

Experience It: A Co-operative Education Proposal
Tony Young – [wayoung] at [db] dot [uwaterloo] dot [ca]

Background

I am registered in the Master of Mathematics program in Computer Science at the University of Waterloo, working with Dr. Frank Tompa and the Database Research Group. During this term, I am taking courses on distributed systems, internet transport performance, and non-traditional databases. I wish to include a co-op work term in my program.

Although I am open to any database research, there are several areas that have peaked my interest more than others.

- 1) In my previous capacity as Database Administrator for the Alma Mater Society Student Government at Queen's, I was in charge of many small software development projects aimed at improving the way people work. From online job applications to an online marketplace, I used databases to change how people work and access information. After working with storage and manipulation of database objects through Active Server Pages and SQL Server 2000, I can see that much exciting research into the in-place storage and manipulation of database objects is possible. Currently, most DBMS's do not fully or properly support storage and manipulation of objects such as MS Word files, PDF's, video data, etc.

In environments where data is passed around like an email chain letter, centralizing files, and providing quick access to manipulate or edit documents directly within a database system would be advantageous. In any enterprise, whether a large bank or a small start-up company, many different staff members must approve various different documents, make changes, provide feedback etc. Sometimes, email is not the easiest way to pass this information back and forth. With email, not all users see the most up-to-date version, changes are difficult to track, etc. Use of a database for this purpose presents problems for efficient storage, fast retrieval, update, and so forth that need to be addressed. If such problems could be well addressed, a repository-based system would be a useful tool for many organizations.

- 2) In my previous capacity as Database Developer for the Kingston General Hospital, I was in charge of development and support of an infection tracking system. This system was used to track infections around the hospital, surgery patients, and staff members. The software I have developed is now in use in three different hospitals around the Kingston area. Through my work on this project, I have seen the many challenges involved in sharing information across multiple copies of the same database system. Replication, duplicate entries, serial numbers, and many other aspects must be considered.

In environments such as this, a peer-to-peer data sharing and searching system would be advantageous. Imagine Dr. Jones searching the hospital records in

Kingston and Toronto for information about a patient who has lived in both cities. This access to information could aid in treatment and tracking of conditions, and speed transfer of medical information around the world. This is only one example of how individual databases could be combined to provide information greater than the sum of the system's parts. Of course, many challenges surrounding security, availability, querying and much more are still unsolved.

Experience

It is my aim to begin a co-op work term part-time in September while I finish my remaining course requirements. I am anticipating approximately 20 hours per week of available work time during the fall term. Starting in January, it is my aim to begin a co-op work term full-time until the end of April (or longer should it be mutually beneficial to the organization and my thesis project). Although I mentioned two research areas above, I would be open to doing research on any database-related problem.

I bring with me a broad foundation in computer science, mathematics and project management, a love of challenge, and a strong desire for knowledge. Please see the attached resumé for more information about my education, my work experience, and myself. I aim to complete my Masters program with not only a deeper understanding of database systems, but also with a lasting network of friends and industry contacts, and a wide array of research experience. Hopefully, you will find my background matches your projects.

William Anthony “Tony” Young
202 Mohawk Ave, Waterloo, Ontario, Canada, N2L 2T3
519-746-1713 • tony@tonyyoung.ca

What do I want?

- To contribute my experience, problem solving skills, and positive attitude to a dynamic Software Engineering team.
- To help develop software to change the way people work and think.

What can I bring to the table?

- Extensive knowledge of, and work doing, database development and tuning in Access, FileMaker Pro and SQL Server 2000 as Database Administrator, Database Developer and Website and Database Developer
- Extensive knowledge of Object Oriented Design and Development through courses, and development of software projects in Java and some C++
- Knowledge of networking and domain administration through work with the AMS Information Technology Office and ASUS Camps
- Team management and leadership experience through organization of Studio Q Television’s various projects and functions
- Excellent verbal and written communication skills as demonstrated through organization of Frosh Week events and activities, and constant involvement in extracurricular activities
- Superior time and project management skills proven through many successfully completed projects as Database Administrator
- Finely tuned teamwork skills through work as Database Administrator, Orientation Committee Member, Studio Q Content Manager, ASUS Camps, etc
- Extensive knowledge of PC and Mac platforms working with technology for many years
- Self-motivated, able to keep to deadlines, and able to prioritize as demonstrated by consistently high academic results and many successfully completed projects as Database Administrator
- Able to see the small picture as well as the overall landscape of a project through work with Orientation Committee, Studio Q Television, Information Technology Office, etc
- Able to speak tech talk with users at a variety of ability levels as demonstrated through work with ASUS Camps and Information Technology Office
- Fantastic problem solving skills as demonstrated through work with the Orientation Committee, ASUS Camps, Information Technology Office, etc.

What have I learned?

- Bachelor of Science with distinction – 80.7% average, May 2003
 - Queen’s University at Kingston, Ontario, Canada
 - Specialization in Mathematics
 - Relevant coursework: Calculus, Linear Algebra, Discrete Math, Numerical Analysis, Statistics and Data Collection, Graph Theory
- Bachelor of Computing with distinction - 82.7% average - May 2004
 - Queen’s University at Kingston, Ontario, Canada
 - Honours Specialization in Software Design
 - Relevant coursework: Operating Systems, Human Computer Interaction, Advanced Databases, Real Time Systems, Computer Networks, Computer Graphics, Quality Assurance, Software Architecture, etc
- Masters of Mathematics (Computer Science) – in progress
 - University of Waterloo, Waterloo, Ontario, Canada
 - Specialization in Databases
 - Relevant coursework: Non-traditional Databases, Internet Performance, Distributed Systems, etc

How have I been recognized?

- ASUS Camps Exceptional Staff Bonus - August 2002 - \$400; for outstanding work and exceptional dedication to the job
- Studio Q Producer Honouraria - April 2002 - \$500; for outstanding work and exceptional dedication to a volunteer job
- Queen’s Venturer Award - October 2000; for continued skill development & community service
- Aurora Rotary Club Bursary for Outstanding Student Leadership - October 2000; awarded for continuing leadership and school community involvement
- Theatre Technical Award - October 2000; for outstanding work in drama technical production

- Wayne and Walter Gretzky Award - September 2000 - \$5000; awarded based on the merit of an essay about personal accomplishments
- Canadian Millennium Scholarship Foundation - July 2000 - \$4000; awarded based on academic merit and school and community service
- Scouts Canada Scholarship - May 2000 - \$1000; awarded based on service to Scouts Canada organizations and groups
- Community Leadership Letter - October 1999; awarded based on continuing involvement in athletics and school service
- Business and Computer Studies Award - October 1999; Awarded to top performing students in Business or Computer studies courses

What experience can I offer?

- Teaching Assistant - May 2004 to Present
 - School of Computer Science at the University of Waterloo
 - Supervisor: Judene Pretti - 519-888-4567x2355
 - Responsible for marking of assignments and providing comments to students regarding their work
- Database Administrator - May 2003 to April 2004
 - Information Technology Office of the AMS at Queen's University
 - Supervisor: David Connor - 613-533-2913
 - Responsible for creation, support and maintenance of database applications and services (Access, SQL Server, ASP, VBScript, etc); Responsible for some network administration and maintenance; Responsible for some software and hardware installation and support; Responsible for projects from planning and requirements to delivery and implementation; Responsible for writing documentation; Responsible for some website development
- Database Developer - May 2003 - August 2003
 - Infection Control Services at Kingston General Hospital
 - Supervisor: Dr. Dick Zoutman - 613-549-6666x4015
 - Responsible for creation of storage, tracking and statistical generation system for use by Infection Control Practitioners and Doctors; Responsible for entire project from planning and requirements to delivery and implementation; Responsible for documentation, and user support and training
- Studio Q Content Manager - May 2002 - April 2003
 - Studio Q of the AMS at Queen's University
 - Supervisor: Geoffrey Dudgeon - 613-533-2725
 - Responsible for maintaining website; Responsible for ensuring content for weekly program is shot and edited on time; Responsible for arranging interviews and researching events; Responsible for running meetings and assigning stories
- Computer Portfolio Manager - May 2002 - August 2002
 - ASUS Science and Computer Discovery Camps at Queen's University
 - Supervisor: Nava Aslani - 613-533-6000x75442 (may not be available)
 - Responsible for maintaining computer network; Responsible for basic software and hardware installations; Responsible for developing a challenging and interesting computer learning program for high school students; Responsible for teaching and working with children of a variety of ages about a variety of science and technology related topics

Anything else?

- Volunteer Positions
 - COMPSA (representing students in my program to faculty - 03-04)
 - Read4Fun (working for better reading skills - 00-03)
 - Kaleidoscope (working for literacy - 00-02)
 - Orientation Committee Member (planned and executed Frosh Week - 02)
 - Studio Q (filming and editing segments - 01-02)
 - Frosh Week Leader (Oriented students to Queen's - 01)
 - POSSE (drama presentation of social issues to students - 00-01)
- Sports: SCUBA Diving, Downhill Skiing, Hiking, Camping, Canoeing, Swimming
- Interests: Digital Video, Music, Technology, Construction Methods, Outer Space