Chelton Evans Resume

Ph: 0438809932, Address: 6/101 Simpson St Yarraville 3013 Vic,
Website: http://www.geocities.com/fluxionsdividebyzero/
Email: fluxionsdividebyzero@yahoo.com

Objective

I have worked two years as a C++ developer in commercial research and development in two engineering companies. Having studied maths, computing and engineering subjects I have enhanced my problem solving techniques, which are used in the design and application of algorithms towards solutions.

Education

Graduate Diploma in Software Development (2005)
Advanced Diploma of Computer Systems Engineering (2005)
Bachelor of Applied Science in Mathematics (2002)
RMIT (City campus)

Skills

C++ Skills: STL, writing Template code, NTL, Qt and Qwt (basic understanding), Dev Studio 5.0 and 6.0, gcc, gdb, makefile, gprof, writing disciplined code, knowledge of patterns and algorithms, understand algorithm complexity.
I studied three C++ subjects at school – Software Systems Engineering, Object-Orientated Programming, Object-Oriented Analysis And Design.

Graphics Skills: OpenGL, VRML, Rhino graphics modelling package, Java3D. I studied several graphics subjects at school. Java3D(implemented marching Triangles and Marching Tetrahedrons algorithm), 3D graphics and animation(I wrote a primitive VRML parser), Real-Time Rendering and 3D Games Programming where I took as a project to design a tessellation algorithm, see Cheltons Convex Mesh Algorithm.

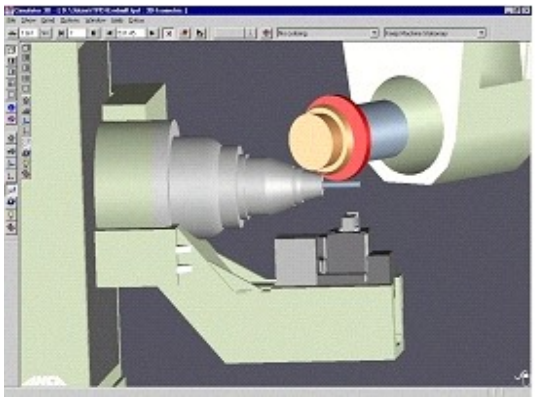
UNIX Skills: Bash scripting, compiling & installing software, vi, GVim
Platforms: Windows 2000, XP, Linux (Fedora 4), Unix on school boxes, Cygwin
Code Documentation Tools: Doxygen, Dia, Html, MSWord
Database: SQL (basic queries)
Maths Packages: Mathematica, Maxima, Maple
Html: web page design, using CSS, MathML in Mozilla, JavaScript, ASP.NET Web Matrix
Source Control: Clearcase, CVS
Programming Languages: C++,C, Java, Turbo Pascal, Basic, VB, HC11 assembly language, Fortran 77, Fortran 90, HPS28 calculator, LISP, Mathematica, PVM.
Project Management: MS Project
Maths Skills: Algebra, Number Theory, Numerical Analysis, Calculus, Cryptography, Computational Geometry. I studied the Pure and Applied stream in my maths degree.

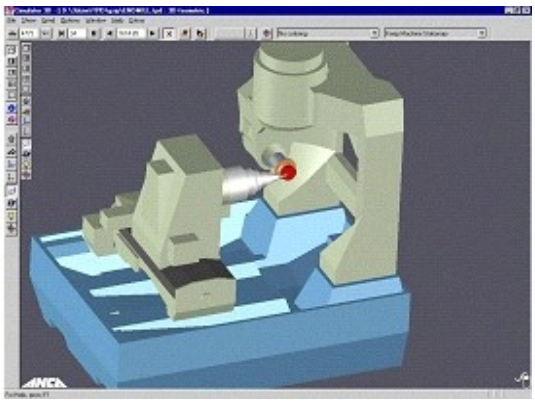
*The highest academic achievement was working on the paper "**On the enumeration of partitions with summands in arithmetic progression**" by M. A. Nyblom and C. Evans in the AUSTRALASIAN JOURNAL OF COMBINATORICS, Volume 28 (2003), pages 149-159.*

I showed M. Nyblom how to do the proof in the integer domain as opposed to using rational numbers which greatly simplified the problem. I also helped solve the first proof by solving the problem through the addition of inequalities which he considered very innovative.

Work Experience

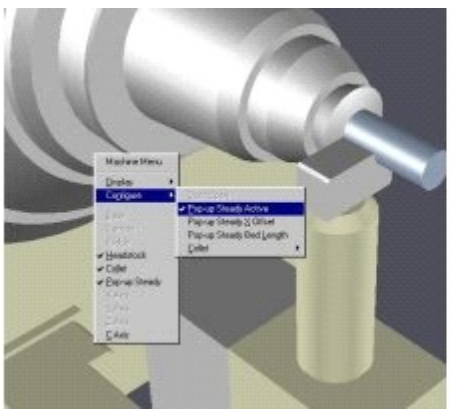
17/4/2000 - 10/10/2001 Analyst Programmer
ANCA Pty Ltd

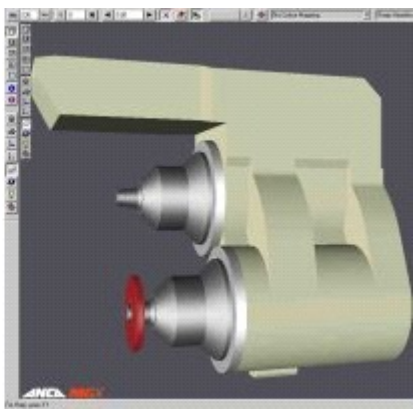




Responsibilities:
C++ programming in commercial R&D on CIM3D simulation software. My primary task was modelling the machines and incorporating them into CIM3D as a developer working on Cim3D.

Using Rhino graphics modelling package to model static geometry and import various machine parts into the application via VRML format. Several machines were modelled.





Graphics projects were pursued.

- Dynamic geometry was needed eg variable tool holder radius. This lead to non-trivial dynamic geometry algorithms.
- Building a tool holder shape for the Tgx machine by creating a profile, extruding and clipped, and piecing it together based on user input.
- I worked on the menu system, making the machine parts configurable and implementing persistence of user settings.
- Optimizing the meshes as they had to be displayed in real time.
- All the machines except one were constructed from 2D Cad diagrams. This involved finding the diagrams, interpreting them correctly and talking with the mechanical engineers responsible for each machine. They had to be accurate. Many of the machines had individual characteristics some of which were modelled. For example the P-axis of the Mgx was modelled with dynamic geometry to allow for Full Bush and Half Bush configurations. The value of this is that it lets the machine programmer visually tell if there is a collision between the tool holder and the grinding wheel.
- Testing Machine elements – required real data, visual verification with the engineers, software configuration through the Gui is correct, correct kinematics, installing the development release on other employee's boxes to get their feedback – both for suggestions and honest criticism and bringing such honesty to my managers so they can better decide what software/features to pursue.

26/4/1999 - 11/8/1999 Programmer C++ (Code Maintenance)
Redflex Traffic Systems Inc.

Responsibilities:
Whilst working on a consulting project I identified a major problem with the application; when debugging the multithreaded scanner application code I found unsafe thread interactions caused the application to crash when ported to the new machines.

The previous senior programmer used sleep statements for thread control and Kodak's API was crashing on function calls such as calibrating the scanner. I isolated the development from the live environment and worked with the new manager to write the scheduler with templated code.

Referees Available on request