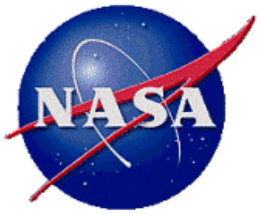


Leveraging Scheduling Productivity with Practical Scheduling Techniques

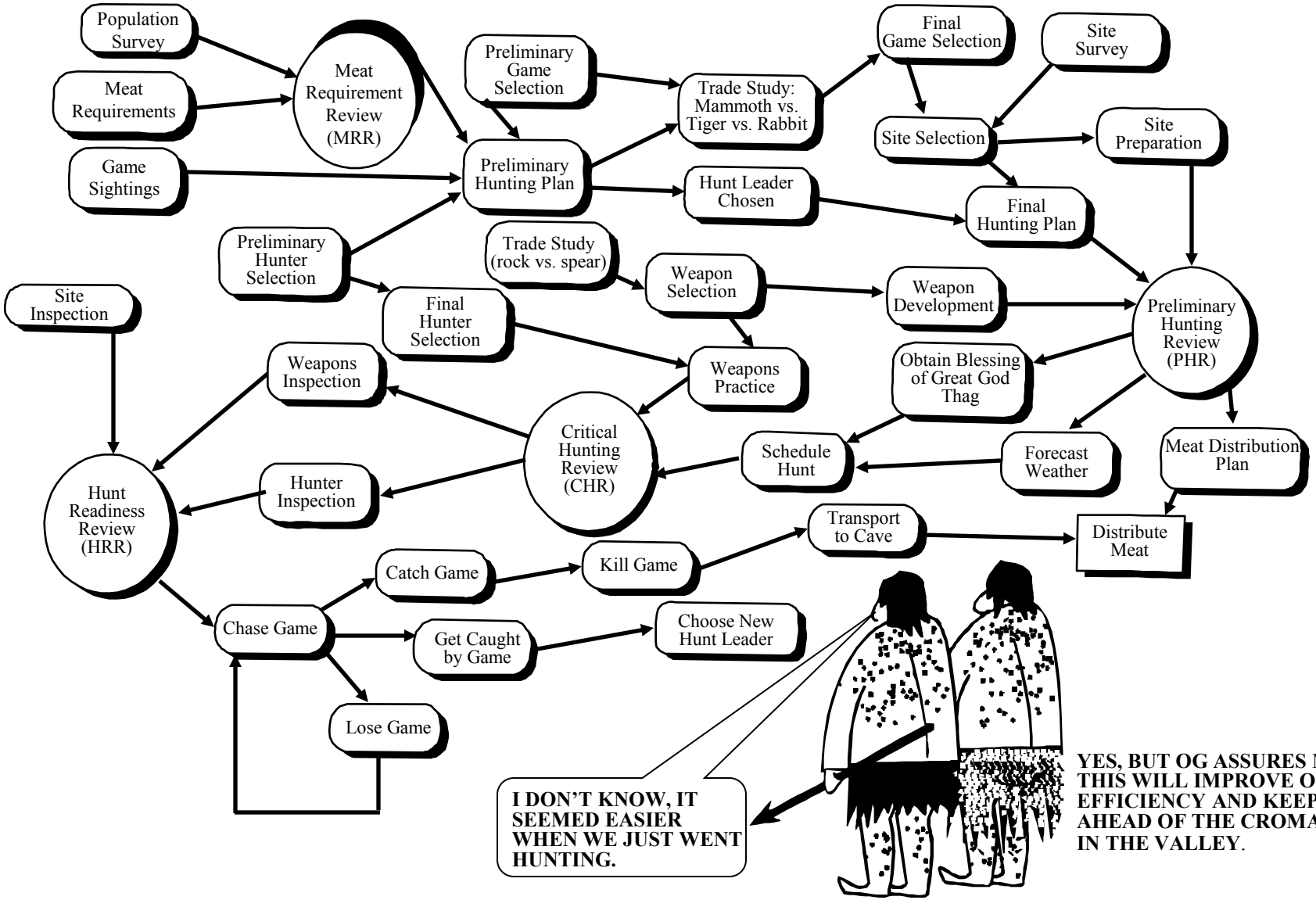
Presented By: William G. Paradis

ASRC/ARTS

August 13, 2014

Can You Relate?

Why Neanderthals Became Extinct



Agenda

- Scheduling Issues - The Schedule Beast
- Taming the Schedule Beast
- Scheduling with the help of MS Excel
- Calculating Earned Value
- 2 New Concepts
- Questions

Scheduling Issues

- Unwieldy IMS Databases (1000s of lines)
- Faulty Logic/Missing Logic
- Critical Path Difficult to Id & Display
- Surprise Constraints
- Multiple Scheduling Tools used to present schedule
- Schedule Ownership
- Scheduling Tools More Powerful yet Resources Limited

Agenda

- Scheduling Issues – The Schedule Beast
- Taming the Schedule Beast
- Scheduling with the help of MS Excel
- Calculating Earned Value
- 2 New Concepts
- Questions

Taming the Schedule Beast

- The Scheduler's Tool Kit
- Use of Templates
- Use of Codes to Manipulate and Display MS Project Data
- Common View, Filter, & Table Names
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- Other Items of Interest

The Schedulers Tool Kit

Preformatted Templates

Training Material

Web Site Links

Schedule Check Lists

Linked Schedule Libraries

Housed on a Website or Network Drive

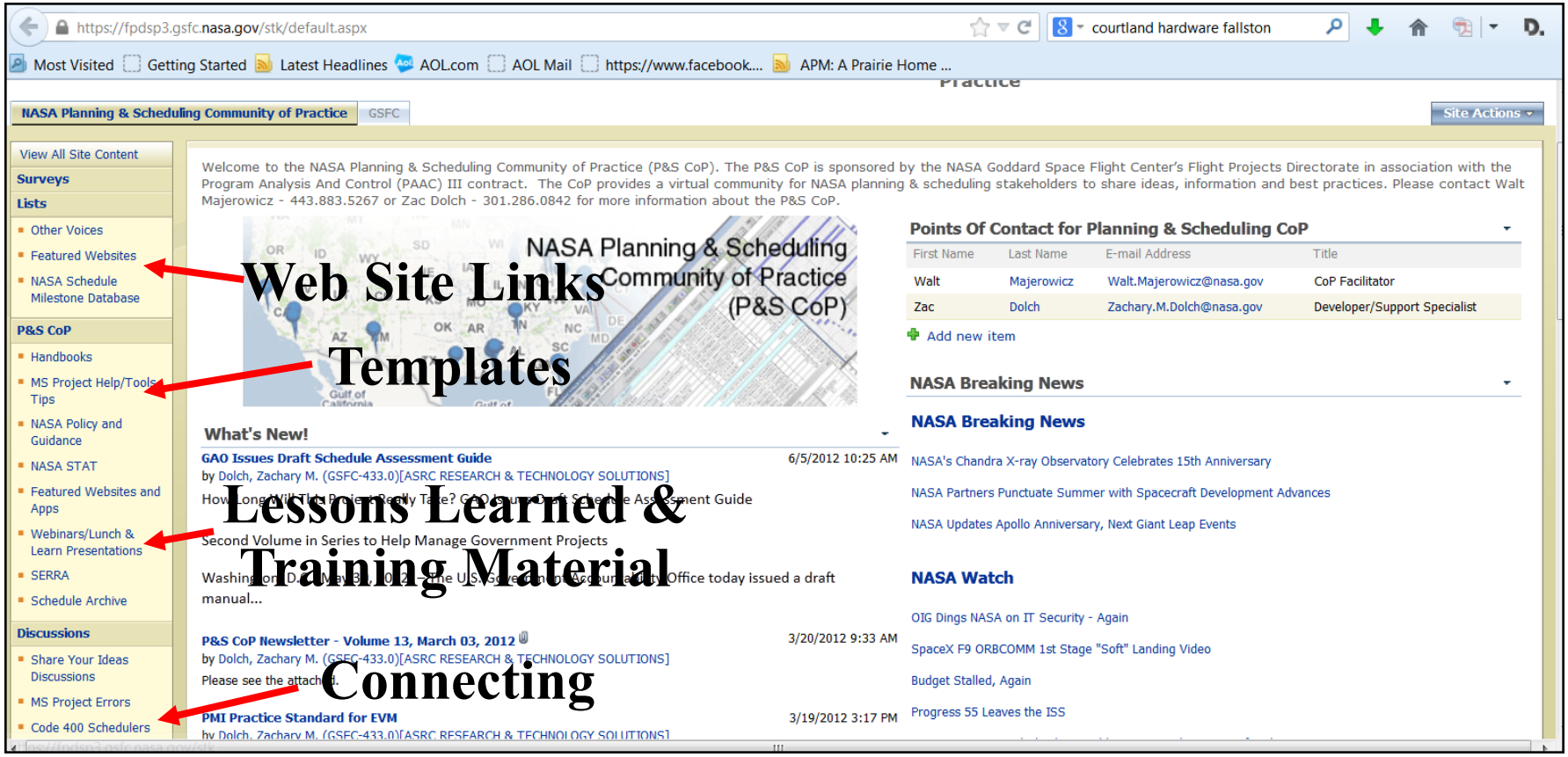
EVMS/MS Project Info

Lessons Learned

SW Bugs to Look Out For

Virtual Knowledge Sharing Site

The Schedulers Tool Kit



Virtual Knowledge Sharing Site

Taming the Schedule Beast

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Schedule Templates

No Templates

Set Up Calendars	1-2Hrs
Set Up Views	1-2 Hrs
Set Up Filters	1-2 Hrs
Set Up Tables	1-2 Hrs
Figure Out How Previous Schedule maintained Schedule Database	8-40 Hrs
Set Project Settings	<1Hr
Load Schedule Activities	Varies

With Templates

- Set Up Calendars ☑
- Set Up Views ☑
- Set Up Filters ☑
- Set Up Tables ☑
- Figure Out How Previous Schedule maintained Schedule Database ☑
- Set Project Settings ☑
- Load Schedule Activities

12.5 Hrs Saved X 1400 Projects = 17,500 Hrs Saved

Times ~$30 Hr = $525,000

Schedule Templates – Reserved Fields

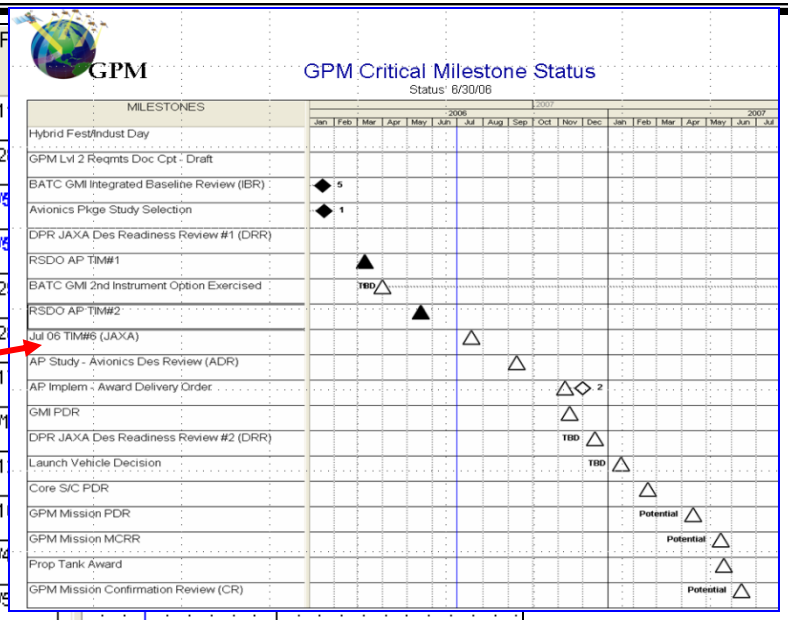
A Few of My Favorites

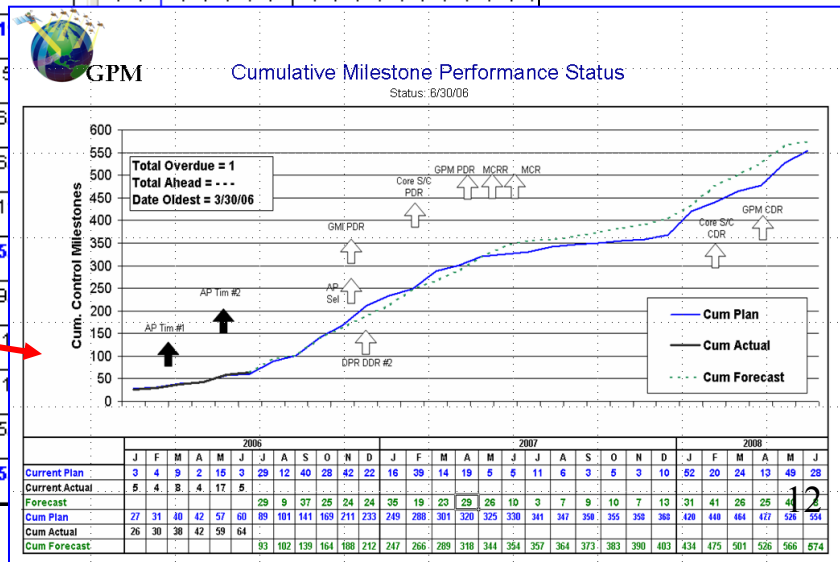
- Text 1 - IMP/IMS Code
- Text 2 - Sort Code
- Text 21 - Program Control Milestones
- Text 22 - Catalog Views Filter
- Text 26/27 - Top & Bottom Text on Bars & M/Ss
- Text 28 - IPT/Sub System Code
- Text 30 - Master/ Intermediate Code
- Finish2 - Summary Progress Lines

Schedule Templates – Reserved Fields Con't

Text 21 – Program Control Milestones

	WBS	MSs	Task	Dur	%	Strt	F
1345	6.1.11		Propulsion - Dev Therm HW Test Plan & Proceds	40d	0%	6/16/08	8/1
1346	6.1.11		Propulsion - Dev Waterhammer Test Plan & Proceds	30d	0%	6/16/08	7/2
1347	**6.1.11**		**Prop Procurements**	**751d**	**1%**	**6/15/06**	**6/5**
1348	**6.1.11**		**Demisable Prop Tank**	**751d**	**2%**	**6/15/06**	**6/5**
1349	6.1.11		Demis Prop Tank - Design Study	11d	100%	6/15/06	6/2
1350	6.1.11		Demis Prop Tank - SOW & Spec Dev	20d	0%	6/30/06	7/2
1351	6.1.11		Demis Prop Tank - SOW & Spec Dev Review	14d	0%	7/31/06	8/1
1352	6.1.11	MS	Demis Prop Tank - Release Spec/SOW to Procurement	60d	0%	8/18/06	11/1
1353	6.1.11		Demis Prop Tank - Procurement Activity	81d	0%	11/14/06	3/1
1354	6.1.11	MMS	Demis Prop Tank - Procurement Award	4d	0%	3/13/07	3/1
1355	6.1.11		Demis Prop Tank - Procurement PHS	540d	0%	4/16/07	6/4
1356	6.1.11	MS	Demis Prop Tank - Delivery	1d	0%	6/5/09	6/5
1357	**6.1.11**		**Thrusters**	**401d**	**0%**	**4/5/07**	**1**
1358	6.1.11	MS	Thrusters - Draft SOW/Spec	20d	0%	4/5/07	5
1359	6.1.11		Thrusters - SOW/Spec to Proc'mt	40d	0%	5/3/07	6
1360	6.1.11	MS	Thrusters - Contract Award	1d	0%	6/29/07	6
1361	6.1.11	MS	Thrusters - Flt Unit Del	245d	0%	11/15/07	1
1362	**6.1.11**		**Filters**	**181d**	**0%**	**8/24/07**	**5**
1363	6.1.11	MS	Filters - Draft SOW/Spec	20d	0%	8/24/07	9
1364	6.1.11		Filters - Rel SOW/Spec to Proc'mt	40d	0%	9/24/07	11
1365	6.1.11	MS	Filters - Contract Award	1d	0%	11/21/07	11
1366	6.1.11	MS	Filters - Flt Unit Del	120d	0%	11/23/07	5
1367	**6.1.11**		**Isolation Valves**	**181d**	**0%**	**8/24/07**	**5**



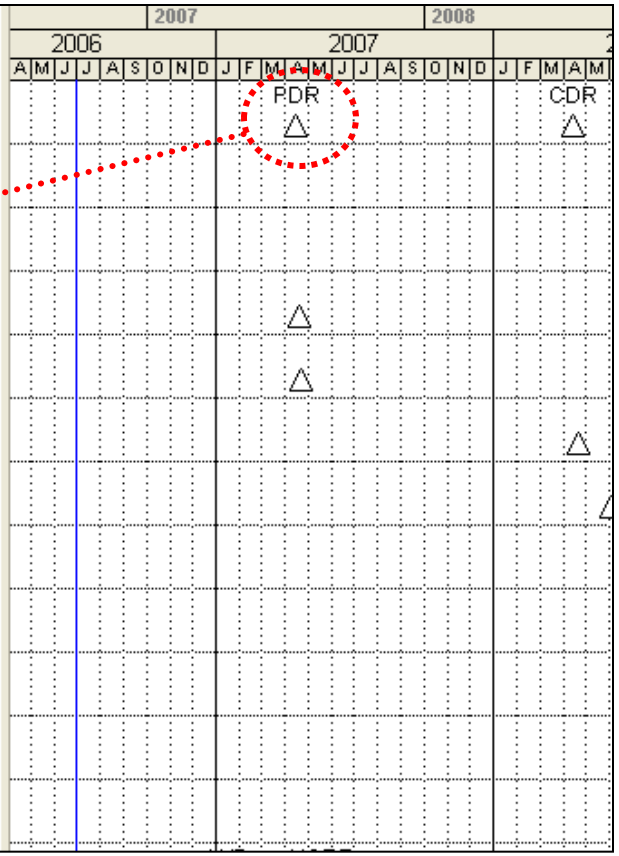


	2006												2007												2008					
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Current Plan	3	4	9	2	15	3	29	12	40	28	42	22	16	39	14	19	5	5	11	6	3	5	3	10	52	20	24	13	49	28
Current Actual	5	4	8	4	17	5																								
Forecast							29	9	37	25	24	24	35	19	23	29	26	10	3	7	9	10	7	13	31	41	26	25	40	2
Cum Plan	27	31	40	42	57	60	89	101	141	169	211	233	249	288	301	320	325	330	341	347	356	355	358	368	420	440	464	477	526	554
Cum Actual	26	30	38	42	59	64																								
Cum Forecast							93	102	139	164	188	212	247	266	289	318	344	354	357	364	373	383	390	403	434	475	501	526	566	574

Schedule Templates – Reserved Fields Con't

Text 26/27 Text Top/Bottom of Bar/Milestone

	WBS	MSs	Task	Label T	Dur	%	Strt	Fin	L S
1			GPM Milestones						12/
2	1.X		End of Program Milestone		0d	0%	9/12/13	9/12/13	2/2
3	1.X		GPM System Defintion Review (SDR)	SDR	0d	100%	12/8/05	12/8/05	12/
4	1.X	MMS	GPM Mission PDR	PDR	0d	0%	4/19/07	4/19/07	7/3
5	1.X		GPM PDR Exit Criteria (PDR)		0d	0%	4/20/07	4/20/07	7/2
6	1.X	MMS	GPM Critical Design Review (CDR)	CDR	0d	0%	4/21/08	4/21/08	7/3
7	1.X		GPM Critical Design Review Exit Criteria		0d	0%	6/3/08	6/3/08	7/3
8	5.1		GMI Del to GSFC	GMI Del	0d	0%	2/11/10	2/11/10	2/1
9	1.X		GPM Pre-Environmental Review (PER)	PER	0d	0%	2/15/11	2/15/11	8/4
10	1.X		GPM Pre-Ship Review (PSR)	PSR	0d	0%	12/7/11	12/7/11	5/2
11	1.X		Core S/C Launch	Core LRD	1d	0%	7/10/12	7/10/12	12/2
12	1.X		Constellation S/C Launch	Constell LRD	0d	0%	6/19/13	6/19/13	6/1



Taming the Schedule Beast

- The Scheduler's Tool Kit
- Use of Codes & Schedule Templates
- Use of Codes to Manipulate and Display MS Project Data
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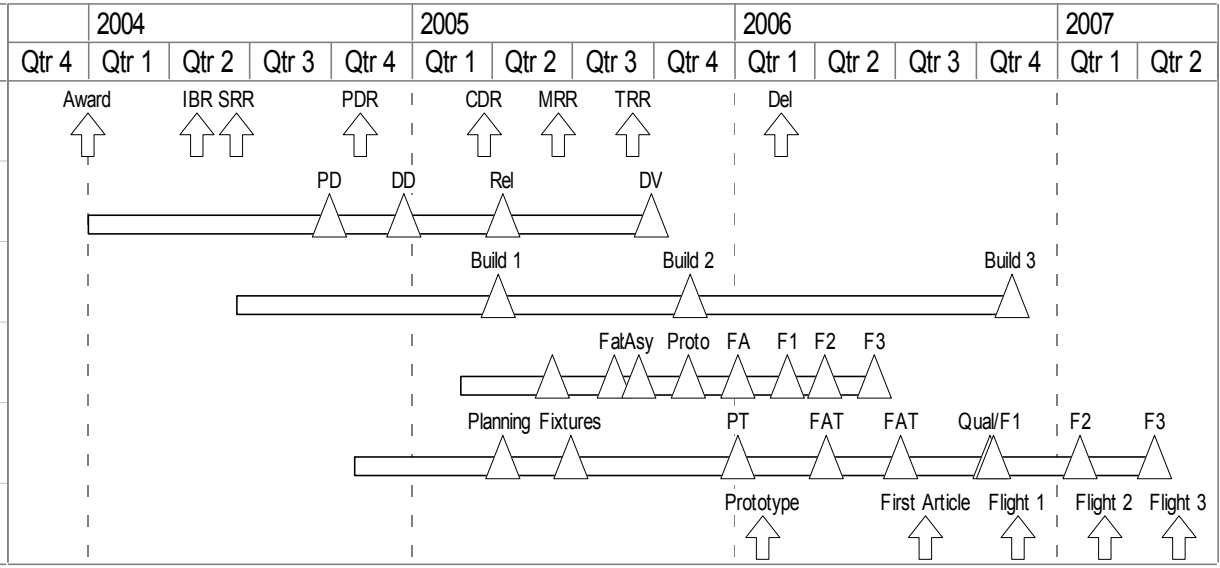
Use of Codes to Manipulate and Display MS Project Data

Top Level Schedules

ID	WBS	Text30	Task Name
3	IMP	Master,CI,DI,FI	Program Milestones
12	CXXX	Master	Hardware Dev
50	DXXX	Master	Software Dev
92	FXXX	Master	Production
119	GXXX	Master,GI	Integration & Test
148	-	Master,GI,CI,DI,FI	Deliveries

Master Schedule View



Master Schedule Filter

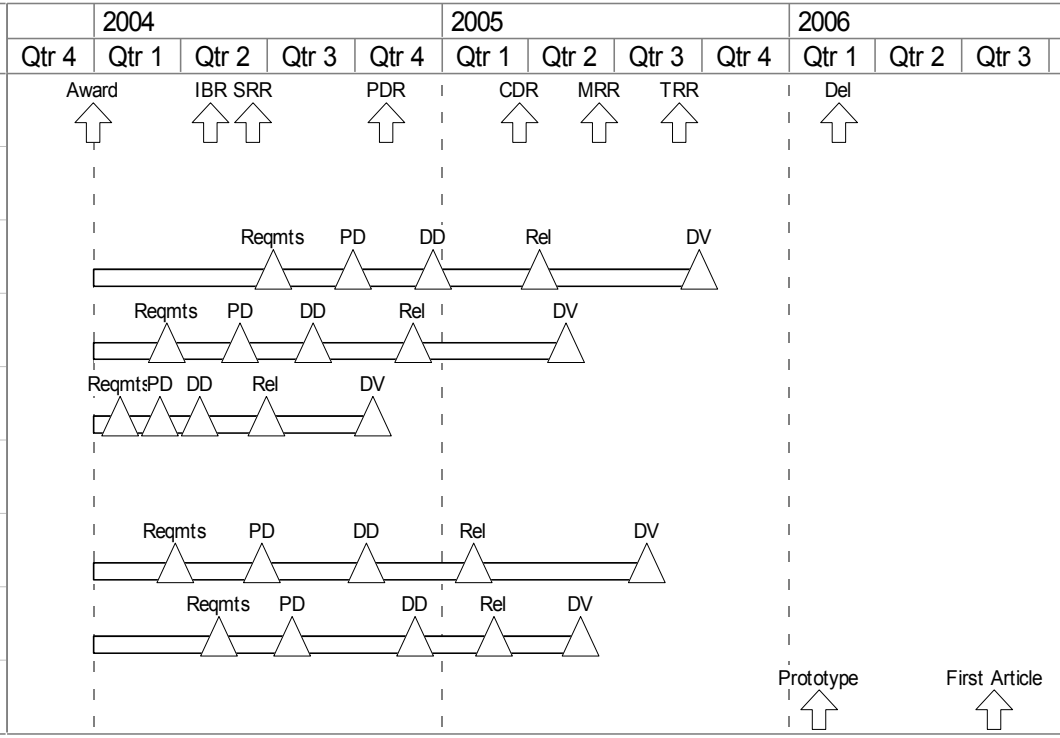
And/Or	Field Name	Test	Value(s)
	Text30	contains	Master

Use of Codes to Manipulate and Display MS Project Data Con't

Intermediate Level Schedules

ID	WBS	Text30	Task Name
3	IMP	Master,CI,DI,FI	Program Milestones
18	CAXX	CI	Widget Devolpment
19	CABX	CI	Widget - Module 1
25	CACX	CI	Widget - Module 2
31	CADX	CI	Widget - Module 3
37	CBXX	CI	GizmoFlotchyDevelopment
38	CBBX	CI	GizmoFlotchy- Module 1
44	CBCX	CI	GizmoFlotchy- Module 2
148	-	Master,GI,CI,DI,FI	Deliveries

Intermediate Schedule View

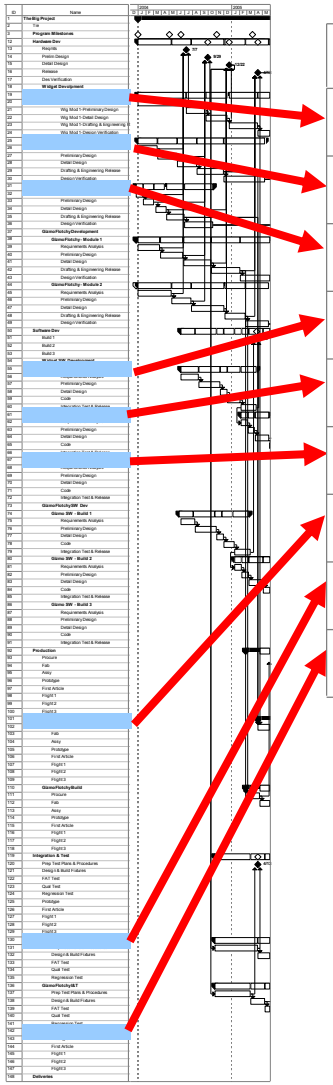


Intermediate Schedule Filter

And/Or	Field Name	Test	Value(s)
	Text30	contains	CI

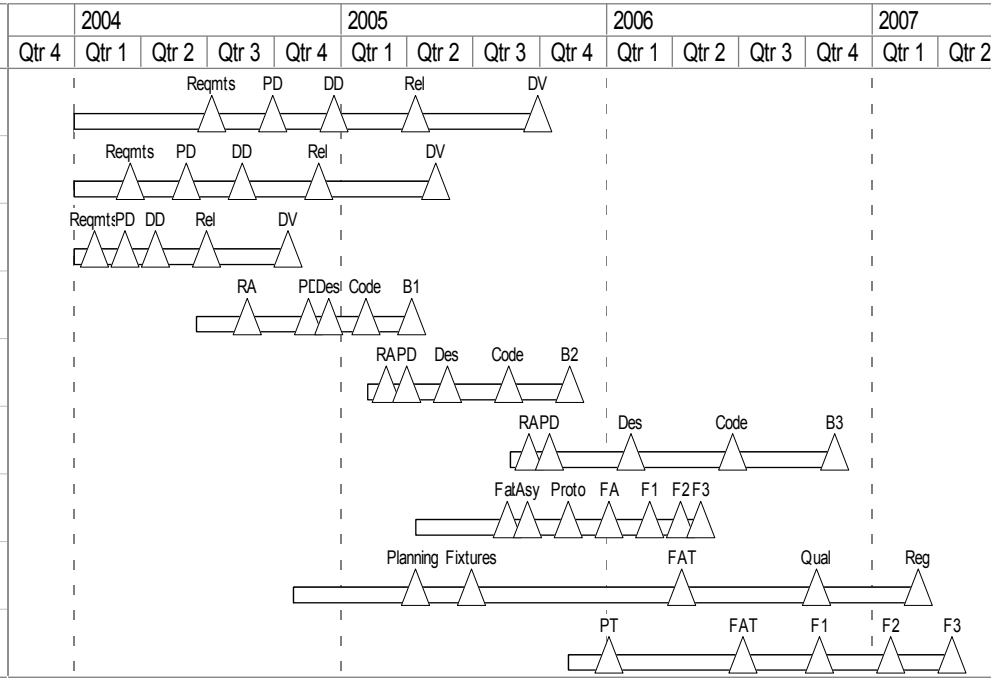
Use of Codes to Manipulate and Display MS Project Data Con't

Custom View Filtering

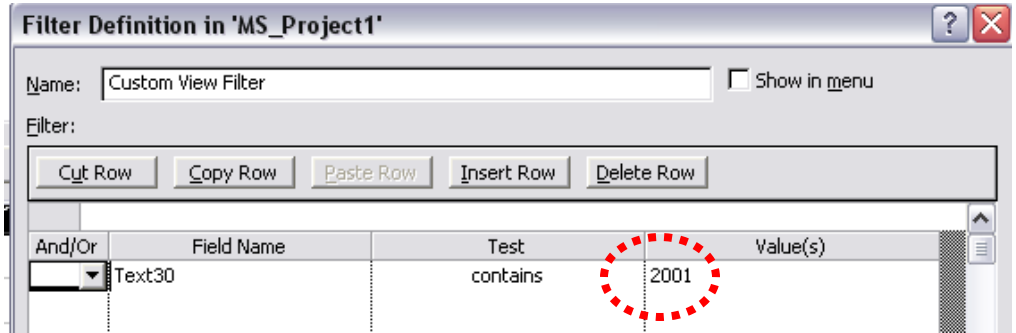


ID	WBS	Text30	Task Name
19	CABX	CI_2001	Widget - Module 1
25	CACX	CI_2001	Widget - Module 2
31	CADX	CI_2001	Widget - Module 3
55	DBAX	DI_2001	Widget SW - Build 1
61	DBBX	DI_2001	Widget SW - Build 2
67	DBCX	DI_2001	Widget SW - Build 3
101	FBXX	FI_2001	Widget Build
130	GBXX	GI_2001	Widget I&T
142	GDXX	GI_2001	System Level I&T

Custom Schedule View



Custom Schedule Filter



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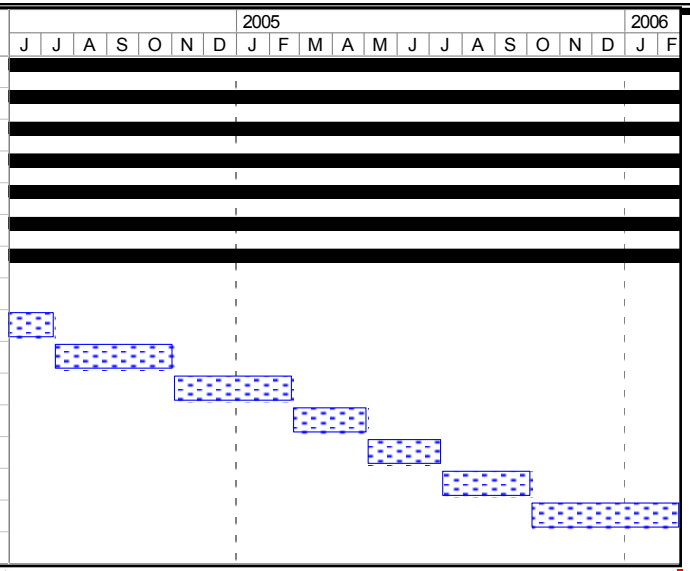
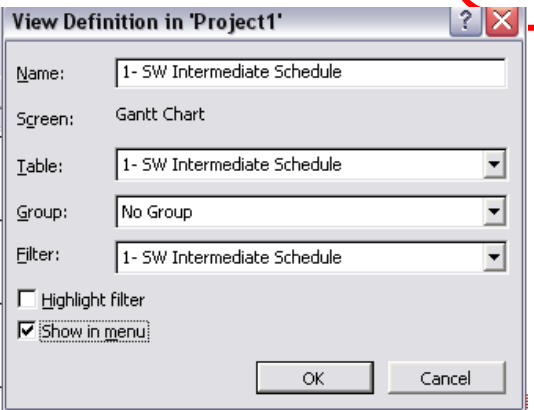
MS Project Views, Filters, & Tables

Activity Selection (Filter) & Sort

ID	Task Name	Dur	Start	Finish
1	**The Big Project**	**796d**	**10/29/03**	**11/15/06**
2	**Program Milestones**	**660d**	**1/1/04**	**7/12/06**
13	**Program Mgmt**	**660d**	**1/1/04**	**7/12/06**
84	**System Engineering**	**706d**	**10/29/03**	**7/12/06**
102	**Hardware Dev**	**660d**	**1/1/04**	**7/12/06**
103	**Widget Dev**	**660d**	**1/1/04**	**7/12/06**
104	**Widget Lead**	**660d**	**1/1/04**	**7/12/06**
105	Initial Planning for IBR	60d	1/1/04	3/24/04
106	SRR P.O.P.	80d	3/25/04	7/14/04
107	PDR P.O.P.	80d	7/15/04	11/3/04
108	CDR P.O.P.	80d	11/4/04	2/23/05
109	MRR P.O.P.	50d	2/24/05	5/4/05
110	TRR P.O.P.	50d	5/5/05	7/13/05
111	1st Del P.O.P.	60d	7/14/05	10/5/05
112	Lot 1 Dels P.O.P.	100d	10/6/05	2/22/06
113	Lot 2 Dels P.O.P.	100d	2/23/06	7/12/06

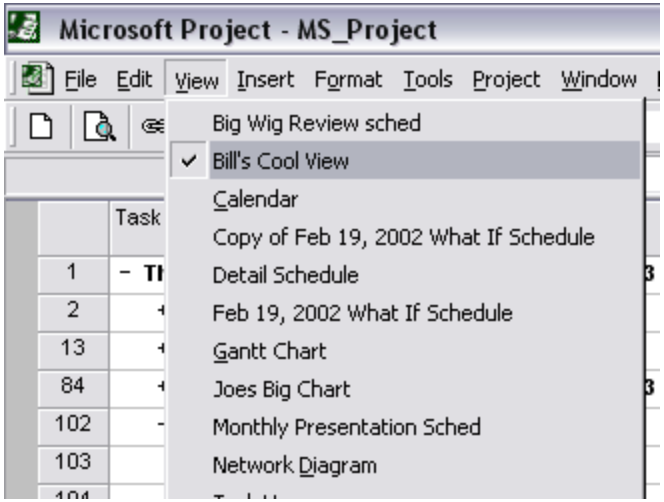


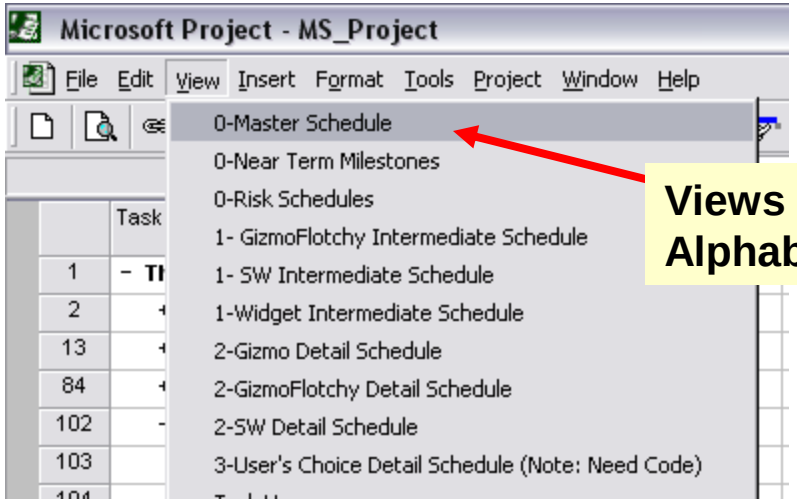
Table



View

MS Project Views, Filters, & Tables Con't





- Un-Organized
- Confusing View Names
- Time is wasted looking for or Recreating Views

- Organized
- View Names Easy to Understand
- Standard Set of Views; Saves Time

Work Smarter....Not Harder!!!

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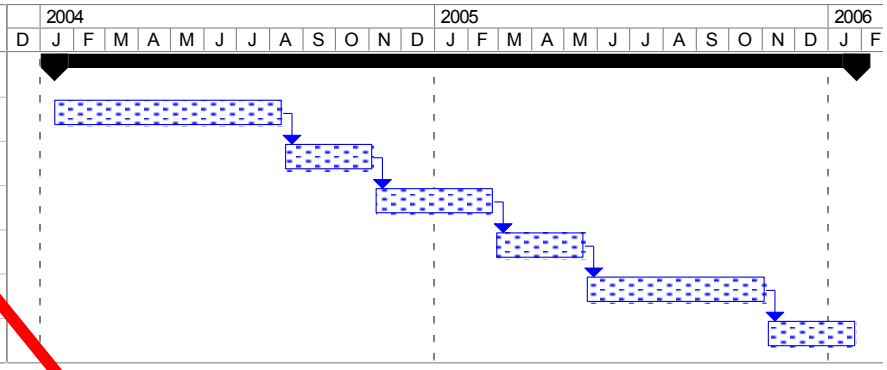
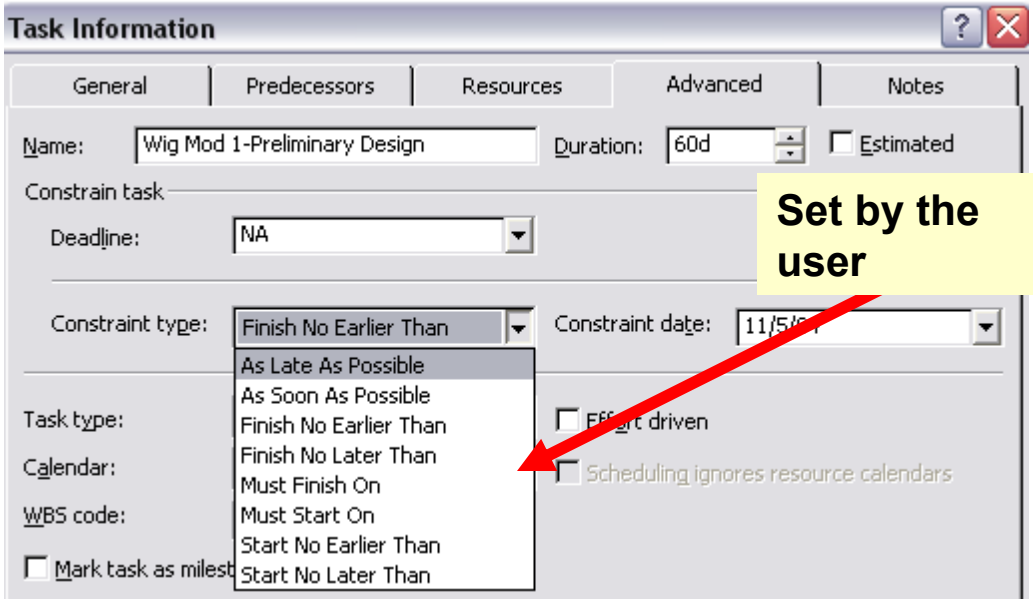
Limit the Use of Schedule Constraints

ID	Task Name	Dur	Constraint Type	Constraint	Start	Finish
1	**Wig Mod 1-Module 1**	**532d**	**As Soon As Possible**	**NA**	**1/15/04**	**1/27/06**
2	Wig Mod 1-Requirements Analysis	152d	Finish No Earlier Than	8/13/04	1/15/04	8/13/04
3	Wig Mod 1-Preliminary Design	60d	Finish No Earlier Than	11/5/04	8/16/04	11/5/04
4	Wig Mod 1-Detail Design	80d	Finish No Earlier Than	1/28/05	11/8/04	2/25/05
5	Wig Mod 1-Drafting & Engineering Release	60d	Finish No Earlier Than	5/20/05	2/28/05	5/2[illegible]/05
6	Wig Mod 1-Design Verification	120d	Finish No Earlier Than	11/4/05	5/23/05	11/4/05
7	Wig Mod 1-Design Update & Lot 2 Eng Release	60d	Finish No Earlier Than	1/27/06	11/7/05	1/27/06





Set when manually inserting Start & Finish dates, many times <u>Unintentionally</u>

Set by the user

Limit the Use of Schedule Constraints Con't

ID	Task Name	Dur	Constraint Type	Constraint	Start	Finish
1	**Wig Mod 1-Module 1**	**532d**	**As Soon As Possible**	**NA**	**1/15/04**	**1/27/06**
2	Wig Mod 1-Requirements Analysis	152d	Finish No Earlier Than	8/13/04	1/15/04	8/13/04
3	Wig Mod 1-Preliminary Design	60d	Finish No Earlier Than	11/5/04	8/16/04	11/5/04
4	Wig Mod 1-Detail Design	80d	Finish No Earlier Than	1/28/05	11/8/04	2/25/05
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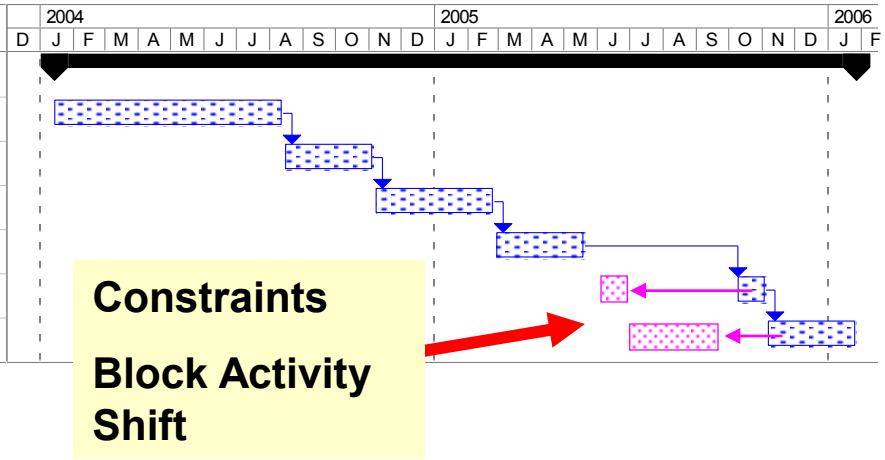
6	Wig Mod 1-Design Verification	120d	Finish No Earlier Than	11/4/05	10/10/05	11/4/05
7	Wig Mod 1-Design Update & Lot 2 Eng Release	60d	Finish No Earlier Than	1/27/06	11/7/05	1/27/06



- Schedule Tool Can not Calculate Dates
- May Lead to Faulty Critical Path Identification
- Constraints, Sometimes Hard to Spot, Once Set
- Let The Scheduling Tool Work For You !

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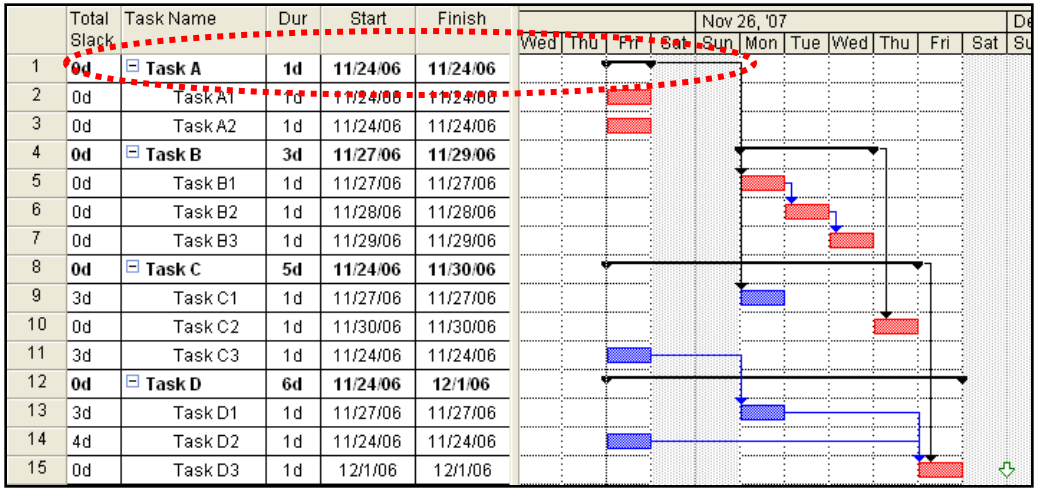
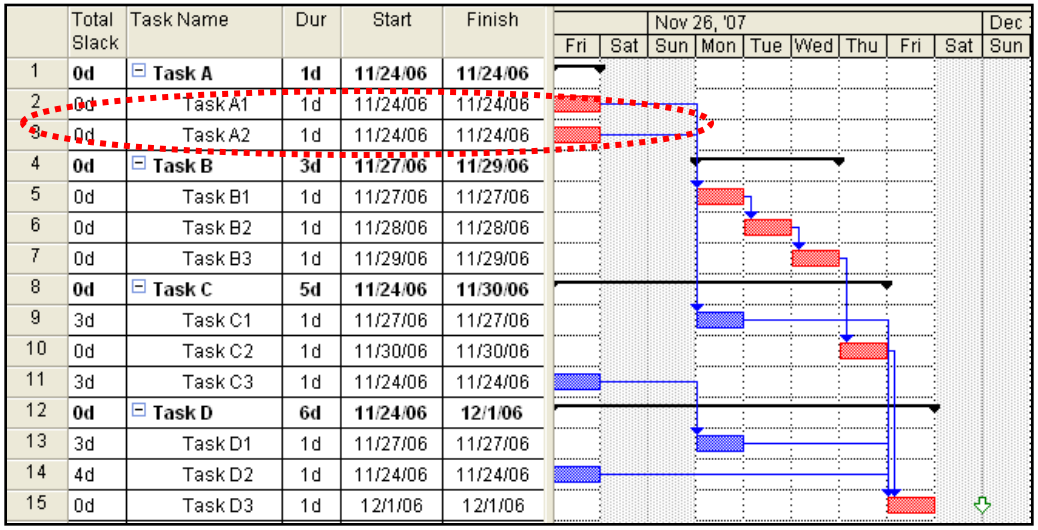
Linking only Detail Activities



	Total Slack	Task Name	Dur	Start	Finish
1	0d	**Task A**	1d	11/24/06	11/24/06
2	0d	Task A1	1d	11/24/06	11/24/06
3	0d	Task A2	1d	11/24/06	11/24/06
4	0d	**Task B**	3d	11/27/06	11/29/06
5	0d	Task B1	1d	11/27/06	11/27/06
6	0d	Task B2	1d	11/28/06	11/28/06
7	0d	Task B3	1d	11/29/06	11/29/06
8	0d	**Task C**	5d	11/24/06	11/30/06
9	3d	Task C1	1d	11/27/06	11/27/06
10	0d	Task C2	1d	11/30/06	11/30/06
11	3d	Task C3	1d	11/24/06	11/24/06
12	0d	**Task D**	6d	11/24/06	12/1/06
13	3d	Task D1	1d	11/27/06	11/27/06
14	4d	Task D2	1d	11/24/06	11/24/06
15	0d	Task D3	1d	12/1/06	12/1/06



	Total Slack	Task Name	Dur	Start	Finish
1	0d	**Task A**	1d	11/24/06	11/24/06
2	0d	Task A1	1d	11/24/06	11/24/06
3	0d	Task A2	1d	11/24/06	11/24/06
4	0d	**Task B**	3d	11/27/06	11/29/06
5	0d	Task B1	1d	11/27/06	11/27/06
6	0d	Task B2	1d	11/28/06	11/28/06
7	0d	Task B3	1d	11/29/06	11/29/06
8	0d	**Task C**	5d	11/24/06	11/30/06
9	3d	Task C1	1d	11/27/06	11/27/06
10	0d	Task C2	1d	11/30/06	11/30/06
11	3d	Task C3	1d	11/24/06	11/24/06
12	0d	**Task D**	6d	11/24/06	12/1/06
13	3d	Task D1	1d	11/27/06	11/27/06
14	4d	Task D2	1d	11/24/06	11/24/06
15	0d	Task D3	1d	12/1/06	12/1/06

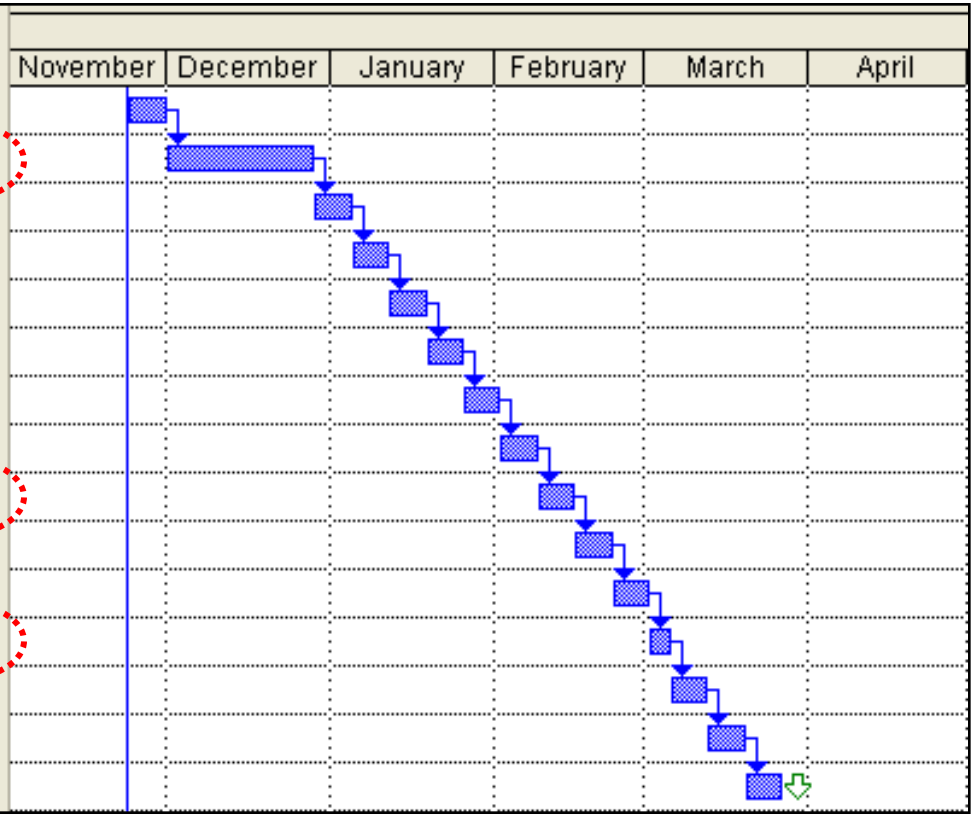
- Linking Summary Activities
  - Only Able to Identify the Critical Area
- Linking Detail Activities
  - Able to Identify the Critical Activities

Taming the Schedule Beast

- The Scheduler's Tool Kit
- Use of Schedule Templates
- Use of Codes to Manipulate and Display MS Project Data
- Common View, Filter, & Table Names
- Limiting the Use of Constraints in the Database
- Linking only Detail Activities
- Use Common Time Units for Duration (Stick to one; Days, Weeks, or Months)
- Meaningful Activity Descriptions
- Other Items of Interest

Use Common Time Units for Duration

	Total Slack	Task Name	Dur
1	0.6wks	Task 1	1wk
2	0.15mons	Task 2	1mon
3	0.6wks	Task 3	1wk
4	0.6wks	Task 4	1wk
5	0.6wks	Task 5	1wk
6	0.6wks	Task 6	1wk
7	3d	Task 7	5d
8	0.6wks	Task 8	1wk
9	0.6wks	Task 9	1wk
10	0.6wks	Task 10	1wk
11	0.6wks	Task 11	1wk
12	3d	Task 12	2d
13	0.6wks	Task 13	1wk
14	0.6wks	Task 14	1wk
15	0.6wks	Task 15	1wk



Total Slack Becomes Confusing using different time units for the Duration

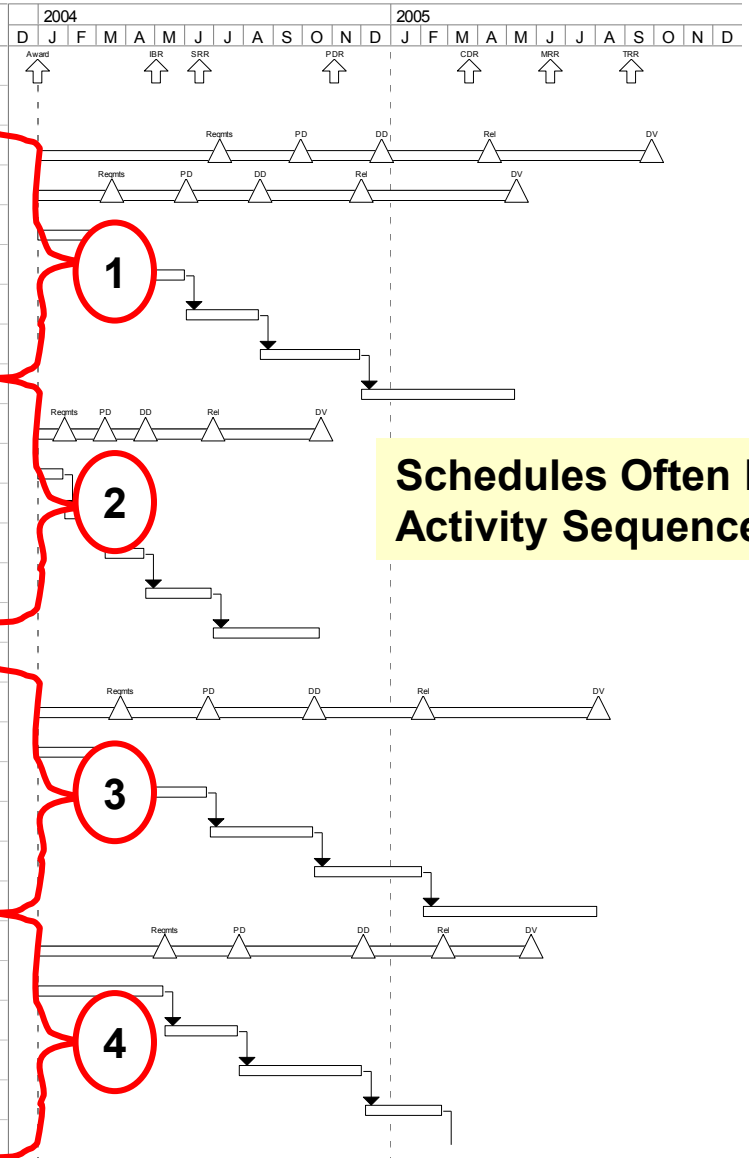
Work Smarter....Not Harder!!!

Taming the Schedule Beast

- The Scheduler's Tool Kit
- Use of Schedule Templates
- Use of Codes to Manipulate and Display MS Project Data
- Common View, Filter, & Table Names
- Limiting the Use of Constraints in the Database
- Linking only Detail Activities
- Use Common Time Units for Duration (Stick to one; Days, Weeks, or Months)
- Meaningful Activity Descriptions
- Other Items of Interest

Meaningful Activity Descriptions

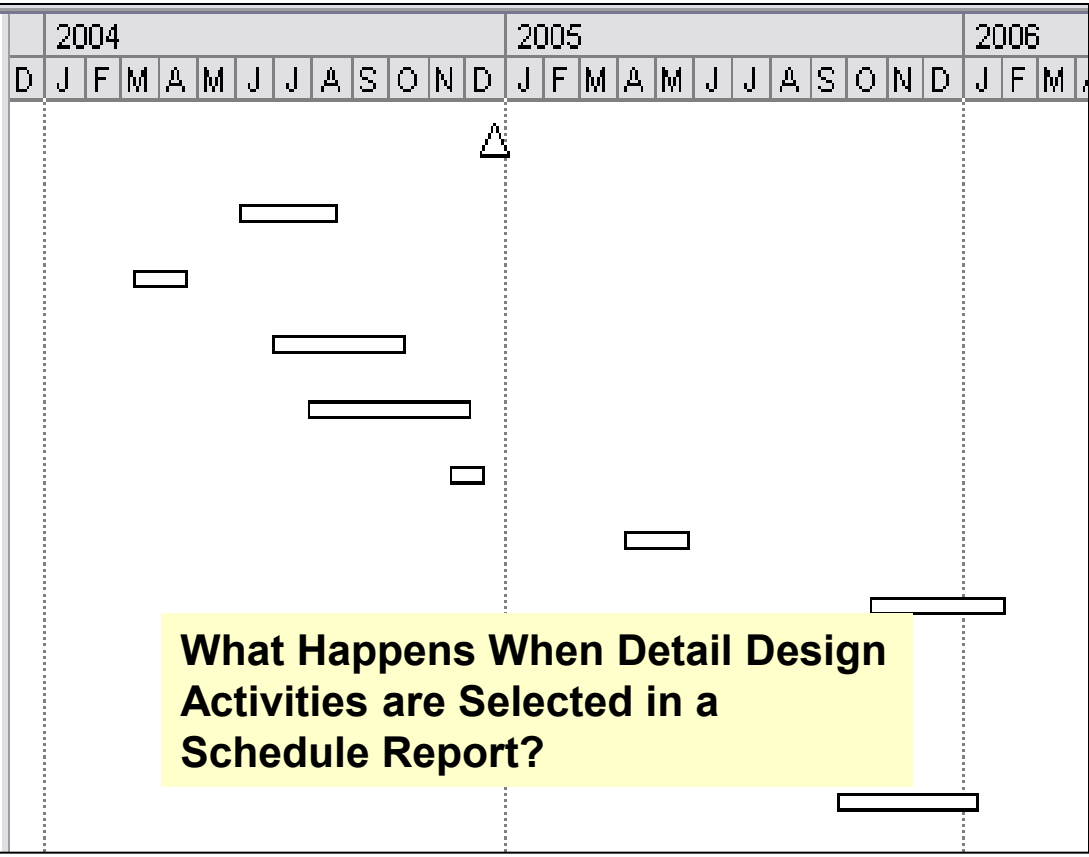
ID	WBS	Task Name
3	**IMP**	**Program Milestones**
18	**CAXX**	**Widget Devolpment**
19	**CABX**	**Widget - Module 1**
25	**CACX**	**Widget - Module 2**
26	WP 1	Requirements Analysis
27	WP 2	Preliminary Design
28	WP 3	Detail Design
29	WP 4	Drafting & Engineering Release
30	WP 5	Design Verification
31	**CADX**	**Widget - Module 3**
32	WP 1	Requirements Analysis
33	WP 2	Preliminary Design
34	WP 3	Detail Design
35	WP 4	Drafting & Engineering Release
36	WP 5	Design Verification
37	**CBXX**	**GizmoFlotchy Development**
38	**CBBX**	**GizmoFlotchy - Module 1**
39	WP 1	Requirements Analysis
40	WP 2	Preliminary Design
41	WP 3	Detail Design
42	WP 4	Drafting & Engineering Release
43	WP 5	Design Verification
44	**CBCX**	**GizmoFlotchy - Module 2**
45	WP 1	Requirements Analysis
46	WP 2	Preliminary Design
47	WP 3	Detail Design
48	WP 4	Drafting & Engineering Release
49	WP 5	Design Verification



Schedules Often Repeat Activity Sequence

Meaningful Activity Descriptions Con't

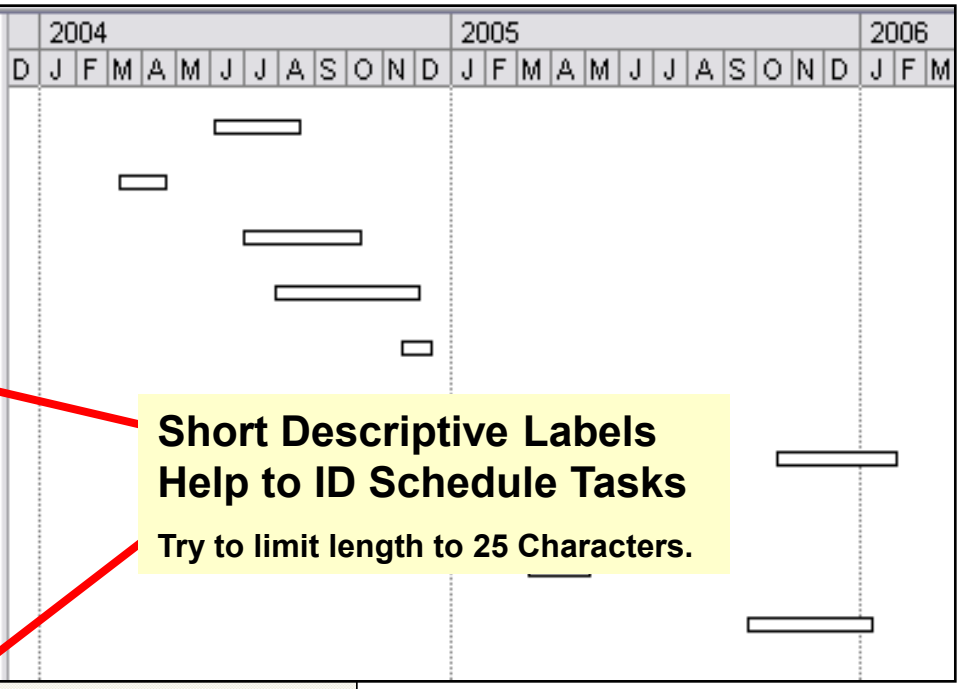
	WBS	Task Name	Dur	Start	Finish
15	1.3.3	Detail Design	0d	12/22/04	12/22/04
28	WP 3	Detail Design	55d	6/3/04	8/18/04
34	WP 3	Detail Design	30d	3/11/04	4/21/04
41	WP 3	Detail Design	78d	6/28/04	10/13/04
47	WP 3	Detail Design	93d	7/28/04	12/3/04
58	WP 3	Detail Design	20d	11/18/04	12/15/04
64	WP 3	Detail Design	40d	4/4/05	5/27/05
70	WP 3	Detail Design	80d	10/17/05	2/3/06
77	WP 3	Detail Design	20d	11/4/04	12/1/04
83	WP 3	Detail Design	40d	3/10/05	5/4/05
89	WP 3	Detail Design	80d	9/22/05	1/11/06



What Happens When Detail Design Activities are Selected in a Schedule Report?

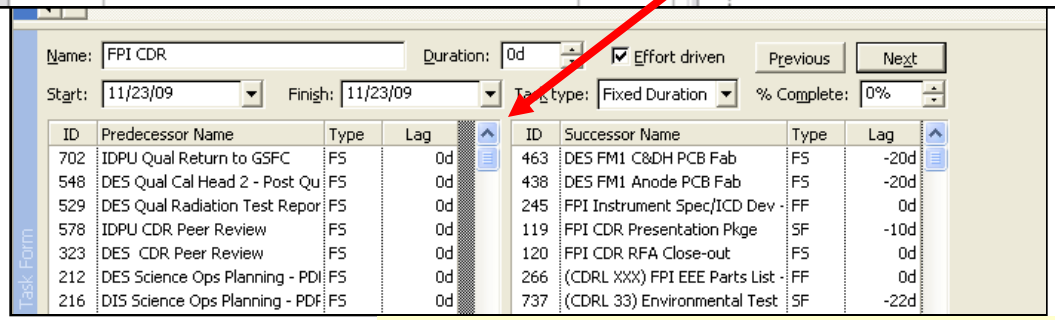
Meaningful Activity Descriptions Con't

	WBS	Task Name	Dur
28	WP 3	Wid Mod 2 Det Dsgn	55d
34	WP 3	Wid Mod 3 Det Dsgn	30d
41	WP 3	Giz Mod 1 Det Dsgn	78d
47	WP 3	Giz Mod 2 Det Dsgn	93d
58	WP 3	Wid SW B1 Det Dsgn	20d
64	WP 3	Wid SW B2 Det Dsgn	40d
70	WP 3	Wid SW B3 Det Dsgn	80d
77	WP 3	Giz SW B1 Det Dsgn	20d
83	WP 3	Giz SW B2 Det Dsgn	40d
89	WP 3	Giz SW B3 Det Dsgn	80d



Short Descriptive Labels Help to ID Schedule Tasks

Try to limit length to 25 Characters.



Work Smarter....Not Harder!!!

Other Items of Interest

- 3rd Party Schedule Checking Software
- Use of Schedule Check Lists
- Use of Schedule Frag-net libraries
- Scheduler's Interview Standard Question Lists

Agenda

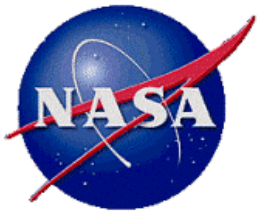
- Scheduling Issues – The Schedule Beast
- Taming the Schedule Beast
- Scheduling with the help of MS Excel
- Calculating Earned Value
- 2 New Concepts
- Questions

MS Excel - Concatenation

	A	B	C	D	E	F
1						=concatenate(b3,c3,d3,e3)
2		**Col 1 Data**	**Col 2 Data**	**Col 3 Data**	**Col 4 Data**	**Formula**
3	**Example**	Con	cat	en	ate	Concatenate
4						
5						
6	Real Life Example					
7						
8		Widget -	Award Contract			Widget - Award Contract
9		Widget -	Prelim Design			Widget - Prelim Design
10		Widget -	PDR			Widget - PDR
11		Widget -	Detail Design			Widget - Detail Design
12		Widget -	Fabrication			Widget - Fabrication
13		Widget -	Assy			Widget - Assy
14		Widget -	Test			Widget - Test
15		Widget -	Deliver			Widget - Deliver
16		Widget -	Check-out			Widget - Check-out
17		Widget -	Sign-Off			Widget - Sign-Off
18						
19						
20						
21						
22						
23						
24						
25						

Then Copy Column F Cells Directly into MS Project Cells

Work Smarter....Not Harder!!!



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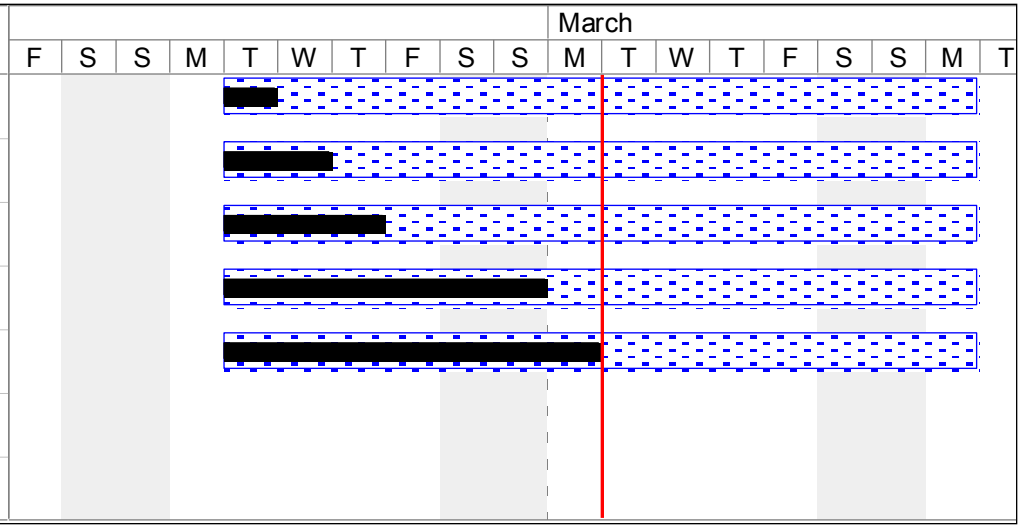
Calculating Earned Value
Weighted Milestones

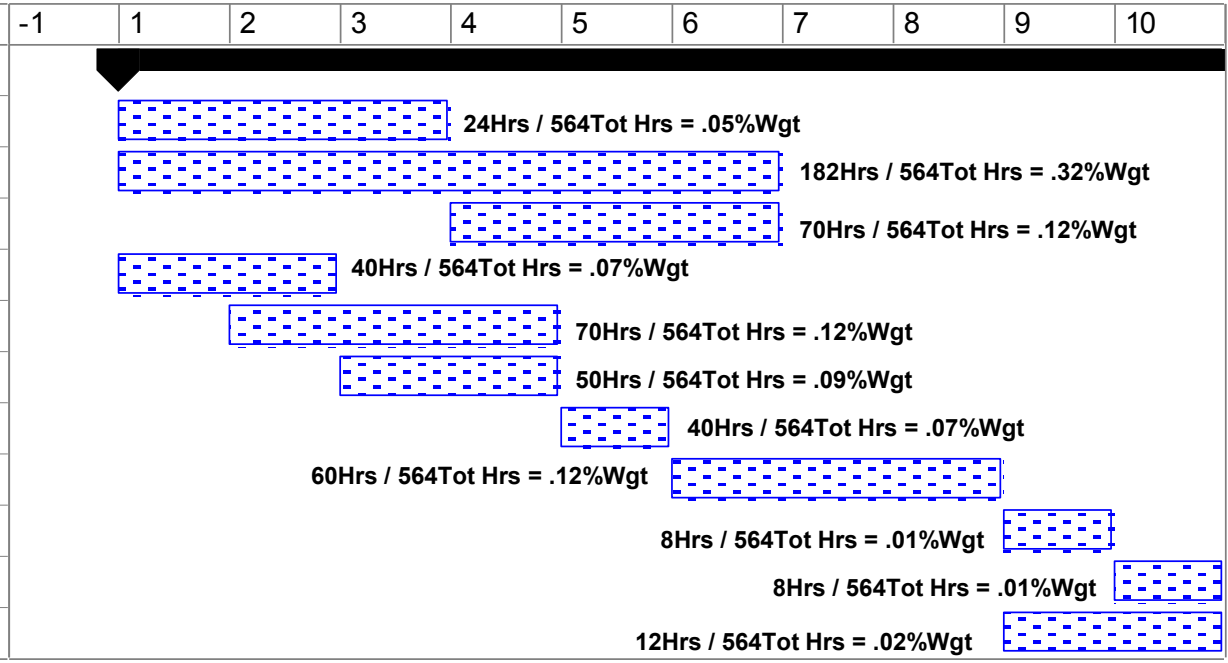
ID	Task Name	Duration	Start	Finish	%
1	Any Ole Task	10 days	2/24/04	3/8/04	10%
2	Any Ole Task	10 days	2/24/04	3/8/04	20%
3	Any Ole Task	10 days	2/24/04	3/8/04	30%
4	Any Ole Task	10 days	2/24/04	3/8/04	40%
5	Any Ole Task	10 days	2/24/04	3/8/04	50%
6					
7					



- MS Project Percent Complete is Based on Duration
- This Works Great if Task is Level Loaded
- What if Activities are Front/Back Loaded?

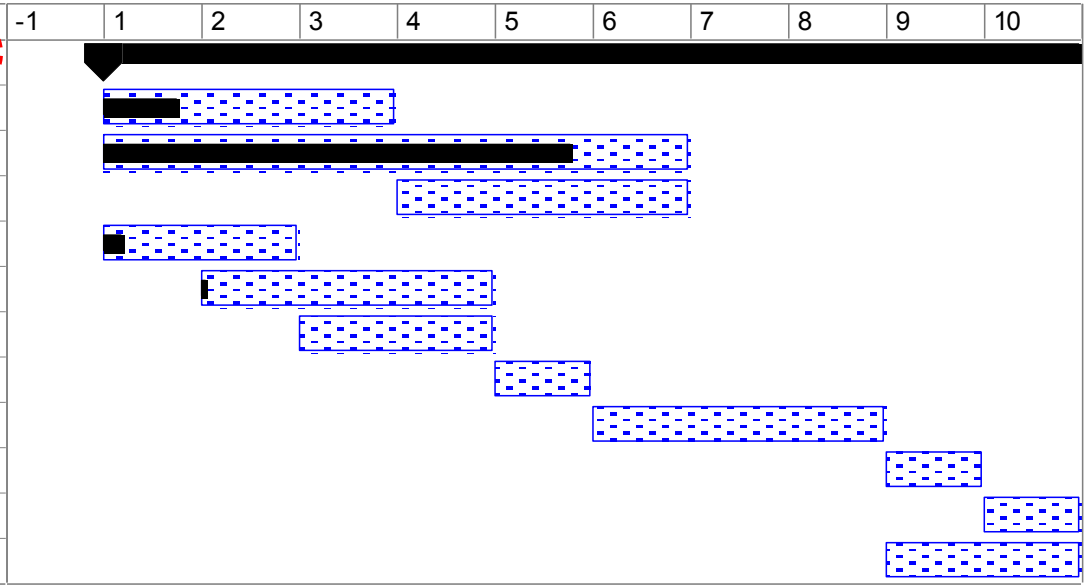
Calculating Earned Value Weighted Milestones Con't

ID	Task Name	Hours
1	**Widget Detail Design**	**564**
2	PDR Action Items	24
3	Design Routings	182
4	Drafting	70
5	Thermal Analysis	40
6	Structrual Analysis	70
7	Reliability Study	50
8	Eng Review (CDR)	40
9	Artwork	60
10	Final Drafting	8
11	Assy Drawing	8
12	Drawing Package Rel	12



Calculating Earned Value Weighted Milestones Con't

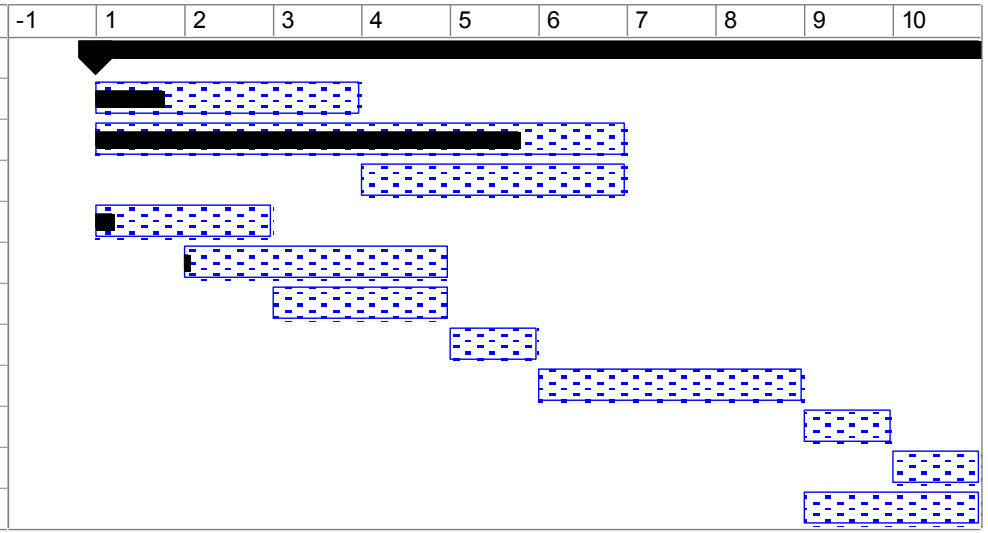
ID	Task Name	WP Wgts	Hrs	%
1	**Widget Detail Design**	**0**	**564**	**22%**
2	PDR Action Items	0.04	24	25%
3	Design Routings	0.32	182	80%
4	Drafting	0.12	70	0%
5	Thermal Analysis	0.07	40	10%
6	Structrual Analysis	0.12	70	2%
7	Reliability Study	0.09	50	0%
8	Eng Review (CDR)	0.07	40	0%
9	Artwork	0.12	60	0%
10	Final Drafting	0.01	8	0%
11	Assy Drawing	0.01	8	0%
12	Drawing Package Rel	0.02	12	0%



Detail Design 22% Complete

Calculating Earned Value Weighted Milestones Con't

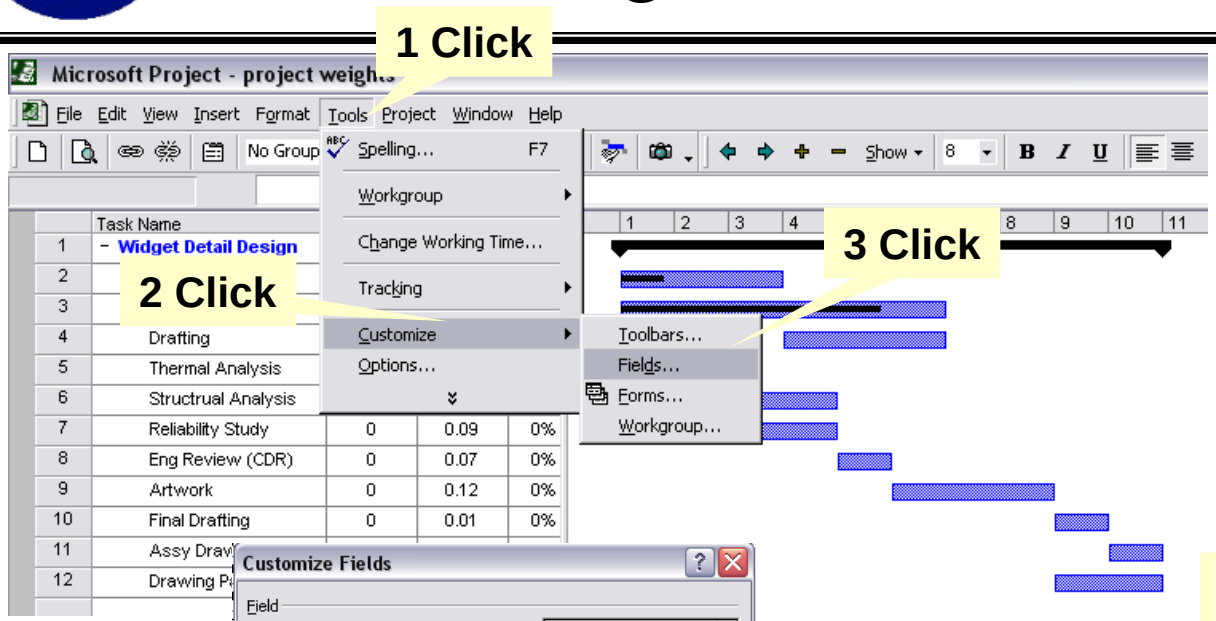
ID	Task Name	Real % C	WP Wgts	%
1	**Widget Detail Design**	**27.84**	**0**	**0%**
2	PDR Action Items	1.06	0.04	25%
3	Design Routings	25.82	0.32	80%
4	Drafting	0	0.12	0%
5	Thermal Analysis	0.71	0.07	10%
6	Structrual Analysis	0.25	0.12	2%
7	Reliability Study	0	0.09	0%
8	Eng Review (CDR)	0	0.07	0%
9	Artwork	0	0.12	0%
10	Final Drafting	0	0.01	0%
11	Assy Drawing	0	0.01	0%
12	Drawing Package Rel	0	0.02	0%

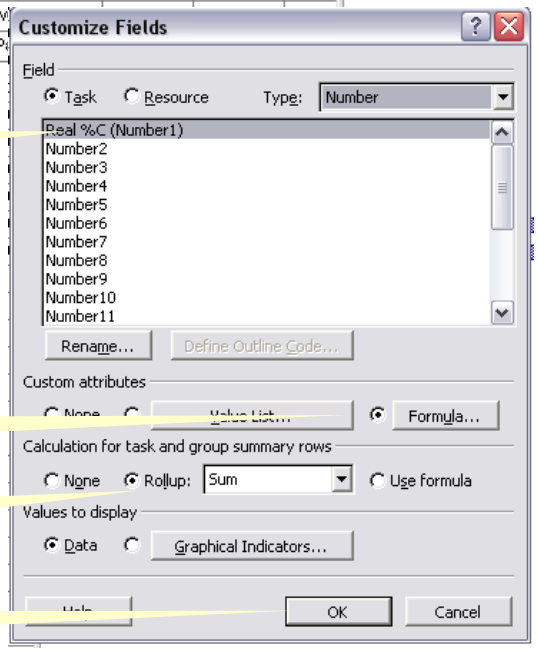


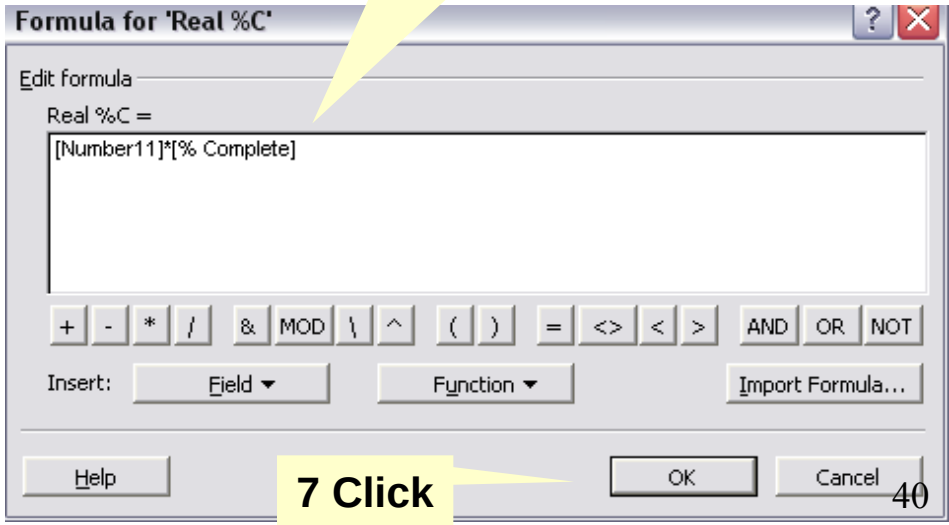
- MS Project % Complete is Based on Duration Not Weights
- Embedding Equations Directly in MS Project Saves Time and Displays Status More Accurately

Work Smarter....Not Harder!!!

Calculating Earned Value Weighted Milestones Con't







4 Click

5 Click

8 Click

9 Click

6 Insert Formula

7 Click

Agenda

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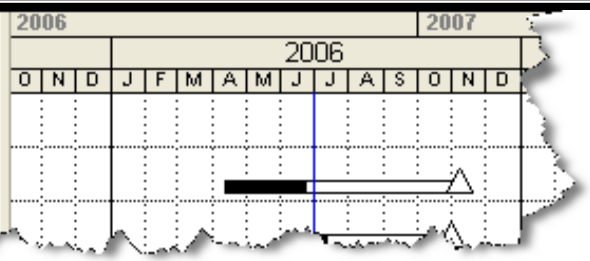
Schedule Inchstones

	Task	Dur	%	Strt	Fin
872	Mech UBS Development	677d	8%	4/11/06	12/12/08
873	Mech UBS Prelim Des	149d	15%	4/11/06	11/8/06
874	Mech GMI Mount Design	82d	5%	7/6/06	10/30/06



MS Project

Inchstones Calculate Project Activity % Complete

Inchstones Reference Unique Project ID#

Activities are kept at a ~higher level or Critical Path Level in the Project's Schedule Database

Inchstones are planned within the Project's Baseline Start & Finish Dates

Inchstone #1

MS Project Task ID: 873

% Comp 15

Prelim Design Activities

Task	*Description*	*Start*	*Finish*	*Wgt*	*% Comp*
Task 1	Analysis 1	4/11/06	8/1/06	5%	100
Task 2	Model 1	6/15/06	6/20/06	10%	100
Task 3	Analysis 2	8/1/06	8/6/06	15%	
Task 4	Model 2	8/22/06	8/27/06	3%	
Task 5	Layout 1	9/2/06	9/7/06	9%	
Task 6	IF Doc - Draft	10/1/06	10/6/06	5%	
Task 7	IF Doc - Final	10/15/06	10/20/06	30%	
Task 8	Peer Review	10/22/06	10/27/06	10%	
Task 9	Clean-up	11/1/06	11/6/06	11%	
Task 10	PDR Spt	11/2/06	11/8/06	2%	

MS Excel (most people have)

Lower Level Detail Activities are maintained at the Element/Subsystem level in Inchstone Reports that can calculate a Task completion estimates based on assigned weightings

- **Benefits:**
- **- Enhances the use of Task Orders or Performance Plans**
- **- Keeps work plans with the people doing the work!**
- **- Reduces Need for a Large Scheduling Staff**
- **- Reduces quantity of Scheduling SW Licenses**
- **- Keeps Project Databases manageable**

BPSCI
Bill Paradis Schedule Completion Index

Project Level	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
- Planned	47	49	56	62	73	74						
- Actual	19	23	32	34	44	45						
- BPSCI	0.40	0.47	0.57	0.55	0.60	0.61						
SubSystem 1												
- Planned	22	23	23	26	29	25						
- Actual	10	11	15	17	22	22						
- BPSCI	0.45	0.48	0.65	0.65	0.76	0.88						
SubSystem 2												
- Planned	15	15	18	19	23	24						
- Actual	1	1	1	1	2	1						
- BPSCI	0.07	0.07	0.06	0.05	0.09	0.04						
SubSystem 3												
- Planned	10	11	15	17	21	25						
- Actual	8	11	16	16	20	22						
- BPSCI	0.80	1.00	1.07	0.94	0.95	0.88						

- The BPSCI Assigns a schedule completion rating to the schedule by period
- This helps to the scheduling team and the project determine the level of schedule commitment to completing activities in the schedule and improves schedule completion estimates

The End

Questions?

Thank You !!!

William Paradis

william.g.paradis@nasa.gov