

Yapp: Concepts and Tutorial



Copyright © 2003 plexityHide HB. All rights reserved.

This document contains proprietary information that is protected by copyright. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, or translated into another language, without prior written consent of plexityHide HB, Stockholm, Sweden.

The information in this document is subject to change without notice. plexityHide makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. plexityHide shall not be liable for errors contained herein nor for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Contents

Concepts.....	4
What is a project?	4
What is a resource?	4
How does a resource become assigned to a project?	5
Why are people rarely 100% dedicated to a project?	5
Different kinds of time	5
Activities, dependencies and deadlines.....	6
Resources, resource templates and resource plans	7
The enormous value of automatic resource calculation	10
Budget, resource costs and financial reporting.....	11
Tutorial.....	13
Introduction	13
"Big picture" planning and budget	13
Preparing resource plan templates and resource allocation	16
Activity planning	18
Aligning the project plan to fit the available resources	19
Reporting and evaluation	20

Concepts

What is a project?

For the scope of this document, a project is a set of deliverables and their requirements, defined and financed by the sponsor, decomposed into an activity and resource plan by the project's management team.

Yapp is a project management tool designed to help you as project manager (or as part of the project's management team) create the activity and resource plan required to manage a small to medium project.

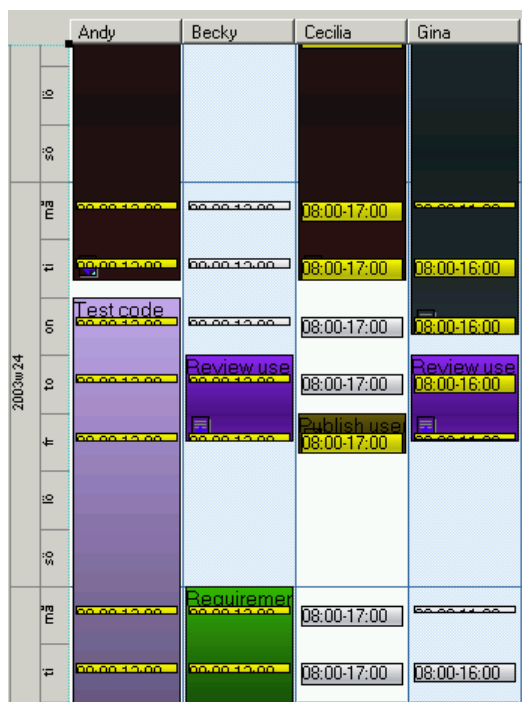
What is a resource?

A project consumes a lot of resources, e.g. people and their skills, office space and computers, printers and other tools. In many projects there is also a lot of traveling. All of these costs have to be included in the project's budget.

Yapp is not a complete project budgeting tool, but very powerful when it comes to allocating project members to activities. If you tell Yapp the time estimates for each activity and how much time each project member is contributing to the project, Yapp uses a very advanced resource calculation mechanism to verify that

- All activities have their resource requirements covered
- No project members are over utilized during any period

At the same time, Yapp creates a detailed resource plan with the activities planned for each person.



How does a resource become assigned to a project?

In many cases, the answer to the question in the heading is: “rather unwillingly”. People have so little spare time these days. So being assigned to a project means having to drop something else – important or not – which will have to wait until later, when it may conflict with something else and still not get done.

Yapp allows you to define resources that spend 1-100% of their full time in the project.

Why are people rarely 100% dedicated to a project?

In most organizations, people have a lot of things to do. There is that basic grind of routine tasks like answering e-mails, general participation in the line organization and supporting colleagues with answers to day-to-day questions. There are courses, seminars and workshops to attend. There are holidays, summer vacation, sick leave and children to take care of at home. People with more than basic skills are probably already members of one or more *other* projects. Lower management and local specialists are also likely to be part of most everything interesting that happens within the organization, either because they want to control it, benefit from it or because they are required for its success.

Yapp allows an unlimited number of resources to be assigned to a project, and allows you to define exactly how much time each project member is allocating to the project each week.

	Andy	Becky	Cecilia	Gina
ma	08:00-12:00	08:00-12:00	08:00-17:00	08:00-12:00
ti	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
on	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
to	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
fr	08:00-12:00	08:00-12:00	08:00-17:00	08:00-12:00
lø				
sø				

Different kinds of time

How can an activity take five days to complete, have a resource consumption of two days, and consume a resource for three days?

Well, it's quite simple.

- The length of an activity is the time between its first possible start and latest necessary end points. It's calendar time, often delimited by dependencies on adjacent activities. If you have a week in which to mount new wallpaper in a guestroom, in one end delimited by the departure of your mother and in the other end delimited by the arrival of

your mother-in-law, then that activity has a length of five days (not considering weekends).

- The total resource consumption for an activity is the number of hours required by one person to perform the entire activity. Resource consumption is dedicated man-time. To mount wallpaper in an average bedroom is likely to take approximately two days, including half a day applying putty to cracks and cavities and half a day with sandpaper. Man-days can be converted to man-hours. One man-day is usually around eight man-hours.
- As a resource you are consumed when you don't do much else. But people mounting wallpaper rarely have the luxury of doing only that. There are phone calls, meals, spouses and children to attend to, often consuming a third or so of your allocated time. That's why it usually takes three days to get that wallpaper up, during which you spend sixteen hours – two man-days – actually working with it.

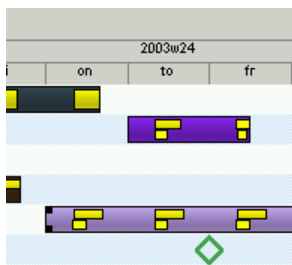
In a project, an activity can be shared between several members of the project. The more people involved the shorter the time span, since each project member adds his or her share of man-time to the required total.

Yapp is designed to handle all three types of time, and automatically does the necessary calculations between them.

Activities, dependencies and deadlines

When a project is being set up, the steering group is likely to define a number of tollgates¹ where you are required to present the status of your project for consideration and a go/no-go decision by the steering group. When you plan your project, you usually define a number of milestones², e.g. significant deliveries by the project team.

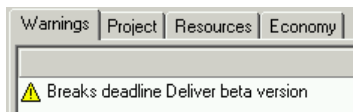
From a planning perspective, tollgates are most certainly deadlines in that the steering group will give you a date when they need you to prove the viability of your project in order to receive further financing. Milestones can also be deadlines, e.g. if someone outside the project is expecting a particular delivery, but may also be just things to celebrate by the project team.



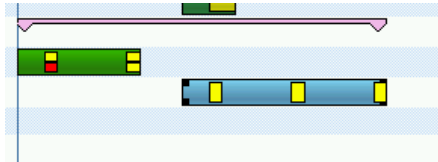
¹ The terminology varies between different project models, but most projects have some kind of deadlines incorporated into their budget and time plan.

² Once again your terminology may be different, but there are always things to celebrate in any project and this may be a signal that you have passed a milestone.

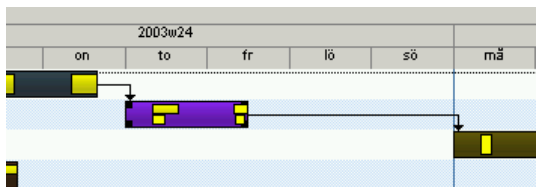
Yapp handles deadlines whether they are tollgates or milestones, and warns you if your plan breaks a deadline.



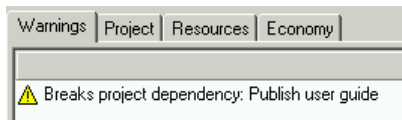
You may place activities that belong together, e.g. need to be completed before a particular deadline, as sub activities in a common “container” activity.



It is also easy to document dependencies between activities, e.g. that a specification must be complete before production can begin.



Yapp intelligently monitors the relation between the activities. If you move a group of related activities they will still retain their original order relative to each other. If you move individual activities, Yapp will warn you if you break their required order as defined by the dependencies.



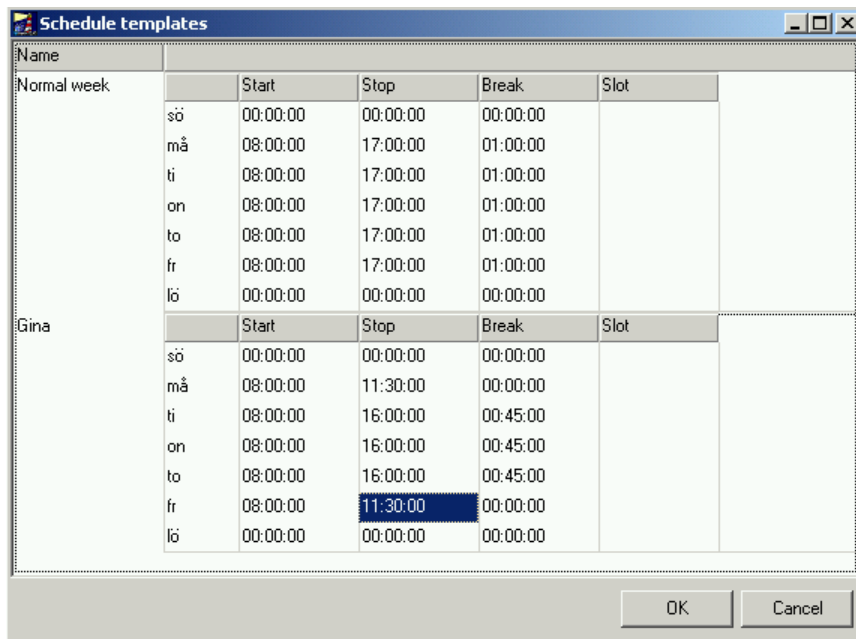
Resources, resource plan templates and resource plans

When you request resources for your project, you are likely to get some kind of conditions with every project member. Andy is going to spend 50% of his time in your project and the rest supporting the help desk. Becky is available for 50% because she only works half time. Only Cecilia will work 100% in the project.

But those 100% are not really yours all of them. People need to check their mail and e-mail, discuss things in the corridor, meet with their line organization, have a cup of coffee, attend internal education, be on sick leave, take a long lunch to buy a bicycle to their daughter... All these non-project-related activities add up to a lot of time, maybe as much as 20% on average. So even for a full-time project, you should only allocate 80% of the time per person for project activities.

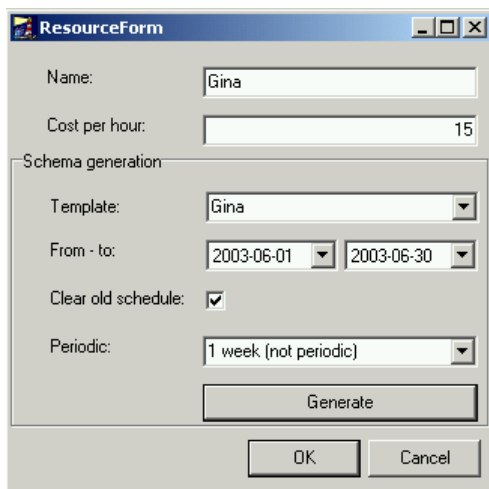
Yapp allows you unlimited freedom in defining how much time each person (“resource”) typically spends in the project, for each week. The way you define this is in Yapp is with a *resource plan template*. You can create a set of standard resource plan templates for the typical “full time”, “half time” or “25%” project

member, or a set of personal resource plan templates appropriate for the actual members of your project team, like the one we have entered below for Gina.



Name		Start	Stop	Break	Slot
Normal week	sö	00:00:00	00:00:00	00:00:00	
	må	08:00:00	17:00:00	01:00:00	
	ti	08:00:00	17:00:00	01:00:00	
	on	08:00:00	17:00:00	01:00:00	
	to	08:00:00	17:00:00	01:00:00	
	fr	08:00:00	17:00:00	01:00:00	
	lö	00:00:00	00:00:00	00:00:00	
Gina	sö	00:00:00	00:00:00	00:00:00	
	må	08:00:00	11:30:00	00:00:00	
	ti	08:00:00	16:00:00	00:45:00	
	on	08:00:00	16:00:00	00:45:00	
	to	08:00:00	16:00:00	00:45:00	
	fr	08:00:00	11:30:00	00:00:00	
	lö	00:00:00	00:00:00	00:00:00	

Once you have created the resource plan templates required for a project member, you generate the individual *resource plan* for that person.



Name:

Cost per hour:

Schema generation

Template:

From - to:

Clear old schedule: ☒

Periodic:

The resource plan is a calendar full of “place-holders” of time, indicating that the person will be spending time in the project on those occasions.

	Andy	Becky	Cecilia	Gina
2003w23				
su	08:00-12:00	08:00-12:00	08:00-17:00	08:00-17:00
mo	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
tu	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
we	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
th	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
fr	08:00-12:00	08:00-12:00	08:00-17:00	08:00-16:00
sa				

When you have generated the plan for a resource, you are free to assign the individual to one or more of the activities in the project. Each activity has a Resource allocation that looks like this:

The screenshot shows a dialog box titled "Resources". It contains a list of resources with checkboxes next to their names:

- ☐ Andy
- ☐ Becky
- ☐ Cecilia
- ☒ Gina

At the bottom of the dialog box are two buttons: "OK" and "Cancel".

Each activity has one more resources assigned to it. For each resource you may also specify the individual's commitment to that particular activity, i.e. how much of the available time that the person works with the activity.

Project item

ID: 1
Name: Write user guide

Attributes | Dependencies

Container: ☐
Summation: ☐
Calculation: End

Description:

Resources

Name	Comittment	Slot
Gina	100	

OK Cancel

The enormous value of automatic resource calculation

Most project planning tools are drawing tools that allow you to produce nice-looking Gantt and Pert charts. However, they won't help you calculate how long it will take to complete an activity if it's assigned to a person like Gina that works 28 hours and 45 minutes every week, and most of it on Tuesdays-Thursdays.

Also, they won't tell you if you have enough resources available at each point in time to complete the activities for the same period (which sound like a good thing to be sure of if you're the project manager!).

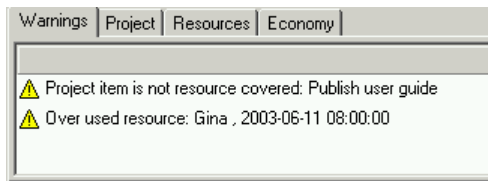
Yapp does all of this. It automatically adjusts the end date¹ for each activity depending on the plan for each resource assigned to the activity.

					2003w23											
Name	Start	Days	End date	Res calc	sö	må	ti	on	to	fr	lö	sö	må	ti	on	
Write user guide	2003-06-02	5	2003-06-11	End												

In the example above, the project plan allocates five man-days (40 man-hours) to the activity "Write user guide". Since the activity has been assigned to Gina, Yapp uses her resource plan to automatically calculate the planned end date for the activity.

¹ This is because in most cases, it is obvious when an activity can be allowed to start, but somewhat more fluid when it has to end. In cases where the end date is fixed and you need to calculate a reasonable start date, Yapp can of course perform the calculation backwards instead.

Yapp also calculates the total resource commitment available at each moment of the project plan, and compares that with the project's resource requirements at the same moment. All discrepancies are reported, e.g. if a resource is over-utilized or if an activity is not resource-covered.

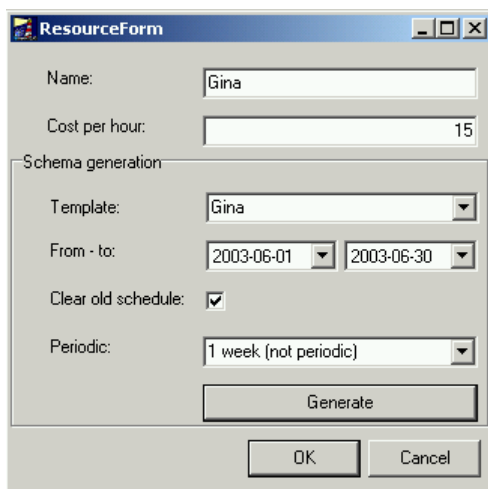


If you modify the resource plans or the allocation of resources to activities, Yapp automatically reflects these changes in the project plan. Adding resources to the project will compress the time plan, and removing resources or reducing their commitment will delay the project.

Budget, resource costs and financial reporting

If you manage projects where travel, material or external services are significant cost, you are likely to need a full-grown budgeting tool. But in many projects, the main cost is the cost of personnel.

Yapp allows you to assign a cost per hour to each project member.

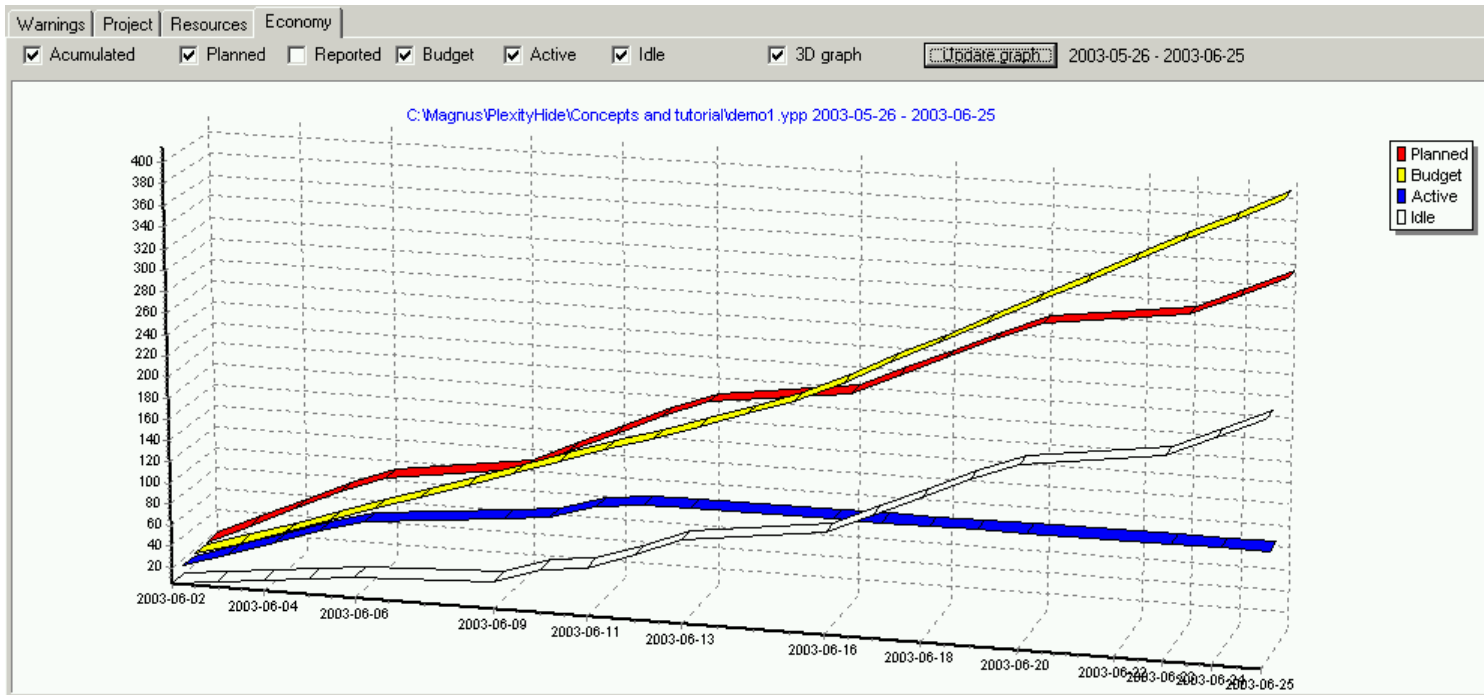


As you assign members to the project, the cost for each person is added to the project's total cost. When members are assigned to activities, Yapp starts counting *active* time. It also calculates *idle* time, i.e. the cost for the time that each project member is unable to contribute to the project because there is no available activity.

When you get the budget for the project, you should enter all the available figures into Yapp.

Budget:			
Part name	Start	Stop	Cost
Tollgate 2	2003-06-01	2003-06-15	200
Tollgate 3	2003-06-16	2003-06-30	300

Having the budget in Yapp enables you to produce a simple but very important diagram over the project's economy for each period, which helps you see where money is spent, and to modify the project plan so that your costs fit your budget.



As you can see from the example above, the planned costs align fairly well with the project's budget, but there is a lot of idle (unassigned) time since all activities haven't been entered into the plan yet.

Tutorial

Introduction

The purpose of this tutorial is to introduce you to Yapp from a project manager's view. We will walk you through the tool one step at a time, describing the various steps required to produce a project plan for presentation at a steering group meeting.

The example project is expected to deliver a software design, i.e. the blueprint for an application solution. The project is divided into three phases:

- Assignment specification.
This short step focuses on requesting financing for the project. This step ends at *tollgate 1*.
- Project specification.
This is the pre-study, where the detailed project plan is created. When the project plan has been approved, the project passes *tollgate 2*.
- Project completion.
In this major step, the project is given the resources required to reach the objectives. After approximately half the time, *tollgate 3* allows the steering group to terminate the project.

The planning in this tutorial will not be as detailed as it would have been in a real-life project. For simplicity's sake, we will focus only on the main activities and resources. When you use Yapp in your project, there will normally be many more activities and resources to handle in the plan.

"Big picture" planning and budget

When you start to plan a project, you usually know quite a lot about the most imminent activities, but not much at all about what's going to happen later on. In this example, we will create an overview plan for the three steps described above, and then decompose the first step in detail.

The order in which you enter activities and define resources is not important. Yapp automatically recalculates the plan according to subsequent modifications. In this tutorial, we will begin by creating a brief outline of the project, based on our initial assumptions. As time passes by and we learn more about the actual conditions, we can easily modify any aspect of the project and have the whole plan recalculated automatically by Yapp.

Here's a list of the activities required to create a "big picture" plan in Yapp:

1. Start the program.
2. Right-click in the left-hand pane of the project plan and select "Add activity".
3. Click the name of the new activity and name it "Assignment spec".

4. Right-click on the new activity and select “Edit activity...”.
5. Tick the “Container” check box and then press OK. This creates a container activity useful for grouping all the activities within the project step.

Now you know how to create a container for a group of activities.

6. Right-click in the “Assignment spec” activity and select “Add sub activity”. Name the new activity “Write spec”.
7. Click the “Days” cell for the “Write spec” activity and set it to three days.
8. Right-click the “Assignment spec” activity and select “Add sub activity”. Name the new activity “Gather requirements” and give it a four-day duration. Notice how the “Assignment spec” container activity continuously reflects your changes.
9. Change the order of the two sub activities so that “Gather requirements” comes first, by dragging the lower one to the correct location in the list (point at the intended line number when you release the mouse button) and selecting “move within list”.

Now you know how to create sub-activities for an activity, and how to change the order of activities.

10. Left-click the right-hand pane of the project plan, then select the “Point out a dependency” tool from the toolbar. The mouse pointer should change into a hand. Click and hold down the left mouse button on the “Gather requirements” activity, then drag an arrow to the “Write spec” activity.
11. Right-click on the “Gather requirements” activity and select “Update dependent activities recursive”. This will move the “Write spec” activity so that it doesn’t start until the “Gather requirements” activity is complete. With the recursive option, Yapp will continue to maintain all subsequent dependencies until all related activities have been adjusted. Notice once again how the “Assignment spec” container activity continues to automatically follow any changes to its subactivities.

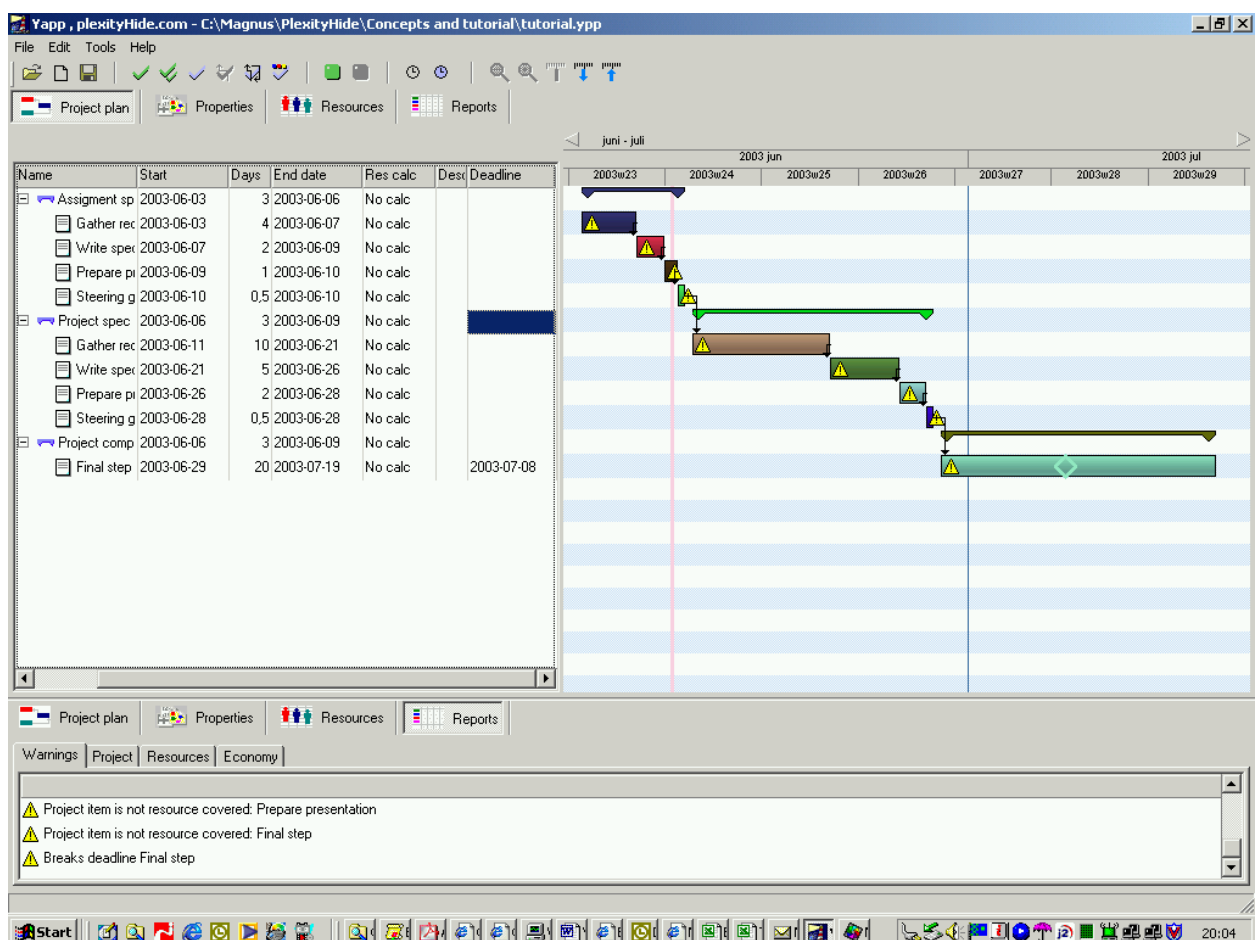
Now you know how to point out dependencies between activities, and how to have activities automatically aligned in accordance with their dependencies.

12. Add a third sub activity to the “Assignment spec” activity and name it “Prepare presentation” (1 day). Make this activity dependent on the “Write spec” activity, but don’t worry about the start and end dates yet.
13. Add a fourth sub activity to the “Assignment spec” activity and name it “Steering group meeting” (0,5 day). Make this activity dependent on the “Prepare presentation” activity, but don’t worry about the start and end dates yet.

14. Define the activities for the second step ("Project spec") the same way you defined the first step in items 2-13 above, and using the same sub activities. Use the following durations for the sub activities: gather requirements 10 days, write spec 5 days, prepare presentation 2 days and steering group meeting 0,5 days. Define the same dependencies between the sub activities as for the "Assignment spec" step. Ignore that the activities get overlapping start and end dates; we will later align them automatically.
15. Make the first activity of the "Project spec" step dependent of the last activity of the "Assignment spec" step. This ensures that any delays in the "Assignment spec" step also delay the subsequent steps.
16. Practice scrolling right-side pane of the Project plan view. You can use the arrows at both ends of the graphical view, or drag the scale to the best position. If you press the Ctrl key by dragging, you may zoom to the most suitable level of detail. With the graphical view selected (e.g. by clicking somewhere in it) you may also use the zoom buttons in the tool bar.
17. Define the activities for the third step ("Project completion") the same way you defined the preceding steps. Since we know very little about what the steering group will actually commit to, there is no sense in being too detailed here. Simply create a container activity containing the sole sub activity "Final step" (20 days). Don't adjust the start and end dates yet, we will soon do that automatically.
18. Make the first activity of the "Project completion" step dependent of the last activity of the "Project spec" step. This ensures that any delays in the "Project spec" step also delay the subsequent steps.
19. Right-click on the "Gather requirements" sub activity of the "Assignment spec" step and select "Update dependent activities recursive". Notice how all dependent activities throughout the project automatically move to the correct point in time.

20. All of this would be great if there wasn't a deadline to respect. Locate the "Final step" activity and scroll to the "Deadline" column in the left-hand pane of the project plan. Insert a deadline for the "Final step" activity that occurs exactly five calendar weeks into the project plan. In the lower pane of the screen, select the Reports > Warnings view. You will find several "not resource covered" warnings here which is normal since we haven't yet assigned any resources to the project. At the end, you will also find a message saying "Breaks deadline Final step". This is because the current plan doesn't finish the job before the deadline.

You now master the basic project planning functions of Yapp. You can plan large, complex projects including dependencies between activities and against deadlines. Your project plan should look like this:



Preparing resource plan templates and resource allocation

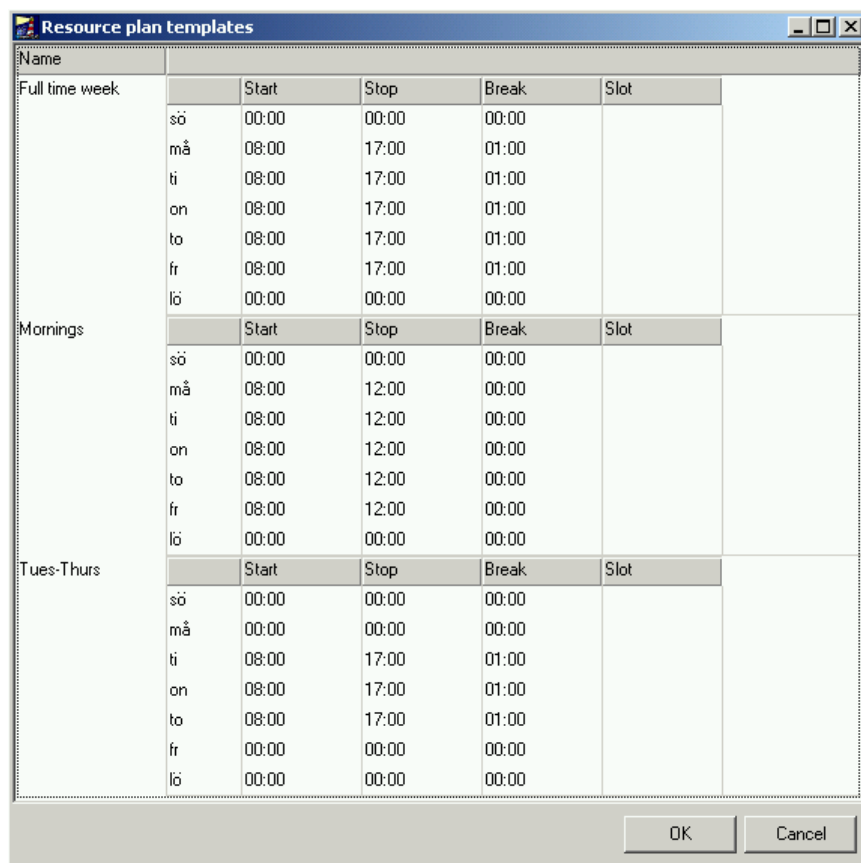
So far, you could have done this in just about any intelligent drawing tool. We've treated Yapp just like any other Gantt chart generator. Now comes one of the fun parts: automatic resource calculation.

First of all, we need to define the resource plan templates we need for the project members. You may have one group of project members working full time,

another group just working half time and a third group working only Tuesday-Thursday every week. Yapp permits all sorts of personal preferences when it comes to resource planning. For the sake of this tutorial, we will define precisely these three templates, using the following steps:

1. Select the Resources view for the upper pane of the Yapp window. There are already two columns, one called Default and one called Unassigned.
2. From the Tools menu, select "Edit resource plan templates". In the template window, there is initially a "Full time week" template. This allocates nine hours each day, with one hour set aside for lunch.
3. Right-click in the window and select "Add resource plan template". Name the new template "Mornings" and set the start, stop and break times to 08:00, 12:00 and 00:00, respectively for Monday-Friday. To set the time, click the cell in the sheet and enter "8" or "12" (without the quotes).
4. Add a third resource plan template and name it "Tues-Thurs". Set the start, stop and break times to 08:00, 17:00 and 01:00, respectively for Tuesday-Thursday.

Your templates should now look like this:



Resource plan templates					
Name		Start	Stop	Break	Slot
Full time week	sö	00:00	00:00	00:00	
	må	08:00	17:00	01:00	
	ti	08:00	17:00	01:00	
	on	08:00	17:00	01:00	
	to	08:00	17:00	01:00	
	fr	08:00	17:00	01:00	
	lö	00:00	00:00	00:00	
Mornings	sö	00:00	00:00	00:00	
	må	08:00	12:00	00:00	
	ti	08:00	12:00	00:00	
	on	08:00	12:00	00:00	
	to	08:00	12:00	00:00	
	fr	08:00	12:00	00:00	
	lö	00:00	00:00	00:00	
Tues-Thurs	sö	00:00	00:00	00:00	
	må	00:00	00:00	00:00	
	ti	08:00	17:00	01:00	
	on	08:00	17:00	01:00	
	to	08:00	17:00	01:00	
	fr	00:00	00:00	00:00	
	lö	00:00	00:00	00:00	

5. Press OK to close the template window.

You now know how to create individual resource plan templates for the people that participate in your project.

6. Now it's time to define the resources available to our project. So far, we've only obtained funding and resources for the "Assignment spec" step. Return to the Project plan view and note the start time for the first sub activity of this step _____ and the end time for the last sub activity of this step _____.
7. Let's now define our project crew. First there's Helen, who will participate according to the "Full time week" template. Return to the Resources view, right-click the "Default" column and select "Edit resource". Change the name to "Helen". Set the cost per hour to 25. Select the "Full time week" template. Set the From-To dates to coincide with the start and end dates for the "Assignment spec" step that you noted above. Tick "Clear old schedule", then press Generate to create the initial resource plan for Helen. Press OK to close the resource definition window.
8. Right-click somewhere in the resource plan, then select "Add resource". Define Harry, costing 35 per hour, using the "Mornings" template, and then generate his resource plan.
9. Add Holden, costing 30 per hour, using the "Tues-Thurs" template, and then generate his resource plan.

You now know how to define the members of your project, and how to generate a resource plan for each one of them using the templates you created above.

Activity planning

Now it's time to associate each activity in the "Assignment spec" step with one or more resources. Let's do it this way:

1. Go to the Project plan view.
2. Right-click on the "Gather requirements" activity and select "Edit activity".
3. Right-click the Resources pane and select "Assign resources".
4. Assign Harry and Helen to the activity by ticking the check boxes next to their names. Press OK.
5. As you can see in the Resources pane, Yapp has allocated 100% of Harry's and Helen's time to the activity for its entire duration. Press OK to close the window.
6. Go to the "ResCalc" cell for the "Gather requirements" row and select "End". This tells Yapp to automatically calculate the correct end time for the activity using the resources available to the activity. Watch what happens to the graphical view of the project plan when you press Enter to store the new ResCalc value. It gets shorter, because this four man-day activity doesn't take more than three calendar days when Harry and Helen perform it together.

7. Now assign Holden and Helen to write the assignment specification, Harry and Holden to prepare the presentation and Helen to give the presentation at the steering group meeting. Ensure that ResCalc is set to “End” for all activities in the “Assignment spec” step.
8. A number of things should now have happened in the graphical view of the project plan: 1) the length of each activity has automatically been adjusted; 2) the small warning triangles have been replaced by bars representing each resource; and 3) some of these bars may be red, indicating an over-used resource. Browse through the list in Reports > Warnings and note what kind of help Yapp is giving you.

You now know how to allocate resources to project activities, and how to use Yapp to automatically recalculate your project plan according to the resource availability.

Aligning the project plan to fit the available resources

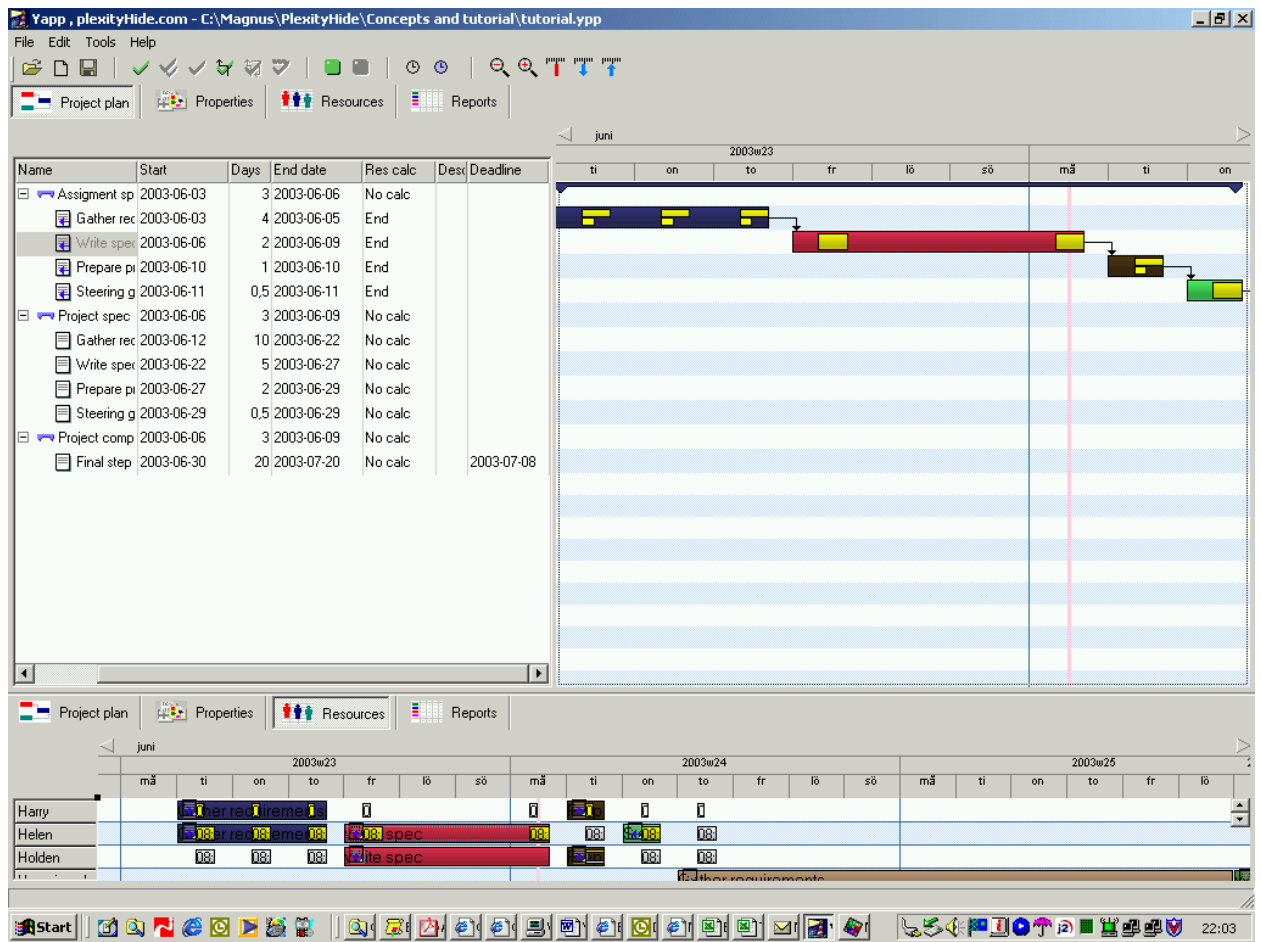
Whenever you change any of the underlying conditions, Yapp automatically recalculates the project plan – as long as:

- You have enabled ResCalc for all activities.
- You have generated a resource plan for all project members for all days each person participates in the project.

In this example, we will do the following to adjust the project plan to fit the available resources.

1. Right-click the “Gather requirements” activity and select “Update dependent activities recursive”. Since some of the activities now have sufficient resources to complete faster than originally planned, there will be gaps in the project plan. Yapp automatically detects these gaps and asks you whether to “Move activities back to fill gaps” or not. Press “Yes” to remove all gaps in the project plan. When the plan is realigned, activities once again occur sequentially, removing the previous overlap. However, some activities may now have been delayed and will now fall outside the resource plan you’ve generated for each project member. This is visible by a yellow warning triangle that appears on the activity.
2. Make a note of the current end date for the “Steering group meeting” activity. If it has been delayed, return to the Resource view. For each project member, select the appropriate resource plan template and generate an additional resource plan for the extra time period.

You now know how to adjust the project and resource plans to remove warning messages that may appear as a result of automatic resource calculation.

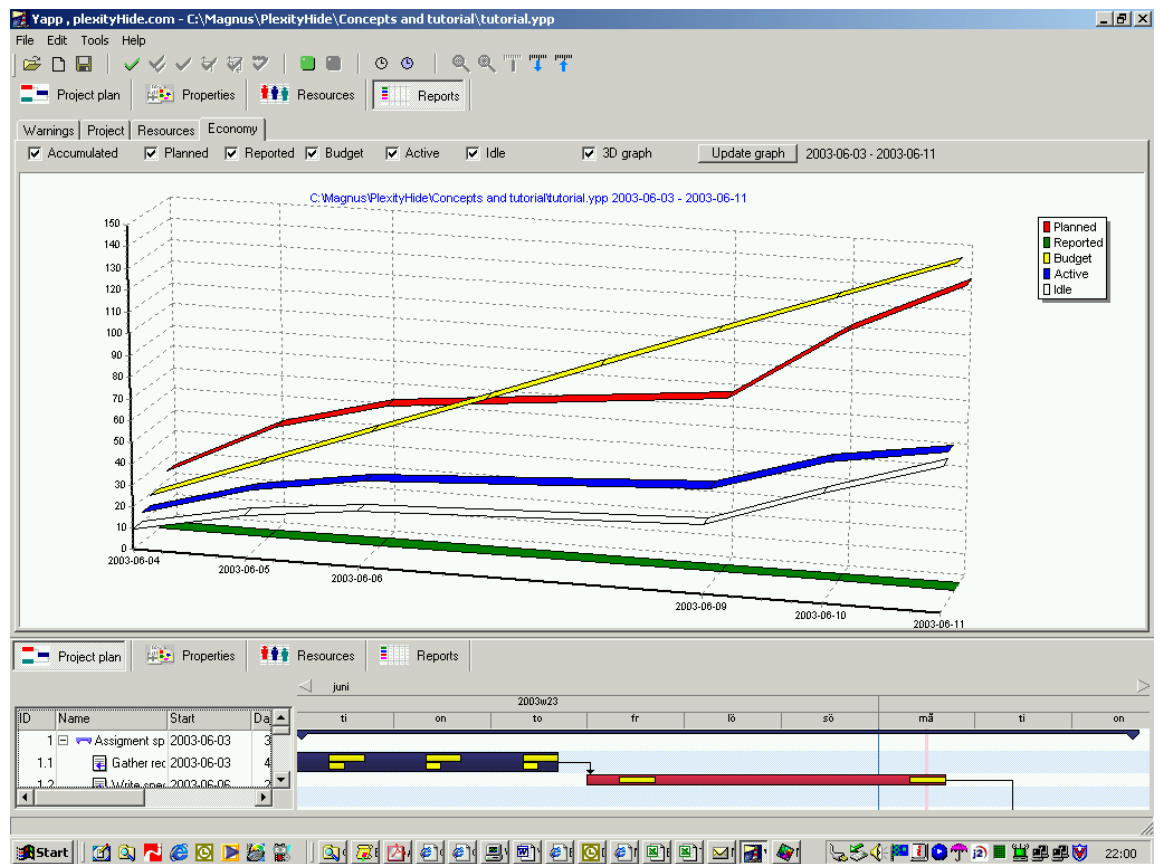


Reporting and evaluation

Let's end this tutorial by creating a simple budget for this project step, and comparing the planned costs to the budget:

1. Use the upper Yapp pane to display the "Properties" view.
2. Right-click the Budget pane and select "Add budget part". Name the first budget part "Assignment spec". Enter the start and end dates from the project plan and a budget value of 150.
3. Select the Project plan view for the *lower* Yapp pane. Holding down the Ctrl key on the keyboard, drag the scale until only the "Assignment spec" step is visible in the lower pane.
4. Select Reports > Economy for the *upper* Yapp pane. In the toolbar, press the little blue arrow pointing upwards. This sets the upper pane to the same date span as in the lower pane.

5. Tick all check boxes.



6. You can now see how the Planned costs correspond to the budget; should be slightly below budget if you've followed all the instructions in this tutorial. There are no Reported costs yet, but these can later be registered in the Work reporting field of Reports > Resources. The Idle resources are those that haven't yet been allocated to enough activities. You can see this graphically in the Resources view.

You now know how to compare the resource costs for your current project plan with the budget that has been approved by the steering group.