PROGRAMMATION DES INTERFACES GRAPHIQUES EN C++

PROGRAMMING OF GRAPHIC INTERFACE

Lecturers: **Emmanuel DELLANDREA, Stéphane DERRODE**

| Lecturers : 8 | TC : 8 | PW : 8 | Autonomy : 8.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

The aim is to provide students with advanced skills in object-oriented programming (OOP), through GUI programming. This module will allow
- to address new concepts, such as event-driven programming or design patterns;
- to deepen the concepts of inheritance, polymorphism, abstract class or exception handling;
- to introduce methods and tools of "good practices" of development as test programming, code version management or documentation of sources.
Teaching is shoed mainly in the form of tutorials, allowing the student to accumulate gradually the knowledge

Keywords : Object-oriented programming, GUIs, Design Pattern, Test-programming, C++, QT.

Programme	- Lesson #1 (2h) : Specificity of C/C++ programming - Lesson #2 (2h) : Advanced C++ (1) - Lesson #3 (2h) : Advanced C++ (2) - Lesson #4 (2h) : Advanced C++ and event-driven programming (3) - TD #1 (2h) : C/C++ programming initiation - TD #2 (2h) : C++ basics - TD #3 (2h) : Operators and genericity - TD #4 (2h) : Inheritance and exceptions
Learning outcomes	• Create a program based on a graphical user interface (QT) • Design robust and documented programs • Learn to work in groups on the same project, thanks to a collaborative platform like Github
Independent study	Objectifs : The autonomous work is to achieve, by pairs of students, a GUI for a mini-game (Tic, 2048, ...) Méhodes : Each pair works on a collaborative development platform (e.g. Github), allowing the sharing of source codes.
Core texts	Frédéric Drouillon, *DU C AU C++, DE LA PROGRAMMATION PROCÉDURALE À L'OBJET (2IÈME ÉDITION)*, ENI editions, 2014 Claude Delannoy *PROGRAMMER EN C++ MODERNE: DE C++11 À C++20*, Eyrolles editions, 2019 Brice-Arnaud Guérin et Tristan Israël*C++ ET QT5, DÉVELOPPEZ DES APPLICATIONS PROFESSIONNELLES*, ENI editions, 2019
Assessment	Final mark = 50% Knowledge + 50% Know-how Knowledge = Final exam