University of Hong Kong.
Department of Computer Science and
Information Systems.

CSIS newsletter

CSIS Newsletter

HKU Open Days 1998

The HKU Open Days 1998 were held on Oct 18, 19. Dr. Andrew Choi and Dr. Lucas Hui from the CSIS Department helped in organizing the events. The support from the General Office and Technical Staff Office was also a significant contribution to the success of the function. Employment statistics, as well as course offerings, and various aspects of the CSIS programmes were introduced to the public through graphics, charts, board displays. The following is a note of thanks from our Department Head, Professor Chin, to the colleagues who helped in the organization of Open Days.

The HKU Open Days ended yesterday. It was a big event and was well-done. In the past couple of weeks, I have seen many of us devoting time and effort to make preparation for these two days. I, on behalf of the Department, would like to thank our students (undergraduates and postgraduates), staff (technical, office, research associates) and teachers, especially Dr. Andrew Choi and Dr. Lucas Hui (our Department's coordinators and organizers for HKU Open Days), who have contributed a lot to the success of this meaningful function.

– Professor Francis Chin

CONTENTS

Investigation Team for Chek Lap Kok Airport

The Legislative Council Commission of Legislative Council (LEGCO) appointed a team of experts led by Professor Chin to investigate the computer systems of Chek Lap Kok Airport. Other members of the team included Dr. David Cheung, Dr. M.C. Pong (Computer Centre), Dr. Bethany Chan (Hon. Senior Lecturer) and Mr. H.F. Hung (Computer Officer). With Professor Francis Chin as the Consultancy Supervisor, the consultants inquired into the circumstances leading to the problems surrounding the commencement of the operation of the new Hong Kong International Airport at Chek Lap Kok since July. The scope of the service provided by the Consultancy Team included studying the relevant documents relating to the Flight Information System installed at the Passenger Terminal Building at Hong Kong International Airport. They studied whether there were problems in the project planning, implementation, system integration, and system testing. They also traced the causes of those problems. They then advised on whether the procedures and standards adopted for developing and installing the systems at the Passenger Terminal Building at the Airport were in compliance with standard practice in the trade.

"There's a better way to do it" – Thomas Edison's lifelong motto
Thomas Edison proved that motto at his "invention factory" in New Jeresy. He was awarded more than 1,000 patents in his lifetime.

Faculty Homecoming Dinner

The evening of Oct 24, 1998 was the Faculty Homecoming Dinner. It was held in the Main Building, Loke Yew Hall. Several of our CSIS Department faculty, staff, alumni, and guests participated and filled up two tables. The achievement of Professor Chin in gaining a multi-million award in education was recognized. Dr. Francis Lau was playing the piano and singing solo. Our Department Executive Officer, Ms. Brenda Ng, was conducting a choir of engineering students. Among the choir members were also the Vice-Chancellor, Professor Y.C. Cheng, and Dean of Engineering, Dr. Paul Cheung. They were singing in Mandarin "Roaring Hearts for China". The students had just returned from a field study from the Yangtze Riverside. Seeing how disastrous the flood of Yangtze River was, they were calling for help to our fellow kinsmen whose homes had been destroyed by the waters. More than HK$40,000 was collected to donate to the victims.

Many prestigious guests were invited. Among them were (a) the Hon. Ir. Dr. Raymond Ho, the Chairman of the Capital China Group and Legislative Councillor, (b) the Hon. Sin Chung-kai, Legislative Councillor, and (c) Ir. Dr. Cheng Hon Kwan, Director of Hong Kong Cheng & Partners Limited. Alumni of the Faculty of Engineering graduating in different years attended the Homecoming Dinner. Many of them were holding important positions in government, commercial, and industrial fields. The moderators were Ms. Eva Kwok from Hong Kong Housing Authority, a 1995 graduate, and Mr. Edgar Kwan, the Managing Director of Chatwin Engineering Limited, a 1973 graduate of the Faculty of Engineering.

Various entertaining programs were organized.

Souvenirs were presented to the alumni, with the most senior one graduating almost forty years ago. There were lucky draws and puzzles. One of the puzzles was on naming buildings. Slides of various buildings were shown to the audience and the table that could name the building correctly was awarded a prize. Sometimes the response from some groups was missed by the moderator. For these unfortunate individuals, small souvenirs were provided. About seven souvenirs were given to each table of audience, and shared among the ten guests at the table. Each individual was also given additional souvenirs by the host. These included a torch, numerous brochures, and a small paper flower hand made by the students. With all the music, songs, laughter, delightful games and memorable souvenirs, everyone had a nice time of fellowship, cherishing the past and looking forward to the future.

This is similar to the inspiration in Sushi's poem:

Gone were the flowing rivers,
Waves tossed to the end,
Numerous characters and heroes over the ages.
On the west sides of the city ruins,
People were cherishing,
These were the walls of Brother Chau
At the times of Divided Three Kingdoms.
Standing rocks, chaotic crevices,
Roaring waves cracking the shores,
Throwing up tons of waves like shattering snow.
The country is like a scene on a stage,
How many heroes of the past can we remember?

念奴嬌　　大江東去浪淘盡千　　古風流人物故壘西　　邊人道是三國周郎　　赤壁亂石穿空驚濤　　拍岸捲起千堆雪江　　山如畫一時多少豪　　傑　　　赤壁懷古

CSIS Festival

In the 1998 CSIS Festival, 3C Committee organized various games and functions. Among these were:
(1) Singing contest
(2) Basketball, badminton, table tennis and football games among staff, undergraduates, and postgraduates;
(3) Tug-of-war with at least 2 - 4 female members in a team, and a total of 9 to 18 members per team
(4) International bridge competition and Chinese chess
(5) Annual Dinner (buffet) on Nov 20, 1998 (Friday)

It was a fun time for both students and staff. We thank 3C for their effort and hard work. Here is the overall result of each competition:

Overall Champion	Year 2
1st Runner-up	Year 1
2nd Runner-up	Postgraduates & Staff
3rd Runner-up	Year 3

All the prizes were presented in the CSIS Annual Dinner. Thank you for your participation in these games and functions!

Residential Workshop on Vision and Mission: Challenge for the Next Millenium

On Dec 18-19, 1998, the faculties and staff of HKU had a two-day residential workshop at Shoukou organized by the Staffing Section of the Registry, HKU. The theme of the workshop is "Vision and Mission: Challenge for the Next Millenium". This was the tenth of the series of workshops organized. The workshops were efforts initiated by the Vice-Chancellor, Professor Y.C. Cheng, to inspire all units of the University in developing and implementing an updated vision and mission for the University of Hong Kong.

Dr. Q. Huo and Dr. B.L. Mak from the CSIS Department participated in the workshop, together with more than fifty teaching faculty and staff from other departments of the University. Issues discussed included how to integrate teaching with research, the research directions for the University, teaching approaches, as well as student evaluation systems. There was also a forecast on how HKU would look like in the next 5-10 years, with projection forecasts made in various aspects including teaching, information technology, language, community service, competition, resources, research, and international leadership. Video-tapes recording the proceedings of the workshop are available from the Staffing Section for colleagues to review.

Faculty Retreat on Innovation and Technology

On Jan 5, 1999, the Faculty of Engineering had its first retreat in the year held at Aberdeen Marina Club. The theme of the retreat was "Innovation and Technology". About 32 participants attended the retreat. Professor F. Chin, Dr. D. Cheung, Dr. T.W. Lam, Dr. Q. Huo, and Dr. B.L. Mak from the CSIS Department participated in the event.

In the morning session of the retreat, there were talks and round-table discussions to review existing policies and infrastructure on technology transfer at HKU. The speakers included Dr. Paul Cheung, the Dean of Engineering, Professor Victor Li, the Chair Professor of Information Technology, Professor Tan, the Associate Dean of Engineering, and Professor Felix Wu, the Pro-Vice-Chancellor of the University.

In the afternoon session, participants formed small groups to discuss the strengths, weaknesses, opportunities, and threats incurred in technology transfer at the University level, Faculty level, and Department level, together with recommendations and action items for the University, Faculty, and Departments. Dr. Cheung, our Dean, concluded with a summary of the issues discussed and a preview for the next retreat, which would focus on the reinventing of undergraduate education at HKU.

Information Systems Teaching and Research - Past, Present, & Future

A two-day seminar addressing the importance of development for IS curriculum for the CSIS Department was organized in May 25, 26, 1998. Four well respected professors were invited to discuss the issues with Department colleagues and students. They were: Professor Gordon B. Davies, Honeywell Professor of MIS, Carlson School of Management, University of Minnesota, USA, Professor Jay F. Nunamaker, Regents and Soldwedel Professor, MIS and Computer Science, University of Arizona, USA, Professor Bruce D. Shriver, Adjunct Professor of Computer Science, University of Tromso, Norway, and Professor Ralph H. Sprague, Professor of Decision Science, College of Business Administration, University of Hawaii, USA. The program of the seminar is listed as follows.

Day 1:
Opening Remarks by the Dean
Lecture *The History and Objectives of the IS Programme at the University of Hong Kong* (Prof. F.Y.L. Chin)
Lecture *BS, MS, and Ph.D. Curricula in IS: Recommendations for the 21st Century* (Prof. J.F. Nunamaker)
Lecture *Important Research Directions in Information Systems* (Prof. G.B. Davis)
Lecture *New Information Technologies for Decision Support* (Prof. R.H. Sprague)
Lecture *Core Technologies in the Age of the Web* (Prof. B.D. Shriver)

Day 2:
Open Forum *How Business & Technology Can Work Together?*
Open Discussion *Future Direction of IS in our Department.*

The discussion helped the faculty to share ideas on various disciplines in information systems. Overall response was favorable. All agreed that more cooperative efforts for CSIS Department with departments in other disciplines (e.g. business, engineering) would be required to further develop information technology.

Alexander Graham Bell with his invention, the telephone

Alexander G. Bell was a scientist and inventor who devoted much of his life to teaching the deaf. Bell, whose mother was deaf, wanted to find a way for people to learn to speak even though they could not hear. This effort led him to experiment with transmitting the human voice by electric impulses through a wire. On March 10, 1876, Bell had his first successful telephone message to his assistant : *"Mr. Watson, come here. I want you."*

Dr. Lucas C.K. Hui
BSc(CompStud), MPhil *HK*, PhD *Calif*
ASSISTANT PROFESSOR

Dr. Hui received his Ph.D. in Computer Science from the University of California, Davis. His current research interests include Computer Security, Electronic Commerce, and Cryptographic Algorithms. He is the grant holder of the "Strong Cryptographic Infrastructure for Electronic Commerce" project with a total grant amount of $13,730,000 supported by the Industrial Support Fund and various hardware and software sponsors. He is currently working on the set up of the Center for Information Security and Cryptography together with other researchers in the CSIS Department.

Dr. Brenda L. Mak
MS(IA) *CMU*; MS(Stat), PhD *Northwestern*
ASSISTANT PROFESSOR

Dr. Mak received the M.S. in Industrial Administration from Carnegie Mellon University, the M.S. in Statistics and Ph.D. in Business Information Systems from Northwestern University. Dr. Mak's research interests include Data Mining, Information Visualization, Neural Networks, Genetic Algorithms and Human-computer Interaction. Dr. Mak has published in Information and Management, Information Processing and Management, IEEE Transactions on Systems, Man, and Cybernetics and others.

Dr. David W.L. Cheung
BSc *CUHK*; MSc, PhD *S Fraser*
ASSOCIATE PROFESSOR

Dr. David Cheung has been awarded The Outstanding Researcher Award. The Vice-Chancellor of the University awarded additional funds to encourage Dr. Cheung in his research work. (See details on p. 14) Dr. Cheung has also been invited to join the program committee of two most prestigious international database conferences : VLDB'99 (The Twenty-fifth International Conference on Very Large Data Bases) and ICDE'99 (The Fifteenth International Conference on Data Engineering).

In addition, Dr. Cheung has been appointed by the Mandatory Provident Fund Schemes Authority (MPFA) as a member of the Information Management System Committee (IMS Committee) with effect from Nov 23, 1998. The IMS Committee is a statutory body assisting the MPFA in the development, installation and operation of the MPFA IMS. Jointly with other members of the IMS Committee, Dr. Cheung will oversee the development of IMS, monitor and review the operation of the IMS.

Dr. T.H. Tse
MBE; BSc(Special) *HK*; MSc, PhD *Lond*; DipMS *HK*; CEng; FBCS; FIMIS; FIMA; FHKIE; SenMIEEE
ASSOCIATE PROFESSOR

Dr T.H. Tse is on leave at the Vocational Training Council for a year. Dr. Tse was invited to serve on the programme committee of the 22nd IEEE Annual International Computer Software and Applications Conference (COMPSAC '98) held in Vienna, Austria in Aug 1998, and the World Congress on Formal Methods (FM '99) to be held in Toulouse, France in Sep 1999. Dr. Tse was recognized as an outstanding reviewer for the IEEE *Computer* magazine. (see details on page 5)

Editor's note: We thank Dr. Tse for helping us during his leave and giving us valuable comments on the newsletter.

Greeting from Sung Wing Kin, a recent PhD graduate from CSIS

"My postgraduate life here is full of fun. I have made a lot of friends. I am dating a girl. Research life here is filled with excitement and bitterness. I thank my advisors, T.W. Lam and H.F. Ting, for their wonderful supervision. We have worked closely together and produced nice research results. We published in first-class international conferences and collaborated with international scholars. Soon I am joining Yale as a postdoc. I look forward to the learning and academic prospect that lies ahead.

Research Associate Chen Huoyan Awarded Grant from NSF of China

We are pleased to report that Professor Chen Huoyan, Research Associate in our Department, has been awarded a grant by the prestigious National Natural Science Foundation of China (NSFC) for a project entitled "Investigation on a Methodology for Object-Oriented Software Testing."

NSFC was established in 1986 as a major consequence of the reform of the science and technology system in China. The objectives of the Foundation are to promote and financially support both basic and applied basic research, and to institute a science funding system in the nation. It has established a rigorous expert funding evaluation system to maintain fair and sound review of proposals, and has become the most prominent funding body for basic research in China.
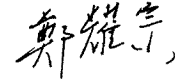
NSFC has achieved great success in funding high-caliber and creative research. Please refer to http://www.nsfc.gov.cn for full details.

Professor Chen is a full professor in Computer Science at Jinan University. He was a Visiting Scholar in the University of Illinois at Urbana working with Professor Benjamin Wah, and has worked with Dr. T.H. Tse in The Software Engineering Group for more than six years. He is currently working on the RGC-funded project entitled "In Black and White:

計算機科學及資訊系統學系
附屬研究員
陳火炎教授：

喜訊傳來，欣悉　教授獲國家自然科學基金頒發資助金，進行「面向對象軟件測試方法論」之研究，本人謹代表校內同人向　教授致賀，　教授學識淵博，睿智過人，此次來港大進行合作研究，校內同事定必獲益良多，本人謹祝　教授早日完成研究計劃，再添殊榮。

香港大學校長

an Integrated Approach to Object-Oriented Testing". Their latest publications include a 46-page paper [1] published in *the ACM Transactions on Software Engineering and Methodology*, which is recognized as the top international journal in Software Engineering.

Reference

[1] H.Y. Chen, T.H. Tse, F.T. Chan, and T.Y. Chen, In black and white: an integrated approach to class-level testing of object-oriented programs, *ACM Transactions on Software Engineering and Methodology* 7, 3 (1998), 250-295.

Recognition of Achievements

Dr. Tse has been recognized as an outstanding reviewer for IEEE *Computer*. Reproduced below is an encouraging letter from the Editor-in-Chief of IEEE *Computer*:.

COMPUTER

Dear Professor Chin:

Computer takes pride in providing extremely good reviews of submitted articles — perhaps more so than most highly regarded research journals. For instance, we ask for ten reviewers for every paper.

Once in a while an outstanding reviewer turns in such a detailed, thorough, insightful review that it cannot go unnoticed. This is the case with Tsun-Him Tse who recently exceeded even *Computer*'s standard of excellence.

Reviewing is tough work, but rarely rewarded. I hope you will recognize your colleague's contribution to his field by joining me in applauding Dr. Tse's dedication.

An annual list of reviewers will appear in *Computer*; Tsun-Him Tse will be listed separately for dedication, quality of work, and expertise. I hope I can continue to rely on Dr. Tse's excellent help.

Sincerely,

Edward A. Parrish,
Editor-in-Chief,
IEEE Computer

Congratulations to the following fathers and mother:
• **Dr. W. Wang** - a girl in Jan 98
• **Dr. C.L. Wang** - a boy in May 98
• **Dr. T.W. Lam** - a boy in June 98
• **Ms. Joanne Chan** - a girl in Aug 98

Staff movement:
• **Dr. S.M. Yiu** has been appointed as Assistant Professor to take care of the Foundations to Information Technology course.
• **Mr. Marcus Lee** has been appointed as Computer Officer in the Center for Information Security and Cryptography.

We would like to welcome the following teachers and staff who recently joined our Department:
• **Dr. L.C.K. Hui**, Assistant Professor
• **Dr. Brenda L. Mak**, Assistant Professor
• **Ms. Liza L.S. Lam**, Secretary

The following teachers and staff have left us. We wish them all the best in their future.
• **Dr. Lester Yee**, Assistant Professor
• **Dr. Jerome Yen**, Associate Professor
• **Mr. Vincent Lam**, Visiting Lecturer
• **Ms. Joanne Chan**, Secretary

Dr. K.H. Pun was invited as a subject specialist for the Hong Kong Council for Academic Accreditation for the period Mar 13, 1998 - March 14, 2002.

The paper "Selecting the kth largest elements using parity tests", coauthored by **Dr. H.F. Ting and Dr. Lam Tak-Wah**, was awarded the best paper in the ISAAC (the Ninth International Symposium on Algorithms and Computation), Korea, Dec 14-16, 1998.

Congratulations to the following staff and students for their recent awards:

Dr. K.H. Pun for the Teaching Excellence Award of 1997-98. (He has been selected as the best teacher of the Department since 1994.)

Mr. George Mitcheson, Mr. Tam Tat Chun, Anthony, Miss Wong Wai Ha, and **Mr. Yip Chi Lap** for the Best Tutor Awards of 1997-98.

Miss Chan Tse Wang, Gisa (CS2) for the HongkongBank One Year Exchange Scholarship Scheme (1998) with the University of Sydney, Australia (Jan 5, 1998 to Dec 31, 1998).

Miss Chan Wan Chee, Vincci (CS2) for the Joyce M. Kuok Foundation Scholarships 1998-99 and Ho Fook Prize in Engineering 1997-98.

Mr. Hui Fung Fan (CS2) for the Hong Kong Computer Society Scholarship 1997-98 and Information Technology Management Club Scholarship 1997-98.

Mr. Koo Chiu Yuen (CE1) for the Bronze Medal in the 10th International Olympiad in Informatics (IOI'98).

Mr. Mak Wai Yip, Vincent (CS2) for the Walter Brown Memorial Prizes in Mathematics 1997-98.

Mr. Sit Yiu Fai (CE3) for the HKU Worldwide Undergraduate Student Exchange Scholarships 1998-99 and John Swire & Sons Study Abroad Scholarship 1998-99.

Mr. Tam Siu Shan (CS2) for the CMA and Donors Schorlarship 1997-98, AST Scholarship 1997-98, Joyce M. Kuok Foundation Scholarships 1997-98, Reuter Foundation Scholarship 1997-98, Chan Kai Ming Prize in Engineering 1997-98 and Hong Kong University Alumni Prize 1997-98.

Mr. Tang Wai Ming, Ricky (IS3) for the Silver Prize in the China First Youth National Competition on Internet Knowledge held in Beijing 1998.

Mr. Wong Kam Wah (PhD) for the Hong Kong and China Gas Company Ltd. Postgraduate Scholarship 1997-98.

He who works his land will have abundant food -- Proverbs 12:11a (Bible NIV)

CSIS ■ Postgraduate Studies in HKUCSIS 1999

CSIS: Postgraduate Studies in HKUCSIS

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Postgraduate Studies in HKUCSIS

The Department of Computer Science and Information Systems offers programmes for research degrees of Master of Philosophy (M.Phil.) and Doctor of Philosophy (Ph.D.), and for the coursework degree of Master of Science in Computer Science (M.Sc.(CS)). The Department has a group of active researchers and internationally known faculty devoted to the promotion of excellence in various areas in Computer Science and Information Systems.

Research Areas in HKUCSIS
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Research Areas
Design and Analysis of Algorithms • Software Engineering • Database • Parallel & Distributed Systems • Computer Engineering • Networking • Multimedia • Internet • Computer Vision & Image Processing • Speech Processing & Pattern Recognition • Artificial Intelligence • Computer Music • Computer Graphics • Virtual Reality • Information Systems • Cryptography & Computer Security • Electronic Commerce

CSIS: Applications
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Applications

Application forms are obtainable from the Department of Computer Science and Information Systems, Room 301 Chow Yei Ching Building, The University of Hong Kong, Pokfulam Road, Hong Kong

Deadline
M.Phil./Ph.D.   April 1, 1999
M.Sc.(CS)   March 15, 1999

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Financial Assistance
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Financial Assistance
All candidates pursuing full-time studies in M.Phil. and Ph.D. will be provided with financial assistance in the form of Postgraduate Studentship or Part-time Demonstratorship, during their normal period of studies.

Enquiry
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Enquiry
Ms Priscilla Chung   Tel: 2859 7964
Email: enquiry@csis.hku.hk

CSIS: Information Session
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Information Session

March 5, 1999 (Friday) 5:30pm - 7:00pm

Theatre C, LG1, Chow Yei Ching Building
The University of Hong Kong
Pokfulam Road, Hong Kong

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http://www.csis.hku.hk/info/recruit/99/

Recent Publications

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Conference Grants

Teacher	Conference	Location	Date
Prof. C. Chan	1998 IEEE International Conference on Systems, Man, and Cybernetics	San Diego, CA, USA	Oct 11-14, 1998
Dr. H.W. Chan	Asia Pacific Web Conference (APWeb98)	Beijing, China	Sep 27-30, 1998
Dr. D.W.L. Cheung	The Second Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-98)	Melbourne, Australia	April 15-17, 1998
Dr. C.F. Chong	IASTED Conference on Software Engineering	Las Vegas, NV, USA	Oct 28-31, 1998
Dr. Q. Huo	International Conference on Acoustics, Speech, and Signal Processing '98	Seattle, Washington, USA	May 12-15, 1998
Dr. Q. Huo	5th International Conference on Spoken Language Processing (ICSLP '98)	Sydney, Australia	Nov 30 - Dec 4, 1998
Dr. B.L.F. Mak	1998 Annual Meeting of the Decision Sciences Institute	Las Vegas, USA	Nov 21-24, 1998
Dr. H.F. Ting	The 4th Australasian Theory Symposium	Perth, Australia	Feb 1-3, 1998
Dr. C.L. Wang	International Conference on Parallel and Distributed Computing and Systems	Las Vegas, USA	Oct 28-31, 1998
Dr. W. Wang	IEEE Visualization 1998	Research Triangle Park, NC, USA	Oct 18-23, 1998
Dr. J.C.H. Yen	Hawaii International Conference on System Sciences	Hawaii, USA	Jan 6-9, 1998

DSI Conference and Electronic Commerce

Dr. Brenda Mak

The Decision Science Institute (DSI) Conference of 1998 was held in Las Vegas from Nov 21-24. I was presenting a paper there. This time of the year was the Thanksgiving festival in USA, when Americans went home for family union. It was also a time for job search. Ph.D. candidates arranged interviews with major universities for job interviews. Publishers displayed new books to lecturers for adoption. There had been a lot of mergers in the industry. *McMillam* and *Yourdon* were acquired by *Prentice Hall*. *Irwin* was merging with *McGraw Hill*. That also happened in the IT industry.

The big news of the week was the acquisition of *Netscape* by *American Online*. They made a deal with *Sun Microsystems* to develop major applications for electronic commerce to enable companies to do business on-line. This would march us into the millenium with business in virtual environments, where everyone can just shop from their homes or offices. Obvious success like the book publisher *Amazon.com* has attracted a lot of companies to explore this option of doing business. Electronic commerce is the key for business survival. This would reduce costs and labor. At the same time it might also bring about an entire new way of conducting business. Unlike traditional companies, salespersons might have to advertise not via TVs or in shopping malls, but via the Internet. Information technology will be an important hot area in the decades to come!! Details of the *Netscape* acquisition is available at http://www.businessweek.com/datedtoc/1998/981207.htm (*Business Week* Dec. 7, 1998)

"That's one small step for a man," Neil Armstrong said, *"one giant leap for mankind."*

On July 16, 1969, Apollo 11 was launched to the moon. The spacecraft was carrying three astronauts: Neil Armstrong, Edwin E. Aldrin, Jr., and Michael Collins. On July 20, Apollo's spiderlegged lunar module carried Armstrong and Adrin to a flat area on the moon's surface. For the first time, humans had landed on the moon. A dream as old as humanity has been achieved.

Research Grants

In 1998 we obtained research grants of over 6 million from the Hong Kong Research Grants Council (RGC), almost double of the figure in 1997. In addition, Professor Chin obtained Quality Education Fund of over 10 million. Dr. Hui obtained grants of 13.7 million, supported by Industry Support Fund and other industrial sponsors. Dr. David Cheung obtained grants amounting to 1.5 million. Let's keep up with the momentum.

Investigator	Project Title	Start Date	Amount
CRCG Research Grant 1998			
Dr. D. Cheung	Techniques for building space-efficient data warehouses	Jul 1, 1998	177,000
Prof. F.Y.L. Chin	Medial axis of a simple polygon	Jul 1, 1998	100,000
Dr. Q. Huo	Prior feedback: A bayesian tool for maximum likelihood estimation of continuous density hidden Markov model for speech recognition	Aug 1, 1998	116,000
Dr. F.C.M. Lau	The load distribution problem in parallel computers	Jul 1, 1998	80,000
Dr. W. Wang	Speedup techniques in virtual reality display system	Jul 1, 1998	100,000
Dr. C.C. Yang	Tolerance design using constraint networks	Apr 1, 1998	120,000
RGC Research Grant 1998			
Prof. C. Chan	A large vocabulary recognizer of hand-written Chinese characters	Sep 1, 1998	480,000
Dr. H.W. Chan	Dynamic mobile terminal tracking and location update protocols for cellular network: design, analysis and implementation	Sep 1, 1998	380,000
Dr. K.P. Chan	Design of nonuniform paraunitary filter banks for subband image coding	Sep 1, 1998	405,000
Dr. D. Cheung	Mining association rules on high performance parallel systems	Sep 1, 1998	786,000
Prof. F.Y.L. Chin	Line estimator/stabbing problems	Sep 1, 1998	380,000
Dr. B.C.M. Kao	Efficient data structure and algorithms for WWW information retrieval	Sep 1, 1998	786,000
Dr. T.W. Lam	On the consensus of evolutionary trees	Sep 1, 1998	380,000
Dr. F.C.M. Lau	Fast algorithms for information dissemination in parallel computers	Sep 1, 1998	380,000
Dr. K.H. Pun	A comparative study of intellectual property protection for computer software in Hong Kong and China	Sep 1, 1998	846,000
Dr. C.L. Wang	JESSICA: Java-enabled single system image computing architecture	Sep 1, 1998	646,000
Dr. W. Wang	Computing intersections of quadric surfaces	Sep 1, 1998	410,000
Dr. C.C. Yang	Color image retrieval and visual thesaurus	Sep 1, 1998	380,000
Competitive Earmarked Research Grants			
Dr. D. Cheung	Mining association rules on high performance parallel systems	Sep 1, 1998	500,000
Industrial Support Fund & Industrial Sponsors			
Dr. C.K. Hui	Strong cryptographic infrastructure for electronic commerce	Dec 1998 - Nov 2001	13,730,000
Quality Education Fund			
Prof. F.Y.L. Chin	A User-friendly Flex-IT Approach for Education	1998-2000	10,256,200

Remember this: Whoever sows sparingly will also reap sparingly, and whoever sows generously will also reap generously. – 2 Corinthian 9:6 (Bible NIV)

QEF: A User-friendly Flex-IT Approach for Education (UFIA)

Professor Francis Chin, our Department Head, has obtained more than 10 million Quality Education Fund. The theme of his research project is "A User-friendly Flex-IT Approach for Education" (UFIA) - a joint project by the CSIS Department and the Computer Centre of HKU.

The objective of the project is to introduce a quality learning and teaching environment to the primary and secondary schools in Hong Kong, based on the web-based learning technologies (e.g., multimedia, Internet and WWW).

The project aims to integrate the use of IT with existing well-designed curriculum material used in primary and secondary schools to provide better "Quality Education" in Hong Kong. It also aims to adopt a user-friendly Flexi-IT (Flexible information technology) approach to provide at least "comfortable level" IT training to primary and secondary school teachers.

The project will result in benefits to teachers as well as students. Teachers, who will get the self-paced IT training, can obtain "comfortable level" IT training using a user-friendly Flexi-IT approach that is most effective and economical. As a result, they can be relieved from considerable routine tasks and be able to better spend their time and effort in preparing teaching contents and monitoring the progress of their students.

Similarly, students will also benefit from the new learning and teaching mode. This new model of flexible and effective learning process would help to address the different needs of the students, catering to their diverse learning backgrounds, habits and capabilities. The overall result is a better learning and teaching environment that would encourage better communication between teachers and students. IT can help to provide teachers with timely feedback on the progress of student performance. Parents can also participate more actively with the school teachers in educating their children.

To realize the UFIA project aims, the project team will use on primary schools some of the well-developed and well-tested curriculum material kept in the TOC Center. Teachers in the same schools will have a comprehensive try run of IT training under the UFIA system. The system is modular, flexible, self-paced, and it also provides timely assessment and feedback.

For evaluation purpose, statistics on the number of accesses to different parts of the course material by students, teachers, and learners will be monitored and reported. Moreover, survey through questionnaires to students, teachers, and parents will be conducted to measure the effectiveness of the project. Finally, visits will be scheduled to pilot schools to assess performance.

At this stage, 13 primary schools (see the list below) have joined the project as pilot schools. On Jan 12, 1999, Professor Chin and Dr. Nam Ng (Director of Computer Centre, co-investigator of UFIA) signed the cooperation agreement with the pilot schools' headmasters and representatives at the University of Hong Kong. Two guests of honour, Mr. Anthony Tong, J.P., Deputy Director of Education Department of the Government of HKSAR, and Prof. Y.C. Cheng, Vice-Chancellor of the University of Hong Kong, were invited to address the signing ceremony. Over 100 guests attended the ceremony.

Pilot Primary Schools:
- Buddhist Wong Cheuk Um Primary School (AM)
- Buddhist Wong Cheuk Um Primary School (PM)
- Creative Primary School
- Heep Woh Primary School (AM)
- Heep Woh Primary School (PM)
- Hennessy Road Government Primary School (AM)
- Kau Yan School
- Po Leung Kuk Luk Hing Too Primary School (AM)
- St Paul's College Primary School
- Tin Shui Wai Catholic Primary School
- Tai Po Old Market Public School (AM)
- Tai Po Old Market Public School (PM)
- Yaumatei Catholic Primary School (AM)

UFIA School Visit
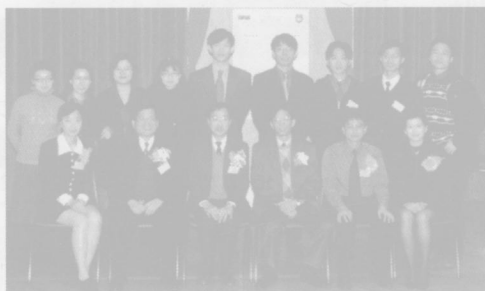
UFIA Project Team

UFIA Signing Ceremony with 13 pilot schools

Workshop on Strong Cryptographic Infrastructure

*On Dec 17, 1998, the **Center for Information Security and Cryptography** (CISC) of the CSIS Department at HKU had its first preliminary program on "Strong Cryptographic Infrastructure for Electronic Commerce". The total value of the grants for this project amounts to HK$13,730,000.*

This project is sponsored by Industrial Support Fund, as well as by Hewlett Packard, IBM China/HK Ltd., ICO Ltd., Linkage Online, and Sun Microsystems. More than 80 participants attended the workshop, including those from government sectors (namely, Information Technology Services Department, Hong Kong Post Office, Industry Department, Hong Kong Police Force – Commercial Crime Bureau, ICAC, Hong Kong Monetary Authority), business sectors (namely, GTE Cybertrust, HP Consulting, Hong Kong Bank, Hong Kong Telecom, IBM China/HK Ltd., ICO Ltd., Linkage Online Ltd., Sun Microsystems, Secure Network Solution Ltd., Tradelink Electronic Commerce Ltd., Uni-Tech Technologies Ltd.), and various educational institutes.

The workshop began at 9:45am with an introduction by Dr. K. P. Chow, the Associate Professor of CSIS Department and Associate Director of CISC, and also the Chairman of the workshop. A welcoming speech was given by Professor Francis Chin, Chair Professor and Head of CSIS Department, who talked about the importance of up-to-date technology in cryptography and its critical role in electronic commerce.

Immediately following the welcoming speech, 3 keynote presentations were delivered.

Dr. L.C.K. Hui, Assistant Professor of CSIS Department and Director of CISC, delivered a talk on *"Strong Cryptographic Infrastructure and Its Applications"* followed by a brief demonstration of RSA key generation, message encryption and decryption.

Dr. C.F. Chong, Lecturer of CSIS Department, presented a talk on *"Strength of Cryptographic Systems and Cryptanalysis"* together with a demonstration on brute force attack on block ciphers and factorization on RSA.

The last keynote presentation was on *"Elliptic Curve Cryptosystems"*, presented by Dr. W.W. Tsang, Associate Professor of CSIS Department.

After the keynote presentations, applications of the Strong Cryptographic Library were demonstrated through a secure workflow system and a secure e-mail system. The demonstrations were prepared by Ms. Vivien Chan, Mr. Doug Kwan, Mr. Henry Fung, Mr. Luke Lam and Ms. Teallus Lo.

After the presentations and demonstrations, Dr. K.P. Chow and Dr. L.C.K. Hui concluded the workshop with a brief introduction of the Center for Information Security and Cryptography and the product development plan for the Strong Cryptographic Library.

The workshop served to unveil the most up-to-date technologies and solutions designed by the Center for Information Security and Cryptography to extend the capabilities of public cryptographic systems to deliver compelling solutions pertaining to information security for local industries. As a result of the positive feedback received, the Center for Information Security and Cryptography will continue to develop more functions related to cryptography in the near future.

Information Session for Postgraduate Studies in HKU Computer Science and Information Systems
March 5, 1999 (Fri) 5:30-7:00pm Lecture Theatre C, LG1 Chow Yei Ching Bldg, HKU

Mining Association Rules on High Performance Parallel Systems

Dr. David Cheung has obtained the Competitive Ear-marked Research Grants and the "Outstanding Researcher Award". He has also got additional funds from the University as encouragement for his outstanding research effort. Given below are the details of his project.

Dr. Cheung's research focuses on data mining association rules in large databases. Data mining is an important research area. Mining association rules in large database is an important problem in data mining. A representative application is to discover consumer behavior from supermarket transaction records. To efficiently compute all strong associations in a database, substantial amount of CPU and I/O resources are required. For big corporations, mining association rules on their huge databases cannot be handled by standalone machines. Therefore, there is an urgent need to develop high performance parallel systems to solve this problem.

The goal of this project is to study the theory behind mining parallel association rules and to develop algorithms and techniques so that the mining task can be performed efficiently on parallel systems. Dr. Cheung and his co-investigator, Dr. Kao, will develop the solution on the two most dominant parallel system paradigms: share-nothing distributed memory parallel system and share-memory parallel system. They will implement their proposed system in an IBM SP2 POWERparallel machine and a SGI Power Challenge SMP machine respectively. It is expected that the studies will advance the understanding on mining association rules and demonstrate the feasibility of applying parallel techniques in data mining.

Given below is a letter of appreciation from the Vice-Chancellor, Professor Y.C. Cheng, for Dr. Cheung's outstanding research achievement.

July 30, 1998

Dr. D.W.L. Cheung
Department of Computer Sciences

Dear Dr. Cheung,

Competitive Earmarked Research Grants (CERG) 1998-99
"Outstanding Researcher Award"

I am delighted to note that the research project, wherein you are Principal Investigator, entitled "Mining association rules on high performance parallel systems" has been recognized by Research Grants Council as meeting the highest "Internationally Competitive Standard". I appreciate fully your good work and would like to offer you my warm congratulations.

2.   I have consulted my Pro-Vice-Chancellors on a way to give some tangible recognition to this achievement. We agreed that, in line with UGC's principle that excellence be promoted, researchers with projects of "Internationally Competitive Standard" will receive an "Outstanding Researcher Award" and a grant of $500,000 over two years to help them enhance their research level. Up to 80% of the grant will be used at you full discretion for research related activities. The remaining 20% will be used in consultation with your Head of Department to promote Departmental research activities. Mrs. Yvonne Koo, Head of Research Services Section, will advise on the guidelines on the use of such awards.

3.   Meanwhile may I convey my appreciation again. I am sure that the level and quality of your research will continue to bear good results in future.

Yours sincerely,

Professor Y.C. Cheng
Vice-Chancellor

Efficient Data Structure and Algorithms for WWW Information Retrieval

Dr. Kao obtained a 786K grant to develop an intelligent software system to assist users in retrieving documents on the Web.

Most existing software systems suffer from the following problems. They are passive and users need to spend long time in initiating retrieval requests. They have limited keywords for retrieval. In order to develop software that would allow for efficient hypertext retrieval as well as intelligent and flexible keyword capability, Dr. Kao has proposed the following system architecture:
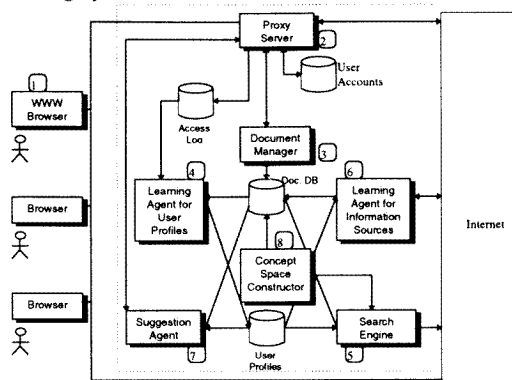
The *Proxy Server* of the system tracks documents read by the user caches the document into the *Document Database.*

The information stored will be analyzed with data mining techniques to provide useful retrieval cues and keyword association structures for the *Concept Space Constructor (8)*. Information about users' browsing behavior will be summarized and stored in the *Access Log*, and analyzed by a *Learning Agent to construct the user profiles (4)*. The goal is to learn about user access patterns and to discover topics of interest.

In addition, the *Learning Agent for the Information Sources (6)* also learns about the hypertext structures of the documents. The *Search Engine (5)* then uses the information learnt to guide keyword search and query processing. Finally, the *Suggestion Agent* learns about the user profiles and recommends interesting documents to users upon requests.

Further details of his research are available at
http://www.csis.hku.hk/~kao/kao.doc

Closing dates for admission applications: **MPhil & PhD in CSIS** (Apr 1, 1999), **MSc(CS)** (Mar 15, 1999)

The JESSICA Project

Dr. C. L. Wang obtained a 650K grant for the JESSICA project. Given below is a description of the project.

JESSICA stands for "Java-Enabled Single System Image Computing Architecture". It is a Java-based solution for integrating computing resources in a heterogeneous environment. The JESSICA prototype will be built on a cluster of PCs with Gigabit networking. The main objective is to deliver a parallel computing environment for the execution of Java programs. Both Java process and thread migration will be supported to facilitate dynamic load balancing. To ensure the efficiency of Java process and thread migration, a high-speed communication subsystem, *Directed Point* (DP), developed by our System Research Group (SRG), will be used for fast task migration in the cluster. Currently, DP can achieve 98% of the network peak bandwidth and around 30 microseconds communication latency, using 100Mbps Fast Ethernet. A new DP version (DP-SMP) can also support data communication between SMP servers. In addition, a Java-based cluster administration tool will be implemented for system reconfiguration, performance monitoring, and maintenance. Thus, the software environment can provide users with an illusion that they are running tasks on a single powerful "superserver". The superserver provides a cost-effective solution for technical and service computing. Further details are available at:

http://www.srg.csis.hku.hk/

The 24-node PC cluster built in the SRG Lab

Do Students Have a Right to Know the Course Evaluation Results?

Editor: In the last meeting of the CSIS Department, we discussed the issue of whether faculty course evaluation results should be disclosed to students. We considered the rights of students versus the privacy of instructors. In order to get a more formal analysis of the issue, Dr. Pun, our legal expert and winner of the Teaching Excellence Award, helps us to address this problem.

Dr. K.H. Pun
Course Evaluation Coordinator & Data Privacy Liaison Officer

Since I became the *Course Evaluation Coordinator* in the Department about a year ago, I have constantly been confronted with the above question. If one relies on the few unsolicited opinions that students have sent me, the answer must clearly be an emphatic 'YES' — the reasons being: 'lecturers should be accountable to students', 'students have a right to know' and, more profoundly, 'it is a basic human right!'

If our world were governed by these assertions alone, then disclosing everything obtained in the course evaluation exercise might be a logical conclusion. But the reality is: unless we do not care about legal liabilities, we must be careful not to conduct the exercise in a way that may contravene the law. In this regard the most important law to bear in mind is the Personal Data (Privacy) Ordinance (Chapter 486, Laws of Hong Kong), which has been in force in Hong Kong since Dec 1996. This Ordinance seeks to protect the privacy of individuals in relation to personal data, and has laid down six principles for data protection. Two considerations, arising from the Ordinance, are most relevant to us:

First, 'personal data' under the Ordinance means any data relating to a living individual from which it is practicable for the identity of the individual to be ascertained, and which are in a form that can be processed or retrieved. Such data cover any information, including expressions of opinion, whether stored in a computer or kept manually. Thus our course evaluation results pertaining to the performance of individual teachers and demonstrators are all 'personal data', and are protected under the Ordinance.

Second, one of the data protection principles is the principle of lawful use, that is, personal data can only be used (including disclosed) for the purpose for which the data were collected, or for a directly related purpose. Use of the data for any other purpose must have the prior consent of the person to whom the data relates. In our case, the purpose of the course evaluation exercise, as prescribed by the University Senate, is to assist the teacher in improving the course and his teaching. It is *not* a purpose of the exercise to disclose personal data to students, nor is it a directly related purpose. Therefore under the Ordinance, such disclosure will be unlawful if it is made without the consent of the teacher or demonstrator concerned.

It should now be clear why we have never publicized the course evaluation results in full. In its last meeting, the Department resolved that only that part of the course evaluation results relating to individual *courses* will be disclosed to students via the student-staff consultative meeting. The part relating to individual *teachers* and *demonstrators* will remain confidential. This is likely to be the practice for some time to come.

So what can someone do if they really want to know the performance of some teachers or demonstrators as judged by the students? The legal answer is: ask the teachers or demonstrators themselves to release their evaluation results. If they are willing, no one can stop them.

We dance round in a ring and suppose. But the secret sits in the middle and knows. – Robert Frost

The following are some interesting remarks about changing our Department name from CS to CSIS. Which ones do you agree to?

Cons	Pros

Cons

In my opinion, the "Computer Science" alone is good enough. I studied computer science nearly ten years ago. At that time, information systems is simply a large core or subject of computer science. In general, people have a feeling that computer graduates are more technical and practical than information systems graduates. Indeed, this is pretty true as I have worked in the IT fields for many years. Information systems is a bullshit subject.

I think it is not necessary to change the Department name from "Computer Science" to "Computer Science & Information Systems". The field of information systems should be currently a part of computer science. And "Computer Science" is more concise.

I have problem saying the name (e.g., when identifying myself on the phone) - the whole thing has just too many syllables; saying C-S-I-S people don't know what it is; I ended up saying "Computer Science" many times. I now regret having agreed to the name change.

CS? CIS?
CSIS!

Pros

History repeats itself

I have read similar arguments at the turn of the last century (yes, at the turn of the last century) in Oxford. At that time, they were arguing whether to accept engineering as an independent discipline in the university. People argued that engineering is simply an application of physics, and should not be regarded as separate subject matter.

I have also heard similar arguments when we tried to introduce computer science as an independent discipline in our own university.

When will they ever learn?

PS: Incidentally, I wonder whether the author of the correspondence has ever been to one of the more technical conferences on information systems, where they discuss very practical issues on the design of large systems, or one of the more mathematical conferences where they discuss such topics as denotational semantics? We should not base our arguments on limited experience.

Editor, I am very very disappointed with you. Can you just use some common sense before you send such e-mails to all the lecturers. Those two e-mails are just the extreme cases where they did not fully understand what is happening in the Hong Kong society, where many people are talking about electronic commerce, BPR (business process reengineering), supply chain management, etc. Who are working on such projects? I think you know the answer.

CS|S ## Rationales for the Change of Department Name to CSIS

To recap the rationales for the name change, let us review some of the facts discussed in the retreats and meetings of the Department:

1. The number of jobs taken up by our graduates in business has increased to about 40%. Therefore our curriculum has also reflected the need for this training. Business knowledge is an integral part of the CS curriculum.

[Employment by Sectors]

Employment Survey

Legend: Others, Further Studies, Consulting, Finance, Airlines & Transportation, Telecommunications, Computer Vendors & Software House

2. The number of applicants to the IS curriculum has also more than doubled. This reflects the greater need for providing students with training in information systems. This would mean that the program should enhance the technical competence of students (by providing them with the basic knowledge of computer science and sufficient training in programming), as well as the understanding and analysis of information systems.

[1996 Admission Statistics]

	Median Grades	Admitted Student no.	No. of Applicants
CS	C6	37	682
IS	B4	39	1451

3. To better capture the nature of the IS and CS curricula offered by the Department, we therefore changed our name to one that would draw better focus and give broader perspective to the development of the Department. After considering several options (such as Department of Computer and Information Science, Department of Computer and Information Systems), we finally adopted the name **Department of Computer Science and Information Systems.**

CSIS Newsletter

CSIS

New Head

Our Department moved into the new millennium without any bug. In case you are not aware, we not only witnessed a change of calendar, but also a change of Headship. After having served us for many years, Professor Francis Chin decided to step down. By popular demand, Dr. Francis Lau was appointed by the Vice-Chancellor as the new Head. We managed to persuade the two Frances to give us some words of wisdom at the changeover.

Welcome to the new millennium and this new edition of the CSIS Newsletter! I have been urged as head many times to reveal my "plan" for the department. That unfortunately is still in the making — I hope it won't take more than three years. Being new in the hot seat, I am at loggerheads with myself in many areas in the management and operation of the department, which seem to be all green-field to me, despite my years of tenure here. I could however take this opportunity to share with you a glimpse of what might be coming.

For teaching, I would want to see some, maybe a lot of, improvement. ("Improvement" perhaps is not the right word; I think we are doing fine at the moment; but we are modest). While leaving room for individuality, we could consider developing some "standard" for the running of our courses. Our aim should be to help our students to get as much good and proper education out of our courses as possible. Teaching methods alone, however, will not be enough to make a difference. Many other things go hand in hand with teaching methods when coming to high-quality education—for example, curriculum and quality assurance. This is a huge area for deliberation, debate, and consolidation. It occupies the No. 1 spot in my plan. I'll count on you all for your valuable input in the process.

I should perhaps say a bit about quality assurance since everyone, not just ISO, is talking about it. Frankly, I have at best a rather vague idea of how it could be done, if at all we know what we want. What we want is perhaps something along the line of making sure that everyone leaving here with one of our degrees will have acquired some level of proficiency or competence in certain essential areas. Programming (skill) is probably one of these areas. I have heard horrible stories about our graduates not being able to write programs, which were most upsetting for a computer science department. QA should apply not only to undergraduate programmes, but also to postgraduate programmes. Hong Kong has come a long way to make itself known as a city with advanced talents on which the Hong Kong economy is very much dependent. Our graduates with advanced degrees should be equipped to meet challenges brought about by the fast-developing economy.
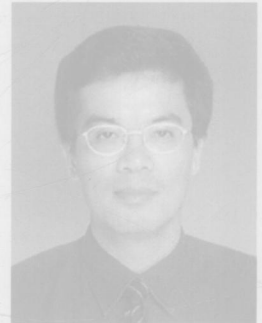
I am very pleased that we've been successful in bidding for the introduction of two new programmes in the coming academic year: B.Eng.(Software Engineering), and a 4-year double degree in collaboration with the School of Business. These two programmes have met with overwhelming responses from JUPAS as well as non-JUPAS applicants ever since they were announced. With much confidence we look forward to seeing some of the smartest high-school graduates joining this department in September 2000. The SE programme is the first of its kind in Hong Kong. It will bring with it new challenges to the department, especially in the area of software engineering education and research. It could also serve as a model for other schools interested in operating similar programmes.

I have been told that this department has done well in the recent research assessment exercise conducted by the University Grants Committee of the Government of the HKSAR (the official data have yet to be received). Congratulations to all colleagues who have laboured to make research an outstanding part of this department. While keeping the momentum, we will not let go of every opportunity whereby we could elevate ourselves to higher levels of achievement. Our goal should be to make ourselves a well-known department internationally in one or more areas of research.

Although I lack the credentials of being an alumnus of this department, I had been given the honour to help in and witness the formation of our alumni association (http://www.hkucs.org), now in its 5th year of running. Alumni are important assets of the department. I intend to strengthen the tie between our alumni and the department, to work closely with the association to maintain and expand the network, and to find ways to allow our alumni to play a part in the future development of the department. My list runs on (office automation, technical support, computing resources, serving the university, image building, ...), but space is at a premium here; so is your attention. I'll sign off with the hope that we will have frequent dialogues and will work together to make this a better department for everyone in the future.

Francis Lau

A leader is one who knows the way, goes the way and shows the way. ~John Maxwell ~

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Outgoing Head

The following are the encouraging remarks from Professor Francis Chin, the outgoing Head of Department:

In 1983 when I came back to Hong Kong, little did I know that would be staying for so long. I joined the University of Hong Kong in 1985 first as a Reader and, after a few months, became Director of Computer Studies. At that time, the formal Department of Computer Science was not even formed and Computer Studies was part of the Computer Centre.

There was a lot to be done. Coming back from North America, the challenge I saw was to simply bring the programme at HKU up to North American standard.

Our department came into formal being under the Faculty of Engineering in 1988 and has grown to over 100 members, including postgraduate students and R.A.s. Our graduates have been well-received by the community and some have even started their own businesses. Other have gone on to pursue postgraduate degrees, some at well-known universities abroad and then some returning to join the staff of universities in Hong Kong. I feel that my job has been done. The department needs fresh leadership and new vision. Since the beginning of this millennium, my stepping down as Head offers an opportunity for others to realize their visions for the department and this can only be positive. Hence, I look forward with great hopes for this department.

Francis Y.L. Chin

Man is always more than he can know of himself; consequently, his accomplishments, time and again, will come as a surprise to him. ~ Golo Mann~

From a Man behind the Search for Headship:

Dr. Ben Kao, the Department Representative for Headship Selection Committee, shared with us his experience in the search for the Department Head:

I would like to congratulate Dr. Francis Lau for his appointment as our new department head. I would also like to thank Prof. Francis Chin for his devoted service to our department in the past decade. I enjoy Prof. Chin's directorship both as a student and as a faculty member. And I am pretty confident that Dr. Lau would do equally great, if not greater. It was a very interesting experience for me as the department representative in the headship selection exercise. It brought me an opportunity to talk to and discuss with each individual faculty member the views on headship. The conversations were very inspiring. Although Dr. Lau was the lone nominee, his being selected was backed by a strong support from the faculty, as reflected by the poll result.

Farewell

In 1999, Professor Chorkin Chan retired from the Department of Computer Science and Information Systems. We missed Professor Chan, who has worked in the Department for twenty years. We organized a boat ride to say farewell to Professor Chan.

Professor Chan worked at the Computing Centre of the University of Victoria for over ten years before coming back to teach at the University of Hong Kong in 1978. Since then he has dedicated his efforts to contribute to the teaching, service, and research of the Department of Computer Science and Information Systems. Professor Chan served as the Head of the Computer Studies, at the Center of Computer Studies and Applications of Hong Kong University. He has also been the Associate Dean of the Faculty of Engineering. Professor Chan has served on the program committees and he has been the conference chairman of numerous international workshops and conferences.

Motivated by the urgent need of computerization of information in Chinese, he started his research career, since he came back Hong Kong in 1978, investigating into Chinese data input technologies. That includes the recognition of speech as well as Chinese characters. Over the years, Professor Chan has acquired many large research grants from RGC, ISF, etc. and has successfully completed a number of large projects like the construction of Putonghua corpus, multi-speaker connected Putonghua recognizer, printed and hand-written Chinese character recognizer, etc. Professor Chan has also supervised many Master and Ph.D. students, and published extensively in the areas of his research interest.

The highest of distinctions is service to others. ~ King George VI ~
What we have done for others and the world remains and is immortal. ~Albert Pike ~

CSIS

To respond to the ever-increasing demand of quality IT professionals, the department will introduce two new programmes in the coming September: BEng(Software Engineering) and a double-degree programme jointly offered by the department and the School of Business.

Software Engineering – BEng(SE)

Software engineering is the "application of engineering to software" - the application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software. There has been in recent years a lot of discussion within the software community about the lack of quality and reliability in modern software, and a desire for increased professionalism in the industry. In Hong Kong, the lack of professionalism is evident in several incidents involving the Hong Kong International Airport and the Hong Kong Futures Exchange. The timely introduction of this programme, leading to the degree of BEng(SE), represents an initial effort of the Department of Computer Science and Information Systems to contribute to the building up of a high-quality software engineering work force for Hong Kong.

The design of the curriculum is based on a recommendation of the Software Engineering Coordinating Committee (SWECC), a joint committee of the IEEE Computer Society and the ACM, the two premier learned societies for computing professionals. The programme targets at giving students formal training towards proficiency in the engineering methodologies for the analysis, specification, design, testing, maintenance, and management of quality software and software systems. To meet the demands of this new era of information technology, students will also be exposed to a wide variety of subjects of current interest, including component technology, distributed systems and databases, Internet and the World Wide Web, network security, multimedia application development, and electronic commerce.

Software engineering requires certain theoretical underpinnings, and hence this programme overlaps with the CSIS programme in a set of "core" computer science courses such as programming, data structures and algorithms, and machine organization. Apart from courses on computing fundamentals, which add up to 36 credits over the three years, the students will take 42-credit worth of software engineering courses, and a number of complementary studies courses. The software engineering courses cover such essential topics as object-oriented programming, software analysis and design, system architecture and distributed computing, software implementation, testing and maintenance, software quality and project management, and professionalism and ethics. The remaining credits required for completion of the degree programme would be earned through two compulsory projects, summer training, and elective courses.

As this programme is meant to prepare and pave the way for graduates to take up careers in large-scale software development, which in the future, might be subject to certain professional practice guidelines, it is important that the programme be accredited by a professional engineering body. Once accredited, students of the programme will have gained an important prerequisite for becoming a certified software engineer by the time they graduate, should Hong Kong moves toward certification of software engineers in the future. Efforts are underway to obtain accreditation for this programme before the first batch of students complete their study.

The task of the modern educator is not to cut down jungles, but to irrigate deserts. ~ C. S. Lewis ~

CSIS

Double Degree in Information Systems and Software Engineering - BBA(IS)/BEng(SE)

This new programme, introduced in 2000-2001, has a vision towards training specialists in information technology and managers of tomorrow by blending two strategic disciplines, Information Systems and Software Engineering, into a single programme for the bright and the highly motivated. This is a four-year double degree programme jointly offered by the School of Business and the Department of Computer Science and Information Systems to provide training in both fields of business and IT to give candidates a unique edge in contributing to e-business successes in their future careers.

Students will need to complete 264 units of BBA / CSIS courses, projects, general studies, electives and summer training in four years' time. After successfully finishing the first three years of study, students will be awarded a BBA(IS) degree. After an additional fourth year, students will obtain a BEng(SE) degree. The programme is an intensive one.

The principle goal of education is to create men who are capable of doing new things, not simply of repeating what other generations have done — men who are creative, inventive and discoverers. ~ Jean Piaget ~

Education is the ability to meet life's situations ~ Dr. John G. Hibben ~

The Establishment of the E-business Technology Institute

The Hong Kong University, and IBM China/Hong Kong jointly established the E-business Technology Institute (ETI) as a new and independently-funded research and development institute within the University of Hong Kong. ETI represents a step forward in the University's initiatives to meet up with the Hong Kong government's initiatives to make Hong Kong an innovation centre for South China and for the region.

An important part of this initiative is the proposed secondment (for two years and possibly longer) of Dr. C.J. Tan from IBM T.J. Watson Research Center to direct ETI in Hong Kong. Dr. Tan led IBM's development of *Deep Blue*, the first chess-playing computer program to beat human world chess champion, Garry Kasparov in 1997. Under Dr. Tan's leadership, the University's current partnership with IBM is in the position to aim toward higher and more far-reaching goals. ETI is an independently-funded research/development institute within HKU. The organization composes of Director, Associate Director, Research Team, Development Team, and technical, administrative office staff. The *mission* of ETI is to contribute to the Hong Kong community at large through research and development in electronic-business (e-business) technology. ETI's *objectives* include:

a) to conduct basic research in e-business technology and policy issues as it relates to Hong Kong and mainland China at large – i.e. a research function;

b) to develop e-business application solutions for specific market requirements in Hong Kong and mainland China – i.e. an application development function;

c) to promote and foster exchange and cooperation in e-business technology between Hong Kong and mainland China, and between major academic institutes around the world – i.e. a technology transfer/exchange function; and

d) to be a training ground for skillful and knowledgeable e-business technology professionals, effectively broadening the knowledge base of Hong Kong's human resources – i.e. an education function.

The objectives of conducting e-business research and develop e-business applications are related, and the purpose of the research is to lead to eventual use in developments, while developments are expected to leverage on research resources and results. It is noted that both teachers and students of HKU will benefit from the expected applied research and industrial exposure offered through ETI.

ETI commenced operations last September and has 4 initial focus areas. 1) E-Commerce, 2) Internet based Multi-Media Technology, 3) Pervasive Computing, 4) Deep Computing. The 1st and 2nd focus areas are related to R & D. ETI believes that ETI can help Hong Kong to become a knowledge base technology development center rather than outsourcing. The 3rd and 4th focus areas are to promote and support technical exchange through working closely with industrialists and universities in Hong Kong and China.

ETI's current projects include:

1. E-Commerce: The goal is to develop/contribute APIs (application programming interface such as e-procurement system) such that the community can make use of the APIs to develop e-application solutions. To name a few of the on-going projects: Projects include designing and developing XML integrator for Ufreight to consolidate their business worldwide. There is also an on-going discussion with HIT to design and develop data mining tools to monitor loading/unloading shipment schedule.

2. Internet based Multi-Media Technology: ETI is working with IBM T J Watson Lab to enhance and develop the HotMedia solution. The goal is to develop a low-cost light-weight 3D model transporting over the internet to end user. Local collaborators include: Start East Group (entertainment/content provider) and Grey Interactive (leading advertising company). ETI has dedicated resources exploring the ways to generate low-cost 3D model by taking photos and mathematical calculation. File compression will be phase II of the development.

3. Pervasive Computing: ETI believes that Hong Kong is an ideal place to test pervasive e-business applications. ETI are working closely with IBM China Research Lab (CRL) and IBM Greater China Group (GCG) Pervasive Office on the telephony technology and pervasive platform.

4. Deep Computing: ETI are working with selective local companies to design and development applications to enhance/transform their operations into e-business. These includes working with HIT to design and develop an application of which it allows user to predict vessel loading and unloading volume to better manage their resources.

In addition to the above focus areas, ETI has also engaged in community works and act as a technology supporter/contributor. For example, ETI involved in SPACE's Traditional Chinese Medicine (TCM) project and providing technical support services in imaging and digital library technologies.

E-Business Technology Institute

Innovation is the process of turning ideas into manufacturable and marketable form ~ Watts Humprey ~
Creativity is thinking up new things, Innovation is doing new things ~ Theodore Levitt ~

Congratulations to Dr. T. H. Tse for being appointed by the Chief Executive of the Hong Kong SAR as a member of the Rehabilitation Advisory Committee.

Dr. T.H. Tse has been invited to serve as a program committee member of the 23rd IEEE Annual International Computer Software and Applications Conference (COMPSAC '99) held in Phoenix, Atlanta and the 6th Asia-Pacific Software Engineering Conference (APSEC '99) held in Tokyo. He will serve as a program committee chair of the 1st Asia-Pacific Conference on Quality Software (APAQS 2000) to be held in Hong Kong and a programme committee member of the 24th IEEE Annual International Computer Software and Applications Conference (COMPSAC 2000) to held in Taiwan.

TACCLE: Object-oriented Software Testing at the Class and Cluster Levels

Dr. T.H. Tse obtained an RGC grant of $405,000 for his research project, entitled "TACCLE: Object-oriented Software Testing at the Class and Cluster Levels". Given below is a brief description of the project proposal.

The objective of the TACCLE project is to use formal techniques and software testing to solve the problem inherent in object-oriented programming. The interaction among objects with unforeseen combinations and invocations are much more complex to simulate and test than the hierarchy of modules in conventional programs. Dr. Tse and his co-investigators, Dr. T.Y. Chen (The University of Melbourne and Vocational Training Council), Dr. F.T. Chan (The University of Hong Kong), and Dr. S.C. Cheung (Hong Kong University of Science and Technology) propose a new methodology for object-oriented software testing at the class and cluster levels. Potentially problematic scenarios such as the non-equivalence of objects at the class level and concurrency problems at the cluster level can be identified from the formal specification and generated as test cases.

This project has important theoretical and practical implications. It enhances class-level testing and looks into the relatively unexplored and complex area of cluster-level testing. It illustrates the necessity and usefulness of formal methods in practical software development. The methodology and testing tools produced will practically enhance the effectiveness of software testing and improve on the reliability of software produced.

APAQS 2000: FIRST ASIA-PACIFIC CONFERENCE ON QUALITY SOFTWARE, HONG KONG

OCTOBER 30-31, 2000

ORGANIZED BY

- The Software Engineering Group, The University of Hong Kong
- Software Technology Centre, Vocational Training Council, Hong Kong

CALL FOR PAPERS

We are soliciting full-length research papers and experience reports on various aspects of software testing or quality assurance. Specific topics include, but are not limited to, the following areas:

- Automated software testing
- Configuration management and version control
- Conformance testing
- Debugging
- Economics of software testing
- Formal methods
- Metrics and measurement
- Performance testing
- Process assessment and certification

- Quality management
- Quality measurement and benchmarking
- Reliability
- Review, inspection, and walkthroughs
- Robustness testing
- Safety and security Testability
- Testing tools
- Testing standards
- Testing of object-oriented software

- Testing of real-time systems
- Testing processes
- Testing strategies
- Application areas such as e-commerce, component-based systems, digital libraries, distributed systems, embedded systems, enterprise applications, information systems, Internet, mobile applications, multimedia, and Web-based systems

The conference proceedings will be published by IEEE Computer Society Press, Los Alamitos, California. Selected papers of the conference may be published in a Special Issue on Quality Software of the *International Journal of Software Engineering and Knowledge Engineering*.

SUBMISSION GUIDELINES

Manuscripts should be full-length papers in English, double-spaced, and must not exceed 20 pages. Both electronic and hard copy submissions will be accepted, although electronic submissions are preferred. Manuscripts must not have been submitted or published elsewhere. Please refer to http://www.csis.hku.hk/~apaqs for technical instructions.

FURTHER INFORMATION

More details of the conference are accessible at the Web site http://www.csis.hku.hk/~apaqs. Please feel free to contact us for any queries. We can be reached by email at apaqs@csis.hku.hk.

Quality is never an accident; it is always the result of high intention, sincere effort, intelligent direction and skillful execution, it represents the wise choice of many alternatives. ~William A. Foster ~

A ceremony held on November 17, 1999 witnessed another important stage of development for the Center for Information Security and Cryptography of the University of Hong Kong — the collaboration with the Hong Kong Post in developing cryptographic toolkits. Given below is a Press Report describing the event.

Collaboration between Hongkong Post and the University of Hong Kong for bundling the Strong Cryptographic Library Client Suite (e-Cert Edition) software with the Hongkong Post e-Cert on 17 November 1999

At a ceremony held today at the Wang Gungwu Lecture Hall, the University of Hong Kong formally handed over its locally developed cryptographic toolkits, "The Strong Cryptographic Library Client Suite (SCL-CS)" to Hongkong Post for bundling with the digital certificates to be issued by the Hongkong Post Certification Authority which will commence operation at the end of this year. The ceremony marked Hongkong Post's full support to locally developed cryptographic technology.

The SCL-CS (e-Cert Edition) is a software developed locally by the Center for Information Security and Cryptography of the University of Hong Kong with the function of enhancing the cryptographic capacity of common browsers. This project is sponsored by the Industrial Support Fund (ISF) of the Industry Department, HKSAR. With the plug-in of this software to the browser, holder of the 1024-bits digital certificate issued by Hongkong Post will be able to send and receive digitally signed e-mail messages under a 1024 bits encrypted environment.

Agreement has been reached between the University of Hong Kong and Hongkong Post to provide the SCL-CS (e-Cert Edition) to holders of digital certificates issued by Hongkong Post. The software, when applied to the Hongkong Post 1024-bits digital certificate, will help enhancing e-commerce among businesses and individuals, enabling the issue of advice note and monthly statements, electronic transaction of stock trading, provision of e-banking services such as authorized payment, e-shopping and e-payment, etc. over the Internet.

"Government will take the lead in establishing a certification authority through the Hongkong Post such that certification service will be available to members of the public and businesses in Hong Kong as soon as possible, thus facilitating the local development of electronic commerce. The Strong Cryptographic Library Client Suite (e-Cert Edition) is developed solely by the Center for Information Security and Cryptography of the University of Hong Kong. This clearly indi-

cates the strength of local expertise in strong encryption technologies," Mrs. J. TING, the Deputy Secretary for Information Technology and Broadcasting and the officiating guest of the ceremony remarked.

Professor Y.C. CHENG, Vice-Chancellor of the University of Hong Kong, said, "the launching of the software proves once again that we have the right people at local academia. They have the caliber for developing world-class computer software that is of significance to Hong Kong."

"The establishment of Hongkong Post Certification Authority and the development of the Strong Cryptographic Library Client Suite (e-Cert Edition) have fostered a secured environment for conducting business in the cyber space.", the Postmaster General Mr. P.C. LUK said when addressing at the ceremony. According to Mr. LUK, Hongkong Post Certification Authority services would roll-out at the end of this year to provide a secured environment for e-commerce. Local businesses and individual users could apply for the digital certificates while the Strong Cryptographic Library Client Suite (e-Cert Edition) would be supplied when the certificates are issued.

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The 3rd Engineering Homecoming Dinner

The Third Engineering Homecoming Dinner was held on October 23, 1999 (Sat.) at 7:00pm in Loke Yew Hall preceded by an Exhibition and Cocktail Reception at 6pm. The staff and graduates of the Department of CSIS joined the Dinner and filled two tables. The moderators were Eva Kwok, a graduate of 1995 and Housing Officer in the Housing Department, and Mr. Cheuk-Fung Lam, a graduate of 1985 and the Chairman of the Engineering Graduate Society. Mr. Lam is a Senior Environmental Protection Officer in the Environmental Protection Department. The Guest of Honor was Mr. Shing-See Lee, J.P., the Secretary for Works of HKSAR and a 1964 graduate of the Faculty of Engineering at HKU.

Mr. S.S. Lee J.P. gave a speech on the technology development of Hong Kong. A series of schemes had been adopted to provide Hong Kong with the infrastructure for a Cyberport. In addition, the development in Hong Kong's transportation system had been generating abundant job opportunities and enhancing Hong Kong's attraction to tourists. With the well-developed and well-integrated social and economic infrastructures, Hong Kong would enhance her professional integrity and environmental awareness, while promoting the welfare of the younger generation for a brighter and better future.

The Vice-Chancellor of HKU, Professor C.Y. Cheng, reviewed the mission and works of HKU. For years, HKU had been contributing knowledge to the society and passing the knowledge onto the public at large. HKU had been training engineers who were also leaders in the society. HKU offers training with excellent quality, evidenced by top performance of students and the vast amount of research funding obtained. HKU would continue her vital function of knowledge dissemination and generation for the knowledge-based economy, providing Hong Kong with quality education and research in the new Millennium.

The Dean of the Faculty of Engineering, Dr. Paul Cheung, also outlined the developments in the Faculty of Engineering. The Faculty had been carrying curriculum reform to enhance the flexibility of programs that would better equip our students for the changing needs of the society. A mentorship program had been set up, and students could get counseling and advice from their mentors up to one year after they graduated. New technology centers had been set up and students were provided with training in new technology. Examples included the Java Center, Smart Card Development Center, and the Institute of Internet Computing. In particular, the E-business Technology Institute (ETI), jointly established by the Department of CSIS and the School of Business of HKU, represented the University's efforts and the Faculty's commitment to meet up with the Hong Kong Government's initiatives to make Hong Kong an innovation center for South China.

After the speeches, badges were presented to the Engineering Alumni from vintage years. There were singing performances. One climax of the evening was the "Centennial Block Buster" Guessing Game. Pictures of important persons contributing to the development of HKU were revealed, and the audience were to guess who the person was. Professor Chin helped the CSIS table to win one of the guessing games and was awarded a HKU history book donated by the Development and Alumni Affairs Office of HKU. Another climax of the evening was the lucky draw. Dr. David Cheung was among the lucky ones and the prize was a souvenir chain. In addition, each guest had a handful of souvenirs, including a HKU coffee mug, a HKU mouse pad and a mouse holder, and a CD-ROM about the Faculty of Engineering. The memorable souvenirs, the prizes of the games, and the encouragement given by the Guest of Honor, Vice-Chancellor, and Dean filled the evening with aspiration and eagerness marching HKU Engineering Faculty and alumni into the new Millennium.

西闊・宋僧志文・年光似鳥翩翩過，世事如棋局局新．
Like flying birds, time and years dash through swiftly and elegantly,
Like chess game moves, state of affairs in the world changes, each round anew.

*Times change, and we change with them ~ William Harrison ~*

Progress is a tide. If we stand still we will surely be drowned. To stay on the crest, we have to keep moving. ~ Harold Mayfield ~

We also had a smooth rollover into the new Millennium, all to the credits of the labor of the Technical Staff Team. Given below is a description of their work over the last year.

The CSIS Technical Staff team has seven staff members. The team manages about 600 computer systems and the network infrastructure of the CSIS Department. Besides, the team also provides technical advice and assistance to the staff and students of the Department on using the computing resources.

Life in the Technical Staff team is like in a fire brigade. Everyday we train ourselves to the best conditions, while waiting for disasters to happen. A disaster could be caused by a defective network card generating error packets, which jammed the whole network. Or it may be caused by an unexpected power surge, which resulted in serious hardware damages or disk crashes. No matter what the causes are, once the disaster occurs, there is limited time for us to formulate the solution. We can only rely on our developed intuition and past experience to "fight the fire".
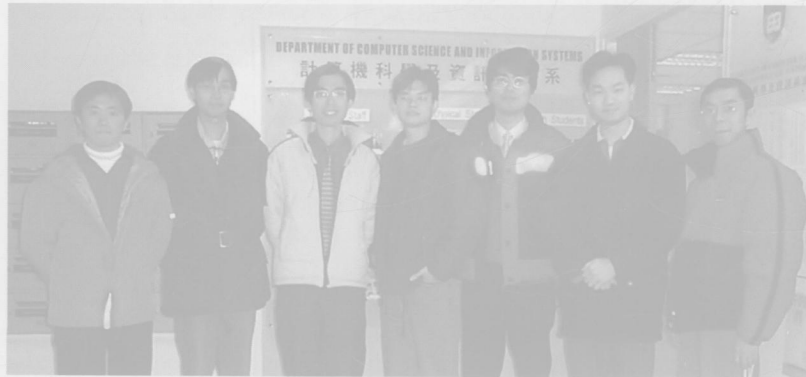
Besides fire-fighting, Technical Staff has completed a number of enhancements to the Department's computing services during 1999:

1. increased the number of dial-up lines from 29 to 69;
2. migrated the staff and student file systems to RAID (Redundant Array of Inexpensive Disk) storage systems, which drastically reduces the risk of data loss due to disk crashes;
3. acquired redundant Unix servers for staff and students to increase the availability of computing services;
4. purchased over 100 sets of Pentium III 450MHz PCs to replace the existing PCs in staff offices and student laboratories;
5. replaced the backbone Cisco 7000 router with a Cabletron layer 3 switch, which provides a much faster link to the HKU campus network;
6. upgraded the network connections of all CSIS research laboratories from 10Base-T to 100Base-T, resulting in a ten-fold increase in network speed for their machines;
7. upgraded the operating systems of our Unix servers and installed all vendor recommended Y2K patches, to ensure that they are Y2K compliant.

After moving into the new century, the Information Technology field will evolve even more rapidly. Technical Staff will work in pace with the CSIS Department to meet the new challenges.

The greatest among you will be your servant. For whoever exalts himself will be humbled, and whoever humbles himself will be exalted. Matt 23:11-12 (NIV)

When elevators are running really well, people do not notice them .... our objective is to go unnoticed.
~ Bob Smith, Vice President and Chief Operating Officer, Otis Elevator ~

Wedding

Mr. William Sin of our technical office got married to Miss Veronica Yim of our general office on Dec 17, 1999. A wedding banquet was held on Dec 18, 1999. William and Veronica would like to share with us this important event in their lives. Here William described what happened on those two days.

Dec 17, 1999 Cloudy and Rainy

After the financial crisis in 1998 and the historical return of Hong Kong to China in 1997, today Veronica and I came to the Cotton Tree Drive Marriage Registry to register for our marriage. After dating for four years and eight months, we finally got married under the witness and the blessings of more than fifty relatives and colleagues.

In spite of the rain, many of our colleagues came to our wedding ceremony. They sacrificed their lunch only to witness the promise between Veronica and I and our mutual commitment to one another through the promise of "I do". We were so nervous that some of the ceremonial details were not carried out properly. We forgot to wear the steel wedding veils, exchanged the rings incorrectly, and turned the pen upside down when signing the wedding papers. Thanks to the help of our colleagues who took care of the details so that the wedding ceremony could run smoothly. In particular we express our gratitude to the help of Prof. Chin and Mr. Fok.

Dec 18, 1999 Cloudy and Rainy

It was still raining and we had to park our wedding cars to the loading zone of the Hong Kong University. Then we started our game of winning the bride over. This was a chance for the bridegroom's brothers to display their talents. They tried swallowing wasabe (Japanese mustard), kneeling, bending, and somersaulting. Finally we won the beauty over.

That evening we had a wedding banquet at the Metropol Restaurant in Admiralty, and the staff from Hong Kong University filled four tables. The climax of the evening was the five-minute speech given by Prof. Chin. His "Matchmaker Insight" brought a lot of laughter and delight to the guests. The banquet was so orderly that relatives and friends gave credits to the training of educators. As the banquet came to an end, we started another stage in our lives.

THE ODES OF ZHOU AND THE SOUTH
GUAN SUI (Si Jin)

Guan-guan go the ospreys ,
On the islet in the river .
The modest , retiring , virtuous , young lady : —
For our prince a good mate she .

Here long , there short , is the duckweed ,
To the left , to the right , borne about by the current .
The modest , retiring , virtuous , young lady : —
Waking and sleeping , he sought her .
He sought her and found her not ,
And waking and sleeping he thought about her .
Long he thought ; oh ! long and anxiously ;
On his side , on his back , he turned , and back again .

Here long , there short , is the duckweed ;
On the left , on the right , we gather it .
The modest , retiring , virtuous , young lady : —
With lutes , small and large , let us give her friendly welcome .
Here long , there short , is the duckweed ;
On the left , on the right , we cook and present it .
The modest , retiring , virtuous , young lady : —
With bells and drums let us show our delight in her .

周南。關雎（詩經）

關關雎鳩、在河之洲。
窈窕淑女、君子好逑。

參差荇菜、左右流之。
窈窕淑女、寤寐求之。
求之不得、寤寐思服。
悠哉悠哉、輾轉反側。

參差荇菜、左右采之。
窈窕淑女、琴瑟友之。
參差荇菜、左右芼之。
窈窕淑女、鍾鼓樂之。

YOU KNOW I'M NOT VERY HANDY, I FIX EVERYTHING WITH DUCT TAPE!

EVEN OUR RELATIONSHIP?

What greater thing is there for two human souls than to feel that they are joined... to strengthen each other... to be at one with each other in silent unspeakable memories. ~ George Eliot ~

CSIS   STAFF MOVEMENT

Joining:

- Dr. K.W. Chong, Dr. Frank Tong and Mr. Vincent Lam as Visiting Assistant Professors for the academic year 1999-2000.
- Dr. C.J. Tan as the Visiting IBM Chair Professor of E-Business Technology starting from Sept 1999.

Leaving:

- Prof. Chorkin Chan retired on June 30, 1999. Members of staff gathered for a boat trip, followed by a seafood feast at Lamma Island, to bid him farewell. A crystal Chinese junk was presented to Prof. C. Chan at the dinner as a token of thanks for his long service in the department.
- Dr. Christopher Yang resigned from his teaching post at HKU from January 2000.

STAFF GOOD NEWS

Our congratulations to:

- Our Executive Officer, Ms. Brenda Ng, who gave birth to a boy (weight: 7 lb. 6 oz.) on Jan 18, 2000.
- Miss Choi Yi King and Mr. Yip Wang, our two research postgraduate students who were married in February 1999.
- Dr. Lucas Hui for the birth of his baby boy in June 1999.
- Dr. K.P. Chan who got married in July 1999 with Miss Sylvia Tong and gave birth to a boy (weight: 7 lb. 7 oz.) on Feb 29, 2000.
- Miss Veronica Yim and Mr. William Sin, the "beauty" of our general office and the "strong man" of our technical office, who were married in December 1999.
- Dr. C.F. Chong for the birth of his baby boy (weight: 7 lb. 15 oz.) on Mar 11, 2000.

For what is the best choice, for each individual, is the highest it is possible for him to achieve.
~ Aristotle ~

CSIS   AWARDS

Congratulations to Dr. K. H. Pun for gaining the Teaching Excellence Award of 1998-99.

Congratulations to the following tutors for gaining the Best Tutor Awards of 1998-99:

- Mr. Chan Bin
- Mr. Cheng Kin Shing, Dominic
- Mr. Wong Kam Wah

SCHOLARSHIPS

Congratulations to the following students for obtaining scholarships:

- Miss Chan Wan Chee, Vincci (CS3) for Information Technology Management Scholarship 1998-99, Hong Kong Computer Society Scholarship 1998-99, and Joyce M. Kuok Foundation Scholarships 1999-2000.
- Mr. Cheng Yuen Fung (CS3) for CMA and Donors Scholarships 1998-99, and The Reuter Foundation Scholarhsip 1998-99.
- Miss Choi Yi King (MPhil) for Hung Hing Ying Scholarships 1998-99, and Hung Hing Ying Scholarships 1999-2000.
- Miss Wat Chi-mei (CSIS1) for Outstanding Service Awards given out by the Hong Kong Student Services Association in 1998-99.
- Mr. Wong Yuk Wah (CSIS1) for Hongkong Bank One Year Exchange Scholarship Scheme(1999) with the University of Sydney, Australia for one year starting from Feb. 2000, and Ho Fook Prize in Engineering 1998-99.

- Miss Go Hiu Wing (CS3) for Hong Kong University Alumni Prize 1998-99, and Chan Kai Ming Prize in Engineering 1998-99.
- Mr. Wing Wai Kwong (CSIS1) for Walter Brown Memorial Prizes in Mathematics 1998-99.
- Miss Ho Shuk Ying (MPhil) for The Hong Kong and China Gas Company Limited Postgraduate Scholarship 1999-2000.
- Mr. Edward Hung (MPhil) for The Hong Kong and China Gas Company Limited Postgraduate Scholarship 1998-99.
- Mr. Lui Wing Cheung (CSIS3) for Simatelex Charitable Foundation Scholarships 1999-2000.
- Miss Man Lai On for Simatelex Charitable Foundation Scholarships 1999-2000.
- Mr. Ho Chi Wong, Bernard (CSIS2) for Information Technology Management Scholarship 1999-2000, and Hong Kong Computer Society Scholarship 1999-2000.

The will to win, the desire to succeed, the urge to reach your full potential ...
these are the keys that will unlock the door to personal excellence ~Eddie Robinson ~

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Live, Learn, and Pass it On: (People from different ages share what they learn)
- *I've learned that if you laugh and drink pop at the same time, it will come out your nose (age 7).*
- *I've learned that if there were no problems there would be no opportunities (age 19).*
- *I've learned that a sunroof is worth the extra cost (age 29).*
- *I've learned that the most important thing is not what others think of me but what I think of me (age 38).*
- *I've learned that in every face-to-face encounter, regardless of how brief, we leave something behind (age 45).*
- *I've learned that happiness is like perfume, you can't give it away without getting a little on yourself (age 59).*
- *I've learned that if you smile at people, they will almost always smile back (age 81).*

CSIS Conference Grants

Teacher	Conference	Location	Date
Dr. C.L.Wang	1999 International Conference on Parallel and Distributed Processing Techniques and Application	Las Vegas, NA, USA	Jun 28-Jul 1, 99
Dr. H.F. Ting	European Symposium on Algorithms 1999	Prague, Czech Republic	July 16 – 18, 99
Dr. H.F. Ting	International Computing and Combinatorics Conference	Tokyo, Japan	July 26-28, 99
Dr. H.W. Chan	1999 International Symposium on Parallel Architectures, and Networks (ISPAN'99)	Frematle, Australia	June 23-25, 99
Prof. F.Y.L. Chin	Workshop on algorithms and Data Structures (WAD'99)	Vancouver, Canada	Aug 11-14, 99
Dr. W.P. Wang	The 6th SIAM Conference on Geometric Design	Albuquerque, New Mexico, USA	Nov 2-6, 99
Dr. T.H. Tse	23rd Annual International Computer Software and Aplications Conference	Phoenix, Arizona, USA	Oct. 27-29, 99
Dr. Q. Huo	Spoken Language Processing Workshop	Summit, New Jersey, USA	Feb. 6-9, 2000
Prof. F.Y.L. Chin	Eleventh Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2000)	San Francisco, CA, USA	Jan. 9-11, 2000
Dr. F.C.M. Lau	The 7th IEEE Workshop on Future Trends of Distributed Computing Systems FTDCS 99	Cape Town, South Africa	Dec. 20-22, 1999

Student	Conference	Location	Date
Hu Jiuru	IASTED International Conference: Artificial Intelligence and Soft Computing	Honolulu, Hawaii, USA	Aug 9-12, 99
Wang Fu Lee	Fifth Annual International Computing and Combinatorics Conference	Tokyo, Japan	July 26-28, 99
Ma Bin	6th Eurospeech Conference on Speech Communication and Technology	Budapest, Hungary	Sept 5-9, 99
Chung Kit Lun	Hawaii International Conference on System Sciences	Maui, Hawaii, USA	Jan 5-8, 99
Ma Jin Ming	1999 International Conference on Parallel and Distributed Processing Techniques and Applications	Las Vegas, Nevada, USA	Jun 28-Jul, 99
To Kar Keung	Tenth Annual ACM-SIAM Symposium on Discrete Algorithms	Baltimore, Maryland, USA	Jan 17-19, 99
Yung King	Hawaii International Conference on System Sciences	Maui, Hawaii, USA	Jan 5-8, 99
Wong Kwan Po	1999 International Conference on Parallel Processing	Fukushima, Japan	Sept. 21-24, 99
Poon Chun Ho	International Conference on Information Visualisation	London, England	July 14-16, 99
Hon Wing Kai	Fifth Annual International Computing and Combinatorics Conference (COCOON'99)	Tokyo, Japan	July 26-28, 99
Cheng Chun Kong	Eighth International Conference on Information and Knowledge Management (ACM CIKM'99)	Kansas City, Missouri, USA	Nov. 2-6, 1999
Ho Shuk Ying	INFORMS Fall 1999 Meeting	Philadelphia, PA, USA	Nov. 7-10, 1999
Tam Tat Chun	1st IEEE Computer Society International Workshop on Cluster Computing (IWCC'99)	Melbourne, Australia	Dec. 2-3, 1999
Chan Wai Man	HICSS-33 Hawaii International Conference on System Sciences	Maui, Hawaii, USA	Jan. 4-7, 2000

Investigator	Grant	Project
H.W. Chan	RGC	Dynamic mobile terminal tracking and location update protocols for cellular network: design, analysis and implementation
K.P. Chan	RGC	Design and analysis of perfect reconstruction linear-phase filter banks for subband image coding
	RGC	Design of nonuniform paraunitary filter banks for subband image coding
	RGC	A fuzzy approach to software testing and program error identification
D.Cheung	RGC	Discovery and maintenance of association rules in large databases
	RGC	Mining association rules on high performance parallel systems
	CRCG	Techniques for building space-efficient data warehouses
	Others	Mining association rules on high performance parallel systems
	RGC	Applying mining technique in building efficient OLAP systems
F.Y.L. Chin	RGC	Multiresolution polygonal/subdivision approximation
	RGC	Line estimator/stabbing problems
	QEF	A User-friendly Flex-IT Approach for Education
L.C.K. Hui	ISF/Others	Strong cryptographic infrastructure for electronic commerce
Q. Huo	RGC	Towards robust and flexible continuous Putonghua recognition
	RGC	A large vocabulary recognizer of hand-written Chinese characters
	URC	Gabor features and continuous density hidden contextual stochastic model for off-line recognition of hand-written Chinese characters
B.Kao	RGC	Efficient data structure and algorithms for WWW information retrieval
	RGC	Music retrieval in digital library
T.W. Lam	CRCG	Dynamic pattern matching
	RGC	On the consensus of evolutionary trees
F.C.M. Lau	CRCG	Theoretical study of interval routing
	RGC	Dynamic load balancing using preemptive process migration in a network of workstations
	RGC	Fast algorithms for informaiton dissemination in parallel computers
	CRCG	The load distribution problem in parallel computers
	RGC	On the efficiency and pacticability of interval routing
B. Mak	CRCG	Efficient data mining for electronic commerce with genetic algorithms and neural nets
K.H. Pun	RGC	A comparative study of intellectual property protection for computer software in Hong Kong and China
H.F. Ting	RGC	Theory and practice of approximating
T.H. Tse	RGC	In Black and White: an Integrated Approach to Object-Oriented Testing
	RGC	TESTS: Towards Effective Subdomain Testing Strategies
	RGC/URC	TACCLE: object-oriented software Testing At the Class and Cluster Levels
	RGC	DETECT: Deriving Test Cases from program specifications
C.L. Wang	RGC	High performance computing for irregularly structured problems on distributed-memory machines
	RGC	A new MPI-Java interface for distributed multimedia applications
	RGC	JESSICA: Java-enabled single-system-image computing architecture
W.Wang	RGC	Computing intersections of quadric surfaces
	CRCG	Speedup techiques in virtual reality display system
	URC	Fast and accurate rendering of polyhedral surfaces
	RGC	Framing a 3D trajectory

Legends:
CRCG - Research and Conference Grant of the University of Hong Kong
ISF - Industrial Support Funds
QEF - Quality Education Fund
RGC - Research Grants Council
UGC - University Grants Council
URC - University Research Council
Others - Other external grants

CSIS Applying Mining Technique in Building Efficient OLAP Systems

Dr. David Cheung obtained an RGC grant of $786,000 for his research project, entitled "Applying Mining Technique in Building Efficient OLAP Systems". Given below is an outline of the project proposal.

The decision support system built on top of a data warehouse is an On-line Analytical Processing System (OLAP). The goal of this project is to investigate the dense-region-based OLAP (DROLAP) approach for building efficient data cube. The data cube model for OLAP is a multidimensional structure introduced by Gray et al. for storing the aggregates computed in the warehouse to support queries. This approach integrates the two approaches, ROLAP (Relational OLAP) and MOLAP (Multidimensional OLAP), which are two opposing techniques for building On-line Analytical Processing (OLAP) systems. ROLAP stores aggregates in relation tables in traditional RDBMS; MOLAP stores aggregates in multidimensional arrays. MOLAP is more efficient in query processing; ROLAP requires much less space but is behind in query performance.

Dense-Region-based OLAP system (DROLAP) can be built to integrate MOLAP and ROLAP in one structure which inherits the merits from both sides — DROLAP is much more space-efficient than MOLAP and has a better query performance than ROLAP. The key in the DROLAP approach lies in the efficient mining of dense regions in the data cube. It has been recognized that data cube in many applications exhibit the dense-region-in-sparse-cube property — large percentage of the data points are clustered in some dense regions with very small volumes, and the remaining small percentage of points are distributed in the remaining very huge sparse regions. If the dense regions can be discovered in the data cube, then each one of them can be represented by a highly dense array, while the sparse points can be stored in a table with indices.

Dr. Cheung and his co-investigator, Dr. Ben Kao, will investigate different approaches for mining dense regions in data cube. Their primary objective is to develop an approach based on dense regions to build DROLAP on a data cube. They will build a prototype DROLAP system to investigate its performance behavior and compare it with MOLAP and ROLAP. Since the dense region mining problem is a special density-based clustering problem in high dimensional data set; they will also study the general theory in density-based clustering technique and explore density-based clustering problems derived from dense region mining in multidimensional space.

Their work is expected to will contribute to the advance of our understanding and knowledge in data cube and data warehousing. It will demonstrate that DROLAP could be a superior integrated approach between the two opposing approaches of MOLAP and ROLAP. It will also further the development of density-based mining techniques in multidimensional data space. Not only can this technique be used in building efficient OLAP systems it may also be applied to other high dimensional mining applications such as mining in spatial and multimedia databases.

Excellence is doing ordinary things extraordinary well. ~John W. Gardner ~

CSIS A Fuzzy Approach to Software Testing and Program Error

Dr. K.P. Chan obtained an RGC grant of $425,000 for his research project, entitled "A Fuzzy Approach to Software Testing and Program Error". Given below is a brief description of the project proposal.

The objective of the project is to develop efficient ways to reveal and identify program errors. Adaptive Random testing will be used to perform testing, as it has been found to outperform random testing by as high as 50%. The rationale behind adaptive random testing is to select candidates such that the testing set is more balanced-spread within the input space, and the candidates are farthest apart from each other. These concepts can be naturally modeled by fuzzy set theory, and Dr. Chan proposed to use fuzzy measures to perform adaptive testing.

A second focus of the project is to further find out the relationships among failure pattern, effectiveness of the testing strategy used, and program error types. It has been found that there exist some relationships between failure pattern and the effectiveness of the testing strategy being used. If the interaction between this relationship and program error type is further established, the actual location of program bug can be found readily once the program error type is determined. This will vastly improve the efficiency of software development. As a first step, they will establish the relationship between failure pattern and testing strategy effectiveness when only one program error exists.

The pursuit of truth and beauty is a sphere of activity in which we are permitted to remain children all our lives ~ Einstein ~

CSIS | # On the Efficiency and Practicability of Interval Routing

Dr. Francis Lau obtained an RGC grant of $405,000 for his research project, entitled "On the Efficiency and Practicability of Interval Routing". Given below is an outline of the project proposal.

The major objective of the project is to continue the research on the longest path length in the study of Interval routing (IR) performance. Interval routing (IR) is a space-efficient routing method for computer networks. It was considered practical and was subsequently adopted as the routing method in a commercial routing chip by a major computer manufacturer. IR has attracted a fair amount of attention in recent years, mostly from theoreticians who are interested in the fundamental properties of IR, including its (time) performance. The performance of IR depends very much on the lengths of the paths produced by the method. Two measures related to path lengths have been used in the study of IR performance: stretch factor and the longest path length.

For several years, Dr. Lau and his research team have concentrated on longest-path analyses, with the belief that the length of the longest path induced by IR has an important impact on the performance of network applications. Among their results, they have one that settles a long-standing question regarding whether one can do better in terms of the longest path length than the simple method given in 1985. Many questions in the field of IR, however, still await an answer.

It is the first task of this project to carry on the work on the longest path, and to answer some of those questions that concern the longest path. Specifically, they will try to derive better upper bounds and corresponding algorithms for IR and its variants. Their experience in dealing with the longest path will then be used in their next pursuit along the theoretical path, average path length analysis, for arbitrary and specific networks.

The second task of this project is to start off a study on the practical aspects of IR, for which very little work has been done. Work reported so far by others has barely touched on such practical issues. Many other issues or problems have yet to be addressed and solved. One of the first questions in this study would be how IR performs or behaves in a dynamic network (the Internet being an example) where nodes may be added or deleted from time to time. They will also study the fault-tolerant capability of IR, and ways to balance traffic loads in an IR-routed network.

I never had a policy, I have just tried to do my very best each and every day. ~ Abraham Lincoln ~

CSIS | # Theory and Practice of Approximating

Dr. H.F. Ting obtained an RGC grant of $425,000 for his research project, entitled "Theory and Practice of Approximating". Given below is a brief description of the project proposal.

The main objective of this project is to integrate existing techniques, and to develop more general and systematic techniques for designing and analyzing approximation algorithms. Designing approximation algorithms is a practical approach for coping with problems whose best solutions cannot be found due to limitation of resources and/or lack of information about the input in computer search problems. The study of this new kind of algorithms has given rise to a large class of interesting problems, which traditional algorithmic design techniques fail to handle. For example, finding a shortest simple tour to visit every city in China will take too much time, and it may be sufficient to have solutions that are good enough, but not necessary best.

Approximation algorithms are efficient algorithms that return good enough, but not necessary best, solutions. To illustrate the power of these techniques, Dr. Ting and his research team will use them to design approximation algorithms for problems in MAXSNP, which is a class of problems that have interesting characteristics on their approximability. These problems can be approximated reasonably well, but there exist some limits on how well these problems can be approximated. An open problem is to decide exactly how well these problems can be approximated, and this would demonstrate the power of the techniques developed in this project.

The techniques will also be applied to design approximation algorithms for practical problems. The focus will be on computational problems arising from biology and finance, as these are important problems for the Hong Kong community. The algorithms will be implemented and their practicality will be tested empirically.

"The most beautiful thing we can experience is the mysterious. It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead: his eyes are closed." Quoted on pg. 289 of Adventures of a Mathematician, by S. M. Ulam(Charles Scribner's Sons, New York, 1976). ~ Einstein ~

Music Retrieval in Digital Library

Dr. Ben Kao obtained an RGC grant of $405,000 for his research project, entitled "Music Retrieval in Digital Libraries". Given below is a brief description of the project proposal.

The objective of this project is to develop a prototype music retrieval system that can handle polyphonic music using features in their musical context. Most music libraries today uses systems that rely on the associated attributes in text form for retrieval. Such systems retain only some external attributes of music, such as the titles, the names of the composers or the opus numbers. However, these systems are inefficient, as most people may not always remember the text-based type of information. Instead they may only remember a few notes of the chorus, its rhythm, or the original title of a song for a cover version. To enhance practical and efficient retrieval of music pieces, Ben Kao and his co-investigator, Beta Yip, will develop a system that allows efficient retrieval of musical pieces based on their content cues, such as melody or rhythmic pattern. This type of music retrieval system is indispensable in many applications. It streamlines media production, aids musicology research, enhances interactive music-on-demand services, and facilitates the detection of copyright infringements of musical creations.

They will study the various problems in design and computation, as related to the implementation of the music retrieval system. In particular, they will focus on the issue of musical feature extraction. Their goal is to identify the set of features that are most relevant and most effective to music retrieval. They will derive the computational analysis needed for the automatic extraction of such features.

A second focus of the study is the design of efficient data structure for indexing. For example, to extract melodic lines, the musical pieces can be viewed as strings of symbols (of Sol-Fa names), and index structures for string matching, such as suffix trees, will then be useful. They will derive new index structures that can support approximate search with fuzzy user query inputs containing key-shifted noises. They will also use the nearest neighbor search algorithms and develop a similarity index to help users rank search results, in case users cannot specify their input correctly, and miss certain key notes or add superfluous notes in their input.

In addition, they will explore how to support the retrieval of multilingual text information for music pieces, such as "The Well-Tempered Clavier", which is often referred to as "Das Wohltemperierte Klavier" (German). They will investigate the computational problems related to the handling of multiple coded character sets and cross-language term referencing.

Finally, they will study how to devise effective mechanism for displaying the output to the users and to receive relevant feedback from users. Because of the auditory nature of music, search results cannot be "displayed" simultaneously to the user in the same way as images and text do. To support content-based music retrieval, they investigate ways that allows the input of temporal information into the system, in order that the search results can be given to the user in a proper and efficient manner.

Music is the vernacular of the human soul. ~ Geoffrey Latham ~

The effects of good music are not just because it's new; on the contrary music strikes us more the more familiar we are with it. ~Johann Wolfgang Von Goethe~

The Invention of Compact Disc (James T. Russell)

The digital compact disc, now commonplace in stereos and computers, was invented in the late 1960s by James T. Russell. Russell was born in Oregon in 1931. At age six, he invented a remote-control battleship, with a storage chamber for his lunch. Russell went on to earn a BA in Physics from Reed College in Portland in 1953. Afterward, he went to work as a Physicist in General Electric's nearby labs in Richland, Washington. In 1965, when Columbus, Ohio - based Battelle Memorial Institute opened its Pacific Northwest Laboratory in Richland, Washington, Russell joined the effort as Senior Scientist.

Russell was an avid music listener. He was unsatisfied with their sound quality, and Russell sketched out a better music recording system. He envisioned a system that would record and replay sounds without physical contact between its parts; and he saw that the best way to achieve such a system was to use light. Russell was familiar with digital data recording, in punch card or magnetic tape form. He saw that if he could represent the binary 0 and 1 with dark and light, a device could read sounds or indeed any information at all without ever wearing out. If he could make the binary code compact enough, Russell saw that he could store not only symphonies, but entire encyclopedias on a small piece of film.

Battelle let Russell pursue the project, and after years of work, Russell succeeded in inventing the first digital-to-optical recording and playback system (patented in 1970). He had found a way to record onto a photosensitive platter in tiny "bits" of light and dark, each one micron in diameter; a laser read the binary patterns, and a computer converted the data into an electronic signal — which it was then comparatively simple to convert into an audible or visible transmission. This was the first compact disc.

Hong Kong in Y2K

"It has been 'business as usual' for the financial sector and essential service providers on the first working day after the rollover to 2000", the Secretary for Information and Technology, Mr Kwong Ki-chi, said Monday morning, Jan 3, at a press conference. "Because of our considerable efforts, and those in the private sector, we have not seen any widespread disruption of essential services...". (source: http://www.year2000.gov.hk)

The press release from the Hong Kong SAR Government brought relief to many in Hong Kong. As the new millennium unfolds, people are concerned about the performance of computers in going through the Year 2000 (Y2K) transition. Throughout the entire world, the Y2K problem has aroused a lot of anxiety and put the whole Information Technology industry on high alert and tension. There have been fears that everybody, regardless of any business, agency, institution or person using computers will be going out of business. Unless the Y2K bugs are fixed, credit card transactions, bank automatic teller machines, or any computers that involve a date calculation, could yield incorrect answers in the new millennium.

Worldwide various countries, public and private sectors alike, have placed great efforts in solving the Y2K bug. Thanks to the hard work of so many. Up to mid January of 2000, businesses have been running as usual, and there was no report of disruption to essential services. No significant bug-related problems have been identified, and no significant bug-related incidents being reported so far. However, minor incidents have been reported. The following are some of the Y2K related incidents that happened in USA and the world (source: http://www.iy2kcc.org/Glitches2000.htm)

China	(1) A few mid to small businesses' financial systems experienced failure. (2) One hotel in QingDao (or HsingTao) reported problem in its control system for room assignment. (3) Taxi meter failure happened in NanJing
Hong Kong	(1) A local area network used by a training department had a file created after the millennium rollover that showed a creation date year 2028 instead of 2000, other functions remained normal. The problem was rectified within one day. (2) Instruments used by our police department for 'breath-testing' of drivers who were suspected to have consumed alcohol had problems. All the instruments, 18 in total, failed to provide test results after the new year. The cause was later confirmed to be Y2K-related. All machines were fixed within 10 days.
Japan	Exhaustive reporting system collected reports of 27 glitches. These included Shika Nuclear Power Plant's non-power related computer glitch in its weather monitoring and its reporting system; a glitch in the system providing weather information for small planes/helicopters; and mistakes in the printing of 15 ticket distributing systems of Japan Railway.
Philippines	A few cases of fax machines or other non-critical electronic equipment displaying the wrong date but otherwise functioning well.
Republic of Korea	Apartment Building reported heat and hot water loss due to Y2K. One type of medical devise (density measurement) failed. Aluminum manufacturing plant affected by Y2K.
United States	Bank credit card companies reported to financial regulators on January 6 that they have identified, and are taking steps to correct, a potential Y2K glitch involving some credit card transactions. According to the industry, merchants did not make use of free upgrades provided in 1999 for a software package manufactured by CyberCash, Inc; the glitch could produce duplicate postings of charges made after January 1. The problem primarily affects smaller retailers, as larger retailers generally have their own software. Credit card companies normally look for duplicate charges and typically see 2000 to 3000 duplicates out of 100 million transactions a day.
United States	Florida and Kentucky unemployment insurance benefit systems encountered a Y2K glitch in an automated telephone call processing system. The glitch in custom code prevented some claimants from claiming earned income for the week ending 1/1/2000. While ten states use the system, only Florida and Kentucky experienced the glitch. Claimants reporting the problem were provided an alternate means for filing their claims according to state contingency plans. A software-based patch was distributed, enabling the resumption of automated earned income processing.
United States	The Federal Reserve Bank of Chicago reported a Y2K glitch in transferring about $700,000 in tax payments from customers of 60 financial institutions in the region out of $15 billion processed nationally that day.
Taiwan	A blood pressure measuring machine showed wrong dates on printed report. It happened in Nantou county, Mid-section of Taiwan. It is a small problem and fixed shortly. Hospital registration problem occurred in Taoyuan county, northern part of Taiwan. It showed wrong dates too. The hospital changed to manual operation. The impact is minor.

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PSALM 62:1-2

Blessings of the New Millennium
"In the year of Jubilee, ye shall return every man unto his possession"
(Leviticus 25: 13, KJV)

◼CSIS◼ How We Compare with Other Universities?

HKU Ranks:

- 19th among the top US universities
- 12th among the top UK universities
- 5th among the top Canadian universities
- 3rd among the top Australasian universities
(ranked according to ISI publications per 100 teachers in 1998)

19TH AMONG THE TOP US UNIVERSITIES

Rank	University
1	California Institute of Technology
2	Harvard University
3	Stanford University
4	Brown University
5	University of California at Berkeley
6	University of California at San Diego
7	University of California at Davis
8	Princeton University
9	Johns Hopkins University
10	University of Washington
11	University of Wisconsin at Madison
12	University of California at Irvine
13	University of California at Los Angeles
14	University of California at Santa Barbara
15	Duke University
16	Dartmouth College
17	University of Chicago
18	Massachusetts Institute of Technology
19	**The University of Hong Kong**
20	Yale University

12TH AMONG THE TOP UK UNIVERSITIES

Rank	University
1	University of Cambridge
2	University of Oxford
3	University of Durham
4	University of St. Andrews
5	Imperial College of Science, Technology and Medicine
6	University of Manchester
7	University of Nottingham
8	University of Bristol
9	The University of York
10	University of Sheffield
11	University of Birmingham
12	**The University of Hong Kong**

5TH AMONG THE TOP CANADIAN UNIVERSITIES

Rank	University
1	McMaster University
2	University of Waterloo
3	University of British Columbia
4	University of Toronto
5	**The University of Hong Kong**

3RD AMONG THE TOP AUSTRALASIAN UNIVERSITIES

Rank	University
1	Australian National University
2	University of Tokyo
3	**The University of Hong Kong**
4	Chinese University of Hong Kong
5	Kyoto University

◼CSIS◼ Do we need a CSIS Newsletter?

Questions

Should we continue to print them or should they all be electronic??

For

We still need some copies that we can give away to visitors, or to potential students. However, they need not be in printed form. CD-ROMs should be fine.

Questions

Do they need to exist as standalone pieces at all, or should the same materials be scattered in different pages under www.csis.hku.hk??

For

For example, there are thousands of homepages about various departments in all the universities in Hong Kong. If we do not give something out, how do we make sure that potential students go to our homepage?

The original root of the word "information" is the Latin word informare,which means to fashion, shape, or create, to give form to. Information is a means of representing an image or thought so that it can be communicated from one mind to another rather than worrying about all the information afloat in the world, we must ask ourselves what matters to us, what do we want to know. ~ Theodore Roszak ~