Advanced C++ Programlama Eğitimi

Eğitim Hakkında

This course broadens the skills of a C++ language programmer by examining sophisticated C++ concepts such as templates, exceptions, memory management, advanced inheritance issues, disambiguation of overloaded functions, private and protected inheritance, binary i/o and class libraries.

Neler Öğreneceksiniz

- Decide between global functions, friend functions and member functions
- Code their own memory management routines by overloading operators new and delete
- Write classes and functions with parameterized types
- Understand and handle exceptions in C++ programs
- Disambiguate data and functions using multiple inheritance
- Understand the difference between various kinds of inheritance
- Use pointers to class member functions
- Understand the C++ mechanism to resolve overloaded functions

Eğitim İçeriği

Module 1

- Intro + References
- Basics
- Workshop Basics
- Overloading
- What can we overload, and how.
- Extra C++ Types (bool & reference)
- Workshop overloading
- OOP
- Quick introduction to Oop
- Classes
- Structs
- Access Modifiers
- Constructor
- default/delete functions
- initializer syntax / constructor initialization list
- Workshop classes
- Memory

- Classical memory interaction
- Workshop Memory

Module2

- Inheritance
- Construction
- Polymorphism
- Virtual, pure virtual, abstract, interface
- Access modifiers
- Workshop Inheritance (Shapes)
- Exceptions
- What are they
- How do they work
- What to throw and what to catch
- Workshop exceptions
- Memory exhaustion
- How it’s notified
- How to handle
- Modern Memory Management
- RAII
- Templates applied to Modern Memory Management (SmartPointer)
- Standardized C++11 SmartPointers
- Nullptr
- Workshop SmartPointers
- Namespaces
- Workshop Namespaces

Module3

- Auto
- The new auto keyword
- The new auto return syntax
- enum
- New style enums
- constexpr
- New constant expressions
- About constness
- Const and Mutable explained
- Lambdas & function objects
- Classes that act like functions
- Introduction lambda functions
- Chrono
- n introduction to the new Chrono library

Module 4

- Casting
- Standard library
- String
- Containers
- Vector (vs)
- List
- Map
- Array
- Tuple
- Initializer lists
- Iterators
- range-for syntax
- Std Algorithms
- Streams
- Miscellaneous Keywords
- static
- explicit

Module 5

- Move semantics
- Introduction to L/R values
- R-value-references applied to move semantics
- Type Traits
- Obtaining information on compile time
- Concurrency
- Introduction to C++11’s Threading, async/future and atomic types implementation
- Variadic templates - An introduction to C++11’s variadic templates