

# Mathieu Mallet

30-D Forester Cres., Nepean (Ontario) K2H 8Y2

Tel.: (613)-828-5221, E-Mail: [mmallet@ottawaengineers.ca](mailto:mmallet@ottawaengineers.ca)

## Education

BACCALAUREATE OF APPLIED SCIENCE

**Computer Engineering (Co-operative Education Program)**

University of Ottawa (Ontario)

Graduated with High Honors

## Professional Skills and Abilities

- Technical Skill** Ability to design, prototype, test and assemble electronic circuits  
Have experience using instruments such as function generators, oscilloscopes and spectrum analyzers in a laboratory environment
- Programming** Have work experience in HT/HP Basic, UnrealScript, Visual Basic, Visual C/C++ as well as academic knowledge of Perl, VHDL, Java (with jBuilder and Eclipse), CVS/SVN and assembler on Intel 8085, Motorola 68HC12 and Microchip PIC12F675 (RISC)
- Software** Excellent knowledge of the followings programs: MATLAB, UnrealED, Altera Max Plus II & Quartus II, Electronics Workbench, PSPICE, Windows 3.0-XP, Linux/Unix (Debian and Gentoo distributions)
- Communication** Fluently bilingual in both official languages  
Developed superlative written skills with a student newspaper  
Shown excellent oral abilities during an entrepreneurship contest

## Projects

- Xbox Remote Add-on** Designed a small circuit board that, when interfaced with an Xbox console, allows the user to power up the device using a remote control. The circuit makes use of a PIC12F675 micro controller programmed in assembler.
- Maze-solving robot** Participated in the design, integration and testing of a maze-solving robot. This robot would navigate a maze, recording its configuration and finding the shortest path. This fourth year project was managed in groups of 6. I have written most of the FPGA's VHDL code required to operate the robot's IR sensors and motors as well as written the core navigation and data processing units. I have also written the GUI of the Java software used to monitor the robot.
- REM Monitor** Designed a data acquisition board to detect and record REM information. Using an infrared sensor and a PIC16F676 micro controller, the board is able to detect the eye movements of a sleeping person and store the data on an internal EEPROM. The RISC micro controller is programmed entirely in assembler.

For more information about my projects, visit my website at <http://mmallet.ottawaengineers.ca>

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## **Work Experience**

### **Software Engineer for NavCanada**

Summer 2003

NavCanada, Ottawa (Ontario)

- Ported software written for HP computers to HTBasic in order to upgrade an existing Flight Inspection system to a recent architecture
- Installed, configured and tested hardware used to interface General Purpose Interface Bus (GPIB) devices to a Windows machine
- Performed extensive debugging of system problems caused by undocumented HP Basic/HTBasic incompatibilities
- Worked in lab environment to perform systems tests on ported software
- Presented various recommendations as to how a specific piece of equipment could be interfaced with the new system

#### ***Skills Used***

##### *Programming:*

HTBasic, HP Basic,  
Perl

##### *Technical:*

GPIB interfaces,  
RS-232 interfaces,  
function generators

##### *Other:*

Debugging

### **Software and Asset Development for Kamehan Studios**

Summer 2000 to Summer 2003

Kamehan Studios, Paris (France), Work through the Internet

- Part of a team of 6 programmers, 30 asset developers and 20 testers
- Created 3D worlds for online gaming
- Written and debugged code used in an online game that was eventually published and sold in stores ("Tactical Ops") which sold 100 000 units
- Participated in team efforts such as stress testing internal betas
- Went through an entire software development cycle, from design to testing and post-release maintenance
- Wrote and integrated an added-value component for the game in the form of a single player mission pack

Visit [www.tactical-ops.de](http://www.tactical-ops.de) for more information

#### ***Skills Used***

##### *Programming & design:*

UnrealScript,  
UnrealED

##### *Other:*

Team coordination,  
testing

### **Research Assistant for the Ottawa Heart Institute**

Fall 2002

Ottawa Heart Institute, Ottawa (Ontario)

- Researched and calculated mathematical models that simulates the movement of radioactive tracers within the heart
- Implemented these models in data processing programs using MATLAB

#### ***Skills Used***

##### *Software tools:*

MATLAB

##### *Other:*

Research, progress  
reports

## **Interests and Activities**

**Computing**            Circuits design, reading

**Sports**                Biking, badminton, roller-blading, kayaking, indoor hockey

*References will be provided upon request*