

Traps and Pitfalls in C++11/14 Migration

Zoltán Porkoláb

Eötvös Loránd University, Faculty of Informatics,
Department of Programming Languages and Compilers
gsd@elte.hu

Abstract

The C++ programming language has recently experienced major changes. The new C++11 standard introduced a large number of new language features, like automatic type deduction, lambda functions, variadic templates, a variety of smart pointers, etc. The minor revision of C++14 has refined and many times – as with `constexpr` or lambdas – significantly extended these elements. These changes were supposed to make C++ more flexible and safe. Although, the new features solved many long existing issues in C++ design, we experienced that a number of these programming elements are misused by the programmers.

In this lecture we overview some of the most common programming mistakes connected with C++11/14 migration and make suggestions how to fix these problems.

References

- [1] Stroustrup, Bjarne, *The C++ Programming Language, 4th ed.*, Addison-Wesley, ISBN 978-0321563842, 2013.
- [2] Stroustrup, Bjarne, *The design of C++0x*, C/C++ Users Journal, May 2005.
- [3] ISO International Standard, *ISO/IEC 14882:2011(E) – Programming Language C++*, 2011.
- [4] ISO International Standard, *ISO/IEC 14882:2014(E) – Programming Language C++*, 2014.

Keywords: C++ programming language

MSC: 68N15