WILLIAM BUSSIÈRE

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Languages: French, English

EDUCATION

University studies 2010 to 2016

- Software engineering, multimedia concentration, baccalaureate
- Credits completed: 96 / 120
- Cumulative average: 3,91 / 4
- Citation of academic excellence
- École Polytechnique de Montréal

WORK EXPERIENCE

Technical director for MÉTIS, *École Polytechnique de Montréal* 2013 to 2014

- Software team management for a student multidisciplinary project in biomedical
- Assessment and selection of technologies (programming languages and libraries)
- Documentation of the selected solutions and installation procedures
- Follow-up of the work done by the team and coordination of the tasks to come

Software development 10 months internship at Zimmer CAS, *Montréal* 2012 to 2013

- Implementation of the Model-View-Controller design pattern
- MRI manipulation and rendering with GDCM and VTK libraries
- Design of graphical user interfaces with Qt
- OTS validation and documentation of the developed applications

INF1010 course restructuration internship, *École Polytechnique de Montréal* summer 2011

- Writing of course notes about graphical user interfaces and the STL library
- Writing of object-oriented-programming exercises and examples
- Writing of short evaluations for the students
- Restructuration and design of the Moodle website of the course

SKILLS AND ACHIEVEMENTS

Design of libraries for the creation of games and simulations 2011 to 2013

- *Experiemental Theatre* : C++ library grouping the following libraries taking advantage of the theater analogy to name the classes and to define their responsibilities
- *Cellar Workbech* : Data structures, generic design patterns, logging, geometric primitives
- *Media Workbench* : Graphical (OpenGL/GLSL) and audio libraries adaptors
- *Prop Room 2D* : Framework for the management of 2D shapes (physics and rendering)
- *Scaena* : Framework for the creation and management of entities in games or simulations
- The software modules are presently implemented using Qt and OpenGL, but could easily be ported to other libraries of the same type
- Available on Github : https://github.com/wibus/ExperimentalTheatre

Design of an Air Hockey game 2012

- Interfacing Java code with a C++ framework via JNI
- Design of the graphical user interface
- Implementation of the physics engine
- Use of multiple design patterns: Façade, Command, Singleton, Observer, State, etc.

Building and programming of a robot 2011

- Assembly of the motherboard for an ATMega16 microcontroller, of an H bridge and of the gears for a small electric motor
- Interfacing of a magnetic captor, infrared captor and of an external memory for the reading and writing of byte code
- Development of a program for the travelling of the robot in an obstacle course

SCOLARSHIP AND AWARDS

***Philip et Lily Malouf* award** winter 2011
Winning team of first year technical project

General Director scholarship autumn 2010
Academic excellence

HOBBIES AND INTERESTS

Arts: guitar, writing, sculpture
Sports: unicycle, tennis