The English Breakfast Network

KDE quality checking framework

Adriaan de Groot

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Who is this Guy?

Professional

- KDE contributor since 2000
- KDE Quality Team Lead since 2005
- Researcher in Software Quality since 2004

Private

- Father of two
- Recumbent cyclist

History

APIDOX Problems

- They were incomplete,
- they were generated infrequently,
- they contained errors.

... solutions

- Build them more often,
- keep the logs and examine them.

History (2)

User Documentation Sanitizer

i18n-doc team (Phil Rodrigues, Frerich Raabe) and the documentation guidelines.

Coding Standards Checking

Coding guidelines from Ben Meyer, Frans Englisch with checking tools. Now maintained by Allen Winter.

Usability Testing

The *quantifiable* parts of the HIG could be tested by an automatic tool. Candidate tool is FrogLogic's Squish.

Purpose

Detect and report

- The purpose of the EBN (toolset) is to *detect* and *report* defects in the KDE codebase.
- The purpose of the EBN is to say something about the *quality* of the KDE codebase.
- The purpose of the EBN is to indicate where developer activity would pay off most.

Purpose (2)

Exterminate; exterminate

Detect and report defects in order ...

- to give developers some direction,
- to show low-hanging fruit,
- to give developers a good starting point,
- to show objective improvement.

Scope creep

- Fun activity pictures,
- “one-stop shop” for state information.

Implementation

Ad-hoc sweetness

- Shell scripts drive the process,
- Doxygen / Perl scripts / Squish do checks,
- Perl scripts post-process logfiles,
- Python scripts do visualisation.

Result *counts* get dumped into a database.

Implementation (2)

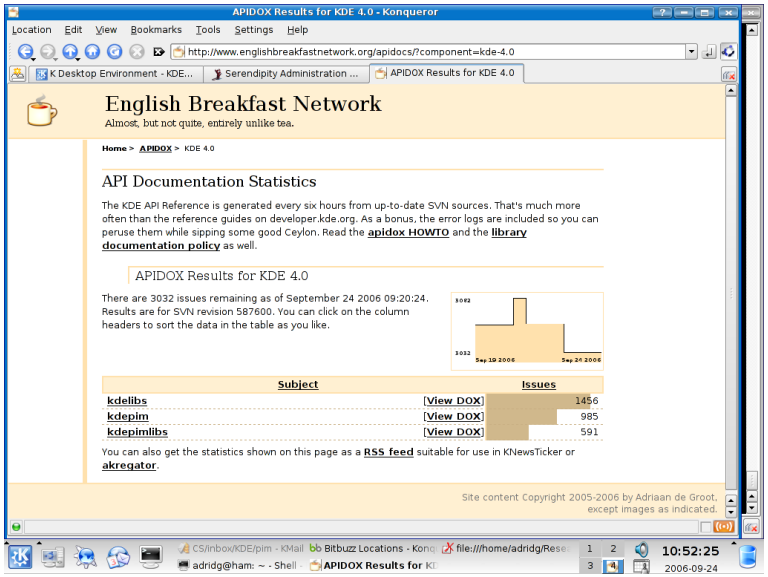
Defect Views

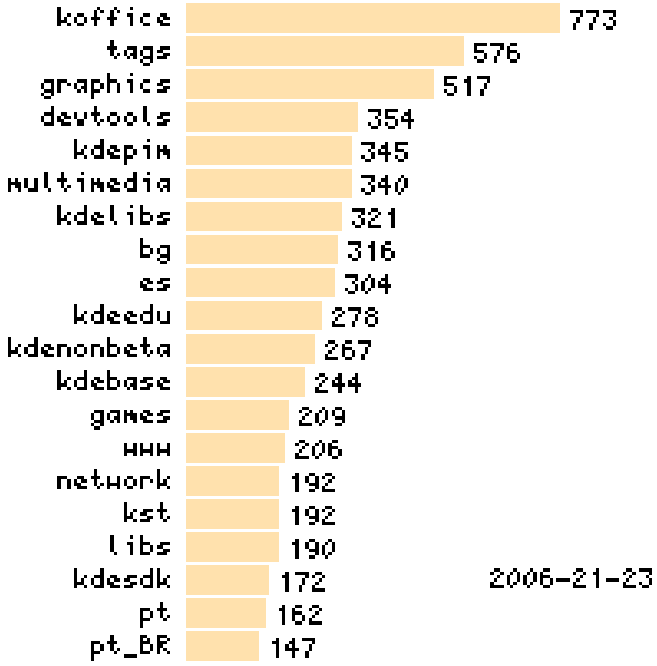
- Counts per module,
- counts per subdirectory,
- details per subdirectory.

What's Missing

- *All* details per subdirectory,
- historical view,
- sense of "software unit."

Implementation (3)





What would developers do?

Use the EBN

- To steer own efforts,
- to monitor other efforts,
- to learn about guidelines.

Ignore the EBN

Because ...

- not the right information,
- presentation sucks,
- defect measures irrelevant.

Research Directions

Tools

Bring in parsing and semantic tools. Do static checking. Dashboard development and perceptual research.

SQO-OSS Project

Using static checking, semantic analysis, and change-based quality metrics, do *project* quality checking. Targeting many projects, with “soft indicators” taken into account.

Future Work

Re-architecting

- Improved granularity in the DB,
- searchable results,
- collating results across tools,
- cmake-style dashboard,
- RSS subscriptions for applications.

Now what?

Questions ?