

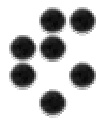
# Developing a Control System from a Divan Bed

Grega Milcinski ([grega.milcinski@cosylab.com](mailto:grega.milcinski@cosylab.com))

M. Centrih, J. Dovc, M. Plesko, G. Tkacik

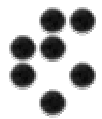
J. Stefan Institute and Cosylab Limited

PCaPAC 2002, Frascati  
October 2002



## Agenda

- working at home is effective
- project management tools
- sample project flow



## Office vs. home

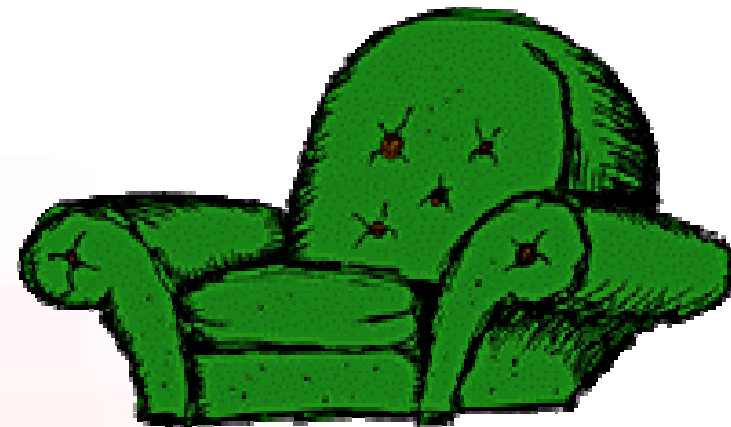


reappearing  
questions

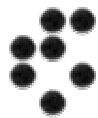
coffee-breaks



fixed  
workday



Can't you feel the  
reason?



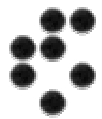
## E-Mails

The screenshot shows the Outlook Express interface. The left pane displays the 'Folders' tree with 'Inbox (180)' selected. The right pane shows a list of emails with columns for 'From', 'Subject', 'Received', and 'Size'. The 'Request Tracker' folder is highlighted in the left pane.

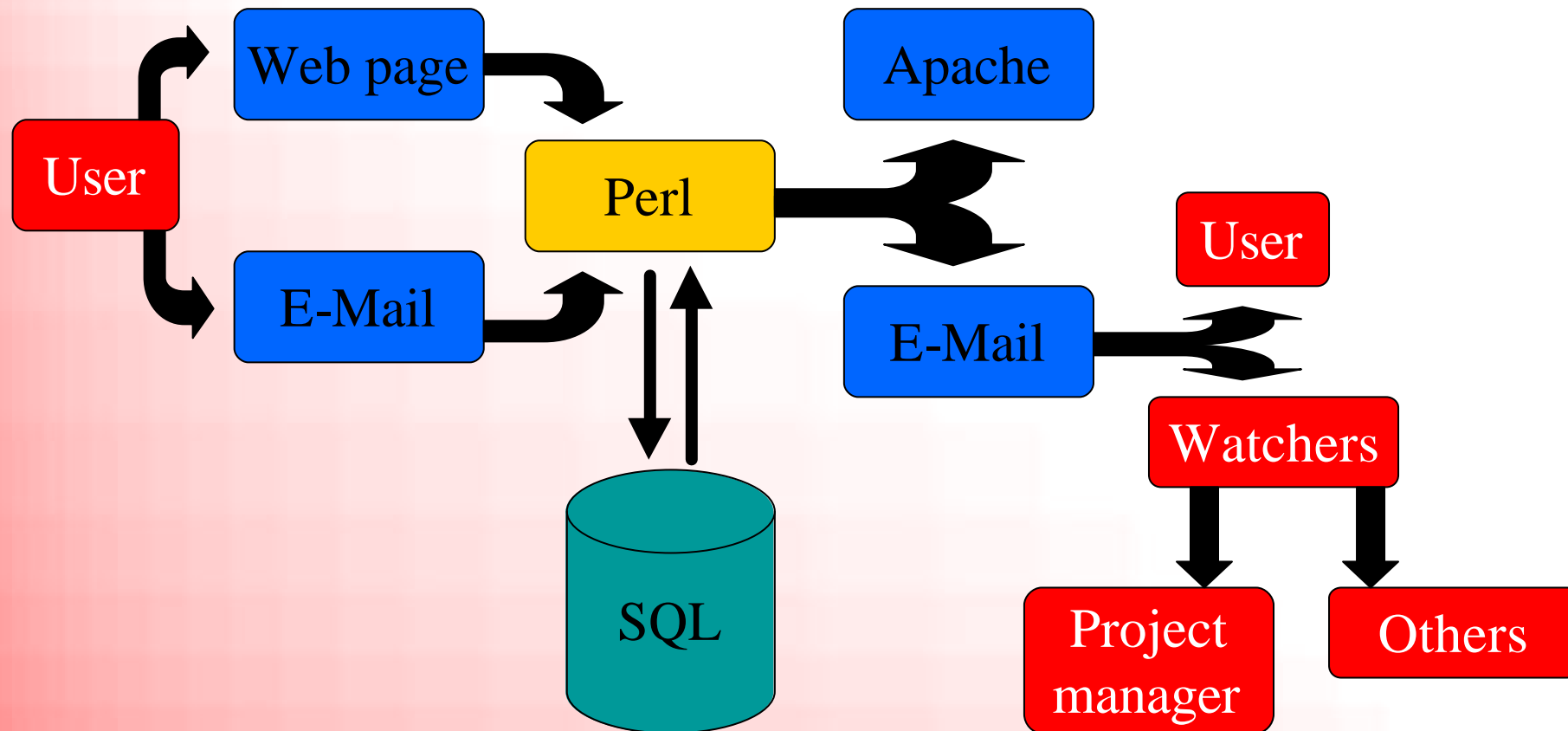
From	Subject	Received	Size
Manuela Giabbai	PCaPAC2002		
PCaPAC2002	PCaPAC2002		
PCaPAC2002	PCaPAC2002		
Manuela Giabbai	PCaPAC2002		

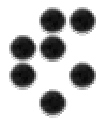
  

From	Subject	Received	Size
Root via RT	[cosylab.com #1105] Ticket Resolved: Create a fake image of my Inbox	7.10.2002 19:00	3KB
Ales Pucelj via RT	[cosylab.com #1103] Ticket Resolved: barva za CosyPrinter	7.10.2002 17:21	3KB
Igor Kriznar via RT	[cosylab.com #703] Comment: FileChooser BUG	20.9.2002 13:09	3KB
Miha Kadunc via RT	[cosylab.com #1044] Correspondence: Export Eclipse XML templates for comments	16.9.2002 16:38	3KB
Ales Pucelj via RT	[cosylab.com #1044] Correspondence: Export Eclipse XML templates for comments	16.9.2002 16:21	4KB
Igor Verstovsek via RT	[cosylab.com #1044] Comment: Export Eclipse XML templates for comments	16.9.2002 15:49	4KB
Janez Dovc via RT	[cosylab.com #478] Ticket Resolved: PHPLIB	3.6.2002 10:26	3KB
Igor Verstovsek via RT	[cosylab.com #682] Correspondence: XSLT for Projects	23.5.2002 16:06	3KB
Gasper Tkadic via RT	[cosylab.com #472] Correspondence: ANT buildfile from SQL	23.5.2002 15:33	3KB
Janez Dovc via RT	[cosylab.com #685] Ticket Creation: Please write offer for SuperSOR	23.5.2002 0:56	3KB
Gasper Tkadic via RT	[cosylab.com #543] Ticket Resolved: Update Java-Common Build HowTo	22.5.2002 20:56	3KB
Gasper Tkadic via RT	[cosylab.com #472] Correspondence: ANT buildfile from SQL	22.5.2002 20:51	3KB
Gasper Tkadic via RT	[cosylab.com #472] Correspondence: ANT buildfile from SQL	22.5.2002 20:50	3KB
Gasper Tkadic via RT	[cosylab.com #354] Correspondence: Request Tracker Analyzer	21.5.2002 20:35	4KB
Jurij Bavdaz via RT	[cosylab.com #594] Ticket Resolved: 2000 SIT	15.5.2002 7:10	3KB
Klemen Zagor via RT	[cosylab.com #592] Ticket Resolved: add tags for NOTE and WARNING to CosyXML	15.5.2002 2:03	3KB
Klemen Zagor via RT	[cosylab.com #315] Ticket Resolved: XSLT	15.5.2002 1:37	3KB
Klemen Zagor via RT	[cosylab.com #536] Ticket Resolved: Mail	14.5.2002 8:23	3KB
Klemen Zagor via RT	[cosylab.com #71] Ticket Resolved: Document title	14.5.2002 7:08	3KB
The RT System itself via RT	[cosylab.com #335] OwnerChange: Make new queue ANKA	4.4.2002 18:16	2KB
Igor Kriznar via RT	[cosylab.com #335] Ticket Creation: Make new queue ANKA	4.4.2002 18:16	3KB
Igor Kriznar via RT	[cosylab.com #334] Ticket Creation: ANKA installer	4.4.2002 18:02	3KB
Igor Kriznar via RT	[cosylab.com #302] Correspondence: Keywords	4.4.2002 17:10	3KB
The RT System itself via RT	[cosylab.com #331] OwnerChange: hyponet	31.3.2002 17:42	3KB

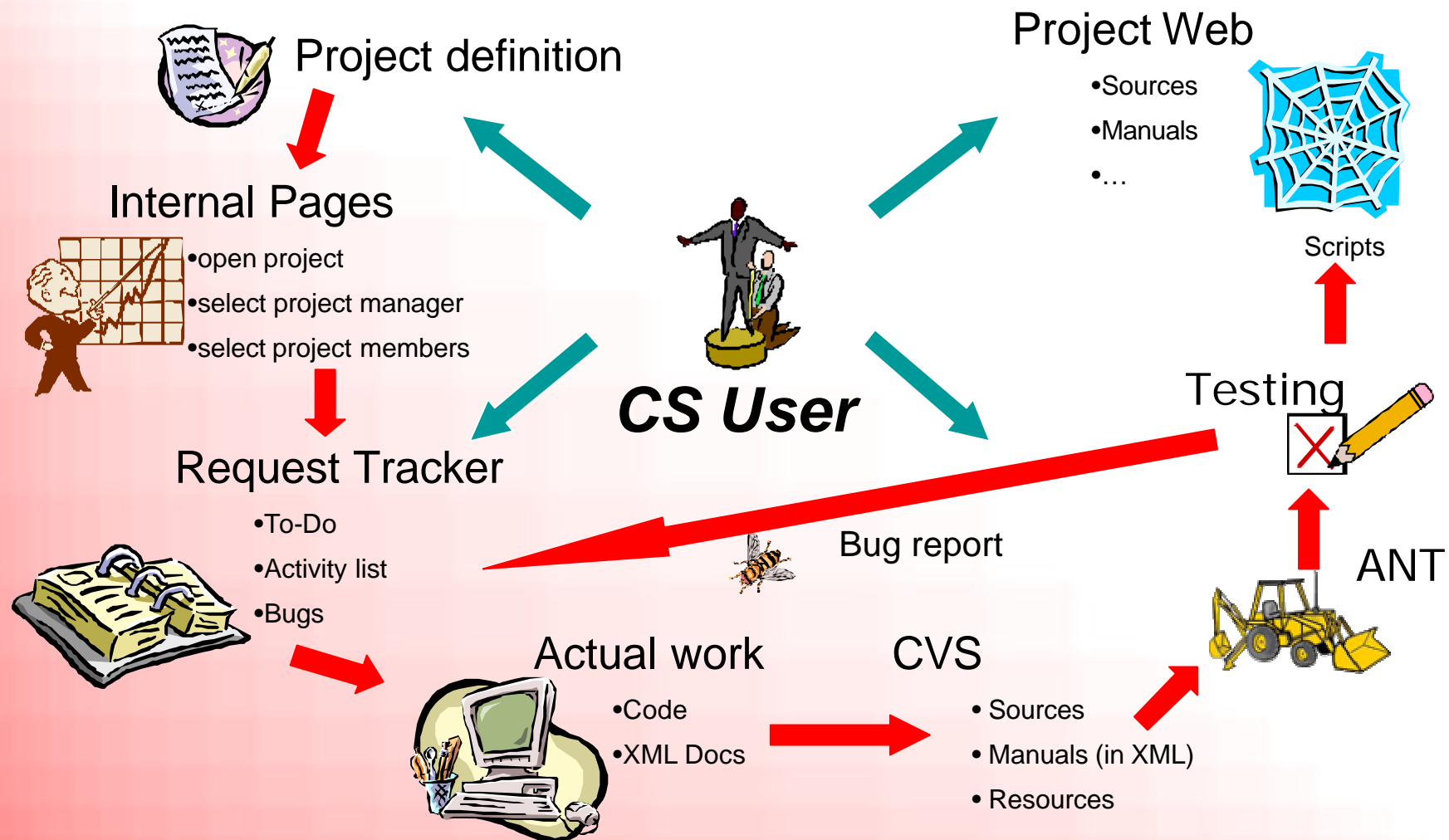


## Request Tracker

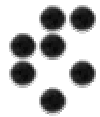




## eManagement Cycle







## All Data in MySQL

Home

- cosylab (15)
  - Articles
  - Conference
  - Constants
  - Presentations
  - ProjectData
  - ProjectFiles
  - ProjectLinks
  - ProjectNews
  - Projects
  - Rights
  - Users
  - header\_main
  - header\_sub
  - header\_sub\_sub
  - members
- cosylab\_test (5)
- cs\_int (5)
- cs\_secretary (1)
- documentation
- equipment (2)
- mysql (6)
- rt2 (35)
  - ACL
  - AdditionalEmail
  - AdditionalEmailT
  - Attachments
  - CVSBuilds
  - CVSConstants
  - CVSDependencies
  - CVSLinkProjects
  - CVSLinkProjects
  - CVSProjects
  - Contacts
  - GroupMembers
  - Groups
  - KeywordSelects
  - Keywords
  - Links
  - ObjectKeywords
  - Partners
  - Queues
  - ScripActions
  - ScripConditions
  - Scrips
  - Templates
  - Tickets

Database rt2 - table CVSProjects running on cosy

Showing records 0 - 6 (6 total)

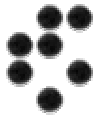
SQL-query : [\[Edit\]](#)  
SELECT 'id','Name','Audience','Scope','TestClass' FROM 'CVSProjects' WHERE 1 AND 'id' < 7 LIMIT 0, 30

Show: 30 rows starting from 0  
in horizontal mode and repeat headers after 100 cells

	id	Name	Audience	Scope	TestClass
<a href="#">Edit</a> <a href="#">Delete</a>	1	Common	All developers using Cosylab software.	This is the root project that depends on no other ...	
<a href="#">Edit</a> <a href="#">Delete</a>	2	Java-Common	All Cosylab developers programming in Java languag...	This project is the root project of all Java based...	
<a href="#">Edit</a> <a href="#">Delete</a>	3	CosyBeans-Common	Cosylab programmers that develop graphical compone...	This project contains graphic rendition code for m...	
<a href="#">Edit</a> <a href="#">Delete</a>	4	CosyBeans	Cosylab programmers that extend the general graphi...	This project contains the displayers / adapters fr...	com.cosylab.gui.test.AllGUITests
<a href="#">Edit</a> <a href="#">Delete</a>	5	Datatypes-Common	The audience of this project are firstly all devel...	The Datatypes libraries introduce several concepts...	
<a href="#">Edit</a> <a href="#">Delete</a>	6	Abeans	The audience of Abeans project are all developers ...	Abeans provide a number of application building se...	abeans.test.AllAbeansTests

Show: 30 rows starting from 0  
in horizontal mode and repeat headers after 100 cells

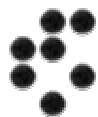
[Insert new row](#)



## Best of Breed Tools

- all open source !
  - **Apache** Web server, PHP scripts
  - **sympa** mailing lists:
    - list@<project>.cosylab.com
  - **eclipse**: Java IDE with integrated CVS support
  - **RT**: to-do tickets and support/bug tracking
    - Web interface or bug@<project>.cosylab.com
  - **ant**: makefile in Java & XML (nightly build)
  - **XML** source –(**XSL**)–> html
    - CosyXML: no more MS-Word?
    - generated project pages





# XML Documentation

## Source

```
<?xml version="1.0" encoding="utf-8"?>
<?xml-stylesheet type="text/xsl" href="http://www.cosylab.com/Documentation/Normal.xsl"?>
<cosydoc xmlns="urn:schemas-cosylab-com:Document">
  <head>
    <title>XML Documentation</title>
    <info file="XML_Documentation" uri="http://www.cosylab.com/docs" class="doc" year="2002">
      <contributor name="Klemen Žagar" id="kzegar" email="klemen.zagar@cosylab.com"/>
      <contributor name="Grego Milcinski" id="gmilcinski" email="grega.milcinski@cosylab.com"/>
      <modification version="1.0" by="kzegar" date="2001-12-20">
        <section>Created</section>
      </modification>
      <modification version="1.1" by="gmilcinski" date="2002-02-10">
        <section id="xmlMeta">Added some types, changed a few key to aust</section>
      </modification>
      <modification version="1.2" by="kzegar" date="2002-05-14">
        <section id="xmlMeta">Added notice and warning</section>
      </modification>
      <owner id="kzegar"/>
    </head>
    <scope>
      The intent of this document is to define an XML schema useful for writing various ki
    </scope>
    <audience>
      The audience of this document are all employees of Cosylab and all members of the KG
    </audience>
    <reference id="msxml"
      title="Core XML Services"
      href="http://msdn.microsoft.com/xml"
      author="Microsoft"
      date="2001"
      publisher="Microsoft"
      revision="4.0"/>
    <reference id="msxsl"
      title="XSLT Processor"
      href="http://msdn.microsoft.com/downloads/sample.asp?url=/msdn-files/027/00
      author="Microsoft"
      date="2001-10-09"
      publisher="Microsoft"
      revision="3.0"/>
    <reference id="msxml"
      title="Core XML Services"
      href="http://msdn.microsoft.com/xml"
      author="Microsoft"
      date="2001"
      publisher="Microsoft"
      revision="4.0"/>
    <reference id="msxsl"
      title="XSLT Processor"
      href="http://msdn.microsoft.com/down
      author="Microsoft"
      date="2001-10-09"
      publisher="Microsoft"
      revision="3.0"/>
  </body>
</cosydoc>
```

## Result

XML Documentation	
Project:	
Classification:	User's Documentation
Identification:	CBL-DOC-02-01
Document Owner:	Klemen Žagar
Copyright © 2002 by Cosylab Ltd. All Rights Reserved.	

### Document History

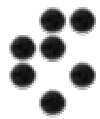
Revision	Date	Author	Section	Modification
1.0	2001-12-20	Klemen Žagar	all	Created
1.1				
1.2				

### References

ID	Author	Reference	R
1	Microsoft	<a href="http://msdn.microsoft.com/xml">Core XML Services</a>	4.0
2	Microsoft	<a href="http://msdn.microsoft.com/downloads/sample.asp?url=/msdn-files/027/00">XSLT Processor</a>	3.0
3	WWW Consortium	<a href="#">XHTML Specification</a>	1.0, 2

### References

ID	Author	Reference	Revision	Date	Publisher
1	Microsoft	<a href="http://msdn.microsoft.com/xml">Core XML Services</a>	4.0	2001	Microsoft
2	Microsoft	<a href="http://msdn.microsoft.com/downloads/sample.asp?url=/msdn-files/027/00">XSLT Processor</a>	3.0	2001-10-09	Microsoft



Enter New Ticket

☒ RT/cosylab.com: Create a new ticket Signed in as **gmilcinski**  
[\[Preferences\]](#) [\[Logout\]](#)

[\[Home\]](#) [\[Search\]](#) [\[Configuration\]](#)

New ticket in (all) Bug

New ticket in Bug

### Keyword Selections

Resolution	Product	Project	Severity	Platform	OS	CVS Project
Duplicate	ACS/Tools	CSL-VisualDCT	3: minor	All	Linux	Abeans
Fixed	Administrator Client	DESY-TINE	4: normal	HP	Linux/Red Hat 6.2	Abeans-CosyBeans
Invalid	CosyBeans	ESO-ALMA	5: major	Macintosh	Linux/Red Hat 7.2	Common
Later	Databush	FMB-U55	6: critical	PC	Windows	CosyBeans
Remind	Documentation	FZK-ANKA	7: blocker	Sun	Windows/2000	CosyBeans-Common

### Create a new ticket

Queue Bug Status: new Owner: -

Requestors: grega.milcinski@cosylab.com

Cc: gasper.tkacik@cosylab.com, janez.dovc@cosylab.com

Admin Cc: mark.plesko@cosylab.com

Subject: Prepare presentation for PCaPAC 2002

Attach file:

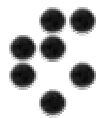
Describe the issue below:

Describe the use of Request Tracker

-----

Grega Milcinski, Cosylab d.o.o.

Owner: -  
Nobody  
ajelen  
akmet  
apucelj  
avodovnik  
azupanc  
dgalob  
dvitas  
**gmilcinski**  
gpajor



# Internal Project Pages

## CosyBeans-Common

Classification:	Project Documentation
Author:	Keyser Soze
Date:	2002-09-23

### Scope

This project contains graphic rendition code for most of the data displaying components produced by C: general purpose GUI components missing in Swing libraries as well.

### Audience

Cosylab programmers that develop graphical components for data representation and build framework graphical part of the application.

### Developer Info

Developer	Mail	
Igor Verstovsek	<a href="mailto:igor.verstovsek@cosylab.com">igor.verstovsek@cosylab.com</a>	manag
Ales Pucelj	<a href="mailto:ales.pucelj@cosylab.com">ales.pucelj@cosylab.com</a>	implem
Miha Kadunc	<a href="mailto:miha.kadunc@cosylab.com">miha.kadunc@cosylab.com</a>	design
Jernej Kamenik	<a href="mailto:jernej.kamenik@iis.si">jernej.kamenik@iis.si</a>	implem

### Distribution

Version	Type	Description	Buildlog
<a href="#">0.0.37</a>	nightly	Automatic build.	<a href="#">View</a>

### Dependencies

Version	Type	Name
<a href="#">1.0</a>	3rdparty	<a href="#">Common Icon Library</a>
<a href="#">4.5.1</a>	3rdparty	<a href="#">Sitraka Chart</a>
<a href="#">3.7</a>	3rdparty	<a href="#">JUnit Testing Framework</a>
<a href="#">1.0</a>	3rdparty	<a href="#">Table Layout Manager</a>
<a href="#">Latest</a>	cosylab	<a href="#">Common</a>
<a href="#">Latest</a>	cosylab	<a href="#">Java-Common</a>

## Documentation

### Exception Panel

The intent of this document is to present an overview of the exception panel component. This component is a CosyBeans-Common component used to display structured data present in exceptions.

### CosyBeans-Common Project Overview

This documents shortly describes the contents of the CosyBeans-Common project.

### About Dialog Documentation

This document describes the functionality and usage of

### Cosy Chart Overview

The intent of this document is to make an overview of chart architecture and give some practical instructions for programmers.

### About Dialog

This document briefly summarizes the features required of an About Dialog. An about dialog is a general purpose component for displaying application data, such as application name, vendor name, license information, system information and so on. The about dialog architecture must be flexible enough to enable the application programmer to insert specific data in the display.

### CosyBeans-Common ToDo

The intent of this document is to specify a plan of the development of Java GUI for year 2002 and beyond. This document is concerned only with CosyBeans-Common project that contains generic, reusable GUI components. These components are independent of any framework, like the one contained in the CosyBeans project, where Displayers, Adapters and the like are defined.

### Demo Applet

DemoApplet

### Bugzilla

[Submit a bug](#)

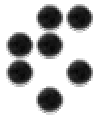
### Feature Request List

[Submit a feature request](#)

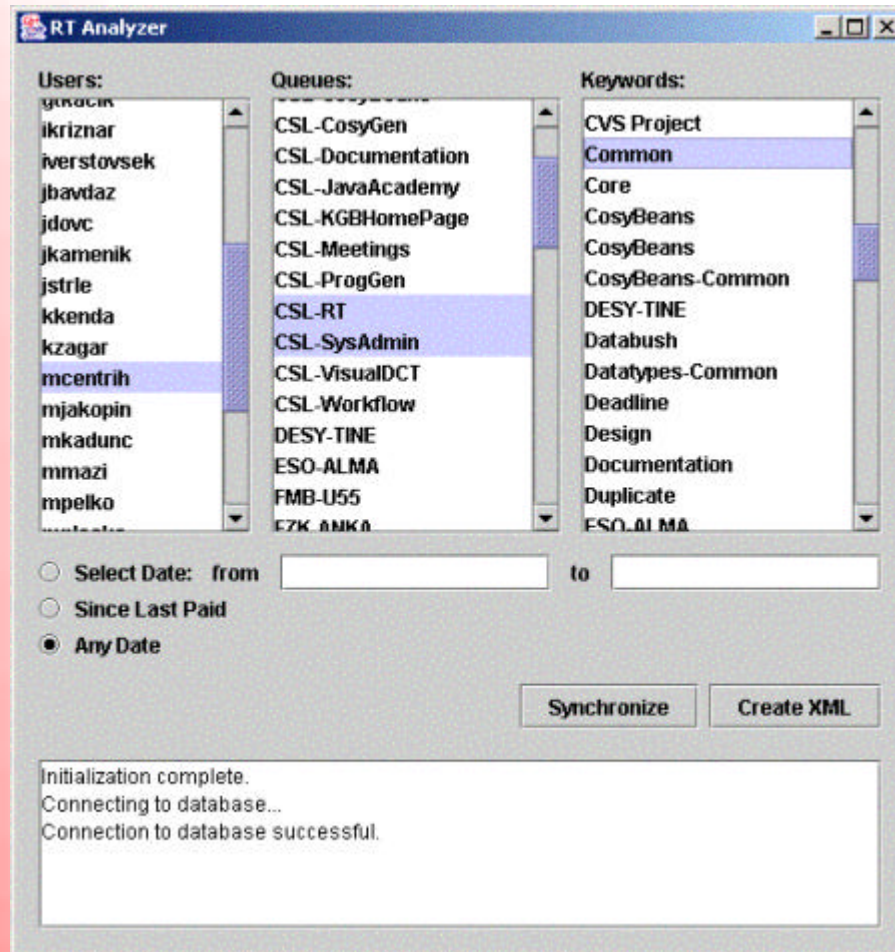
http://java.cosylab.com/builds/CosyBeans-Common/37/documentation/DOC-CosyBeans-Common\_Project\_Overview.html

Internet

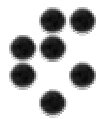




## RT Analyzer




- ticket creation
- advanced searches
- activity log
- advanced to-do lists



## Customer Area Web Pages

The screenshot shows the 'cosylab CONTROL SYSTEM LABORATORY' website. The header includes navigation links: Home, About Cosylab, Partners, Products, Customer Area, and Technical Support. A left sidebar contains links for DESY, TINE (highlighted), Public, Contact, Report a bug, and Logout. The main content area is titled 'Abeans-Cosybeans for TINE' and includes a 'Project Info' section with text about the project's experience and goals. Below this is a 'News' section dated 15.09.2002. A 'Documents' section lists various resources like documentation, user manuals, and specifications. Finally, a 'Downloads' section provides links to Java executables.

**cosylab**   
CONTROL SYSTEM LABORATORY

Home About Cosylab Partners Products Customer Area Technical Support

**DESY**  
**TINE**  
Public  
Contact  
Report a bug  
Logout

### Abeans-Cosybeans for TINE

#### Project Info

Our experience shows that at least as much time is spent solving problems addressed by application support as with actual interaction with the control system, if it is not factored into separate libraries but is coded by each programmer time and time again.

Abeans is such a library, written in the programming language Java, which does connection management, error and timeout handling, logging, authentication, resource initialization and destruction, policy and configuration management, etc. . .

Therefore the work to build a control application with a GUI consists mostly of connecting Abeans and the visual CosyBeans widgets in a visual builder.

To truly live up to the RAD promises, Abeans implement a lot of default behavior, such as default notifications to the user when communication errors occur, default callback handling, default lifecycle management (destruction when application closes, initialization when GUI becomes visible, connection when all necessary parameters have been set etc.). Such defaults can be overridden. To this end as much complexity as possible is hidden, but still accessible on demand. This allows professional applications to be written easily, even by nonprogrammers.

Having a pluggable model of control systems, Abeans are applicable to any control system from EPICS, CDEV, TINE, TANGO, ACS to proprietary ones.

#### News

15.09.2002 - Pages for DESY-TINE project created.

#### Documents

Documentation  
About Dialog Documentation  
Cosy Chart Overview  
CosyBeans Overview  
CosyBeans-Common Project Overview

User's Manual  
Power Supply Tutorial

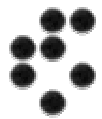
Request for Comments  
About Dialog  
Action Displayer  
CosyBeans Visuals  
Exception Panel  
Vitrage Plugin

Specifications  
Abeans Simulator  
Common Exception  
CosyBeans Architecture - Adapters and Displayers  
CosyBeans Architecture - Multiple Displayers  
Datatypes Architecture  
Datatypes Models To Abeans Engine Mapping  
Introspection Package Specifications

#### Downloads

Java Executable  
Java-Common.jar (80.7 kb)-general utilities (2002-09-23)  
Datatypes-Common.jar (44.4 kb)-general interfaces for data access (2002-09-23)





## Conclusion

- every action is recorded
- well structured
- easy accessible
- side effects