# Advanced C++, Day 3

March 23, 2015

# Chapter 1

# Today

# 1.1    Goal

- Decide where to go from here

    - See some literature: what part of C++ fits me best?
    - Gain some experience with STL containers and algorithms
    - Getting to know the top-5-[something]s
    - Intro to COM
    - Intro to regex
    - (Working with streams)
    - How to extend an existing architecture?

## 1.2   Planning

- Runtime speed and the STL

    - Intermezzo's:
        * Boost
        * top-5-[something]s
        * COM
        * Regexes
        * (Streams)

- Programming in the future tense

- Epilogue

# Chapter 2

# Runtime speed and the STL

## 2.1  Runtime speed and the STL

- See CppLectureStlAndRunTimeSpeed.lyx

# Chapter 3

# Programming in the future tense

## 3.1   Programming in the future tense

- What will programmers always need to face?

## 3.2   Programming in the future tense

- What will programmers always need to face?

Change

## 3.3   Change

- Extending functionality

- Unpredictable what

- Projects can collapse under their own weight

- Question: How to deal with it?

## 3.4  Top DO's[1]

> The best code I wrote with backspace[2]

1. (when in a team) prefer using each others' strengths

2. Reduce the size of your project: use libraries

   (a) Less maintenance
   (b) Less debugging
   (c) Better performance

3. Never predict the future: only supply what is requested today

4. Encapsulate the change, and only the change. Do this using a scalable architecture: Design Patterns

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[1] in order of importance, personal ordering
[2] Unknown

## 3.5  Joy

- Start and finish fun projects
- Visit a Hackerspace or CoderDojo
- Collaborate online
- Write articles
- Teach

# Chapter 4

# Epilogue

## 4.1 Epilogue

- Topics covered, among others:

  - The 4 domains of C++, focus on STL and algorithms
  - Code intent & correct code
  - Compile-time speed
  - Run-time speed
  - COM
  - Regex

## 4.2    Epilogue

- C++ is huge

    - Do not expect to be a guru
    - There will be dragons

- No practice = no use

- Program for humans first, computers second

# Chapter 5

# EOF