

IT Project Management Using Open Source Tools

- State of IT Project Management
- Four sets of tools to steer the Titanic.
- Four ways to retain team knowledge.
- Four things to make it better.

Jeff Cann, PMP



Why do IT projects fail?

Poor planning

Unclear / changing goals and objectives

Unrealistic time or resource estimates

Lack of executive support and user involvement

Failure to communicate and act as a team

Inappropriate skills

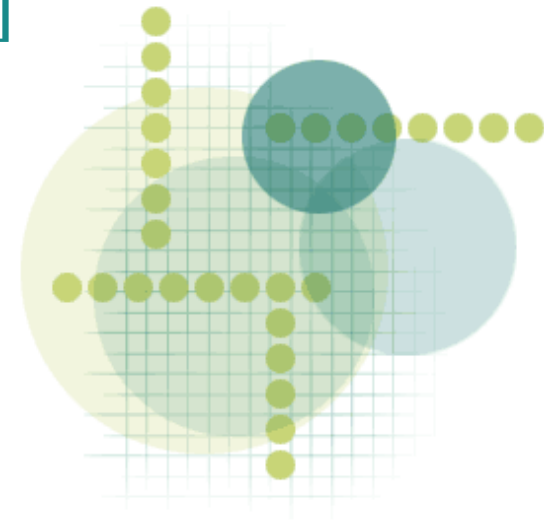


Chaos Report [1995]

Standish Group landmark study of IT projects

Project Results:

- 16% on time, in budget
- 31% cancelled [not always bad]
- 53% over time, over budget [189%]
and were missing features



More Data

KPMG [2002]

56% of 134 global firms wrote off at least one IT project @ \$16.5 Million

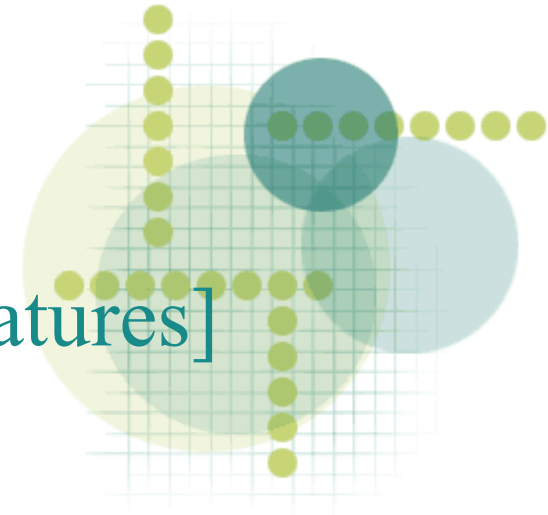
Chaos [2004]

29% Succeeded

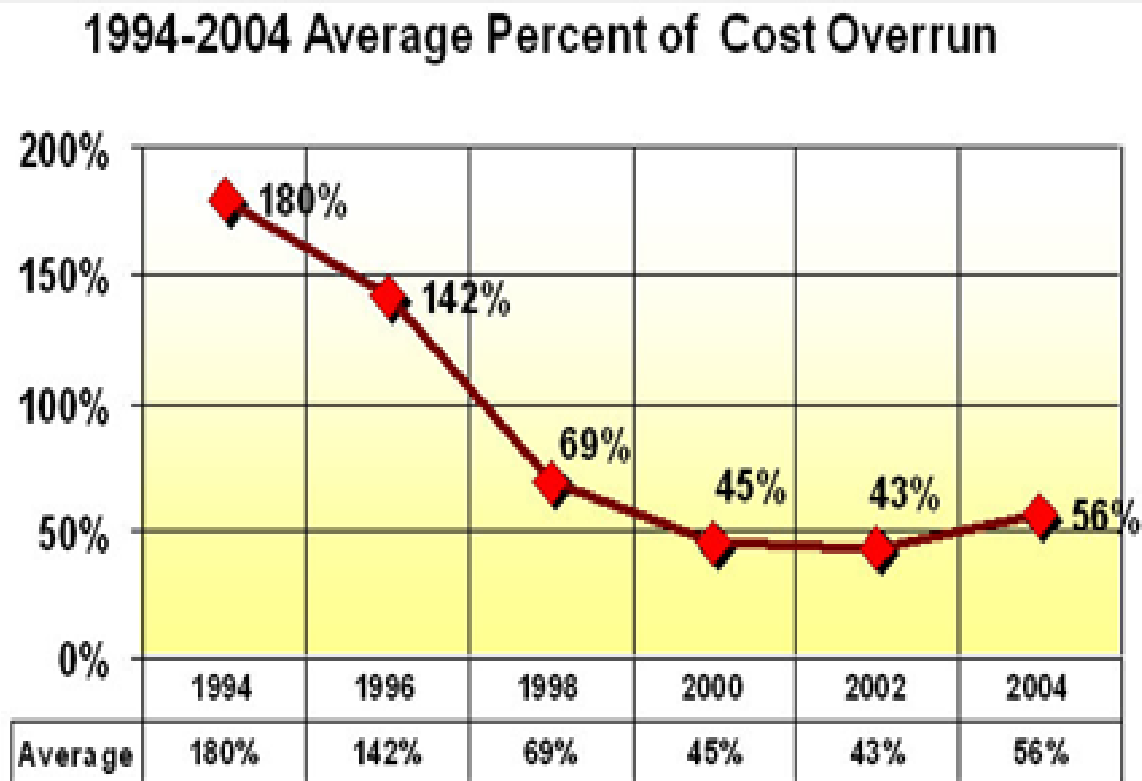
18% Failed

53% Challenged

[over time, over budget, missing features]



Trend of Cost Overruns

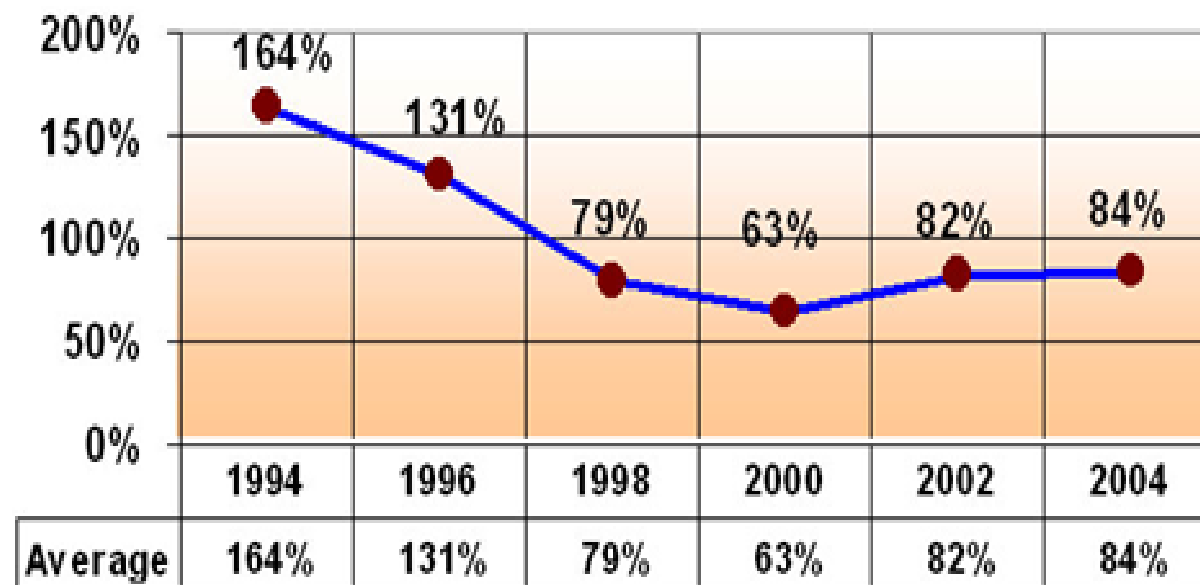


Year: 2004, Source: CHAOS Database: CHAOS surveys conducted from 1994 to Fall 2004. Results: shows average percent of cost above their original estimate.



Average % Time Overruns

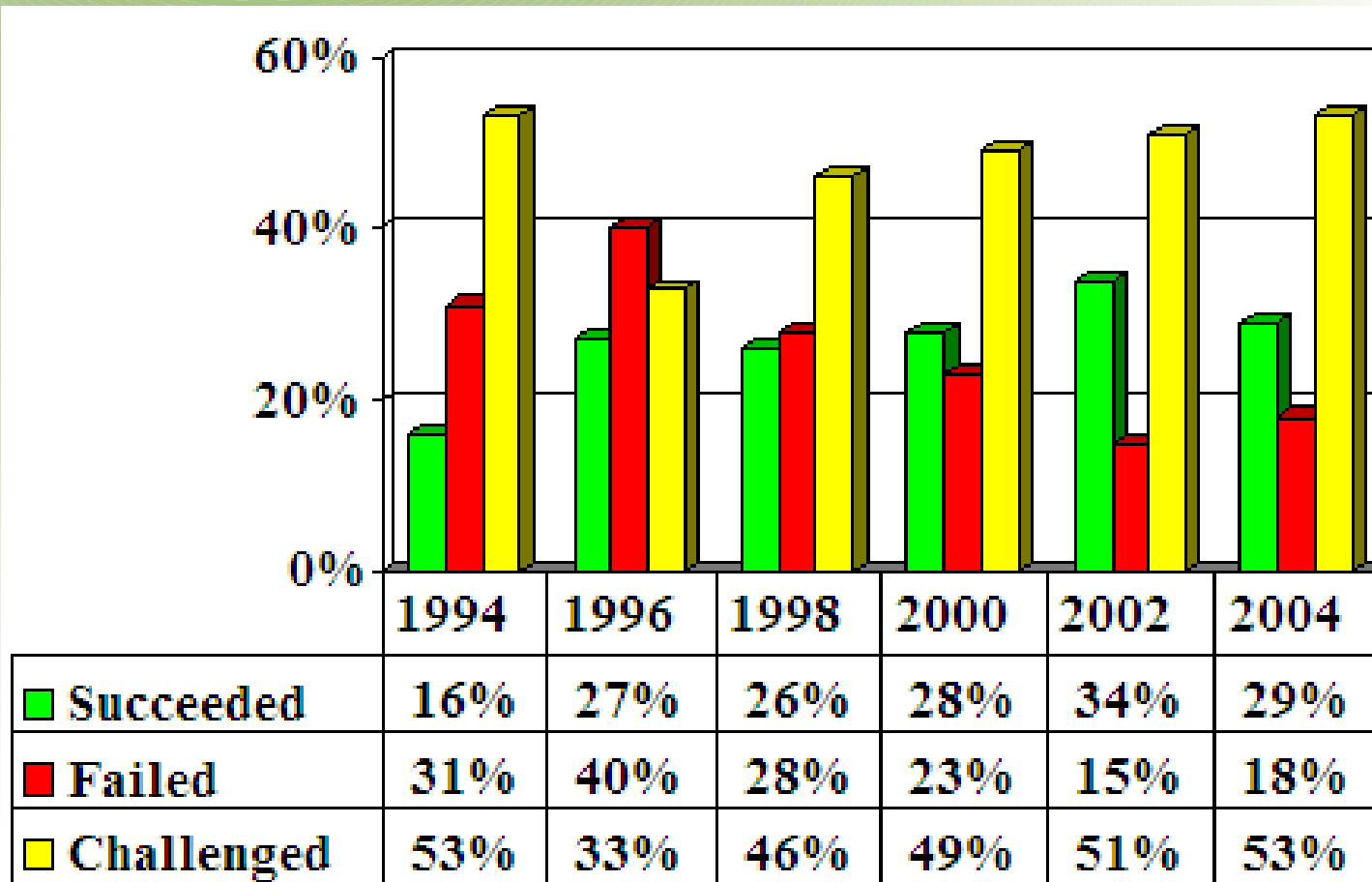
1994-2004 Average Percent of Time Overrun



Year: 2004, Source: CHAOS Database: CHAOS surveys conducted from 1994 to Fall 2004, Results: shows average percent of time above their original estimate.



10 Years of Chaos Data



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Four sets of open source tools

- Activity / Schedule / Chart
- Web Project Management
- Collaboration
- Resource Planning



Activity / Schedule / Charting

- Audience – Single end users.
- Model – Track project activities, provide graphs and reports.
- Open Source

OpenSched – CLI

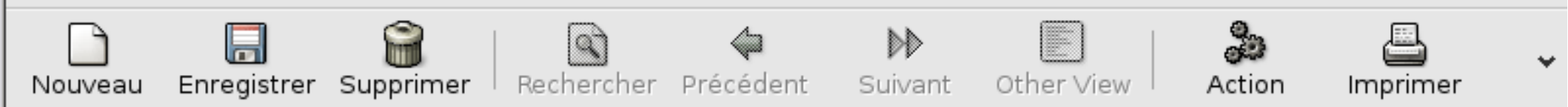
TinyProject – X

GanttProject – Java

MrProject – Gnome

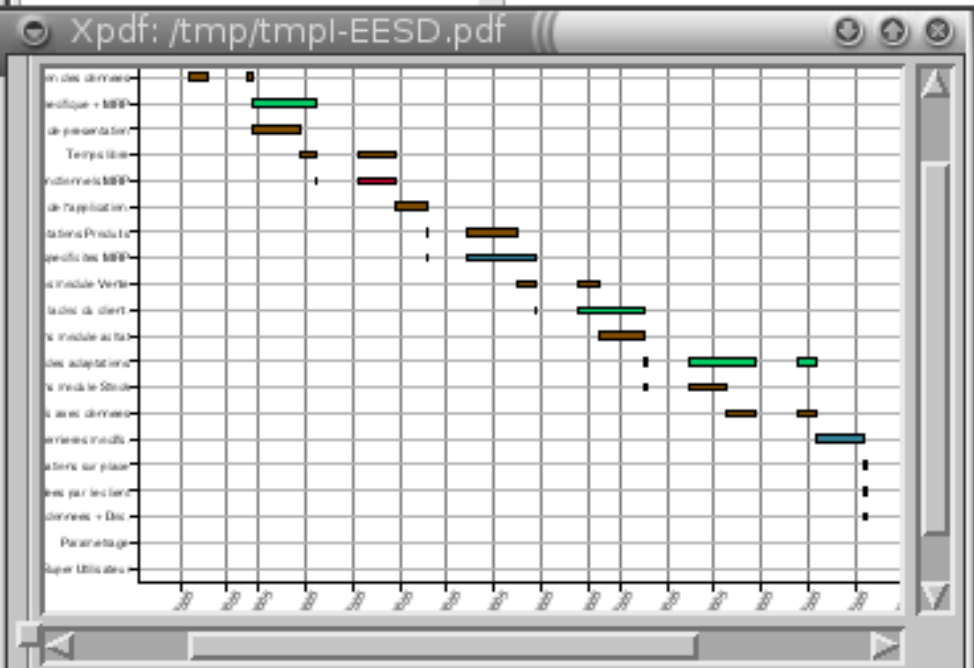
KPlato – KDE





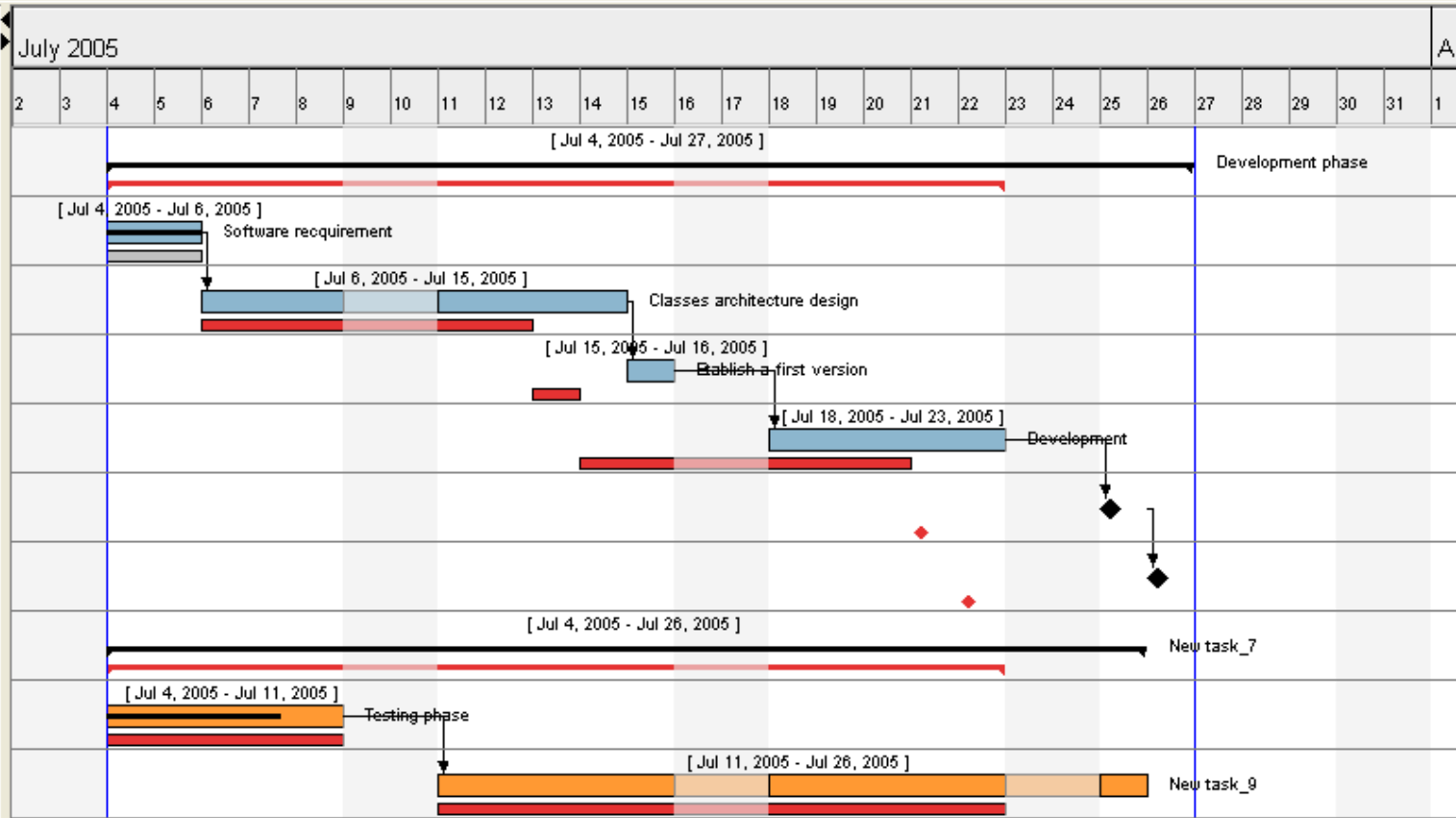
Raccourcis
 Auction-in-Europe.com
 Tamarico
 PR-Print

Project's name	Project manager	Customer	Hours planned	Hours spent
PR-Print	Fabien Pinckaers	PR Print s.a	160.5	96.15
▼ Auction-in-Europe.com	Fabien Pinckaers		41.2	16.18
▼ Monsantic - New Website	Fabien Pinckaers	Monsantic	21.0	8.5
Monsantic PDF	Fabien Pinckaers	Monsantic	3.0	
Monsantic	Fabien Pinckaers	Monsantic	12.0	3.68
Tamarico	Nicolas Évrard		3.0	2.0
▼ Intégration DIFRA - Project	Fabien Pinckaers		584.0	
Etude + Version draft + MR	Fabien Pinckaers		216.0	
Fabien Pinckaers	Fabien Pinckaers		264.0	
Moc	Fabien Pinckaers		104.0	
Fabien Pinckaers	Fabien Pinckaers		176.7	21.3
Fabien Pinckaers	Fabien Pinckaers		34.0	5.0
Fabien Pinckaers	Fabien Pinckaers		7.0	2.0
Gaëtan de Menten	Maison de		16.0	
Fabien Pinckaers	Fabien Pinckaers		84.7	6.8





Name	Begin date	End date
Development phase	Jul 4, 2005	Jul 27, 2005
Software recqu...	Jul 4, 2005	Jul 6, 2005
Classes archite...	Jul 6, 2005	Jul 15, 2005
Establish a first ...	Jul 15, 2005	Jul 16, 2005
Development	Jul 18, 2005	Jul 23, 2005
Beta release	Jul 25, 2005	Jul 26, 2005
Finale release	Jul 26, 2005	Jul 27, 2005
New task_7	Jul 4, 2005	Jul 26, 2005
Testing phase	Jul 4, 2005	Jul 11, 2005
New task_9	Jul 11, 2005	Jul 26, 2005

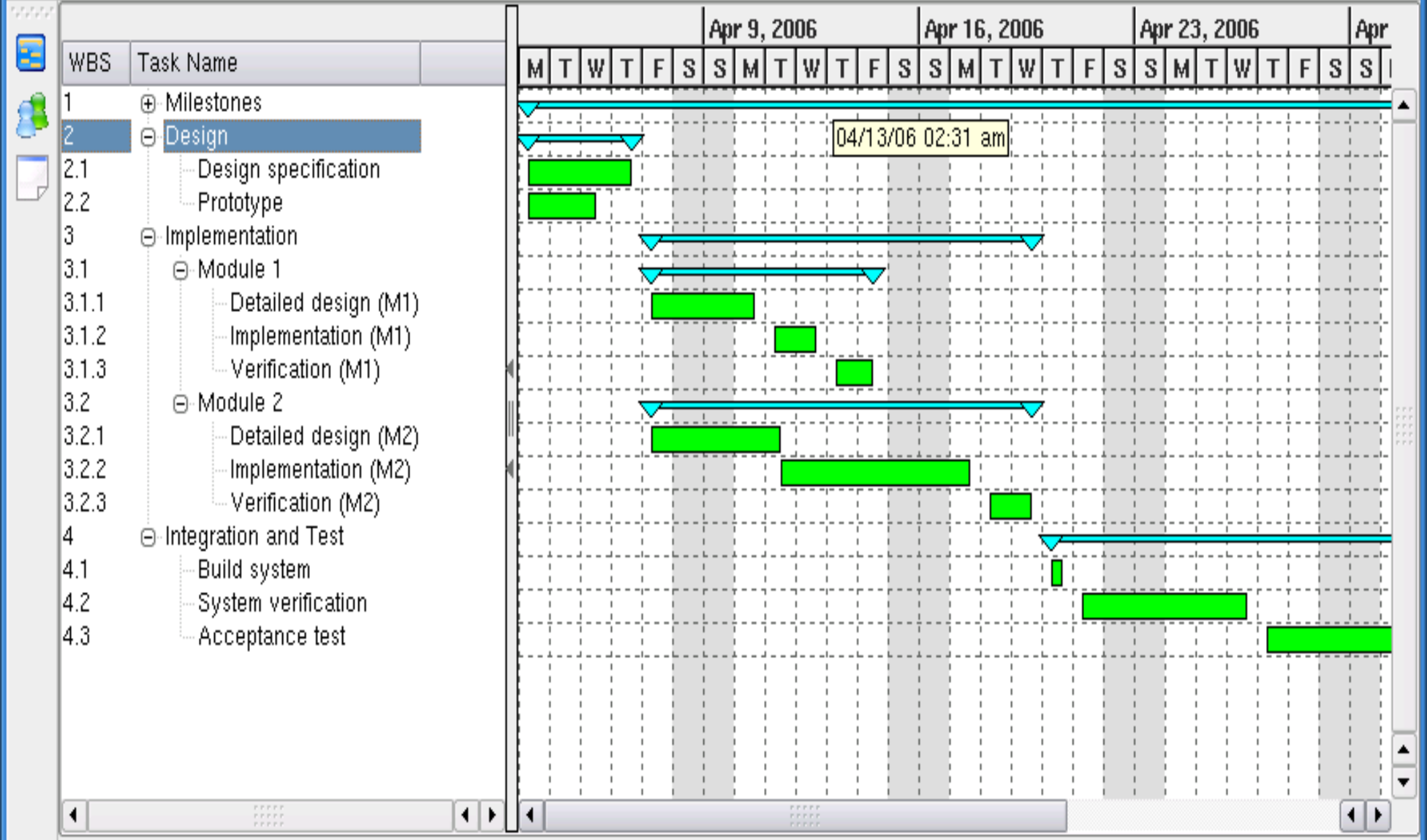


Compare to previous ✖

Previous states

Initial state ✖

Ok Cancel



Web Project Management

- Audience – Teams.
- Model – Dedicated project management tools – no unnecessary features.

- Open Source

dotproject.net

netoffice.sourceforge.net



dotProject.net

- Three simple requirements:
 - User Interface - Clean, simple and consistent
 - Project Management Fncionality - not another CMS, groupware or all things to all people collaboration.
 - Open – Open source / free usage / open access
- Demo at dotProject.net



Tasks Search: User: Company: Task Filter:

my todo : my pinned tasks : show inactive tasks : tasks per user

Pin	New Log	Work	P	Task Name	Task Creator	Assigned Users	Start Date	Duration	Finish Date	Last Update
my company :: ddddeev 0%										
		Log	0%	stage 1	admin	admin (100%)	11/12/2006 08:00 am	5 hours	15/12/2006 05:00 pm	-
		Log	0%	stage 2	admin	admin (100%)	15/12/2006 05:00 pm	5 hours	29/12/2006 08:00 am	-
										<input type="button" value="Reports"/> <input type="button" value="Gantt Chart"/>
my company :: Our project 0%										
		Log	0%	Web hosting	admin	admin (100%)	10/12/2006 08:00 am	1 hours	00/00/0000 12:00 am	-
		Log	0%	Install groupware	admin	admin (100%)	10/12/2006 08:00 am	1 hours	00/00/0000 12:00 am	-
										<input type="button" value="Reports"/> <input type="button" value="Gantt Chart"/>
Spacely Sprockets :: teste rei 10%										
		Log	5%	↑ análisis de requisitos	guest	admin (100%)	08/12/2006 08:00 am	48 hours	15/12/2006 05:00 pm	-
										<input type="button" value="Reports"/> <input type="button" value="Gantt Chart"/>
Spacely Sprockets :: Webmail 15%										
		Log	15%	Preparar pizza	admin	admin (100%)	10/12/2006 03:00 pm	1 hours	13/12/2006 08:00 am	-
										<input type="button" value="Reports"/> <input type="button" value="Gantt Chart"/>

Key: =Future Task =Started and on time =Should have started =Overdue =Done

netoffice.sourceforge.net

- Features
 - managing and sharing information about teams, projects, tasks, deadlines
 - Intuitive interface
- Targeted to medium sized companies
- Demo at netoffice.sourceforge.net





Test User

[Log Out](#)

[Go to projects site](#)

Home of **Test User**

My Projects

<input type="checkbox"/> P	Project ▲	Client Organization	Status	Owner	Project Site
<input checked="" type="checkbox"/>	netoffice 2.6β Test	None	● Not Started	test	<Create...>

My open Tasks

<input type="checkbox"/> P	Name ▲	Status	Completion	Due Date	Assigned By	Project	Published
<input type="checkbox"/>	test everything	● Open	0 %	--	test	netoffice 2.6β Test	No

My Discussions (1)

<input type="checkbox"/>	Topic	Owner	Posts	Last Post ▼	Status	Project	Published
<input type="checkbox"/>	Icons on left side of the bar.	test	1	2004-12-23 23:03	Open	netoffice 2.6β Test	Yes

My Reports (0)

My Notes (0)

Collaboration Tools

- Audience – Teams.
- Model – Facilitate team communication and collaboration, includes project management.
- Open Source

Hipergate

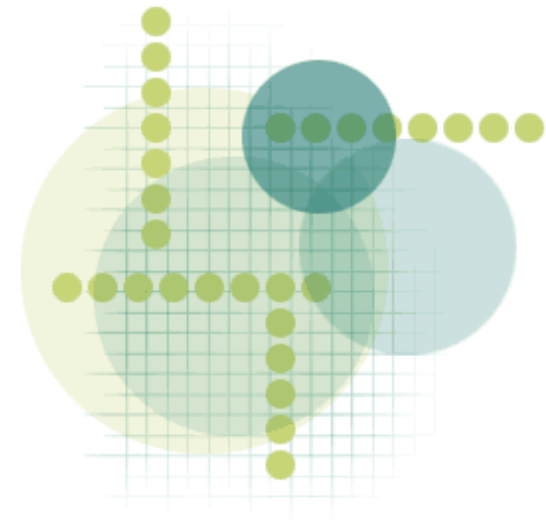
phpGroupWare

PHProjekt



hipergate

- Audience – Web based application suite that provides CRM and groupware.
- Features – Sales force automation, content management, eCommerce, Project Management, Corporate library.
- Demo – hipergate.org



 Refresh



PROJECTS

- hipergate
 - Collaborative Tools**
 - Hipermail
 - Calendar
 - Directory
 - Resources Listing
 - Sent & Received Calls
 - To-Do List
 - Contact Manager
 - Project Manager
 - Corporate Library
 - Shop
 - Configuration


Edit Project

Name Collaborative Tools


Parent hipergate


Start  **End** 


Reference

Status Open 

Cost 0.0

Department 

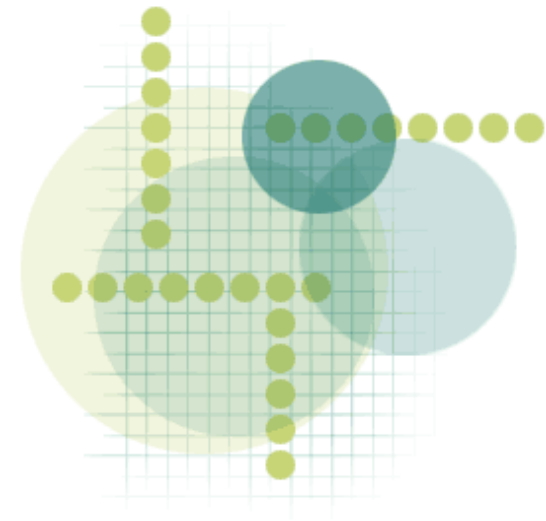
Company 

Contact 

Description

phpGroupWare

- Audience – Web based messaging, collaboration and enterprise management platform.
- Features – Over 50 applications; API to develop custom applications.
- Demo – phpgroupware.com





Demo Account - Sunday 2006/12/10

- General Menu**
- * Home
 - * Preferences
 - * About
 - * Logout

- Projects Menu**
- * Activities
 - * Budget
 - * Projects
 - * Jobs
 - * Work hours
 - * Statistics
 - * Archive

- Projects Preferences**
- * Preferences
 - * Grant access
 - * Edit Categories

Projects: List projects

showing 1 - 15 of 301

Select Category Active show all Search

Project ID	Title	Coordinator	milestones	Date Due	Jobs	View	Edit
P-2005-0003	_Stuff	demo2 [Demo2 Account]			Jobs	View	
P-2005-0004	Peter- Web	demo2 [Demo2 Account]	toto Tin man	2006/07/23 2006/07/29	2005/09/22	Jobs	View
P-2005-0009	Consultoria Gobierno	coach [lilli sturm]		2005/11/16	Jobs	View	Edit
P-2005-0010	Project One	demo [Demo Account]		2005/10/15	Jobs	View	Edit
P-2005-0011	Test999	demo3 [Demo3 Account]	testetetetet	2005/12/30	2005/10/17	Jobs	View Edit
1001	ttt	demo [Demo Account]	presentazione al gruppo web ssdfs	2006/07/05 2006/12/02	2005/10/15	Jobs	View Edit
P-2005-0012	SERVIDOR DE PRUEBA	demo [Demo Account]				Jobs	View Edit
testasdfj lk	test project with activities	demo3 [Demo3 Account]				Jobs	View Edit

PHProjekt

- Audience – Coordination of group activities and to share informations and document.
- Features – Group calendar, project management, time card system, file management, contact manager, mail client , etc.
- Demo – phprojekt.com





Projects

-
-
-
-
-
-

- Controls**
- Logout
-
- Group: **def**
- Settings
- Help
- Modules**
- Summary
- Calendar
- Contacts
- Chat
- Forum
- Files
- Projects**
- Timecard
- Notes
- Helpdesk
- Mail
- Todo
- Bookmarks
- Voting system

Consider current set filters
 Exclude archived elements
 Exclude read elements

timescale: Automatic scaling Manual scaling:
 Begin:
 End:

project choice: | Only main projects

display format: html chart

For chart only:

column view: Leader Person Category

colours display project colours:

scling: automatic weekly monthly annually

Legend

	No value		offered		ordered		Working		ended		stopped		Re-Opened		waiting
--	----------	--	---------	--	---------	--	---------	--	-------	--	---------	--	-----------	--	---------

Resource Planning

- Audience – Companies.
- Model – Integrated data flow that allows you to plan, manage, track any resource in the 'enterprise'.
- Project management via:
 - Project moves through ERP applications
 - Specific project management application



project-open

- Audience – Small companies [2-200 users].
- Features – Project planning and tracking, project controlling, project invoicing.
- Demo – project-open.org



Main Data

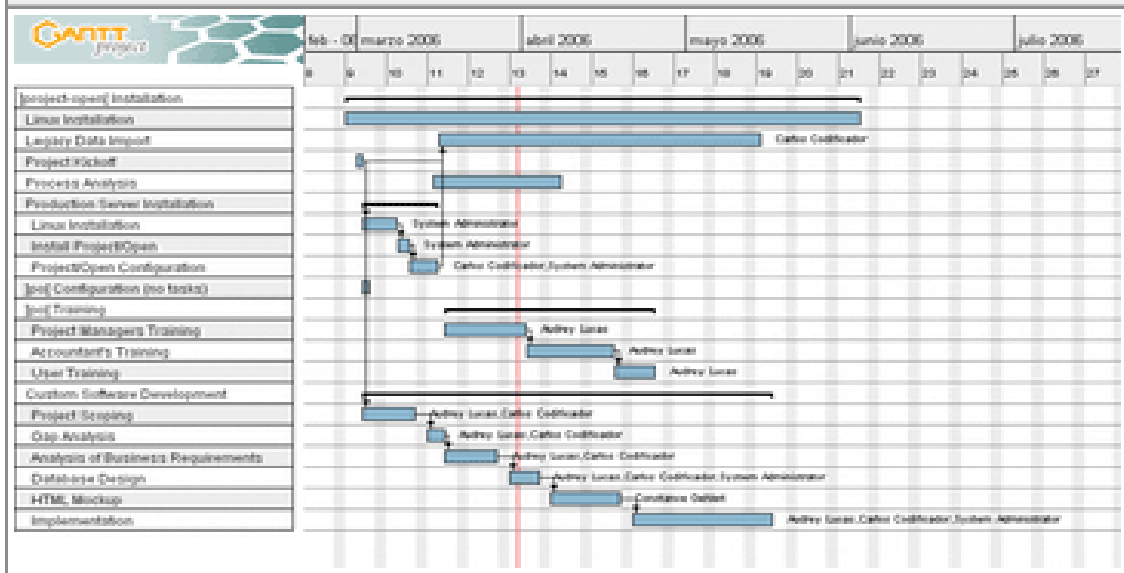
Project Base Data

Project name	Door Lock Distribution System (big)
Project#	2005_0106
Client	Grup Gabinec Associats S.L.
Project Manager	Ben Bigboss
Project Type	Strategic Consulting
Project Status	Open
Start Date	2005-07-01
Delivery Date	2005-09-30 00:00
On Track Status	■
Percent Completed	95.0%
Project Budget Hours	1330
Description	Distributionconcept for door-locks for a medium company
	<input type="button" value="Edit"/>

Admin Project

◆ [Create a Subproject](#)

Scheduling



◆ [Download GanttProject.gan File](#)

Upload .gan

Upload .png

Warning: Don't modify the project structure while the project is being executed. Changes may lead to deleted timesheet hours, cost items and others. Please read the manual and/or request more information. You need to install [GanttProject](#) on your computer.

GNUe [GNU Enterprise]

- Audience – SMEs [small to medium enterprises].
- Features – Set of tools to develop ERP applications, a set of packages for a full ERP system [CRM, supply-chain, project management], and community of support..
- Demo – gnuenterprise.org





Number:	Buyer:	Issued:	Delivery:	Gross:	Net:	Vat:
00001	Cust 1	11/23/04	11/23/04	2913.75	2331	582.75
00002	Cust 1					
00003	Cust 1					
00004	Cust 1					
00005	Cust 2					
00006	Cust 1					
00007	Cust 2					

Add...

Le kérédezés sikeres.

Invoice

Number:

Buyer: Edit...

Payment method: Edit...

Date issued: Due by: Delivery by:

Note:

Printed: 0

Value total: 0

Items

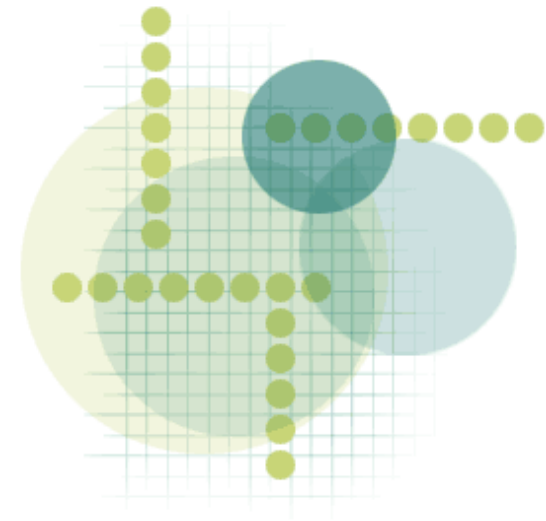
Product	Edit...	Price	Qty.	Unit	Value	Note
P1	▼	111.0	10	l	1387.5	
P3	▼	333.0	650	MJ	270562.5	
S1	▼	111.0	3	h	416.25	
	▼					
	▼					

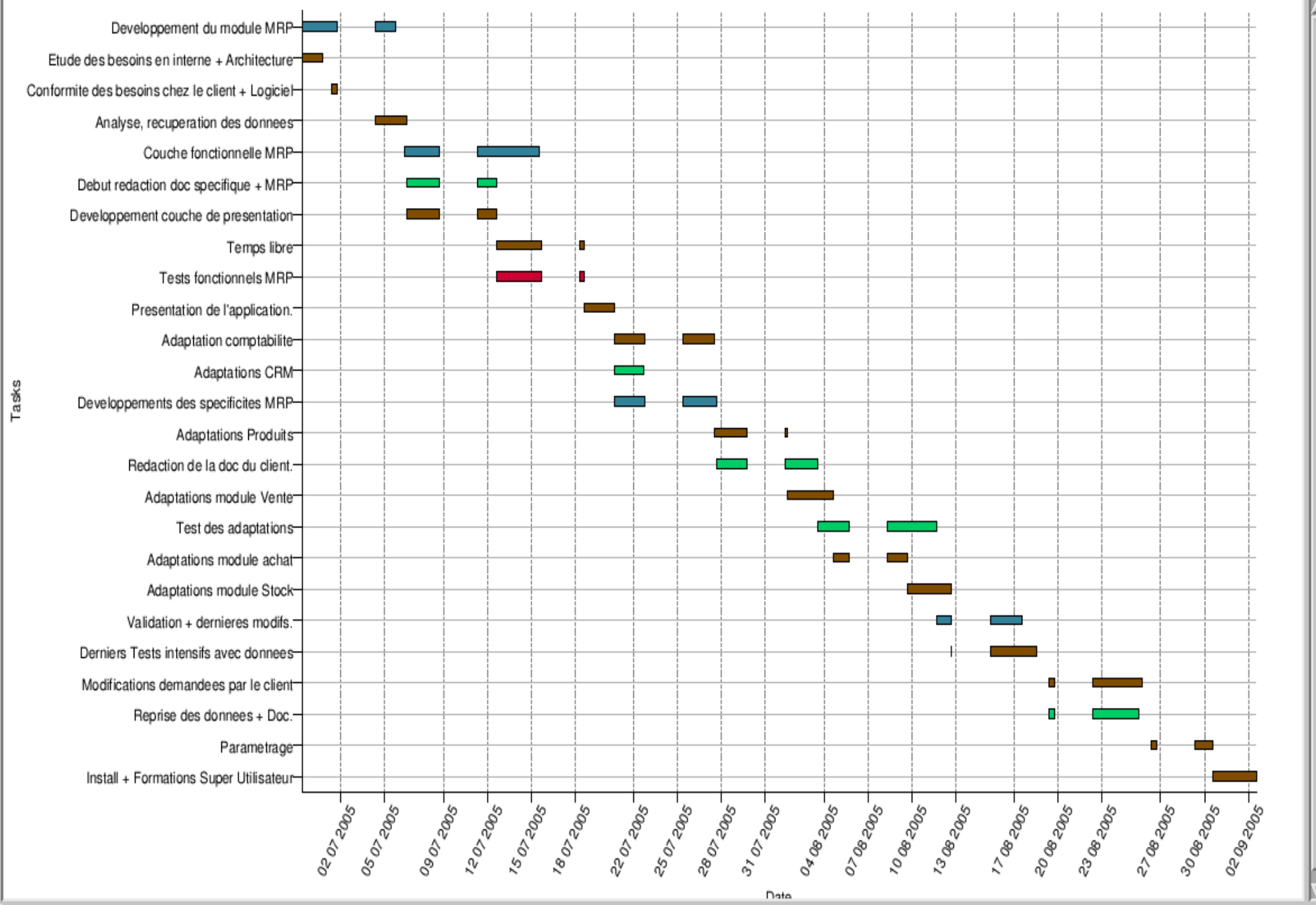
Ok Cancel



TinyERP

- Audience – Small and medium businesses [95% do not use ERP].
- Features – Finance and Accounting, Case / Ticket tracking, CRM, MRP, Purchase, Sales, HR, Project Management. Includes Palm OS.
- Demo – tinyerp.com





Tasks

Date

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- Four things to make it better.



Four ways to retain team knowledge

1. Conduct Meaningful Meetings:

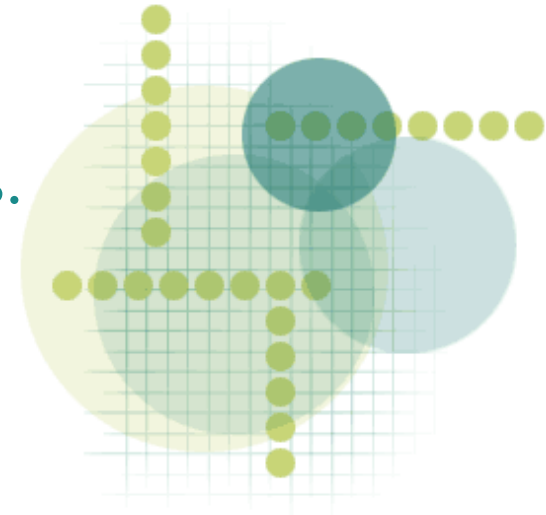
- Written agenda
- Stick to the agenda
- Use time to collaborate / brainstorm
- Getting status updates not collaborative
- Cancel / boycott useless meetings
 - Be ready to explain politely :)



Four ways to retain team knowlege

2. Use a ticket system

- Write case / ticket notes so someone can reuse them / reference them later.
- Write down what you are thinking and why when you solve problems.
- Use Carrot / Stick:
Reward employees with the best case notes.
Flog those who leave two word entries like 'fixed problem'.



Four ways to retain team knowlege

3. Use Information repositories

- Blogs – A simple way to communicate project status because it's ordered by date. Create blogs for each project [b2evolution].
- Wikis – Capture project information, technical specifications, troubleshooting and standard operating procedures.
- Use Carrot / Stick



Four ways to retain team knowlege

4. Training

- How are new team members normalized?
- Formal [class] vs on the job [shadow].
- Baptism by fire.
 - Learn by doing.
 - Learn by teaching.
 - Learn by recording ticket case notes.



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Four things to make it better

1. Create a real project plan with these 4 items:
 - Communication plan – what do your stakeholders want to know and how often?
 - Risk plan – what might happen and how the team will try to avoid and respond if risk occurs?
 - Activity plan – what is required to complete the project?
 - Resource plan – who is necessary to work on the project?



Four things to make it better

2. Confront issues head-on:

- Risk planning and requirements identification are the best ways to prevent problems.
- Once you are behind schedule there are only two ways to make the original date:
 - Crash it [add more people]
 - Remove deliverables
- Crashing the schedule rarely works and adds significant risk.



Four things to make it better

3. Manage risk:

- Risk Assessment Log
 - Mitigation
 - Contingency
- Track workarounds = the number of times unplanned activities occur in a project
 - High # work arounds = poor planning



Four things to make it better

4. Activity duration estimates

- Use PERT – Program Evaluation & Review Technique [1958 US Navy]
- Three estimates for each activity:
 - P [pessimistic] E [expected] O [optimistic]
- $\text{Duration} = (O + 4M + P) / 6$
- Reveals critical path



Bonus Material

“The Mythical Man Month” by Fred Brooks

Essays on software engineering

9 women can't make a baby in 1 month

“My Life is Failure” Jim Johnson

Standish Group [Chaos Report]

Encompass 12 years of data on over
50,000 IT projects [Chaos Chronicles]



References

- Project Perfect – Why IT Projects Fail
- cHBs – Open and Free Project Management Tools
- The Register – IT Project Failure is Rampant
- InfoQ – Interview with Jim Johnson
- Standish Group – The Chaos Report [1994]
- PERT – Program Evaluation and Review Technique [Wikipedia]

