote:
>Eliza:
>
> I will send you a copy of the rules and regulations regarding DUTY-FREE donations -if it is for RESEARCH, EDUCATION AND TRAINING purposes certified by DOST or by U.P. and SSPC in this specific project of Andy.
>
> I hope the cargo forwarder does not make any paperworks without our knowledge.
>
> The Deed of Donation signed by the donor has to be sent to the recipient for acceptance; then sent back for authentication by the Philippine Consulate.
>
> Betty
>
> -----------------------------

Date: Tue, 30 May 2000 18:38:17 -0800
From: Roel Ocampo <roel.ocampo@up.edu.ph>
Cc: <dbrown@aas-world.org>, <eliza@cisco.com>, <beatriceduran@hotmail.com>,
    <jobal@bitsnbytes.com.ph>, <roel.ocampo@up.edu.ph>
References: <200005262228.SAA08953@ml-142-21.mit.edu>
In-Reply-To: <200005262228.SAA08953@ml-142-21.mit.edu>
Mime-Version: 1.0
Content-Type: text/plain
Content-Transfer-Encoding: 8bit
User-Agent: IMP/PHP IMAP webmail program 2.2.0-prell
X-Originating-Ip: 203.172.23.132

Andres,

We (UP) should be the one thanking everybody, including you, for this.

BTW, can you provide me with the name of the forwarder/carrier as well as the
tracking number, if any? We would also like to know if we need to prepare any payment for customs duties -- how much was the declared value of the shipment?

Again, thanks very much to all.

Roel

Quoting Andres B Tellez <guyver@MIT.EDU>:

> The machines were packed and delivered to the freight forwarders today.
> They should be on the boat enroute to the Philippines (35 days Estimated Time to Arrival), for a final destination of the University of the Philippines Computer Center...(and eventually SSPC).
> Thanks all for your efforts in this first phase of the project. I'm happy to report that everything went smoothly.
> regards,
> Andres Tellez