Porting an existing Qt-based Windows only application to Mac OS X
Overview

• Introduction
• Where we started
• Apple Mac – an unknown country
• With a little help from a “friend”
  • Communication
  • Version Control System
• BuildSystem
  • Compiler
  • IDE
• Customer Support
• Questions?
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Project: Steuertipps - Steuer-Spar-Erklärung
Hobbies: Movies, Books, Music, Guitars
Where we started

- Existing project started 17 years ago
- ca. 300,000 LOC
- Qt 4.7 with Q3Support
- STL, MFC, Windows-API
- Windows as only target
- Visual Studio 2008
- TFS
- Relation between Qt:Non-Qt – 85%:15%
- Print-System is Win-API only
- No experience on Mac OS X or Mac hardware
• We had to learn many new things
• New hardware
  • MacBook Pro
    • 13”
    • 15”
    • 17”
  • Mac Mini as remote testing system
Apple Mac – an unknown country

• Mac OS X Versions
  • 10.5
    • Had some users in Germany
    • But we can't support it
  • 10.6
    • The oldest version we can support
    • Start of development
• New Mac OS X Versions
  
  10.7
  • Arrised while we were doing the first port
  • Our new Macs came with that pre-installed
  • Changed its behaviour in some points against 10.6
  • Introduced GateKeeper but not active by default
  
  10.8
  • Comes with GateKeeper activated by default
  • Makes it harder to get our AppBundle into the AppStore
  • Updated Version of XCode removes all commandline compiler and linker tools
Apple Mac – an unknown country

• Getting into the AppStore
• Successful Apps have to be sold via AppStore
• High barrier to get there
• Reject mails are hard to understand
  • Some kind of try 'n' error
• Apple is not very patient
  • You are spamming the AppStore!
• No nested AppBundles allowed
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• Visual differences between Windows and Mac
• SSE-specific styles on Windows
• Correct look 'n' feel on Mac
• Character encoding
  • UTF-8 on Mac
  • CP1252 on Windows

• Case sensitive filesystem
  • Not on Windows
  • Not default on Mac
    • But it is possible
    • Users use it
With a little help from a “friend”

• Don't try this alone!
• Ask an expert for help
• Saves your time, nerves and money
• We asked KDAB for help
• But there are others, too ;-)
With a little help from a “friend”

Communication

- Contact to your helping hand is mandatory
- IRC
  - Short response time
  - Not annoying
  - Jabber-Protocol with history
  - Keeps everybody on track
  - Adium IRC-Client on Mac
  - Pidgeon on Windows
With a little help from a “friend”
Version Control System

• Working on the same codebase at the same time
• Far away from each other
• We use TFS on Windows
• No TFS-Support on Mac
With a little help from a “friend”
Version Control System

Our solution:

- Using SVN-Bridge

Problems:

- Repository gets out of sync by some operations
  - Renaming or deleting files
  - Check out small parts of your project
  - Don't include more than one branch in your folder structure
• XCode is needed for cmdline tools
• Compiler is version-specific
  • gcc
  • llvm
• Smallest C++-subset needed between
  • gcc
  • llvm
  • Visual Studio 2010
• Windows Microsoft Visual Studio 2010
  • nmake
  • vcxproj-files
• Mac Qt Creator 2.4/2.5
  • make
  • qmake pro-files
• Keep both files in sync
  • Not compatible
  • Do it manually
  • Qt-add-in only for initial conversion
• We can't use shadowbuild
• Release- and Debug-Build
• Think about using cmake
  • Pro: Better dependency resolution
  • Contra: Limited Qt Creator Support
Customer Support

• Netviewer
  • Excellent tool to have a look on customer desktop
  • New Windows version needed to support Mac OS X 10.8

• Report Tool
  • Used to send system information
Questions?
Thank you