Tool Usage by Students in a Software Engineering Course:

Tasks and Efforts for Tool Administration

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- **Tools used in 2010**

- Usage and Installation Types

- System Administrator's Checklist

- Some Trouble – Some Examples

- Ideas and Reality

Tools used in 2010 (1)

objectiF - commercial and free versions by *microTOOL*:
  - Model-driven software development in Java, C#, C++
  - Developing of use case and class diagrams

CTE XL - free version by *Berner & Mattner* :
  - Test specifications and automated creation of test cases
  - Functional testing

Z/EVES - Open-source software from *ORA Canada* :
  - Methods for analysis of formal software specifications
  - Z-notation

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Tools used in 2010 (2)

ATOSj – developed by our Software Engineering group:
  - Black Box Tests via systems' Graphical User Interface in Java
  - Regression tests

SOTA – developed by our Software Engineering group:
  - Executing control-flow oriented White Box Tests
  - Coverage tests

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Usage and Installation Types (1)

Personal usage

- Students install tools for themselves using our website's instructions
- Most convenient for us?
- Support is difficult

Usage and Installation Types (2)

Computer lab – Windows 7 computers

- More effort for staff
- Work opportunity for students without PC/NB
- Ready-to-use tools
- Uniform working environment
- Advantage for teamwork

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System Administrator's Checklist

- Current versions
- Documentation
- Licensing
- Installation instructions and user hints
- Computer lab changes
- Tests
- Websites

System Administrator's Checklist (1)

Current versions
- Looking for updates
- Contact developers / providers
- Newest versions?

Documentation
- Fast access to current documents
- Collecting, publishing and updating links

System Administrator's Checklist (2)

Licensing at our Software Engineering group

- CTE XL – under free license, but personally registration necessary

- objectiF – under free and commercial license
- objectiF Enterprise Edition
  - 25 floating licenses for lab and remote access
  - Upgrade last year

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Softwaretechnik

Software Engineering

Summer semester 2010

Software Engineering
Gliederung
Folien *
Fallstudie SemOrg *
Übungen *
Werkzeuge
Prüfungsfragen *
Gastvorträge
Literatur

Tools

objectiF - Tool for Model-Driven Development with UML by microTOOL, Berlin

There are good tutorials http://www.microtool.de/mT/pdf/objectiF/49/Tutorials/JavaTutorial.pdf with explanations for use case and class diagrams.

Availability

Institute - "objectiF 7.0 Enterprise Edition" can be used in Windows lab: R. 3.216, 12 PCs with Core Duo 3GHz, 8 GB RAM.

Internet - from http://www.microtool.de/objectif/de/download.asp you can dowload "objectiF Personal-Editions" for free.

System requirements for installation

Software: Windows XP/7, .NET Framework 2.0, J2SE, Eclipse, Acrobat Reader, Microsoft Word

Hardware: >= 1 GHz processor, >= 1024 MB RAM

User hints

Start: ...

Stop: ...

System set up: ...

Creating a class diagram: ...

License Models

Newest Version

Current Documentation

Skeletal translation of German WebSite

System Administrator's Checklist (3)

Installation instructions and user hints

- SW and HW requirements
- Installation procedure steps and expected results

- Handling user interface
- Context of student assingnments

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Software Engineering

Summer semester 2010

Software Engineering

Tools

Gliederung

SOTA - **S**tructur**O**riented **T**est and **A**nalysis of programs

Folien *

This tool was developed in line with the diploma theses "SOTA: Entwicklung eines Werkzeuges für den kontrollflussorientierten Softwaretest und seine Visualisierung" by Ronny Treyße at SWT.

Fallstudie SemOrg *

Übungen *

SOTA is a standalone **Eclipse** RCP application. You need a **Java** version >= Java 6.0 in your system.

Werkzeuge

Prüfungsfragen *

Installation

Gastvorträge

- Download file sota.zip and unzip it to whatever directory you want.
- You get a directory "sota"

Literatur

- configuration
- manual
- plugins
- .eclipseproduct
- ASCLogger.jar
- langspec.dtd
- language.spec
- project.dtd
- SOTA.exe
- SOTA.ini
- SOTA-ATM.jar

- Execute SOTA.exe

Documentation and user hints

- User manual
- Setup of test for SOTA assignment
- Setup of test for sample program

Installation Results	Installation Steps	Software Requirement

Skeletal translation of German WebSite

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System Administrator's Checklist (4)

Computer lab changes
- Hardware and operating system modernization
- Software new installaton

Tests: PCs, laptops, lab

Websites: Bundling of all tool's information

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Some Trouble – Some Examples(1)

CTE XL – free version

- No problem for single-users
- You have to register and get a license key that is bound to your account and your PC

- Problem in lab with 12 computers and 60 users
- Solution
  - Computer administrator registers CTE XL
  - Students use corresponding key

Some Trouble – Some Examples (2)

objectiF Enterprise Edition – commercial version

- Central license server ☺
- "License server not found" ☹

- Problem caused by installation procedure:
  - search for license server in same subnet only
  - no registry entry for outside located server
- Antiqued solution – executing a batch-file

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Ideas and Reality

Usage of new MS Windows Terminal Servers
- One-time installation of tools
- Operating system independent access from anywhere
- The same working environment -> much easier support

First trials: CTE XL and objectiF - problems with
- Local devices
- Access rights
- Reboot needed after objectiF EE installation

Thank you for your attention.

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