

 POLITECNICO DI MILANO

Dipartimento di
Elettronica e Informazione

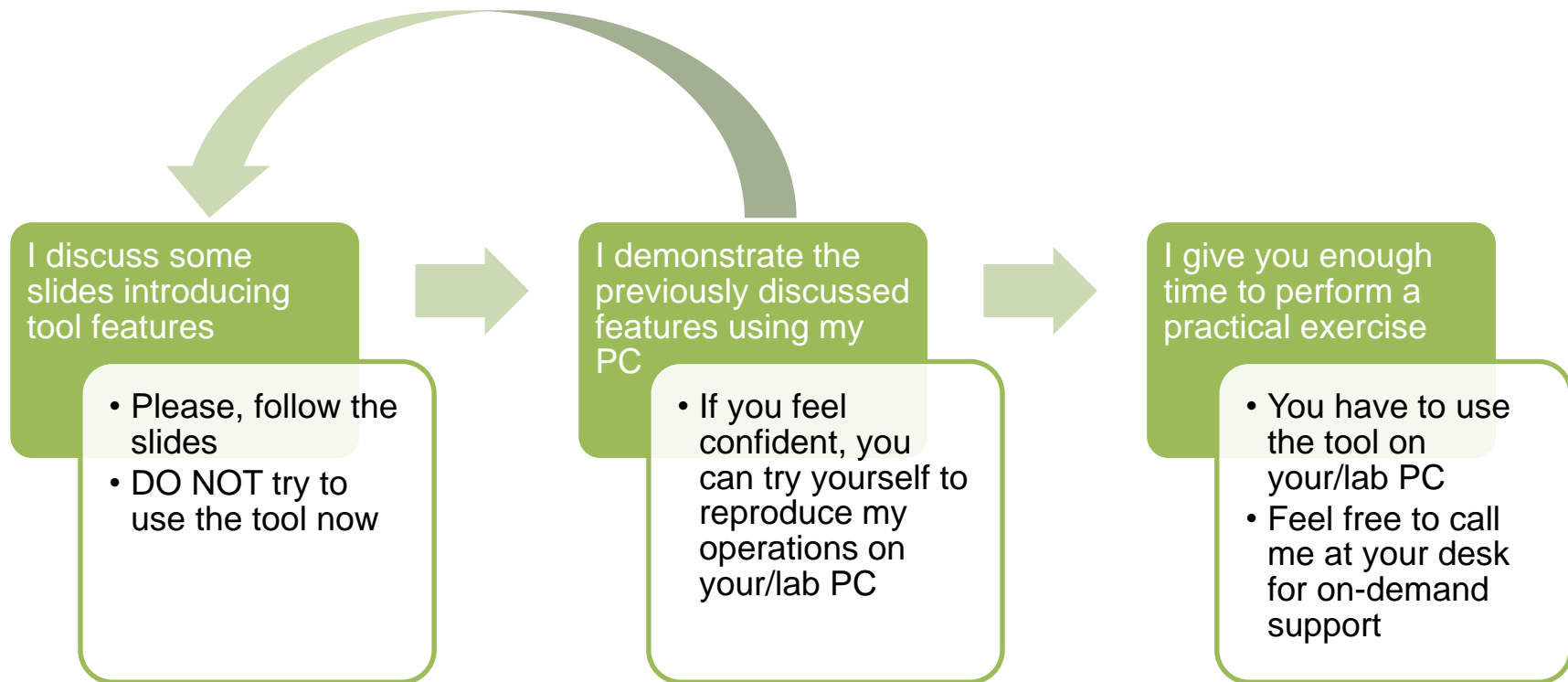
Planning and Managing Software Projects 2011-12
Class 15

Hands on Microsoft Project (Part II)

From a WBS to a Complete Schedule

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- These slides are partially based on CEFRIEL slides for PMI Course and Certification



- Microsoft Project Fundamentals
 1. Define Activities (WBS)
 2. Sequence Activities
 3. Estimate Work
 4. Define Resources
 5. Allocate Resources
 6. Inspect Schedule (so far, these have been discussed in class10)
 - 7. Refine Schedule**
 8. Level Resources
 9. Control Project (this will be discussed in class 16)

- The Project Manager needs to refine the plan by:
 - Changing the work estimated for a task
 - Changing the units of resources on a task
 - Changing the duration of a task
 - Adding or removing resources to a task
- Let's add the Junior Developer to a Task
 - Resources change from:

Name: Interview with Front-End Users Duration: 2d? Effort driven Previous Next

Start: Tue 01/02/11 Finish: Wed 02/02/11 Task type: Fixed Units % Complete: 0%

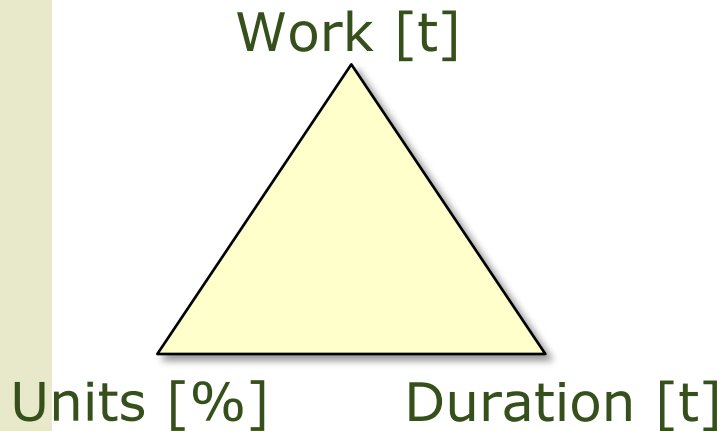
ID	Resource Name	Units	Work
2	Senior Developer	50%	1d

- To:

Name: Interview with Front-End Users Duration: 0,67d? Effort driven Previous Next

Start: Tue 01/02/11 Finish: Tue 01/02/11 Task type: Fixed Units % Complete: 0%

ID	Resource Name	Units	Work
2	Senior Developer	50%	0,33d
3	Junior Developer	100%	0,67d



$$Duration[t] = \frac{Work[t]}{Units[\%]} * 100$$

$$Work[t] = Duration[t] * \frac{Units[\%]}{100}$$

$$Units[\%] = \frac{Work[t]}{Duration[t]} * 100$$

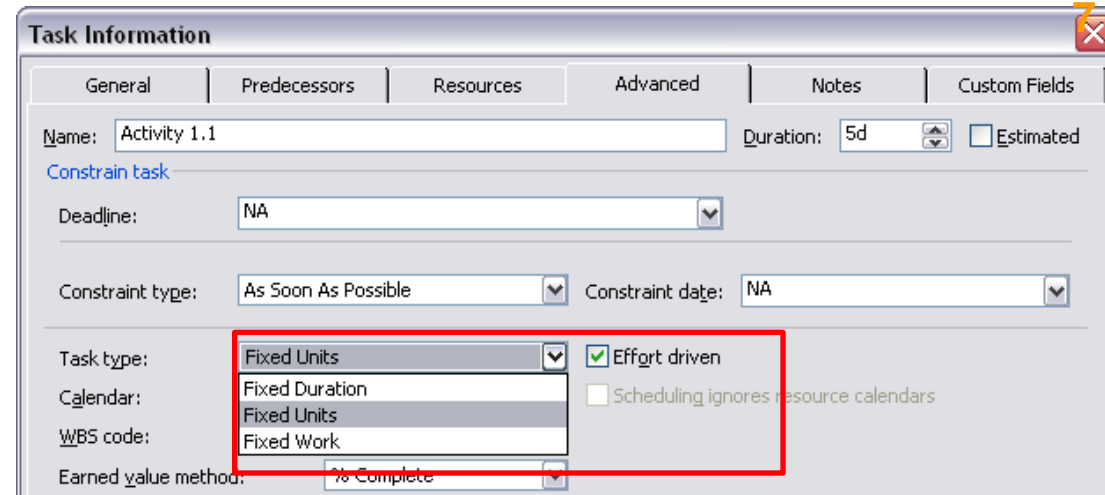
- If Units = 50% & Work = 1 day → Duration = 2 days
- If Units = 100% & Work = 5 days → Duration = 5 days
- If Duration = 3 days & Units = 50% → Work = 1.5 days
- If Duration = 4 days & Work = 1 day → Units = 25%

This proportion is always kept consistent by MS Project!

Task Types

Fixed Duration, Fixed Units, Fixed Work

1. Double Click on a task
2. Go to the Advanced tab
3. Open Task Type menu



The screenshot shows the 'Task Information' dialog box with the 'Advanced' tab selected. The 'Task type' dropdown menu is open, showing three options: 'Fixed Units', 'Fixed Duration', and 'Fixed Work'. The 'Fixed Units' option is currently selected. The 'Effort driven' checkbox is checked. Other fields visible include 'Name: Activity 1.1', 'Duration: 5d', 'Deadline: NA', 'Constraint type: As Soon As Possible', and 'Constraint date: NA'.

- **Fixed Duration:** when the duration of a task is known at priori or defined by external agents
 - E.g. meetings, outsourcing a task with a contract that defines the duration, supporting customers for a defined period, ...
- **Fixed Work:** when efforts are estimated on tasks
 - E.g. the majority of tasks where people work (writing docs, development, testing, ...)
- **Fixed Units** (MS Project default): when resources are allocated to a task for a fixed unit regardless of duration and work
 - E.g. providing support for undefined period

In a	If you revise Duration	If you revise Units	If you revise Work
Fixed Duration task	Work is recalculated	Work is recalculated	Units are recalculated
Fixed Units task	Work is recalculated	Duration is recalculated	Duration is recalculated
Fixed Work task	Units are recalculated	Duration is recalculated	Duration is recalculated

Cases on the diagonal are not trivial:

- If the task is not a “Fixed Duration” task → Microsoft Project recalculates Duration
- If the task is a “Fixed Duration” task → Microsoft Project recalculates Work

Task Types

Effort Driven

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1. Double Click on a task
2. Go to the Advanced tab
3. Check or uncheck Effort Driven

The screenshot shows the 'Task Information' dialog box with the 'Advanced' tab selected. The 'Task type' dropdown menu is open, showing options: Fixed Units, Fixed Duration, Fixed Units, and Fixed Work. The 'Effort driven' checkbox is checked and highlighted with a red circle. Other fields include Name: Activity 1.1, Duration: 5d, Estimated: unchecked, Deadline: NA, Constraint type: As Soon As Possible, Constraint date: NA, Earned value method: % Complete, and Mark task as milestone: unchecked. Buttons for Help, OK, and Cancel are visible at the bottom.

- If Effort Driven is selected (default)
 - Adding or removing resources to the task does not affect the total work associated to the task (duration and units change depending on the task type)
- If Effort Driven is not selected
 - Adding or removing resources to the task affects the total work

Summary of Task Types

Fixed Duration, Effort Driven (e.g. support with defined duration and work)

- Duration is never changed automatically
- Changing duration or Units changes task work
- Changing work or adding or removing resources changes resource units



Fixed Duration, Non-Effort Driven (e.g. meetings)

- Duration is never changed automatically
- Changing duration or changing, adding or removing resources changes task work
- Changing work changes resource units



Fixed Unit, Effort Driven (Microsoft Project default option)

- Units are never changed automatically
- Changing duration changes task work
- Changing work or changing, adding or removing resources changes duration

Fixed Unit, Non-Effort Driven (e.g. rented resources)

- Units are never changed automatically
- Changing duration or adding or removing resources changes task work
- Changing work or changing resources changes duration



Fixed Work, Effort Driven (my preference for common tasks)

- Work is never changed automatically
- Changing duration changes resource units
- Changing work or changing, adding or removing resources changes duration

Fixed Work, Non-Effort Driven (this case is not allowed by MS Project)

Quick selection of task types

1. Right click on the Start Column
2. Insert Column
3. Select Type
4. Right click on the Start Column
5. Insert Column
6. Select Effort Driven

	Task Name	Duration	Work	Type	Effort Driven	Start	Finish
1	- Requirements Analysis and Software Specification	7 days?	13 days	Fixed Duration	No	Tue 01/02/11	Wed 09/02/11
2	Interview with Front-End Users	2 days?	1 day	Fixed Units	Yes	Tue 01/02/11	Wed 02/02/11
3	Interview with Back-End Users	1 day?	1 day	Fixed Units	Yes	Tue 01/02/11	Tue 01/02/11
4	Interview with Stakeholders	2 days?	1 day	Fixed Units	Yes	Wed 02/02/11	Thu 03/02/11
5	Write Requirements Analysis document	4 days?	5 days	Fixed Units	Yes	Fri 04/02/11	Wed 09/02/11
6	Define and write Software Specification	5 days?	5 days	Fixed Units	Yes	Thu 03/02/11	Wed 09/02/11
7	Requirement Analysis and Specification Document	0 days	0 days	Fixed Units	Yes	Wed 09/02/11	Wed 09/02/11

Refine Schedule

1. Per each Task
 1. Change the type of the task
 1. On meetings and milestones, set Fixed Duration and set the Duration
 2. On other tasks, set Fixed Units or Fixed Work
 2. Per each resource on the task
 1. Distribute effort concentrating operative work to juniors
 2. Change units and/or Change work appropriately
2. Add or remove allocated resources if necessary
3. Inspect how Microsoft Project update duration, units, work

	Task Name	Duration	Work	Type	Effort Driven
1	- Requirements Analysis and Software Specification	6 days?	15 days	Fixed Duration	No
2	Interview with Front-End Users	1 day	2 days	Fixed Duration	No
3	Interview with Back-End Users	1 day	1 day	Fixed Duration	No
4	Interview with Stakeholders	1 day	2 days	Fixed Duration	No
5	Write Requirements Analysis document	4 days?	5 days	Fixed Work	Yes
6	Define and write Software Specification	4 days?	5 days	Fixed Work	Yes
7	Requirement Analysis and Specification Document	0 days	0 days	Fixed Duration	Yes
8	- High-Level Design	3,5 days?	11 days	Fixed Duration	No
9	Define General Architecture, Layers and Common Data	2 days?	3 days	Fixed Units	Yes
10	Define Interactions and Data Flows	2,5 days?	3 days	Fixed Units	Yes
11	Mock Graphic User Interfaces	2,5 days?	3 days	Fixed Units	Yes
12	Collect feedbacks from users and revise High-Level Design	1 day	2 days	Fixed Duration	No
13	High-Level Design Document	0 days	0 days	Fixed Duration	Yes

- Refine the schedule
 1. Change tasks types
 2. External constraints are imposed to you and you have to refine your project:
 - Add another resource to a meeting
 - Increase effort on a task
 - Add a supporting resource to a task
 - Reduce the units% of a resource on a task
 - Make a task with shorter duration by adding a new resource (and increasing also the work)

(Update each task and make your prediction before clicking the OK button)

- Microsoft Project Fundamentals
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 4. Define Resources
 5. Allocate Resources
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 7. Refine Schedule
 - 8. Level Resources**
 9. Control Project (this will be discussed in class 16)

- **Resource Leveling** is a technique to refine a plan in order to well allocate resources (i.e. to avoid over- or under-allocation)
- When a resource is well allocated?

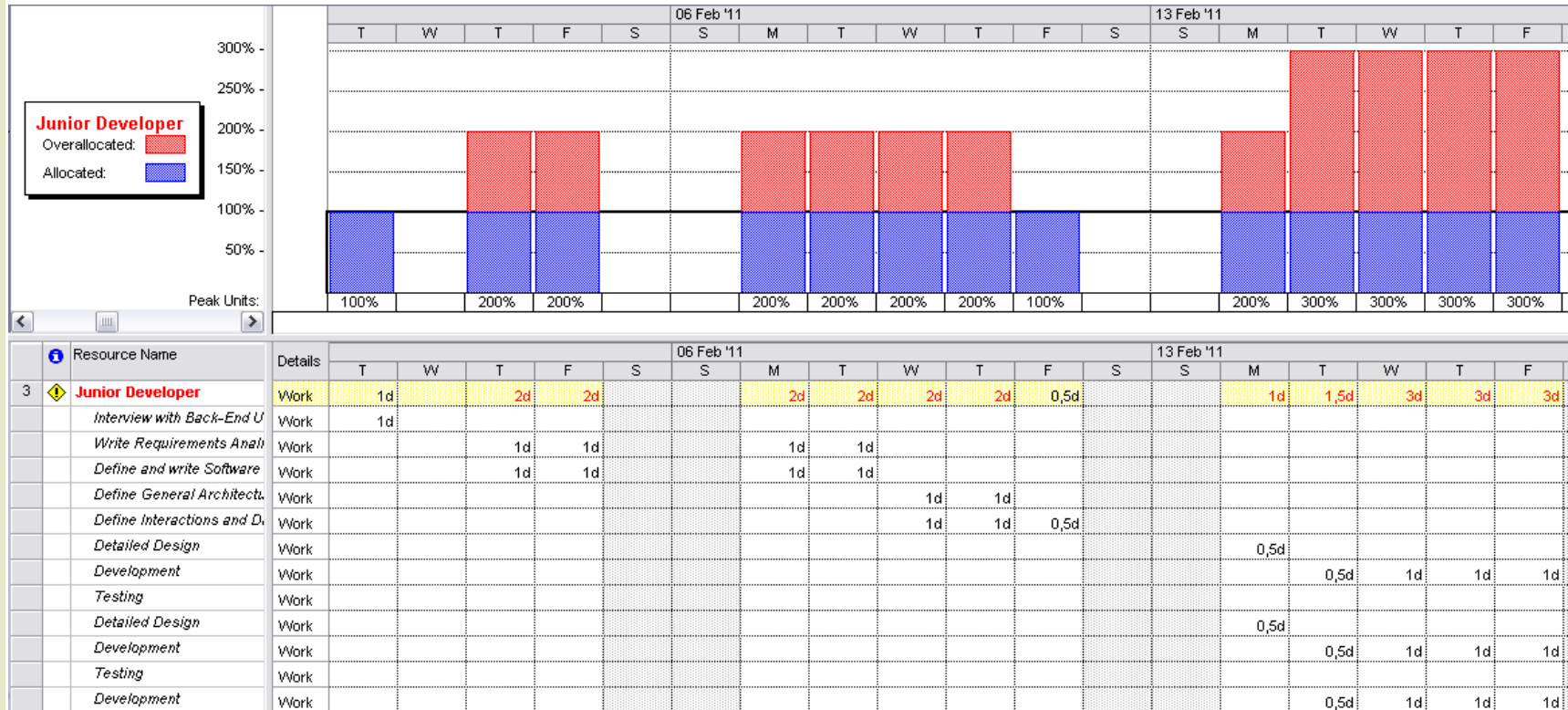
	Short Terms (e.g. Daily or Weekly)		Long Terms (e.g. Monthly or Quarterly)	
Good Allocation	$\geq BA * 75\%$	$\leq BA * 125\%$	$\geq BA * 90\%$	$\leq BA * 110\%$
Acceptable Allocation	$\geq BA * 50\%$	$\leq BA * 150\%$	$\geq BA * 75\%$	$\leq BA * 125\%$
Unacceptable Allocation	$< BA * 50\%$	$> BA * 150\%$	$< BA * 75\%$	$> BA * 125\%$

- Where BA = average Base Allocation of the Resource
 - e.g. 100% for full-time resource, 50% for part-time or shared resource

- Base Allocation can change during project life depending on the role of the resource
 1. Project Managers and Technical Managers follow the whole project with a slightly major peak at the beginning and near important milestones
 2. Architects and Designers are mainly involved at the beginning of the project
 3. Junior developers are mainly involved in the middle of the project
 4. Integrators and Testers are mainly involved at the end of the project (or at the end of each cycle)
 5. Specialists and Subject Matter Experts (DB admin, System admin) are occasionally involved on demand, so that BA is not applicable
 6. Senior developers may cover roles 2, 3 and 4
- Resources shared with other projects (e.g. PM, Senior Developers) can have a $BA=100\%$ for short-terms (few days) provided that the average BA is respected on longer-terms

Inspect Daily Resource Allocation

- Click on the top window -> View (from menu) -> Resource Graph
- Click on the bottom window -> View (from menu) -> Resource Usage
- Zoom and scroll to see daily allocation

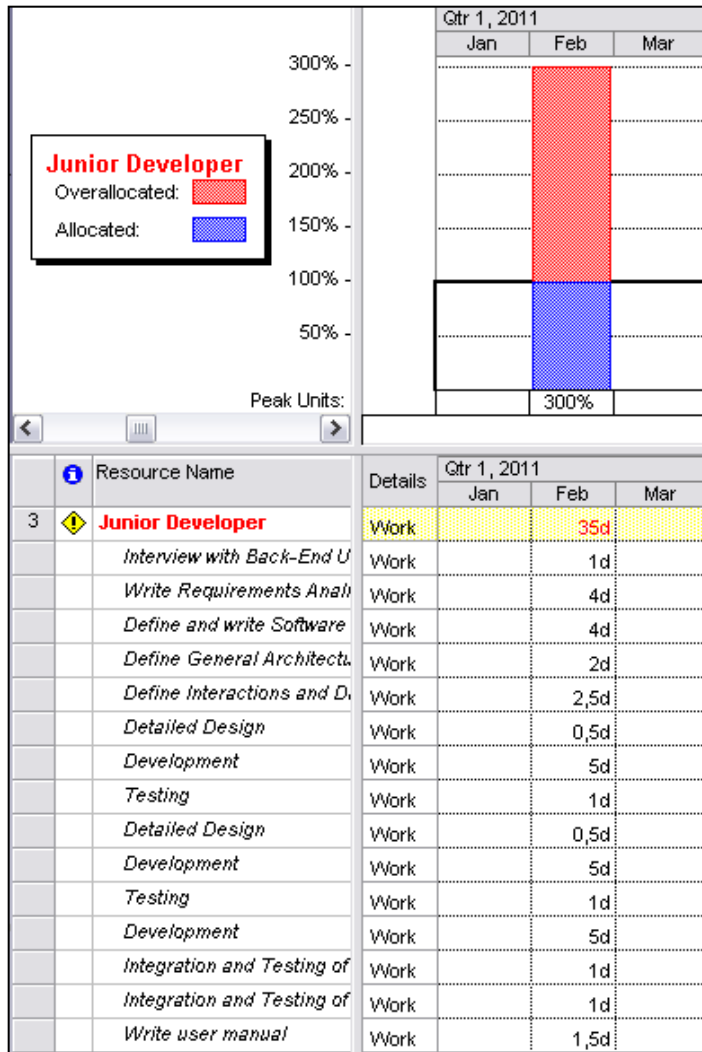


- The Junior Developer should be 100% allocated but some days he is over-allocated and other days he is under-allocated

Inspect Monthly Resource Allocation

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- Zoom out and scroll to see monthly allocation



- The graphs shows that Junior Developer is 300% over allocated
- The table shows that he has to work 35 days in February
 - February has 20 working days, this means a real average allocation of 150%, not 300%!
- The **graphs shows the maximum allocation** in the period, not the average allocation!
 - For this reason, the graph is useful only to have warnings! Use the table to have the real total work of each resource!

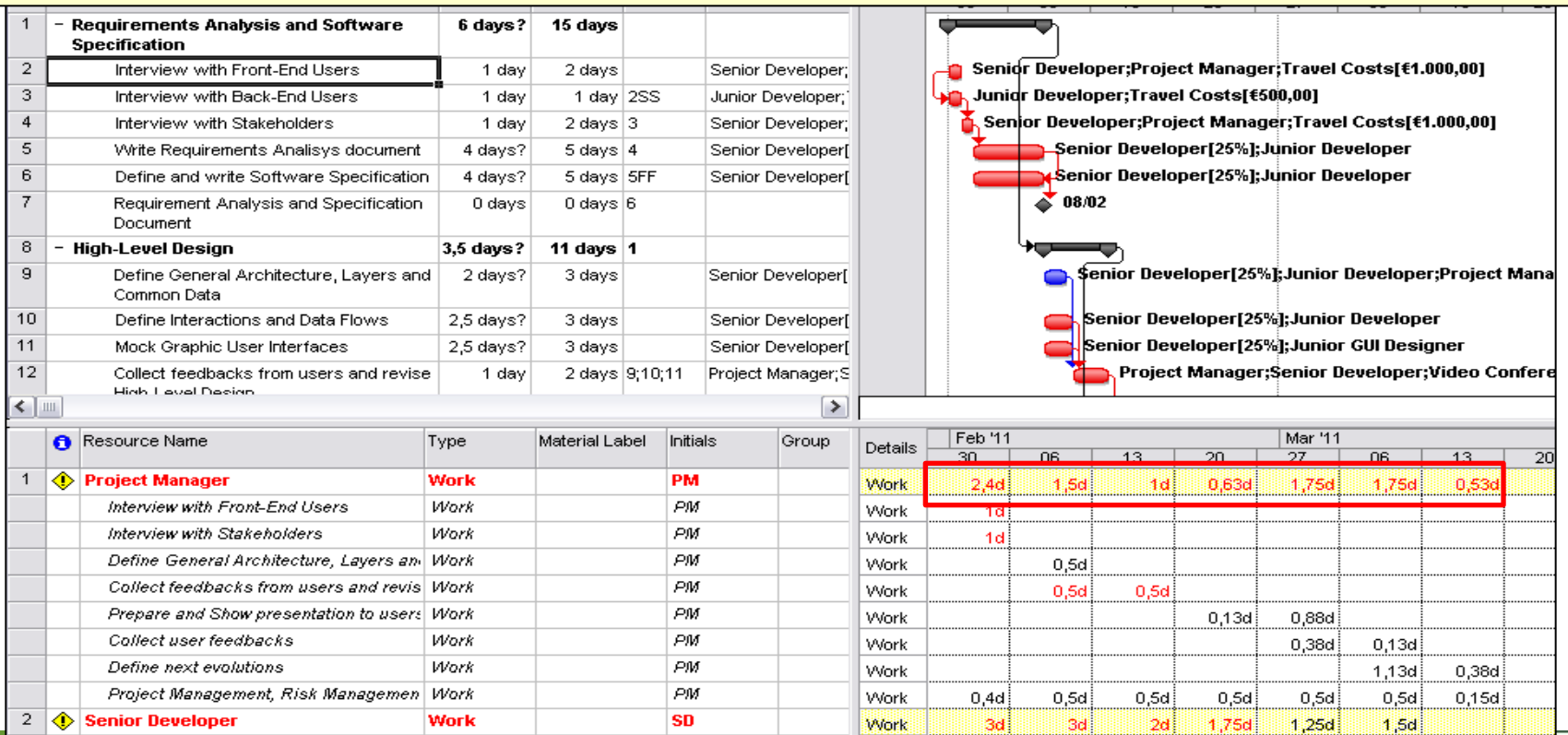
1. Overview the project on a suitable time perspective
2. Identify the first time slot when a resource is badly allocated
3. Identify the tasks on which the resource is highly involved
4. Level the resources on the identified tasks
5. Check if other resources are badly allocated in the time slot and revise previous leveling
6. Repeat from 2 until the end of the project
7. Repeat from 1 with a more detailed time perspective (zoom in)

We are going to detail each step in the following slides

A process for Resource Leveling

1) Overview the project on a suitable time perspective

- Visualize Gantt Chart on top and Resource usage on bottom
- Hide not necessary columns (e.g. start & finish), show task ID in bottom window
- Act on the zoom level to have between 5 and 20 time slots
 - If a project last 2 weeks, zoom to days
 - If the project last 2 months, zoom to weeks (as in this case)
 - If the project last 1 year, zoom to months
 - Microsoft Project supports also intermediate zoom levels



2) Identify the first time slot when a resource is badly allocated

1. Select all Tasks
 - Click on the gray area on the left of column names and on the top of task IDs
2. Starting from project start, scroll down the Resource Usage window looking for a resource who is badly allocated. If not found, proceed with next time slot
 - The Junior Developer has to work 8.5 days in the week of 6th February!

Task Name	Duration	Work	Precedes	Resource Names
1 - Requirements Analysis and Software Specification	6 days?	15 days		
2 Interview with Front-End Users	1 day	2 days		Senior Developer;
3 Interview with Back-End Users	1 day	1 day	2SS	Junior Developer;
4 Interview with Stakeholders	1 day	2 days	3	Senior Developer;
5 Write Requirements Analysis document	4 days?	5 days	4	Senior Developer[
6 Define and write Software Specification	4 days?	5 days	5FF	Senior Developer[
7 Requirement Analysis and Specification Document	0 days	0 days	6	
8 - High-Level Design	3,5 days?	11 days	1	
9 Define General Architecture, Layers and Common Data	2 days?	3 days		Senior Developer[
10 Define Interactions and Data Flows	2,5 days?	3 days		Senior Developer[

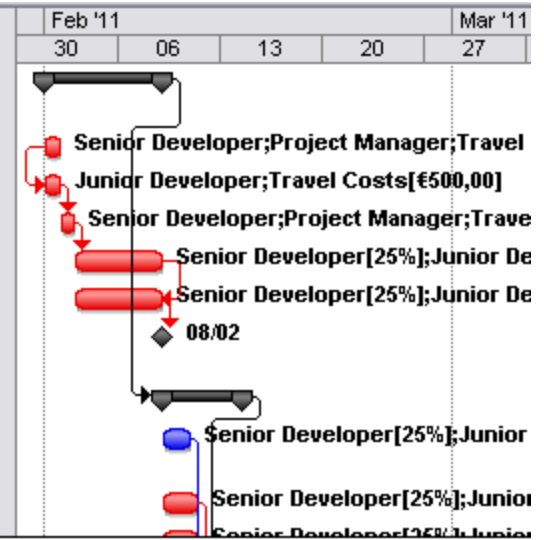
The Gantt chart displays resource usage for tasks from Feb 30 to Mar 27, 2011. A red box highlights a resource usage bar for 'Senior Developer[25%]; Junior Developer' on the week of Feb 6th, indicating a high workload for the Junior Developer.

Resource Name	Type	Material Label	Initials	Group	Details	Feb '11	Mar '11			
3 ⚠ Junior Developer	Work		JD			30	06	13	20	27
	Interview with Back-End Users	Work	JD		Work	5d	8,5d	11,5d	9d	1d
	Write Requirements Analysis document	Work	JD		Work	1d				
	Define and write Software Specification	Work	JD		Work	2d	2d			
	Define General Architecture, Layers and	Work	JD		Work	2d	2d			
	Define Interactions and Data Flows	Work	JD		Work		2,5d			
	Detailed Design	Work	JD		Work			0,5d		

3) Identify the tasks on which the resource is highly involved

- Identify the tasks on which the resource is highly involved
 - Tasks are highlighted in the red rectangle

Task Name	Duration	Work	Precedes	Resource Names
1 - Requirements Analysis and Software Specification	6 days?	15 days		
2 Interview with Front-End Users	1 day	2 days		Senior Developer;
3 Interview with Back-End Users	1 day	1 day	2SS	Junior Developer;
4 Interview with Stakeholders	1 day	2 days	3	Senior Developer;
5 Write Requirements Analysis document	4 days?	5 days	4	Senior Developer[
6 Define and write Software Specification	4 days?	5 days	5FF	Senior Developer[
7 Requirement Analysis and Specification Document	0 days	0 days	6	
8 - High-Level Design	3,5 days?	11 days	1	
9 Define General Architecture, Layers and Common Data	2 days?	3 days		Senior Developer[
10 Define Interactions and Data Flows	2,5 days?	3 days		Senior Developer[



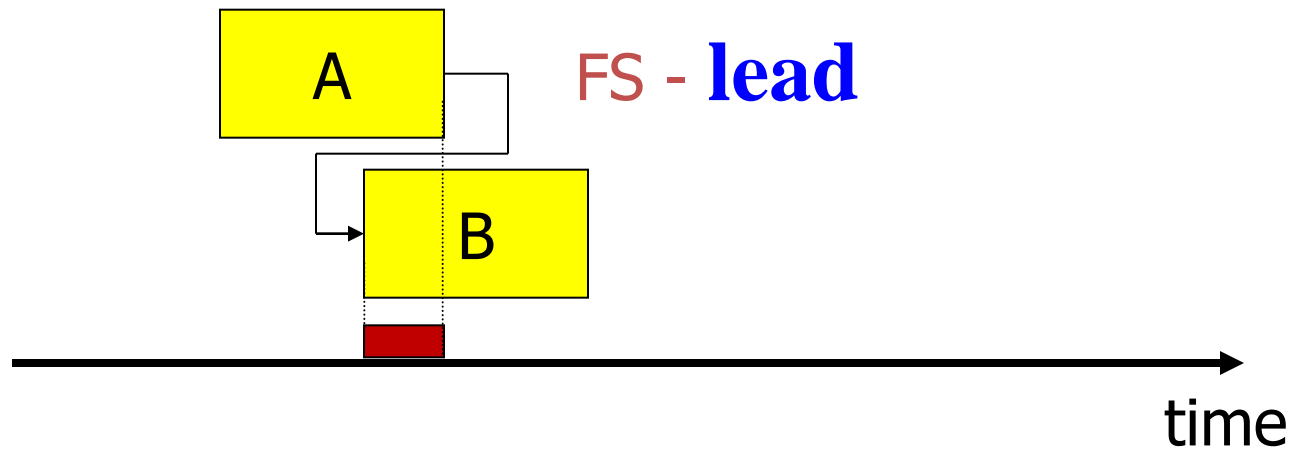
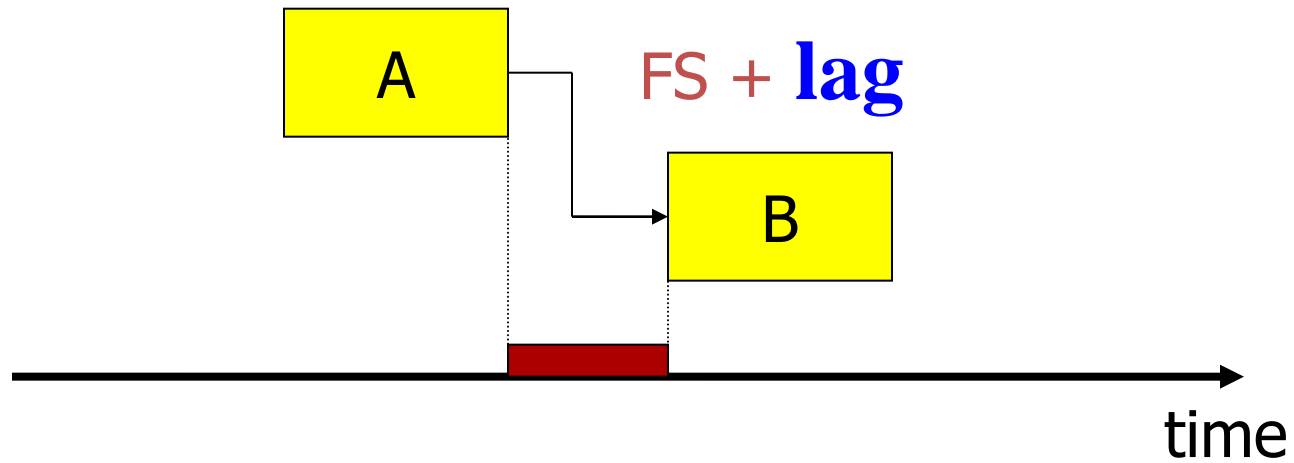
Resource Name	Type	Material Label	Initials	Group
Junior Developer	Work		JD	
Interview with Back-End Users	Work		JD	
Write Requirements Analysis document	Work		JD	
Define and write Software Specification	Work		JD	
Define General Architecture, Layers and Common Data	Work		JD	
Define Interactions and Data Flows	Work		JD	
Detailed Design	Work		JD	
Development	Work		JD	
Testing	Work		JD	
Detailed Design	Work		JD	
Development	Work		JD	

Details	Feb '11	Mar '11			
	30	06	13	20	27
Work	5d	8,5d	11,5d	9d	1d
Work	1d				
Work	2d	2d			
Work	2d	2d			
Work		2d			
Work		2,5d			
Work			0,5d		
Work			3,5d	1,5d	
Work				1d	
Work			0,5d		

- To level resources there are 3 not-exclusive methods:
 - a) Act on Time**
 - Resource over-allocated? → Increase task duration
 - Resource under-allocated? → Reduce task duration
 - b) Act on Costs**
 - Resource over-allocated? → Add new resources
 - Pay attention to increased communication costs!
 - Resource under-allocated? → Remove resources
 - c) Act on Scope**
 - Resource over-allocated? → Remove tasks or reduce work
 - Reducing the 50% of the functionalities of a component does not imply to reduce the 50% the costs. The task will cost probably the 75% of the original cost
 - Resource under-allocated? → Share resource with other tasks (or other projects if applicable)

- Suggestion:
 - Start by taking advantages of Free and Total Slacks
 - This does not impact on project duration
 - If not enough, delay finish date of low priority tasks
 - This impacts on less important tasks
 - If not enough, delay finish date of other tasks
 - This strongly impacts on milestones
- Per each suggestion, the options are:
 1. Stretch tasks duration to reduce units (tasks must be Fixed Work)
 2. Reduce overlapping of concurrent tasks that involve the same resource by shifting a task ahead/aback (i.e. using *lags* and *leads*) or by splitting a task
 3. Sequence concurrent tasks that involve the same resource

Lag & Lead Time



a) Act on Time to reduce resource allocation

Lag & Lead Time

1. Double click on a task
2. Go to the Predecessor tab
3. Select the task predecessor ID
4. Enter the value in the Lag column

Task Information

General | Predecessors | Resources | Advanced | Notes | Custom Fields

Name: Define Interactions and Data Flows Duration: 2,5d? Estimated

Predecessors:

ID	Task Name	Type	Lag
9	Define General Architecture, Layers and Common Data	Start-to-Start (SS)	2d

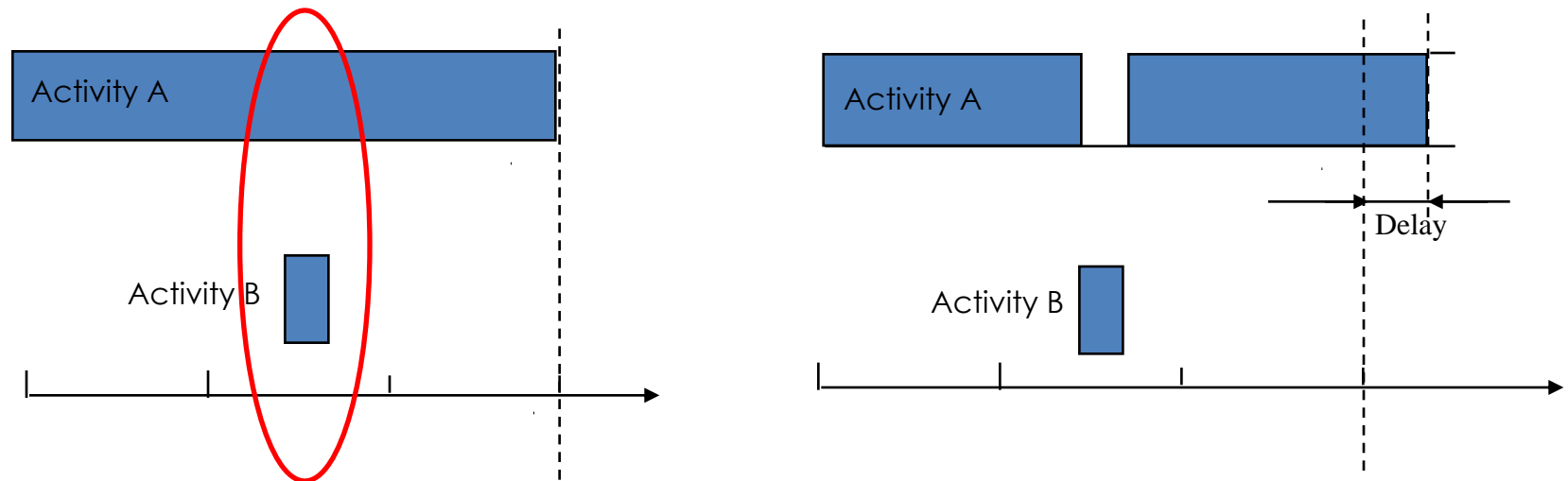
Help OK Cancel

Lags (positive)
Lead (negative)

8	- High-Level Design	5,5 days?	11 days	1
9	Define General Architecture, Layers and Common Data	2 days?	3 days	
10	Define Interactions and Data Flows	2,5 days?	3 days	9SS+2 days

Split a task to avoid overlapping

- Activity A is divided into 2 sub-activities to avoid overlapping with activity B
- Total duration of A is increased causing a delay equal to duration of B



To split a task

1. Select the blue task in the Gantt view
2. Right Click -> Split Task
3. Drag and Drop to split the task

▪ Suggestion:

4. Start by balancing the work among resources allocated to the same task
 - Move work or units from over-allocated to under-allocated resources (updating the total work if needed)
5. If not enough, ask a resource to work overtime (max 150%) for a very limited period of time
6. If not enough, use resources already involved in the project to support over-allocated resources
 - Make under-allocated resources working to additional tasks
 - Verify if this is compatible with resources' roles
 - Do not ask a Web designer to develop code
 - You can ask a senior developer to develop code or test
 - Pay attention to increased communication costs
7. If not enough, add a new resource to the project
 - Pay greater attention to increased communication costs!

- Suggestion:
 8. Start by removing completely a task
 - Change dependencies to isolate the task before removing it
 9. If not enough, reduce the work on the task (rename it to reflect the new scope)
 - Reducing the 50% of the functionalities of a component does not imply to reduce the 50% the costs. It will cost probably the 75%
 10. If not enough, split a task in two parallel task (e.g. basic and advanced functionalities), copy dependencies, distribute work among the two tasks and remove the task with the advanced functionalities
 - Remember that basic functionalities usually require more work than advanced functionalities
 - This technique complicates the schedule, use with attention

5) Check if other resources are badly allocated in the time slot and revise previous leveling

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- Modifying the finish date of a task impacts on:
 - Allocation of resources involved in the current task
 - Allocation of resources involved in subsequent tasks
- If current task started before the current time slot, then past allocations may be changed
- If leveling a resource on a task makes another resource to be under-allocated, then adopt a mixed solution: act on time and on costs
 - Reduce the modification to the task
 - and
 - Move part of the work from the over-allocated resource to the under-allocated resource

The goal is to balance the two resources on the two concurrent tasks

Resource Levelled (Resource Usage View)

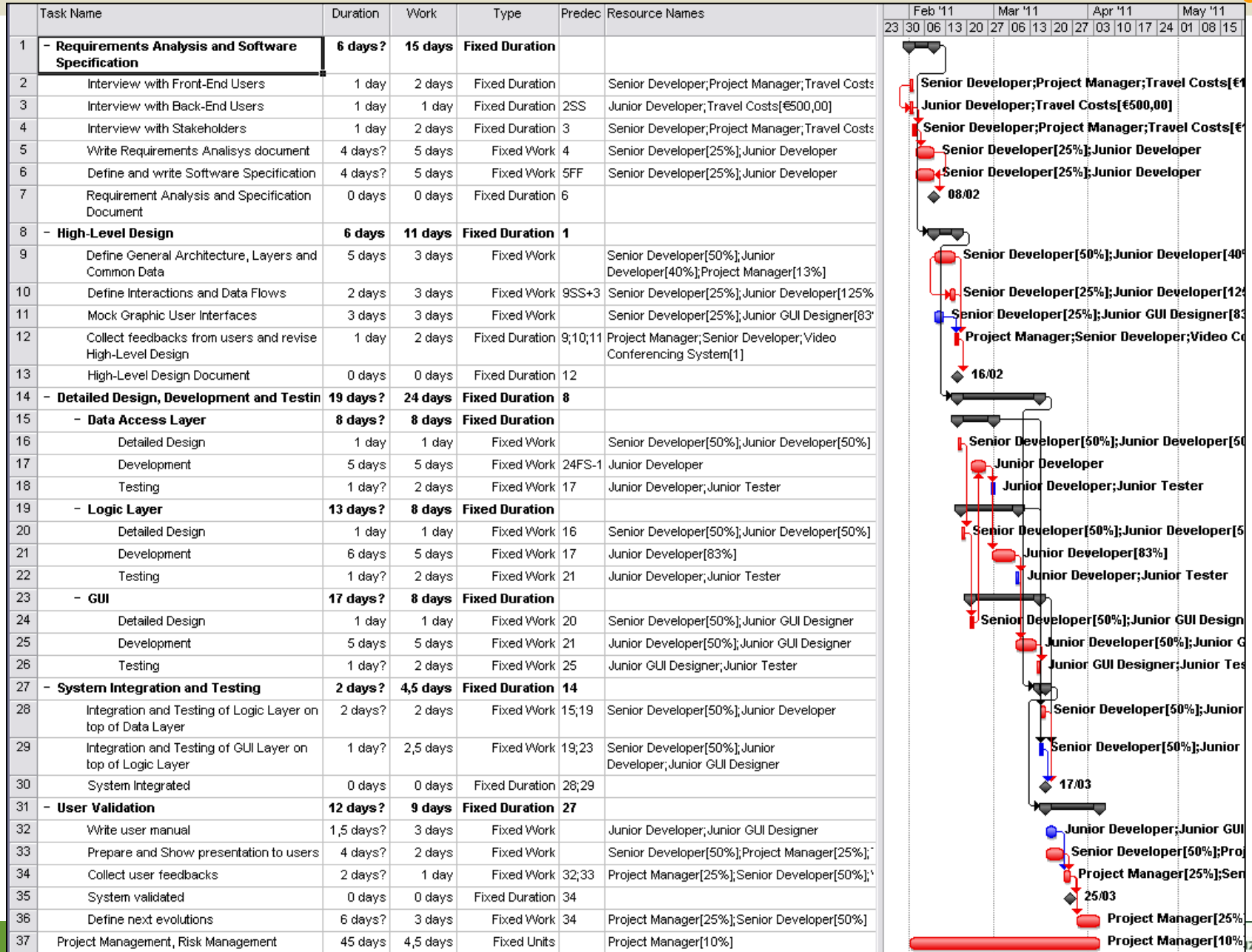
ID	Resource Name	Details	Feb '11				Mar '11				Apr '11	
			23	30	06	13	20	27	06	13	20	27
1	1 - Project Manager	Work	2,4d	0,88d	1,63d	0,5d	0,5d	0,5d	0,75d	1,75d	1,75d	0,35d
	2 Interview with Front-End Users	Work	1d									
	4 Interview with Stakeholders	Work	1d									
	9 Define General Architecture, Layers	Work		0,38d	0,13d							
	12 Collect feedbacks from users and re	Work			1d							
	33 Prepare and Show presentation to us	Work						0,25d	0,75d			
	34 Collect user feedbacks	Work							0,5d			
	36 Define next evolutions	Work								1,25d	0,25d	
2	2 - Senior Developer	Work	3d	2d	2,5d	0,5d			2d	1d	1,5d	
	2 Interview with Front-End Users	Work	1d									
	4 Interview with Stakeholders	Work	1d									
	5 Write Requirements Analysis docum	Work	0,5d	0,5d								
	6 Define and write Software Specificat.	Work	0,5d	0,5d								
	9 Define General Architecture, Layers	Work		0,5d								
	10 Define Interactions and Data Flows	Work			0,5d							
	11 Mock Graphic User Interfaces	Work		0,5d								
	12 Collect feedbacks from users and re	Work			1d							
	16 Detailed Design	Work			0,5d							
	20 Detailed Design	Work			0,5d							
	24 Detailed Design	Work				0,5d						
	28 Integration and Testing of Logic Laye	Work							1d			
	29 Integration and Testing of GUI Layer	Work							0,5d			
	33 Prepare and Show presentation to us	Work						0,5d	0,5d			
	34 Collect user feedbacks	Work							0,5d			
36 Define next evolutions	Work								1,5d			
3	3 - Junior Developer	Work	5d	5,2d	4,3d	5d	5,17d	3,83d	3,5d	0,5d		
	3 Interview with Back-End Users	Work	1d									
	5 Write Requirements Analysis docum	Work	2d	2d								
	6 Define and write Software Specificat.	Work	2d	2d								
	9 Define General Architecture, Layers	Work		1,2d	0,8d							
	10 Define Interactions and Data Flows	Work			2,5d							
	16 Detailed Design	Work			0,5d							
	17 Development	Work				5d						
	18 Testing	Work					1d					
	20 Detailed Design	Work			0,5d							
	21 Development	Work					4,17d	0,83d				
	22 Testing	Work						1d				
	25 Development	Work						2d	0,5d			
	28 Integration and Testing of Logic Laye	Work							1d			
29 Integration and Testing of GUI Layer	Work							1d				
32 Write user manual	Work							1d	0,5d			

Maximum 25% (1.25 d/w)
 Minimal guaranteed allocation for the whole project
 Peaks at the begin and the end

Maximum 50% (2.5 d/w)
 Mainly involved at the beginning (design) and the end (integration)

Maximum 100%
 Mainly involved at the beginning (support design) and the middle (development)

Impact of Leveling on Schedule



Fine-grained Resource Leveling

- By Resource
 - Open Resource Usage view
 - Zoom to see days (or even hours)
 - Modify allocation of each resource for each task

- By Task
 - Open Task Usage view
 - Zoom to see days (or even hours)
 - Modify allocation of each task for each task

Resource Name		Details	February 201		
			27	30	02
1	- Project Manager	Work		1d	1d
	Interview with Front-End L	Work		1d	
	Interview with Stakeholder	Work			1d
	Define General Architectu	Work			
	Collect feedbacks from u.	Work			
	Prepare and Show presen	Work			
	Collect user feedbacks	Work			
	Define next evolutions	Work			
	Project Management, Ris.	Work			
2	- Senior Developer	Work		1d	1,5d
	Interview with Front-End L	Work		1d	
	Interview with Stakeholder	Work			1d
	Write Requirements Anal.	Work			0,5d
	Define and write Software	Work			
	Define General Architectu	Work			
	Define Interactions and D	Work			
	Mock Graphic User Interf.	Work			
	Collect feedbacks from u.	Work			
	Detailed Design	Work			

Task Name		V	Details	T	W	T	F
1	- Requirements Analysis	1	Work	3d	2d	1,25d	1,25d
2	- Interview with Front-		Work	2d			
	Project Mani		Work	1d			
	Senior Deve.		Work	1d			
	Travel Costs		Work				
3	- Interview with Back-I		Work	1d			
	Junior Deve		Work	1d			
	Travel Costs		Work				
4	- Interview with Staket		Work		2d		
	Project Mani		Work		1d		
	Senior Deve.		Work		1d		
	Travel Costs		Work				
5	- Write Requirements A		Work			1,25d	1,25d
	Senior Deve.		Work			0,25d	0,25d
	Junior Deve		Work			1d	1d
6	- Define and write Sof		Work				
	Senior Deve.		Work				
	Junior Deve		Work				
7	Requirement Analysis		Work				
8	- High Level Design	4	Work				

▪ Be parsimonious with modifications on these sheets

Automatic Resource Leveling

1. Tools → Level Resources

By default, Microsoft Project does not level automatically while you work on the project

We can explicitly ask Microsoft Project to do levelling based on various options

Resource Leveling

Leveling calculations

Automatic Manual

Look for overallocations on a **Day by Day** basis

Clear leveling values before leveling

Leveling range for 'P&MSP2010_06_Example.mpp'

Level entire project

Level From: **Wed 31/03/10** To: **Wed 21/04/10**

Resolving overallocations

Leveling order: **Standard**

Level only within available slack

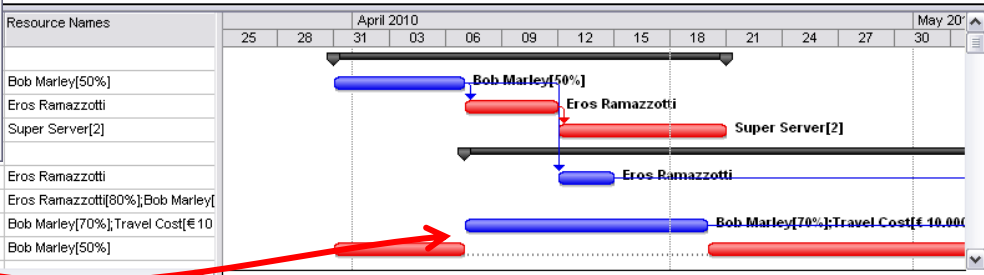
Leveling can adjust individual assignments on a task

Leveling can create splits in remaining work

Level resources with the proposed booking type

Help Clear Leveling... **Level Now** OK Cancel

6	Activity 2.1	3 days	Mon 12/04/10	Thu 15/04/10	Fixed Work	Yes	18 days	2	Eros Ramazzotti
7	Activity 2.2	4 days	Tue 11/05/10	Mon 17/05/10	Fixed Work	Yes	0 days	6,8,9	Eros Ramazzotti[80%];Bob Marley[20%]
8	Activity 2.3	9 days	Wed 07/04/10	Tue 20/04/10	Fixed Work	Yes	15 days		Bob Marley[70%];Travel Cost[€ 10.000]
9	Extra Task	20 days	Wed 31/03/10	Tue 11/05/10	Fixed Work	Yes	0 days		Bob Marley[50%]

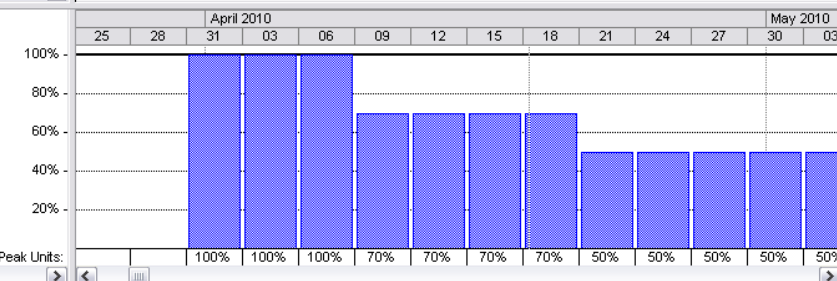


Bob Marley

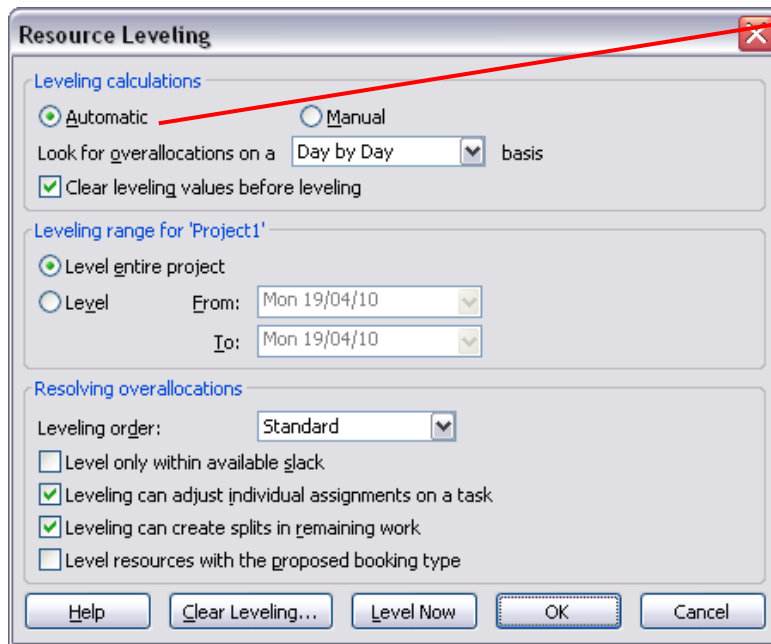
Overallocated: ■

Allocated: ■

Proposed:



1. Tools → Level Resources



Automatic leveling acts in background meanwhile we add resources to tasks

This may make you don't understand why tasks are re-scheduled or split!

→ Avoid using it!

- Level resources on your project
 - Follow the suggested process
 - Do at least one complete iteration
 - Try to apply each leveling technique at least once

Questions?