Rewriting not recommended

Dirk Haun
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Rewriting of Applications
Vita

- Electronic Cash
- PDAs & Smartphones
- Service Level Management
- Document Conversion
- Open Source CMS
Agenda

- Motivation
- Don't do it!
- Remedy
- Prevention
Why do we want to rewrite something?

- **Rational:**
  Problems with the *architecture*

- **Irrational:**
  Programmer's *Ego*
Motivation: Architecture

- Started out with a clean design
- Change requests after initial release
  ➡ Loss of clarity
  ➡ Solution(?): Rewrite!
Motivation: Architecture

Ideally:

• "Nicer" architecture
• Easier to maintain
• Learned from mistakes
Motivation: Ego

- Old code just isn't "sexy"
- Having to maintain other people's code
- Personal preferences vs. existing code
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Rewriting takes (more) time

- What do you ship in the meantime?
- Losing customers, market share, and money
Tuesday, November 28, 2000

Gore: Count Every Vote

Taking his case to a national TV audience, Vice President Al Gore declared Monday that he would press his legal challenges to Florida’s vote tally. Gore described the state’s results as ‘inaccurate and incomplete’ and called for a ‘single, full and accurate count.’ Gore’s comments came barely 24 hours after George W. Bush claimed victory.

Poll: Is the election over?
- Yes, Bush has won
- No, wait until the courts rule

LATEST NEWS
- CNN.com: Gore, Bush lawyers prepare briefs for historic Supreme Court fight
- Entertainment: Kenya Davis To Wed, Again
- NFL: Panthers Defeat Packers

Markets Center

Stock Quotes by

Quotes delayed 20 mins. * Indicates Hi or Lo movement.
Disclaimer
How do you avoid a standstill?

- Two teams?
  - Where do all these people come from?
  - "Moving Target"
How do you avoid a standstill?

- Putting the old application in "Maintenance Mode"?
  - What's a bug?
Losing details

- Reinstating the original functionality
  - Do you really have everything documented?
  - Workarounds for real-world problems
No software is an island

- Software doesn't exist in a vacuum
- Compatibility with 3rd-party applications
- Your software as a part of a process
Can it really only get better?

- Sometimes there isn't a better solution
- Old mistakes
  - Environment, Time pressure
- New mistakes
  - Learning process
Exceptions?

- Change of technology
- In-house tools
- Refocussing
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Personally I believe that some systems just require some love, and radical refactoring, to breathe new life into them.

-- Tim Penhey
Refactoring

- (Re-)Identify modules
- Identify problematic areas of the code
  - Bottlenecks
  - Cluttered code
Refactoring: Tests

- Unit / Component Tests!
  - For every bug
- Benefits for current development
- Rewrite modules, one after another
Benefits and side-effects

- Better understanding of the current system
- Better estimates for changes / fixes
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- Abhilfen
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Specifications?

- Better specifications?
  - Yeah, sure ...
- Can't do without them but get away from fully-fledged specifications
- Be flexible!
  - TDD, Agile
Planning is an important learning exercise, (...) Plans, on the other hand, are overrated.

-- Mary Poppendieck
Rotting Code

• How did that happen?
  ▶ Pressure, Lack of time?
  ▶ Incompetence?

• Cause study
  ▶ What can you do about it?
More communication!

- Internal (project)
- With customers / users
- Development ↔ Marketing
  ↔ Customers
To summarize ...
Risks

- Loss of...
  - Customers / Market Share / Money
  - Functionality
  - 3rd-party applications
- repeating old mistakes
- new architecture, new mistakes
Remedies

• Refactoring instead of Rewriting
• Test Driven Development, Agile
• Cause studies:
  ▸ What went wrong the last time?
• Improve communication
Resources

- Joel on Software (Book and website)
- Agile Software Development
- Lean Software Development

P.S. Keywords are links.
Credits

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