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?

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

Problems (2)

Information overload hurts productivity
Lack of integration slows developers down
• Switching between the IDE, email and web applications
  • Constant searching and reloading
  • Lack of linking between applications

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

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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

Focus views on only the relevant code
Reduce the need to repeatedly search, scroll
Less navigation, more editing

Multitask without context loss

Developers are interrupted every 11 minutes
Tasktop restores the relevant code with a click

THE TOOLS

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Mylyn</th>
<th>Tasktop Starter</th>
<th>Tasktop Pro</th>
<th>Tasktop PPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported Operating Systems</td>
<td>Free</td>
<td>Free</td>
<td>$59</td>
<td>$99</td>
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<tr>
<td>Magic Commender</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<td>Source code tracking</td>
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<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Task tracking and scheduling</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>XML, CSV, PDF, Notes writer</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Automatic Mylyn update</td>
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<td>Time tracking dashboard</td>
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<td>✔</td>
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<tr>
<td>Time tracking in Eclipse</td>
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<td>✔</td>
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<tr>
<td>Time tracking reports and support</td>
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<tr>
<td>Task-focused work terrorist</td>
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<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Full Microsoft Outlook integration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Schedule tasks using Google Calendar</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Instant desktop file search</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Calendar, time and switcher for</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

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”

My Contact, Creator of Find Concept
Dave Shepherd

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**

![Task presentation](image)
Focus on workweek

**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

**Mylyn: Source Editor Folding**

Uninteresting methods in your source editor are automatically folded
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

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

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

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

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

<table>
<thead>
<tr>
<th>Intent</th>
<th>Query Parameters</th>
</tr>
</thead>
</table>
| 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  
Commentor: Checked  
Email2: my_email@my_company.com  
Owner: Checked  
Matching: notregexp |


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