

## C++, development of graphical applications in QT



SII-298 5 Days (35 Hours)

### Description

QT is an object-oriented framework that offers components for graphical interface (widgets), data access, network connections, etc. This training will teach you to identify the important elements of a QT project and the different graphic components offered, and to use them with XML.

### Who is this training for ?

#### For whom

Developers and project managers.

#### Prerequisites

Good knowledge of the C++ language. Basic knowledge of XML. Experience required in C++ development.

### Training objectives

- Develop graphical applications with the QT Framework Discover the different types of projects and their structuring Master the different graphic components and their interactions Understand and implement the QT plugin system

### Training program

#### Présentation du langage QT

- History of the language.
- The different possibilities of use.
- Other existing graphics libraries.

#### Les différents types de projets

- Presentation of the different types of projects with QT.
- Presentation of QT Creator.
- The basic structure of a HMI-based application.
- Exercise: Creating a first QT application.

### Les éléments importants d'un projet

- Pro files, graphic design (ui).
- Internationalization management files (ts and qm).
- Basic types of the language ( qint, qfloat.).
- Compiling with qmake.
- The QObject class.
- Presentation of the MVC model.
- The model MVC in QT.
- Exercise: Study of a project file for setting up the application.

### Les différents composants graphiques

- The basic components of the HMI (QMainWindow, QFrame, QLabel.).
- Management of component positioning.
- Dialog boxes (QDialog ).
- Menus (QMenu).
- Predefined and custom templates.
- QT visual design tools (QT Designer.).
- Exercise: Setting up the application structure.

### La gestion des événements

- Signal and slot concepts.
- Declaration of signals and slots.
- Install event filters.
- Access the application during heavy processing (timer and hasPendingEvents).
- Exercise: Adding event management to the application.

### Le système de plug-in de QT

- Understand what plug-ins are with QT.
- The different plug-in classes (QStylePlugin.).
- The elements necessary for setting up installation of a plug-in for QT.
- Development of application managing plug-ins.
- Exercise: Development of a simple plug-in.

### Aller plus loin avec QT

- Using XML with QT.
- Reminder about XML, DOM and SAX parsers.
- Parsing XML documents using QT.
- Internationalization.
- Reminder about Unicode.
- The QTranslator object.
- The QT Linguist application.
- Cross-platform applications .
- QT Mobility.
- Exercise: Using an XML file to store application data.
- Internationalization of the application .