



## **Qualitative and Quantitative Usability Testing – a Hybrid Approach**

Mensch & Computer 2004, Paderborn

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## Context

### StarOffice

- StarOffice / OpenOffice.org
  - Market lead on Linux / Solaris / Unix
  - Most important competitor to Microsoft Office on Windows
  - Standardized XML file format
  - Fair support of Microsoft Office file formats
  - OpenOffice.org is the open source twin of StarOffice.

# Professional Usability in Open Source Projects: GNOME, OpenOffice.org, NetBeans

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## ABSTRACT

Working as a usability professional in the open source world is a challenging task. The decentralized and user driven approach of open source projects can't be modeled by corporate processes and usability engineering. Nonetheless, there is great potential for large corporations to contribute to open source projects. Providing the right environment that leads to usable and useful product development situation for developers, the corporations, and importantly – the users.

## Author Keywords

open source software development, usability engineering, corporate environment

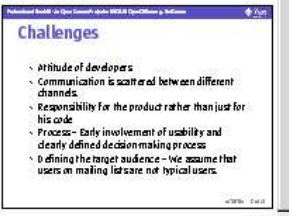
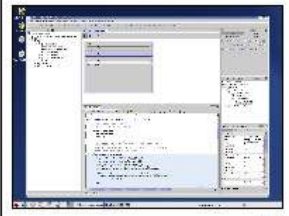
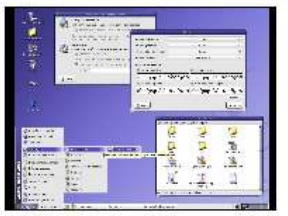
## ACM Classification Keywords

H.5.2 User Interfaces

## INTRODUCTION

There is some truth in the common notion that open source systems have poor user interfaces. Often they are designed by engineers for engineers. The feedback cycle does not exist because there are few users participating in open source development. This problem is well-known and has been discussed at many papers and conferences [1].

Sun Microsystems, Inc. is a large, multinational corporation with engineering teams around the world. In the tradition of building systems on open source, Sun is heavily involved in the usability of open source projects as a natural continuation of this strategy.



## Context

### Process

- Sun Product Life Cycle (PLC)
  - About 18 month for concept, planning and implementation phases
  - Competitive Engineering / Evolutionary Design (Tom Gilb)
  - Measurable goals support the development phases.
  
- User Experience
  - Good usability is key for StarOffice.
  - Usability tests under lab-conditions are an important component to reach this goal.

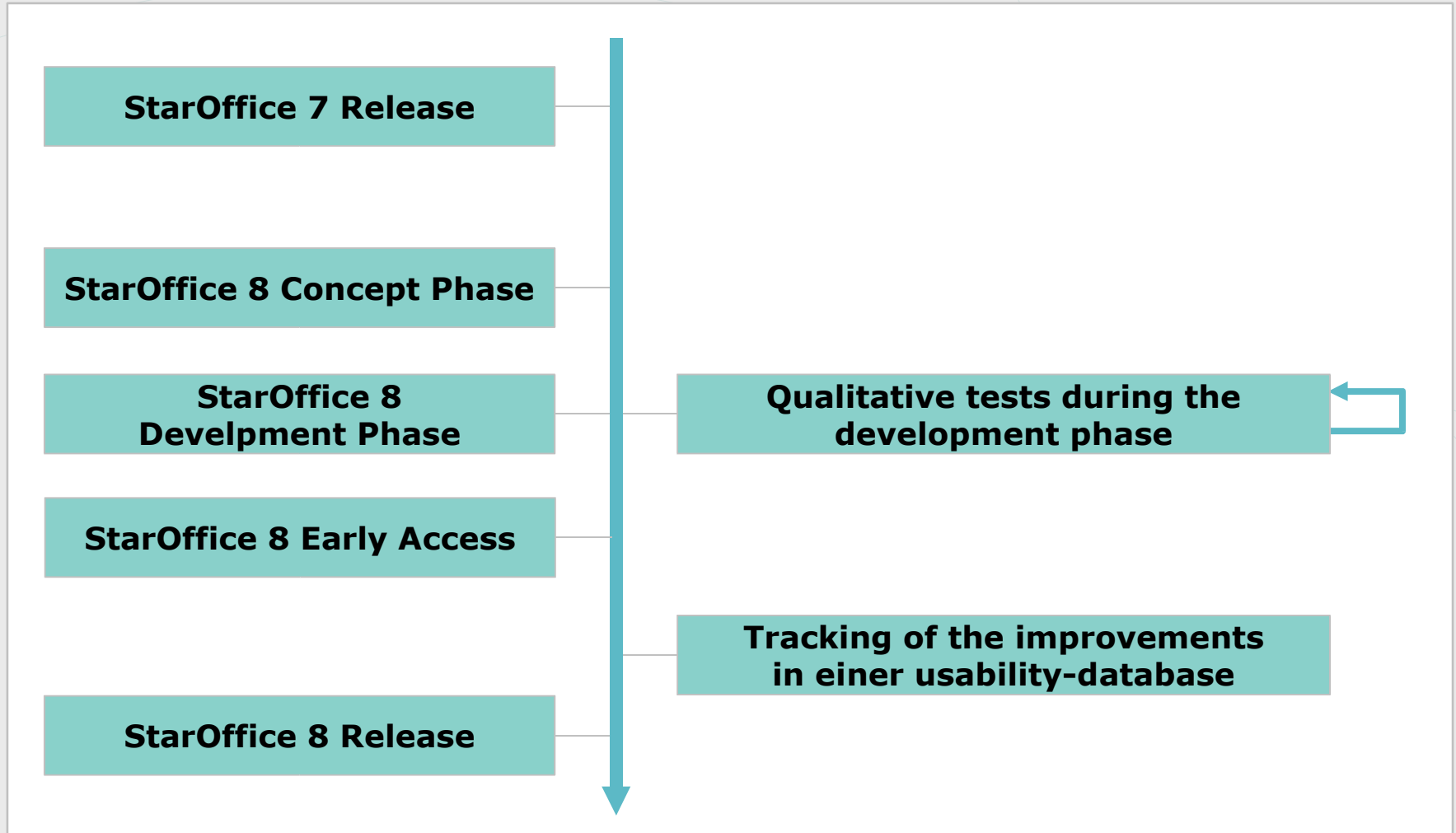
## Problem

**“When you  
can measure  
[it], you  
know  
something  
about it.”**

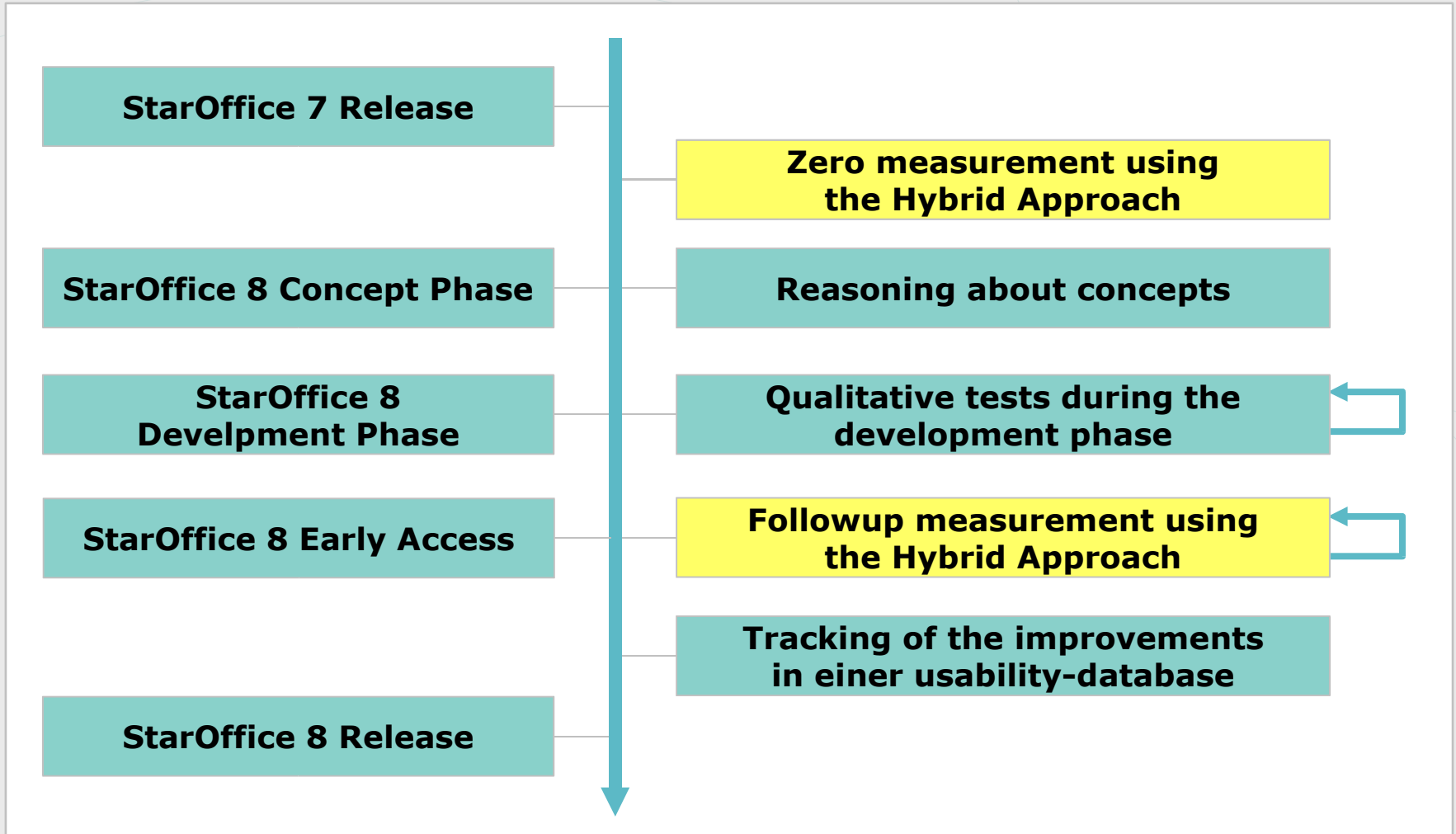
*Lord Kelvin*

- Qualitative Usability Tests
  - ...are invaluable to improve the product;
  - but in principle they do not produce data for quantitative indices.
  - A qualitative approach interferes with a pure quantitative approach because the facilitator has an impact on the participant. This is reflected in changed results of the measurement. Objective and repeatable measurements are not possible under these conditions.

## Context



## The Hybrid Approach



## The Hybrid Approach

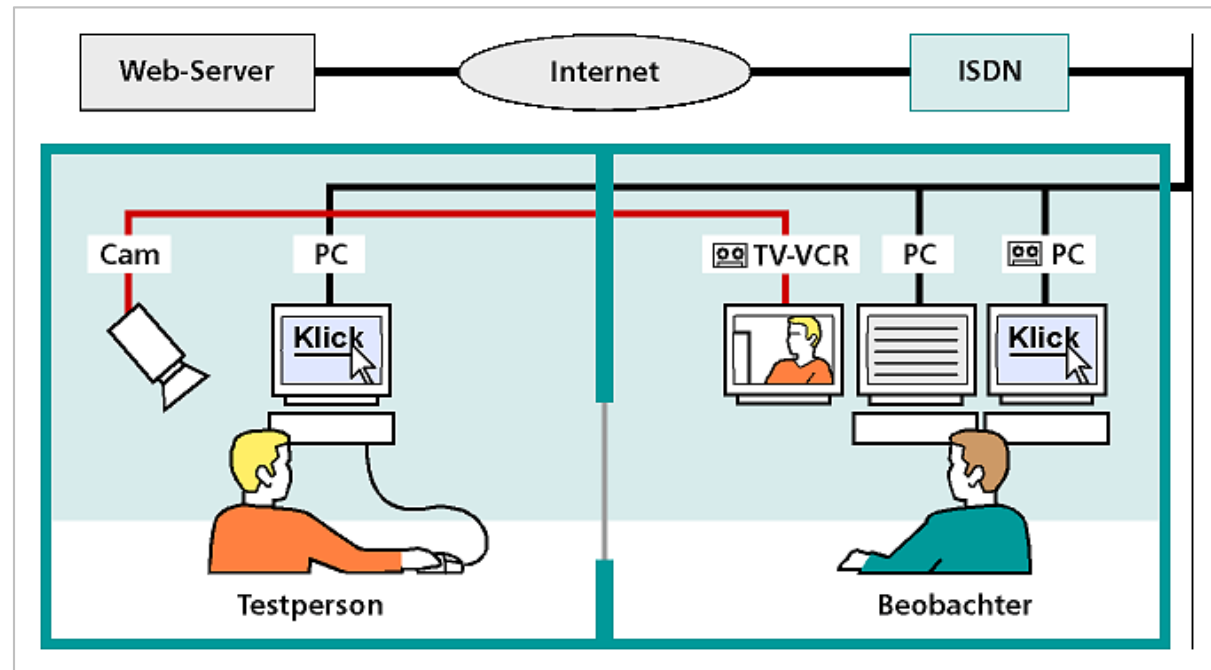
### Approach

- The new approach – developed by SirValUse and Sun – delivers **qualitative and quantitative data** to improve StarOffice / OpenOffice.org **within the same study**.



## The Hybrid Approach

### Setting



## The Hybrid Approach

### Test Session

- **Introduction**, privacy
- **Participant works on tasks alone** and thinks aloud
  - There is a time-limit.
  - Measures are taken.
- **Facilitator enters the lab:**
  - If the task has not been completed in time, she support the participant.
  - Observed issues are explored.
- The participant assesses the application with a **standardized questionnaire**.



## The Hybrid Approach

### Measurements

- **Objective**
  - Tracking software records important data on the test computer (time, clicks etc.).
- **Intersubjective**
  - A usability engineer recognizes usability issues and enters them to a database.
  - The issues are recorded in a way that allows quantification (number of issue encountered).
- **Subjective**
  - Participants assess the application (or parts) with a standardized questionnaire.

## Benefits

### Rich Data

- The test delivers quantitative and qualitative data.
  - **Quantitative** > Controlling of development process
  - **Qualitative** > Recommendations to improve the application

### Cost and Time

- The approach saves costs and time.
  - **Costs**: Recruitment once, two tracks to gain and evaluate data
  - **Time**: The same team conducts one test instead of two.

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