Safe C++ @ O'Reilly

Klaus Iglberger
April, 22nd, 2025

1. Introduction

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Introduction of the Trainer

C++ Trainer/Consultant since 2016

Author of "C++ Software Design"

(Co-)Organizer of the Munich C++ user group

(Co-)Chair of the Software Design track at CppCon

Regular presenter at C++ conferences

Klaus Iglberger

Scope of this Training

In this training I will address …

- … the perceived safety problem of C++

- … a discussion of possible solutions for those safety problems

- … the philosophy of "Modern C++"

Content of this Training

1. Introduction
2. Safe C++
3. Summary/Literature

Schedule

Tuesday, April, 22nd, 2025 (EDT time zone)

10:00am - 10:10am	*Introduction*
10:10am – 10:30am	*Motivation: The Many Safety Problems of C++*
10:30am – 11:00am	*Resolving Undefined Behavior with constexpr*
11:00am – 11:10am	*Break*
11:10am - 11:40pm	*Resolving Out-Of-Bounds Problems with Ranges*
11:40am - 12:00pm	*Resolving Type Safety with Strong Types (I)*
12:00pm – 12:10pm	*Break*
12:10pm – 12:30pm	*Resolving Type Safety with Strong Types (II)*
12:30pm – 1:00pm	*Resolving Memory Safety with Value Semantics (I)*
1:00pm – 1:10pm	*Break*
1:10pm - 1:30pm	*Resolving Memory Safety with Value Semantics (II)*
1:30pm - 1:55pm	*Dealing with the Sharp Edges*
1:55pm - 2:00pm	*Summary*

Miscellaneous

I assume you have some experience with C++. If something remains unclear or somewhat vague, **please ask**!

Miscellaneous

Also remember: **You are in control!**

Guidelines

(Core) Guideline: ...

The green boxes represent ...

- ... the most important take-aways;

- ... common idioms and best practice;

- ... markers in the slides.

Programming Tasks

Task (Subchapter/Name): …

The yellow boxes represent …

- … hands-on programming tasks;

- … links to the provided source code examples.

email: klaus.iglberger@cpp-training.com

LinkedIn: linkedin.com/in/klaus-iglberger

Xing: xing.com/profile/Klaus_Iglberger/cv