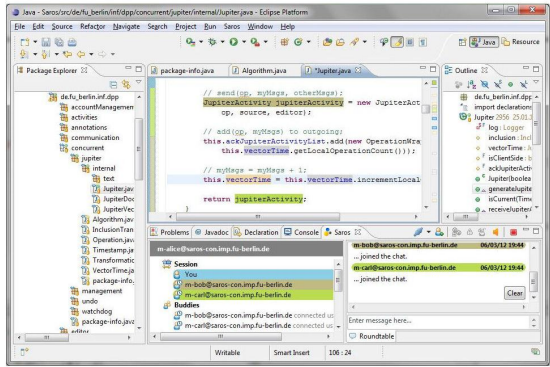




Verbesserung und Pflege der Dokumentation der DPP-Software Saros

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Seminar "Beiträge zum Software Engineering", 2011



Participant



Participant



Host



- ▶ Dokumentation umfasst Webseite des Projekts und Quellcode-Kommentare
- ▶ Zweck der Dokumentation:
 - ▶ Vorstellung des Projekts
 - ▶ Hilfe und Anleitung für Anwender und Entwickler
 - ▶ Übersicht über Code zum leichteren Verständnis



- ▶ Webseite unübersichtlich, unvollständig und veraltet
 - ▶ keine Zielgruppen-Gliederung
 - ▶ Developer Guide ohne Struktur
 - ▶ fehlende Inhalte
- ▶ Quelltext unvollständig kommentiert
 - ▶ fehlende Klassen-/Methodenkommentare
 - ▶ insbesondere keine Paketbeschreibungen

- Home
- Screenshots
- Installation & Set-up
- Getting Started
- How to be happy with Saros
- FAQ
- Contact
- Developer Guide
- Technical Information
- Research on Saros
- Saros @ **sourceforge**
- Bug Tracker

alte Webseitenstruktur



- ▶ Verbesserung der Dokumentation von Saros
- ▶ Methoden entwickeln, damit sie weiterhin gepflegt und aktuell gehalten wird



- ▶ Umfrage:
Wie beurteilen die Entwickler die Dokumentation und wo sehen sie Schwachstellen?
- ▶ Umstrukturierung der Webseite
 - ▶ neue Gliederung
 - ▶ Gruppierung der Navigation
- ▶ Ergänzen fehlender Inhalte
 - ▶ Architektur- und Modulbeschreibungen
 - ▶ Quelltext-Dokumentation inklusive Paketbeschreibungen
- ▶ Einführen einer „schrittweisen Redokumentation“
 - ▶ Dokumentationsmanager
 - ▶ Documentation Issue Tracker

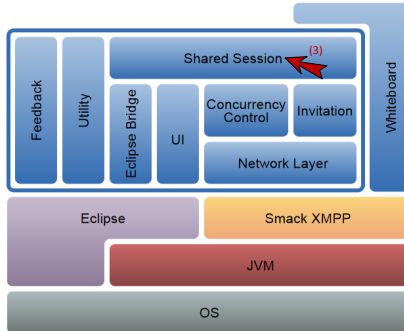


- ▶ neu gruppierte Navigation
 - ▶ allgemeiner Bereich
 - ▶ Anwender-Bereich
 - ▶ Entwickler-Bereich
- ▶ thematische Aufgliederung des Developer Guides
- ▶ inhaltliche Erweiterung der Webseite

- Technical Information (1)
- Shared Session
- Activities
- Eclipse Bridge
- UI
- Concurrency Control
- Invitation
- Network Layer
- Feedback
- Saros Javadoc
- Saros @ [SOURCEFORGE](#)
- Review Board
- Bug Tracker
- Documentation Issue Tracker

Software Architecture

Saros uses a layer architecture and consists of eight major modules as you can see in the image below. The Whiteboard is an additional project which expands the functionality of the Saros plug-in.



- * Shared Session (2) contains all necessary information needed for a Saros session (e.g. the JID and other user information). It also handles the communication using chat or VoIP* and the screen sharing within a session.
- * With the Eclipse Bridge Saros connects to existing Eclipse components and expands them (e.g. capturing local text editing events and replaying remote ones).

- ▶ Einteilung in 8 Module
- ▶ kurze Modulbeschreibung

- Home
- Features
- Screenshots
- Contact
- Research on Saros

- **User area**
- Installation & Set-up
- Getting Started
- How to be happy with Saros
- FAQ

- **Developer area**
- Developer Guide
- Set-up & Check-out
- Guidelines
- Usability Engineering
- Testing
- Bug Tracking Procedures
- Documentation Issue Procedures
- Our Release Schedule

- **Technical Information**
- **Shared Session**
- Activities
- Eclipse Bridge
- UI
- Concurrency Control
- Invitation
- Network Layer
- Feedback

- Saros Javadoc
- Saros @SOURCEFORGE
- Review Board
- Bug Tracker
- Documentation Issue Tracker

Shared Session

A session is a virtual meeting that takes place between two or more people using Saros. It is started and ended at will by the host; others can join upon invitation and leave at will. Within a session, users can do a number of things:

- Share a project (this is currently the required way to initiate a session, but in theory Saros can easily be adapted in future to begin "empty" sessions)
- Chat using an instant messenger
- Speak to each other using VoIP?
- Share a video feed of their desktop

The functionality for the session is distributed throughout the packages: `project`, `communication` (muc for multi-user chat and audio for VoIP?), and `videosharing`.

Session

The core functionality for maintaining both the session and the shared project(s) are kept in the `project` package. (TODO: this ought to be refactored to separate the former synonymy in projects and shared sessions.)

A session takes care about the user's state within a session (e.g. write/read-only access or adds/removes a user). The `SarosSessionManager` handles the initiation of a Saros session (including starting, stopping and joining) and the invitation to this session.

The shared project stores the state of a project shared in a Saros session (e.g. project open) and its resources (e.g. files, folders, projects, and the version control system if the VCS support is enabled for the session). For identifying shared projects across the network, project IDs are used in the `SarosProjectMapper` class. This is necessary especially when the local names of a shared project are different at the user's workspaces.

The `SharedResourcesManager` is responsible for handling all resource changes that aren't handled by the `EditorManager` of the *Eclipse Bridge*. It creates and executes files, folders, and VCS activities.

You will find information about activities [here](#).



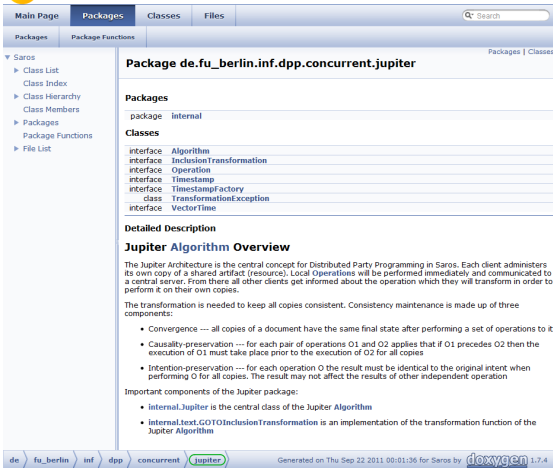
Multi-User Chat

The functionality of the *Multi-User Chat* is located in the `communication.muc` package.

In a multi-user text chat the users can exchange text messages in a chatroom. Therefore the XMPP protocol extension Multi-User Chat (MUC) is used. When a Saros session is started a *Multi-User Chat* is initiated as well. As long as the chat is active the history of all events that occur to this chat session (e.g. incoming messages) are stored and transmitted to all users joining this chat.



Saros
Distributed Collaborative Editing and Distributed Party Programming



The screenshot shows the Saros documentation interface. The top navigation bar includes 'Main Page', 'Packages', 'Classes', and 'Files'. A search box is located on the right. The left sidebar contains a tree view with 'Saros' expanded to show 'Class List', 'Class Index', 'Class Hierarchy', 'Class Members', 'Packages', 'Package Functions', and 'File List'. The main content area displays the package 'de.fu_berlin.inf.dpp.concurrent.jupiter'. It lists several interfaces: 'Algorithm', 'InclusionTransformation', 'Operation', 'Timestamp', 'TimestampFactory', 'TransformationException', and 'VectorTime'. Below this is a 'Detailed Description' section titled 'Jupiter Algorithm Overview'. The text explains that the Jupiter architecture is central to Saros, where each client maintains its own copy of a shared artifact. It lists three components: Convergence, Causality-preservation, and Intention-preservation. The footer shows the breadcrumb 'de > fu_berlin > inf > dpp > concurrent > jupiter' and the generation date 'Thu Sep 22 2011 00:01:36 for Saros by doxygen 1.7.4'.

- ▶ Neugenerierung mittels Doxygen jede Nacht → aktuelle Quelltext- und Kommentar-Übersicht
- ▶ Paketbeschreibungen im Quelltext

Saros - Distributed Party Programming Share >

Summary Files Reviews Support Develop Hosted Apps Tracker Mailing Lists Code

Add new [Browse](#)

Tracker: Documentation Issues

Search: [Advanced](#) Options RSS

Page: 1 - 25 of 91 Results - Display:

ID	Summary	Status	Opened	Assignee	Submitter	Resolution	Priority
3408099	saros logo malfunction	Open	2011-09-12	nobody	translatename	None	5
3381245	DPPTechnicals - update dependency graph	Open	2011-07-28	nobody	meike11 ✓	None	5
3381242	rewrite DPPTesting	Pending	2011-07-28	kargor ✓	meike11 ✓	Fixed	5
3381241	update DPPUsabilityEngineering	Open	2011-07-28	nobody	meike11 ✓	None	3
3381235	DPPGettingStarted - add how to add a new Buddy	Open	2011-07-28	nobody	meike11 ✓	None	5
3381233	update DPPCompatiblePlugins	Open	2011-07-28	nobody	meike11 ✓	None	7
3381232	DPP & DPPFeatures - mention Whiteboard	Open	2011-07-28	meike11 ✓	meike11 ✓	Fixed	5
3381230	DPP - move related work and 'blog rolf'	Open	2011-07-28	k_beecher ✓	meike11 ✓	Fixed	1
3381228	DPPScreenshots - add screen sharing screenshot	Open	2011-07-28	nobody	meike11 ✓	None	3
3381225	DPPScreenshots - add whiteboard screenshot	Open	2011-07-28	nobody	meike11 ✓	None	3
3381224	DPPFeatures - missing feature page	Open	2011-07-28	meike11 ✓	meike11 ✓	Fixed	5
3381223	DPP - add illustrations for the scenarios	Open	2011-07-28	nobody	meike11 ✓	None	3
3381221	Saros videosharing source - missing package description	Open	2011-07-28	nobody	meike11 ✓	None	7

- ▶ Verwaltung von Problemen bezüglich der Dokumentation
- ▶ analog zum Bug Tracker

- ▶ Einführung eines neuen Aufgabenbereichs:
Dokumentationsmanager
 - ▶ neben existierenden Aufgabenbereiche der Release- und Testmanager
 - ▶ zur Durchsetzung der „schrittweisen Redokumentation“
 - ▶ Aufgaben:
 - ▶ Überprüfen des Zustands der Dokumentation
 - ▶ Erfassen von Problemen mit der Dokumentation
 - ▶ Verteilen von Dokumentations-Aufgaben an Entwickler
 - ▶ Kontrolle der Bearbeitung



- ▶ Umstrukturierung der Webseite
→ übersichtlicher
- ▶ Ergänzung von Inhalten
→ besseres Verständnis von Saros
- ▶ Einführung des Dokumentationsmanagers
→ Fokus auf Dokumentation
- ▶ zweite Umfrage für Vorher-Nachher-Vergleich:
 - ▶ Webseite wurde als übersichtlicher beurteilt
 - ▶ thematische Ergänzungen positiv aufgenommen
 - ▶ im Quelltext aufgrund des Umfangs noch kaum Änderungen des Zustands
 - ▶ neu gewünschte Inhalte: Tutorials und Videos



- ▶ grundsätzlich Verbesserung der Dokumentation
 - ▶ teilweise längerfristige und schrittweise Maßnahmen
 - ▶ Dokumentation muss auch weiterhin gepflegt werden
- ⇒ Erfolgt hängt von der Mitarbeit der Entwickler ab!



Vielen Dank!