Objectives

Review Bugzilla

Improving productivity: Multi-tasking
- Mylyn
- Tasktop

Open Firefox and Eclipse before
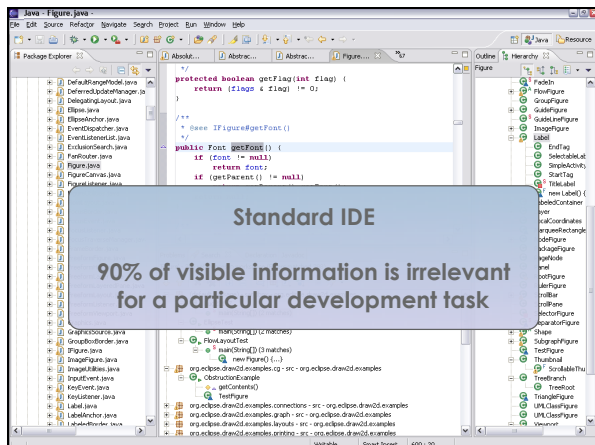we get started…

Review: Bugzilla

What is Bugzilla an example of?

What are its main features/benefits?

Standard IDE

90% of visible information is irrelevant for a particular development task
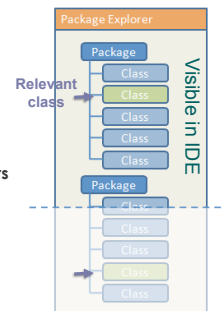
Problems (1)

Information overload hurts productivity
- More time spent looking for information than working
- Constant loss of context when interrupted
  - On average, interruption occurs every 11 minutes
  ➔ Developer does *repetitive* searches for relevant code
- Inability to share expertise and track progress

Package Explorer
Package
Class
Class
Class
Class
Class
Package
Class
Class
Class
Class
Class

Relevant class

Visible in IDE

Problems (2)

Information overload hurts productivity

Lack of integration slows developers down
- Switching between the IDE, email and web applications

Email ⟷ Eclipse (IDE) ⟷ Firefox (issue tracker)

- Constant searching and reloading
- Lack of linking between applications

Here's a new idea

Focus interaction and collaboration on tasks
- Simplify: one task list integrated with the IDE
- Streamline: see only information you need for each task
- Technology is called the "Task-focused interface"

Benefits
- Dramatic and measurable increase in productivity
- Multitasking without loss of context
- Efficient project tracking and awareness
- Knowledge capture, transfer and reuse

Components of Task-focused Interface

1) IDE integration of bug/issue tracking tools
- One integrated list displays all personal and team tasks
- Prevents switching to web browsers and email apps
- Streamlines communication and project awareness

2) Task-Focused workflow
- Automatically track, model, and display relevant code, documents and web pages for each task
- Reduces repeated searching, scrolling, navigating
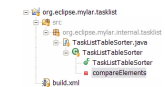- Removes burden of multitasking

Task-focused Technology

Task context
- Tasktop monitors your interaction
- Creates degree-of-interest model
- Context is obvious and managed
- Tracks time spent on each task
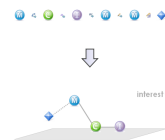
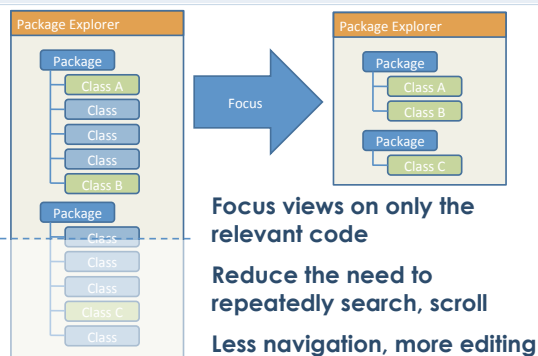### Task-focused UI
- View filtering, element decoration
- Automatic folding, content assist ranking
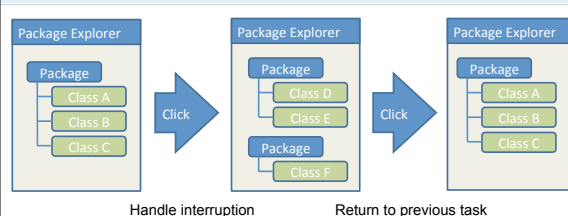- Editor and perspective management

See only the interesting code

Package Explorer

Package
- Class A
- Class
- Class
- Class
- Class B
Package
- Class
- Class
- Class
- Class C
- Class

Focus →

Package Explorer

Package
- Class A
- Class B
Package
- Class C

Focus views on only the relevant code

Reduce the need to repeatedly search, scroll

Less navigation, more editing

Multitask without context loss

Package Explorer

Package
- Class A
- Class B
- Class C

Click →

Package Explorer

Package
- Class D
- Class E
Package
- Class F

Click →

Package Explorer

Package
- Class A
- Class B
- Class C

Handle interruption   Return to previous task

Developers are interrupted every 11 minutes

Tasktop restores the relevant code with a click

THE TOOLS

Mylyn

Task-focused interface

Built into (recent versions of) Eclipse

Reduces information overload and makes multi-tasking easier

Integrates with repositories, such as Bugzilla, Trac, and JIRA

Monitors activity to identify relevant information

Tasktop

- **Extends Mylyn**
- **Tracks your web browsing and desktop documents**
- **Supports tasks from email**
- **Integrates calendar in Eclipse**
- **Auto-generates time tracking reports**
- **Connectors to popular commercial task tracking systems**

Mylyn vs Tasktop

	Eclipse Mylyn	Tasktop Starter for Eclipse	Tasktop Pro for Eclipse	Tasktop Pro
Price	Free	Free	$99	$99
Supported Operating Systems	🪟 🍎 🐧	🪟 🍎 🐧	🪟 🍎 🐧	🪟 🐧
Bugzilla Connector	✓	✓	✓	✓
Source code tracking	✓	✓	✓	
Task tracking and scheduling	✓	✓	✓	✓
JIRA, CollabNet & Rally install		✓	✓	✓
Automatic Mylyn updates		✓	✓	✓
Gmail & IMAP connector		✓	✓	✓
Time tracking dashboard		✓	✓	✓
To-the-minute time tracking			✓	✓
Time tracking reports and export			✓	✓
Task-focused web browser			✓	✓
Full Microsoft Outlook integration			✓	✓
Schedule tasks using Google Calendar			✓	✓
Instant desktop file search			✓	✓
Calendar, time and switcher trims			✓	✓

Tasktop is commercial, supported, improved version of Mylyn

http://tasktop.com/support/download/

Tasktop Technologies

Mik Kersten, CEO

Gail Murphy, COO

Ph.D. Thesis: "Focusing knowledge work with task context"
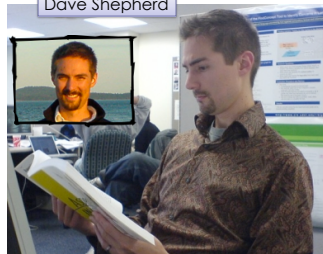
Tasktop Technologies

My Contact, Creator of Find Concept

Dave Shepherd

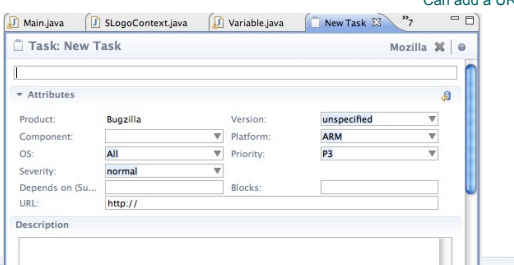## Mylyn: Creating a New Task

In Task List view
- Create in **Local** repository

Creates a new Task Editor:

Can add a URL

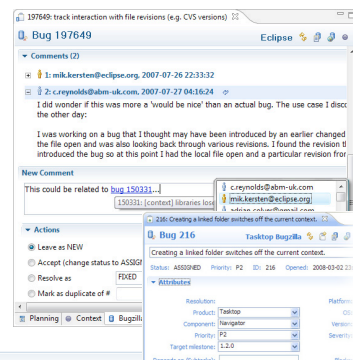| Task: New Task	Mozilla
▼ Attributes	
Product:	Bugzilla
Component:	
OS:	All
Severity:	normal
Depends on (Su...	
URL:	http://
Version:	unspecified
Platform:	ARM
Priority:	P3
Blocks:	

Description

Rich Task Editor

- **View and edit tasks from Eclipse**
- **Changes are highlighted in blue**
- **Rich editor supports autocomplete, task linking, offline access**

Mylyn: Creating Tasks Practice
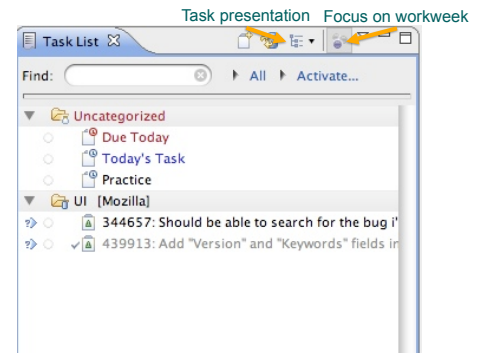
Create a task scheduled for today, due today

Create a task scheduled for today, due later this week

Create a task scheduled for tomorrow, due later this week

How does the UI try to help you?

Mylyn: Managing Tasks

Mylyn: Modifying Tasks

In Task List view, right-click on task
- **Categorize**
- **Schedule**
- **Activate**
- **Mark as complete**

Focused Eclipse Package Explorer
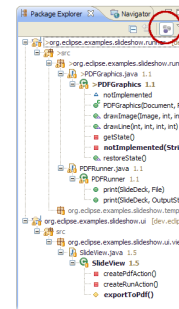
Toggle focus mode to view only interesting classes and methods

Enables quick method to method navigation

Alt+Click to reveal hidden child nodes and add them to the context

Mylyn: Relevant Code

Activate the task that you're working on

Work on your task
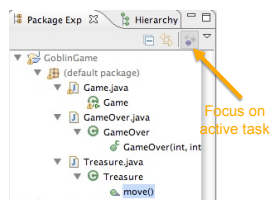- **Mylyn takes note of what you're working on**

Activate another task
- **Do your task …**
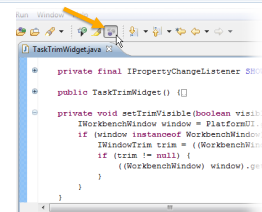
Activate original task
- **See files working on**

To see children
- **Alt+Click**

Focus on active task

Mylyn: Source Editor Folding

Uninteresting methods in your source editor are automatically folded

Mylyn: Focus is everywhere
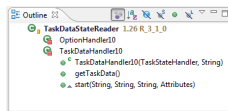
Many IDE views and features can take advantage of task context information

Outline view is shown above

Run JUnit tests for only files modified during the current task

Mylyn: What Should I Do Now?

Need to know what to be working on
- Which high priority tasks that I was assigned should I be working on now?

Connect Mylyn to issue repository, e.g., Bugzilla
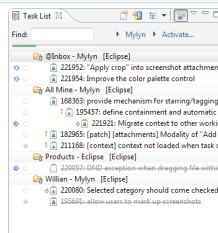
Bug & issue tracker integration

Access your tasks from your team's bug/issue tracker from a powerful, integrated task list

Search and open cached tasks instantly

No need to switch to your browser

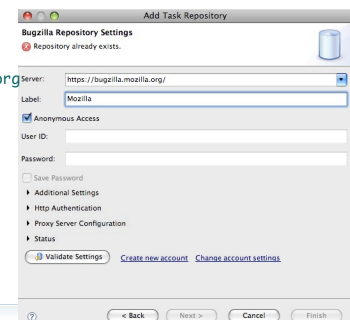**Blue arrow denotes unread task changes**

No need to receive notifications via email

Mylyn: Adding a Task Repository

Window → Show View → Other → Mylyn → Task Repositories

https://bugzilla.mozilla.org Mozilla

Keeping Up

In a team, tasks change quickly
- Team lead raises your task's priority
- Coworker says your task is blocking his work
- A domain expert responds to your task-related question

Need to keep up with changes while making progress
- Email isn't appropriate place; context problem

Tasktop automatically tracks relevant tasks with queries
- specifies relevant tasks
- downloads and periodically updates tasks in Task List
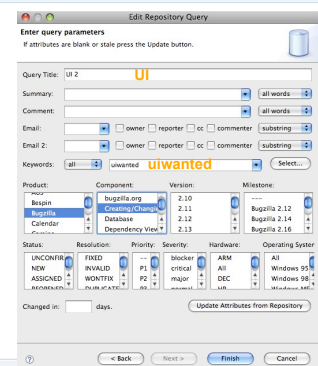
Mylyn: Making a Query

1. **Right click on Task Repository we just created and select "New Query"**
2. **Select "Create query using form"**
   - Bugzilla
   - Creating/Changing bugs
3. **Fill out the Query creation form and press "Finish"**

Mylyn: Practical Queries

Intent	Query Parameters
All tasks assigned to me	**Query Title**: All Mine **Email**: my_email@my_company.com **Owner**: Checked
All tasks assigned to others where my input is needed	**Query Title**: All Related **Email**: my_email@my_company.com **Reporter**: Checked **CC**: Checked **Commenter**: Checked **Email2**: my_email@my_company.com **Owner**: Checked **Matching**: notregexp

http://tasktop.com/blog/mylyn/track-tasks-with-queries-not-email

Mylyn Preferences

Window → Preferences → Tasks
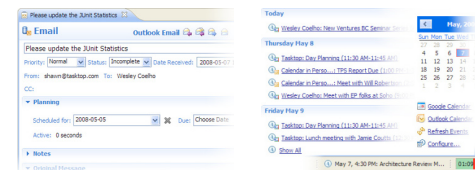
Additional functionality

Export tasks

Synchronize tasks with team

Attach context to tasks → add to bug repository for future reference
- **Recall and use past expertise when bug is reopened or similar tasks arise**

Tasktop: Email & Calendar Integration

Create tasks from Outlook & Gmail messages

Prioritize, schedule and capture context

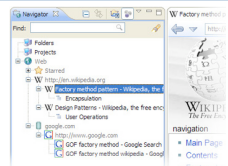**Synchronize tasks and due dates with your calendar**

Tasktop: Task-focused Web Browsing

Browse the web in Tasktop's IE-based internal browser

No need to bookmark – relevant pages are automatically tracked in the task context

Browser tabs are instantly restored when you re-activate a task

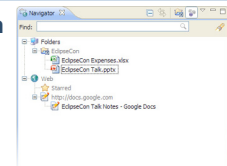**Supports task-focused browsing in external Firefox instances**

Tasktop: Desktop Integration

Link in document folders on your desktop

Spreadsheets, Word documents, etc. will be tracked in task contexts
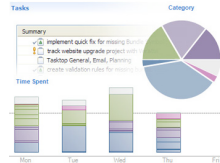
Benefit from instant search over local documents

Tasktop: Easy, accurate time tracking

Your time tracking is already done!

Simply generate reports to optimize your time or submit time sheets

The user retains full control to adjust recorded time to reflect actual time

Export to CSV, PDF, or upload directly to a JIRA or Bugzilla server

Measurable Productivity Gain

Tasktop
- **Proven and *statistically significant* productivity gain**
- **Results published at the 2006 Foundations of Software Engineering (FSE) conference**
  - **Several month long study of industry developers**
  - **Experienced ~50% average gain**
- **Tasktop guarantees productivity gains for its products (Google for "productivity guarantee")**
- **Ohloh.net industry-standard metrics:**
  - **Eclipse SDK developers are 4x faster than industry average**
  - **Mylyn developers are 10x faster than industry average**

Adoption

Actively used by hundreds of thousands
- **Tasktop/Mylyn have been adopted by hundreds of thousands of Eclipse users**
- **Mylyn downloads have exceeded 1,000,000 per month**
- **Last Evans Data Corp. survey states that 1/3 of Eclipse users use Mylyn**
- **Over 40 third-party connectors have been written**

Incremental adoption profile
- **Broad adoption has been enabled by an incremental adoption profile, where ALL features are optional**
- **Users only adopt the features that make them more productive**

Benefits

Write code faster
- **Task-focused interface technology**

Be more organized with the integrated task list
- **Tasks from your team's bug/issue tracker**
- **Tasks created from email messages**
- **Personal, local tasks**

Effective collaboration & project awareness
- **Orient communication around tasks so all relevant information and documents are kept together**
- **Share expertise by sharing task contexts**
- **Track progress with integrated change notifications**

Track time easily, accurately

About Tasktop Technologies

Created and leads the Eclipse Mylyn Project

Provides development and certification services for integrations/connectors

Provides consulting and training services for companies adopting the Task-focused technology

Developed 7 Eclipse-based products for partner companies

Discussion

What do you think of this tool?

What are its strengths and limitations?

When would it be the most useful?

When would it be overkill?

For Friday

Read Refactoring paper and summarize on Sakai

Redos of Assignment 6

Submit thesis summaries

Complete survey before finals end

Tasktop®
Task-Focused Productivity Tools