UNCOLLEGE

Co-creating change

HENRY LAURENCE GANTT, ONE OF US

Know how to read a Gantt. Know how to set up a Gantt

Let's start with some history

"Whatever we do must be in accord with human nature. We cannot drive people; we must **direct their development**…the general policy of the past has been to drive; but **the era of force must give way to that of knowledge**, and the policy of the future will be to **teach and lead**, to the advantage of all concerned."

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Henry L. Gantt,
era il 1910



KEY WORK

- The **Gantt chart**: Accepted as a the most important project management tool until today. It provides a graphic mechanism of planning, controlling work and recording the progress of workers toward the task standard.

- **Industrial Efficiency**: Industrial efficiency can Only be produced by the application of scientific analysis to every aspect of work. and industrial management role is to improve the system by eliminating chance and accidents.

- **The Task And Bonus System**: He linked the a manager bonus to how well he teaches his employees to perform better.

- **The social responsibility of business**: He believed that the business had obligations to the welfare of society that it operates in.

http://www.iim-edu.org/managementgurus/Henry_Gantt.htm

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THE TERM ‘GANTT CHART’ WAS FIRST USED IN THE WALLACE CLARK BOOK (*THE GANTT CHART A WORKING TOOL OF MANAGEMENT, 1923*), WHERE HE DESCRIBES THE USE OF GANTT’S CHARTS TO MEASURE PRODUCTIVITY.

Clark concludes his book as follows:

General Benefits of Gantt Charts

In the previous chapters Gantt charts have been shown as:

1. *A simple and effective method of **planning work**.*
2. *A way of **presenting facts** so that they can be **easily understood**.*
3. *A means of **eliminating idleness and waste**.*
4. *A method of **getting things done on time**.*

http://pmworldjournal.net/article/henry-l-gantt-1861-1919-debunking-the-myths-a-retrospective-view-of-his-work/

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Figure 13 Before improvement.

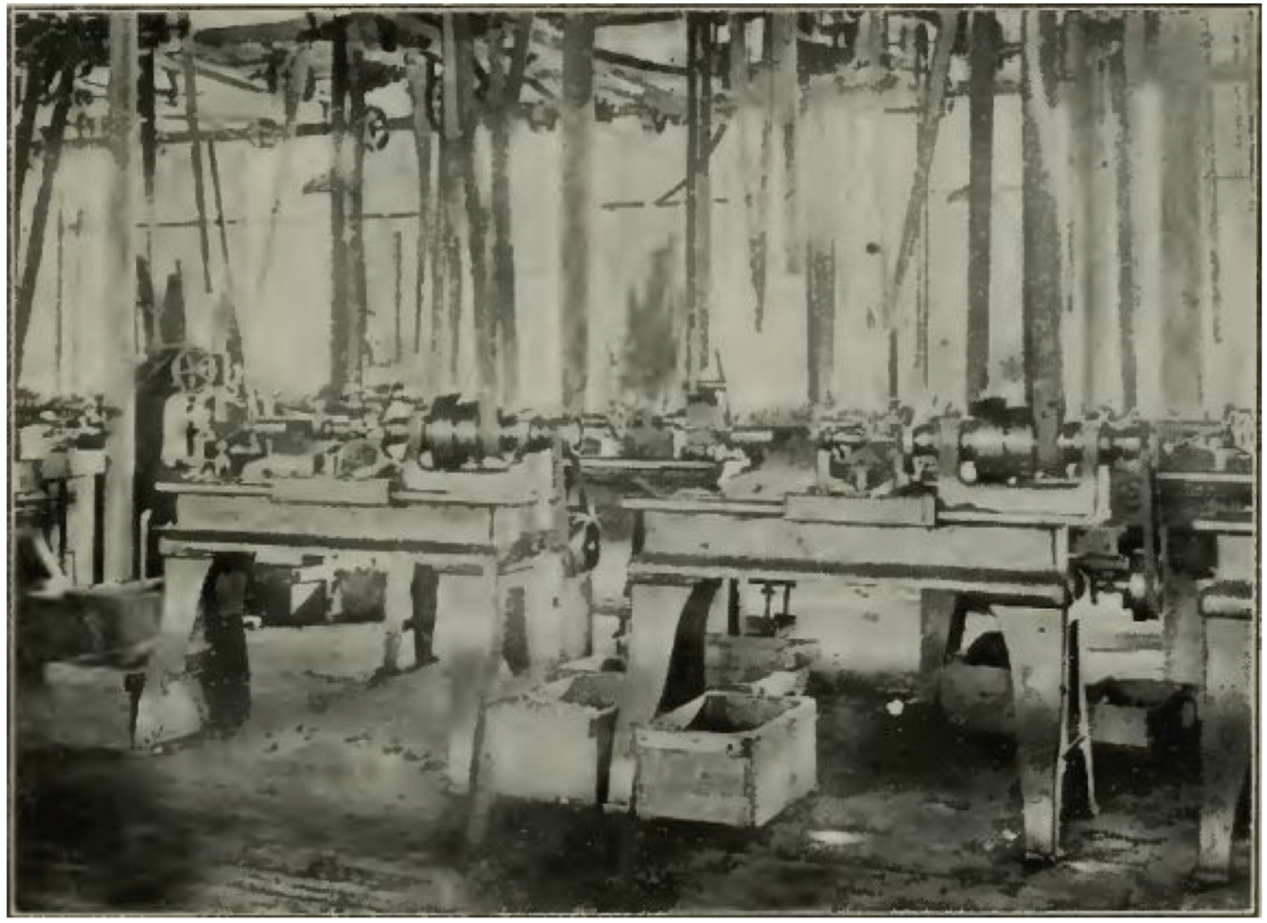


Figure 14 After improvement.

Gantt's method focused on balancing the whole production system, he recognized that a *'system of management requires all of its parts to* ***work in harmony*** *if it is to be effective, and this requires trained workers'* supported by skilled supervisors and managers. He understood that management was ultimately responsible for the **efficient utilization of labour** and implementing efficient systems that minimized errors (the focus of modern systems and quality engineering).

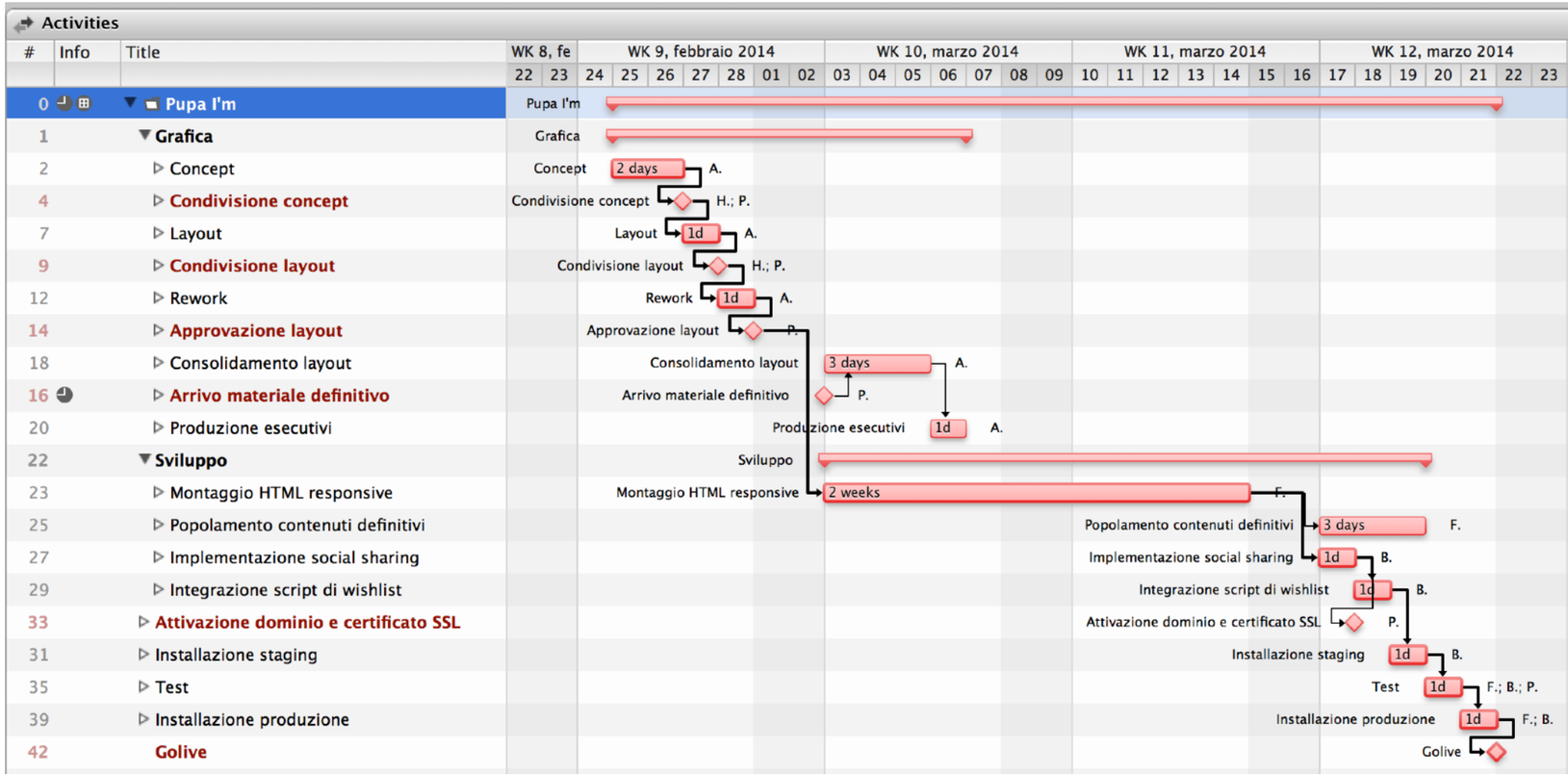
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Know how to read a Gantt

THE BASIC STRUCTURE

The Gantt chart consists of

- a horizontal axis, representing the total time span of a project
- a vertical axis, containing the activities and their possible logical groupings
- a series of horizontal bars, of variable length, representing the sequence and duration of the individual activities

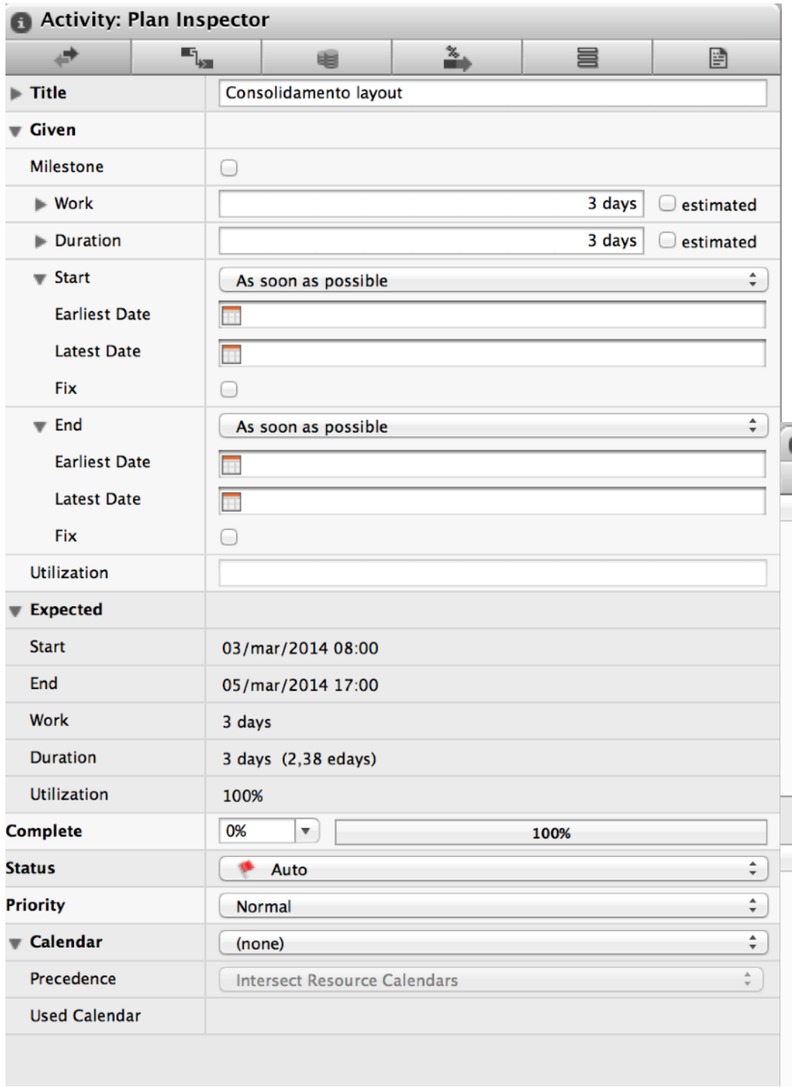


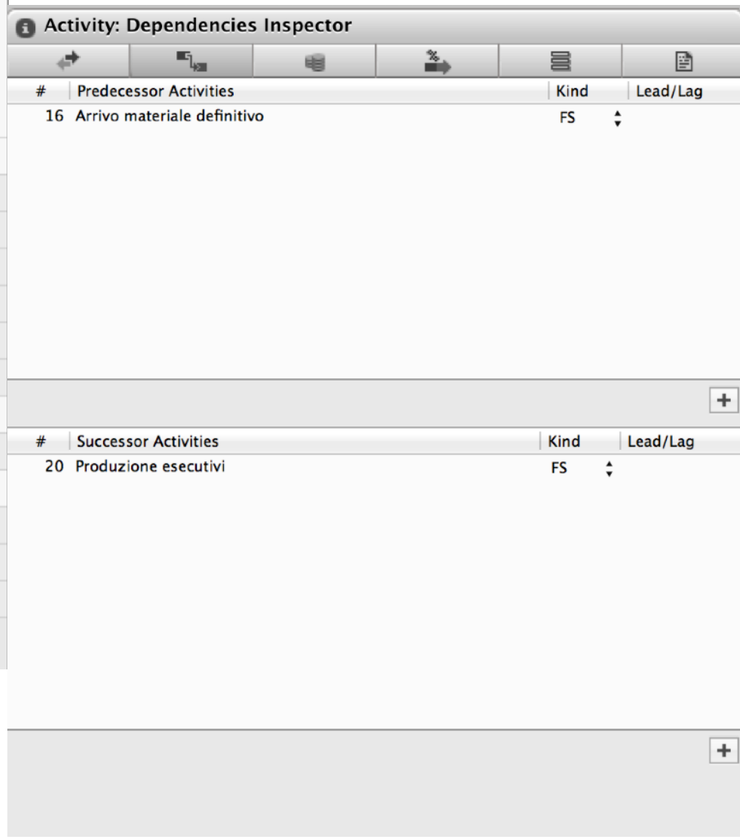
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THE ACTIVITIES

Each activity is characterized by:

- first name
- duration
- start date (planned and actual)
- resources assigned
- hierarchy with respect to other tasks to be performed
- percentage of completion
- an assigned budget





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EFFORT VS ELAPSED

Planning a task can be seen from two points of view:

- **Effort**: the work time actually needed to complete the activity

- **Elapsed**: time elapsed between the start and end of the activity

In what cases can they diverge?

Some examples:
- the assigned resources do not work at 100%. 2 days of effort, with resource assigned at 50% become 4 weekdays of elapsed
- the activity straddles a weekend or public holiday. 2 days of effort starting on Friday become 4 days of elapsed, ending on Monday evening

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ALLOCATION OF RESOURCES

Each activity can be assigned to one or more resources, also defining their level of commitment.

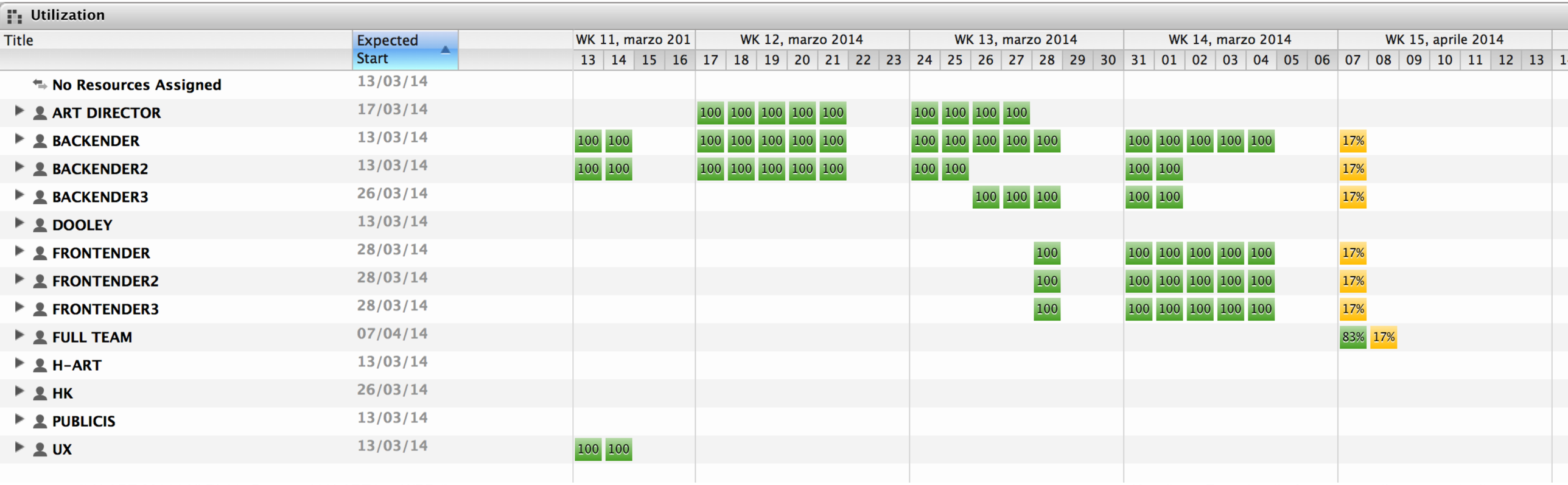
This last value, as seen in the definitions of effort and elapsed, may have an impact on the completion dates of the activity.

Deploy on stage	1 day
BACKENDER	16,67 %
FRONTENDER	16,67 %
BACKENDER2	16,67 %
FRONTENDER2	16,67 %
BACKENDER3	16,67 %
FRONTENDER3	16,67 %

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THE RESOURCES UTILIZATION DIAGRAM

It allows you to check at a glance the days of work for each resource, the percentage of effort and any overloads



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THE HIERARCHY OF ACTIVITIES

Each task typically has upstream and downstream activities.

The structure of this hierarchy is fundamental to

- understand the actual time needed to complete the project - identify the number of resources needed

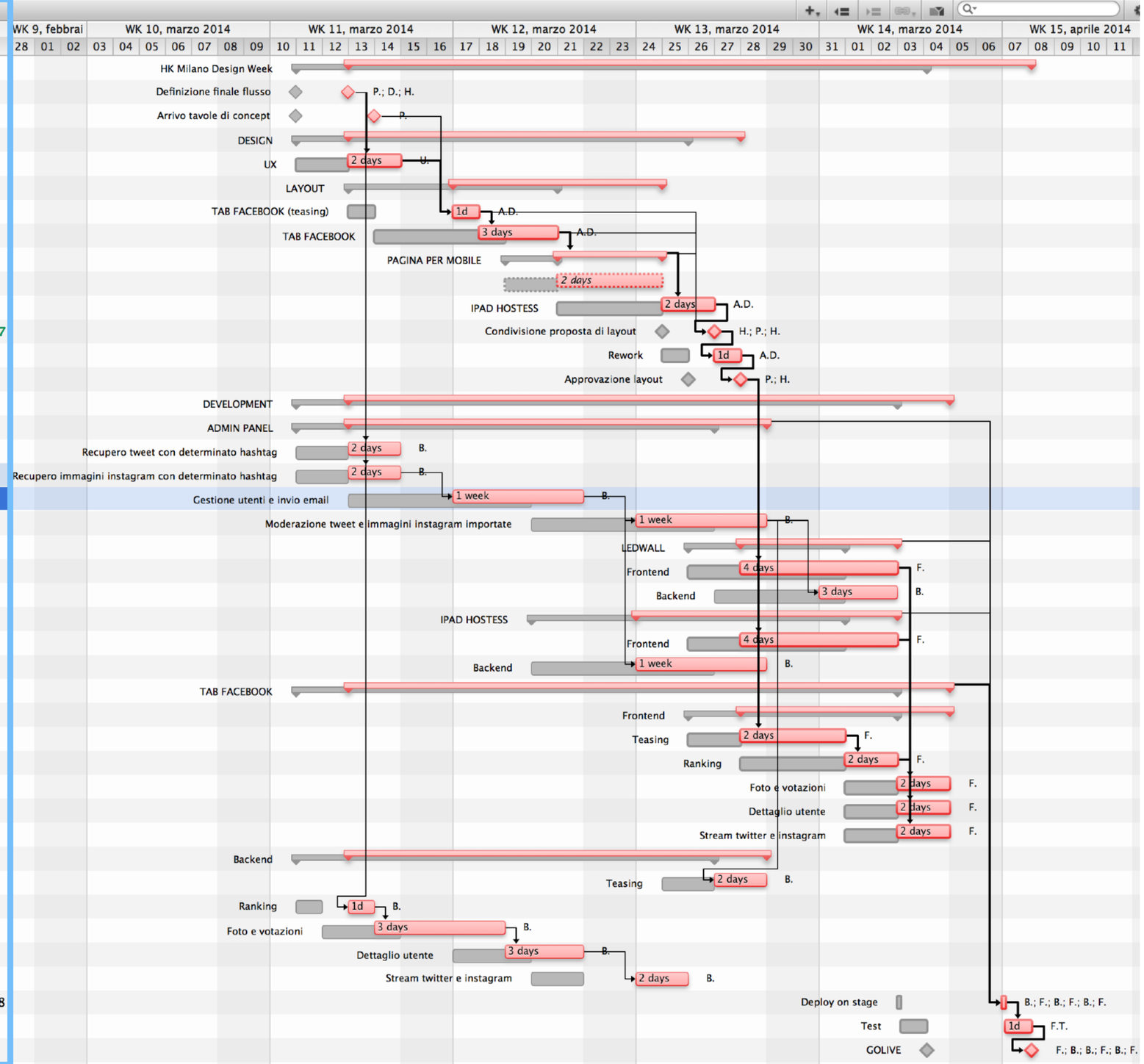
- identify any critical issues

- exploit every possible optimization and parallelization

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Activities

#	Info	Title	Given Planned Work	# Predecess
0		**HK Milano Design Week**		
1		**Definizione finale flusso**		
5		**Arrivo tavole di concept**		
7		**DESIGN**		
8		UX	2 days	1
10		**LAYOUT**		
11		TAB FACEBOOK (teasing)	1 day	5; 8
13		TAB FACEBOOK	3 days	11
15		PAGINA PER MOBILE	2 days	13
16		*ART DIRECTOR*	*100 %*	
17		IPAD HOSTESS	2 days	15
19		**Condivisione proposta di layout**		11; 13; 15; 17
23		Rework	1 day	19
25		**Approvazione layout**		23
28		**DEVELOPMENT**		
29		**ADMIN PANEL**		
30		Recupero tweet con determinato hashtag	2 days	1
32		Recupero immagini instagram con determinato hashtag	2 days	1
34		Gestione utenti e invio email	5 days	32
36		Moderazione tweet e immagini instagram importate	5 days	34
38		**LEDWALL**		
39		Frontend	4 days	25
41		Backend	3 days	36
43		**IPAD HOSTESS**		
44		Frontend	4 days	25
46		Backend	5 days	34
48		**TAB FACEBOOK**		
49		**Frontend**		
50		Teasing	2 days	25
52		Ranking	2 days	50
54		Foto e votazioni	2 days	52
56		Dettaglio utente	2 days	44
58		Stream twitter e instagram	2 days	39
60		**Backend**		
61		Teasing	2 days	36FS−2 days
63		Ranking	1 day	1
65		Foto e votazioni	3 days	63
67		Dettaglio utente	3 days	65
69		Stream twitter e instagram	2 days	67
71		Deploy on stage	1 day	29; 38; 43; 48
78		Test	1 day	71
80		**GOLIVE**		78



THE MILESTONES

They represent the fundamental project steps.

Since these are checkpoints, they do not last.

Activities

#	Info	Title	Given Work	# Predecessors	Expected Start	Expected End
0		**App mobile intimissimi**			**31/mar/2014 08:00**	**22/mag/2014 18:30**
1		Kick-off	1d		31/mar/2014 09:00	31/mar/2014 18:30
2		**Analysis & Layout**			**01/apr/2014 09:00**	**17/apr/2014 18:30**
3		Analisi UX	3d	1	01/apr/2014 09:00	03/apr/2014 18:30
5		Declinazione tavole	6d	3	04/apr/2014 09:00	11/apr/2014 18:30
7		**Condivisione layout completo**		**3; 5**	**11/apr/2014 18:30**	**11/apr/2014 18:30**
8		Rework	4d	7	14/apr/2014 09:00	17/apr/2014 18:30
10		**Approvazione layout**		**8**	**17/apr/2014 18:30**	**17/apr/2014 18:30**
11		**Content**			**08/mag/2014 09:00**	**14/mag/2014 18:30**
12		Popolamento contenuti	5d	19	08/mag/2014 09:00	14/mag/2014 18:30
14		**Development**			**22/apr/2014 09:00**	**22/mag/2014 18:30**
15		Implementazione versione iOs	15d	2	22/apr/2014 09:00	14/mag/2014 18:30
17		Implementazione versione Android	15d	2	22/apr/2014 09:00	14/mag/2014 18:30
19		Implementazione backend	10d	2	22/apr/2014 09:00	07/mag/2014 18:30
21		Test	5d	12; 15; 17; 19	15/mag/2014 09:00	21/mag/2014 18:30
23		**Submission iOs**		**21FS+1 day**	**22/mag/2014 18:30**	**22/mag/2014 18:30**
24		**Ready for submission Android**		**21FS+1 day**	**22/mag/2014 18:30**	**22/mag/2014 18:30**

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SUMMARY

WHAT TO WATCH AND HOW IN A GANTT

- **List of activities**, starting from the macros, to understand what needs to be done and how

- **Milestones**, to identify essential dates: arrival of materials, deliveries to the customer, rework, etc

- **Hierarchy of activities**, to verify the links and understand the repercussions of failure or delayed completion of a task

- **List of resources and assignments**, to view the number of people involved

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AND SOME NOTES

Pay attention to the difference between **effort and elapsed**, it can be "tricky" if read incorrectly.

Gantts are often made in **two or more different versions** (we will see this in the next section): typically, one internal and one pro-client. Make sure you always know the goal of the Gantt you are reading.

Resources, for simplicity, are often **identified generically** (backender one, frontender two, etc.). If you are part of the operational team and have a doubt about which role identifies you, ask :)

A triviality: if something doesn't add up, **always report it** :)

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How to set up a Gantt

WHERE TO START

Questions to ask yourself to get started:

- who will be the **recipient** of this Gantt?

- do I know all the **macro activities** to be carried out?

- is there already a predefined and **essential date for the release** of the project?

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INTERNAL GANTT AND GANTT FOR THE CUSTOMER

They differ in terms of objectives:

- Gantt for the **customer**: share dates that give us the certainty that they can be respected. It is normally based on the elapsed, regardless of the actual days worked

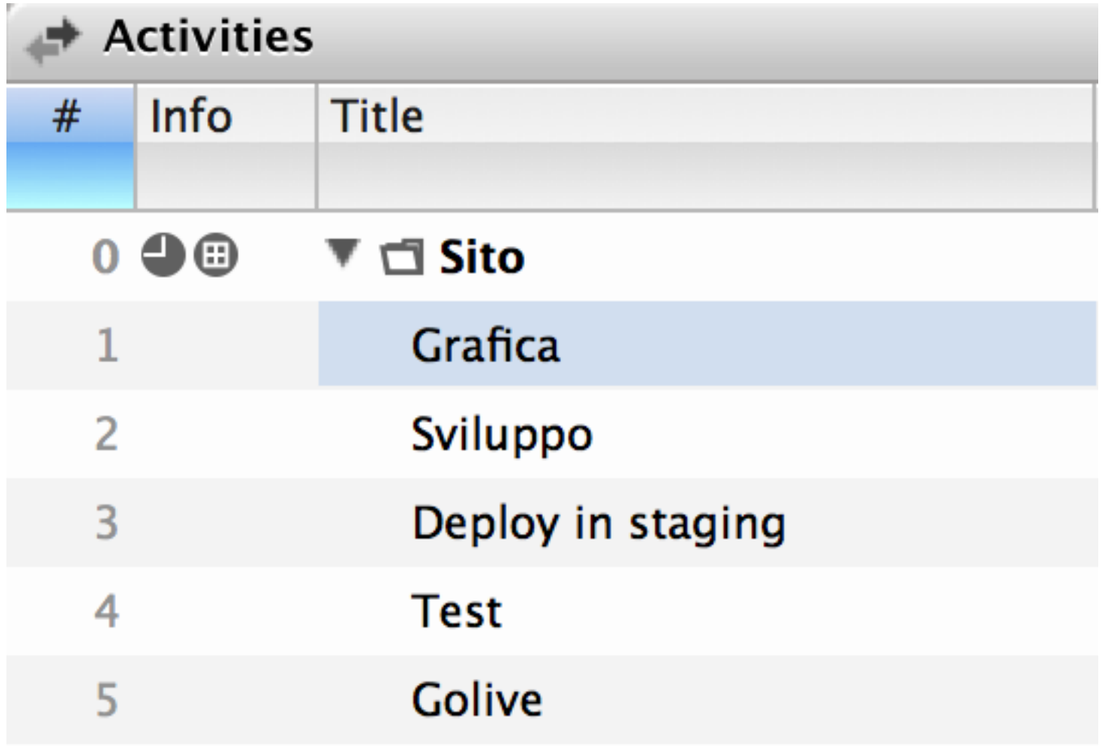
- Internal Gantt : identify the **actual days of work needed** to proceed with the allocations and share the steps with the project team

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STEP ONE - THE MACRO ACTIVITIES

Think of the Gantt as a document that evolves over time, right from the start.

Start by inserting the macro activities, without worrying about dates, durations and assigned resources.



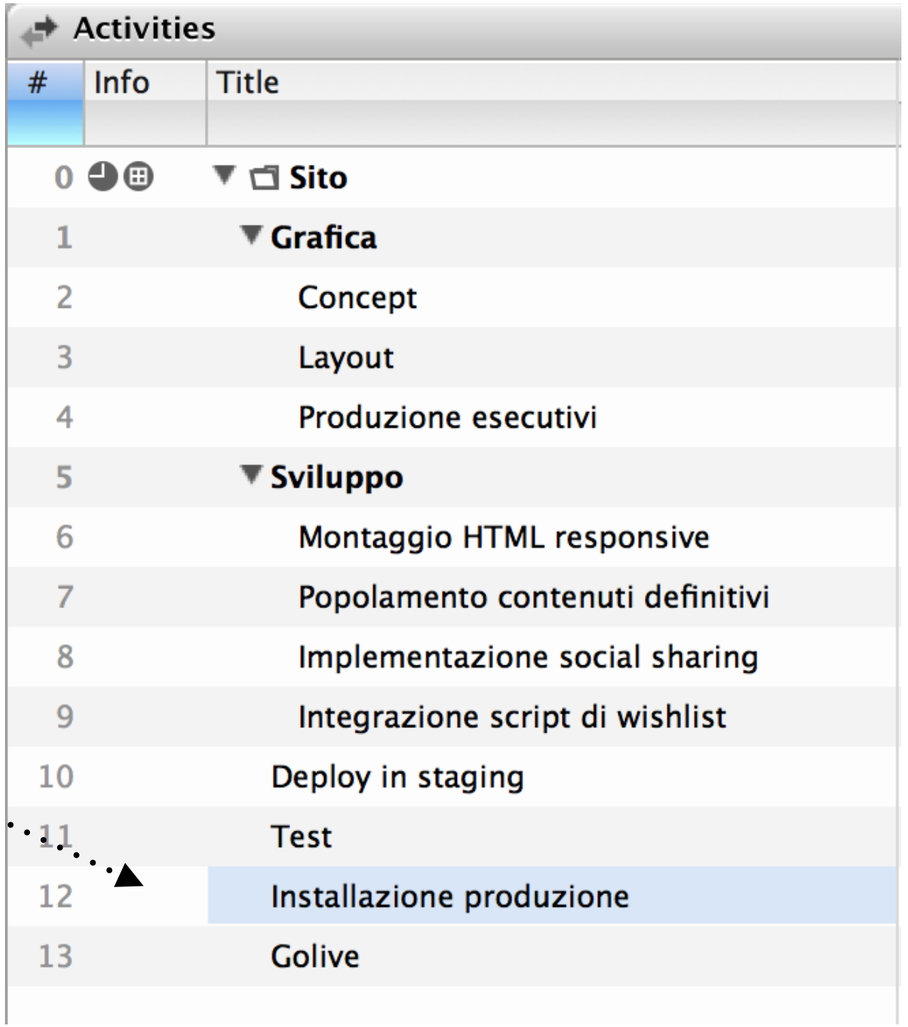
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STEP TWO - DETAIL ACTIVITIES

Using the macro containers set initially, insert the various individual operational tasks. Step by step.

A good starting point is certainly Project Estimation.

During this phase, also insert the macro phases that you may have missed in the first instance



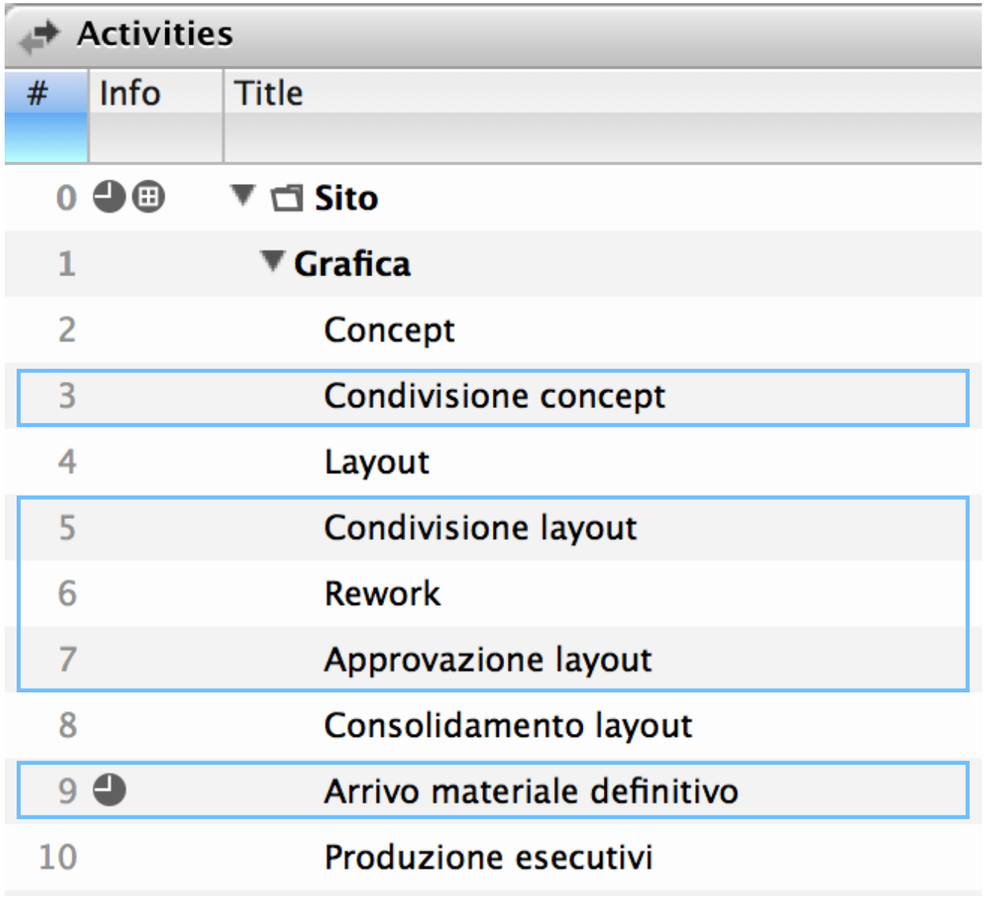
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STEP THREE - THE STEPS ON THE CUSTOMER SIDE

The Gantt must also take into consideration all the sharing, rework and approval steps on the client side.

Defining the duration of these tasks is not always easy, especially when working with a client for the first time.

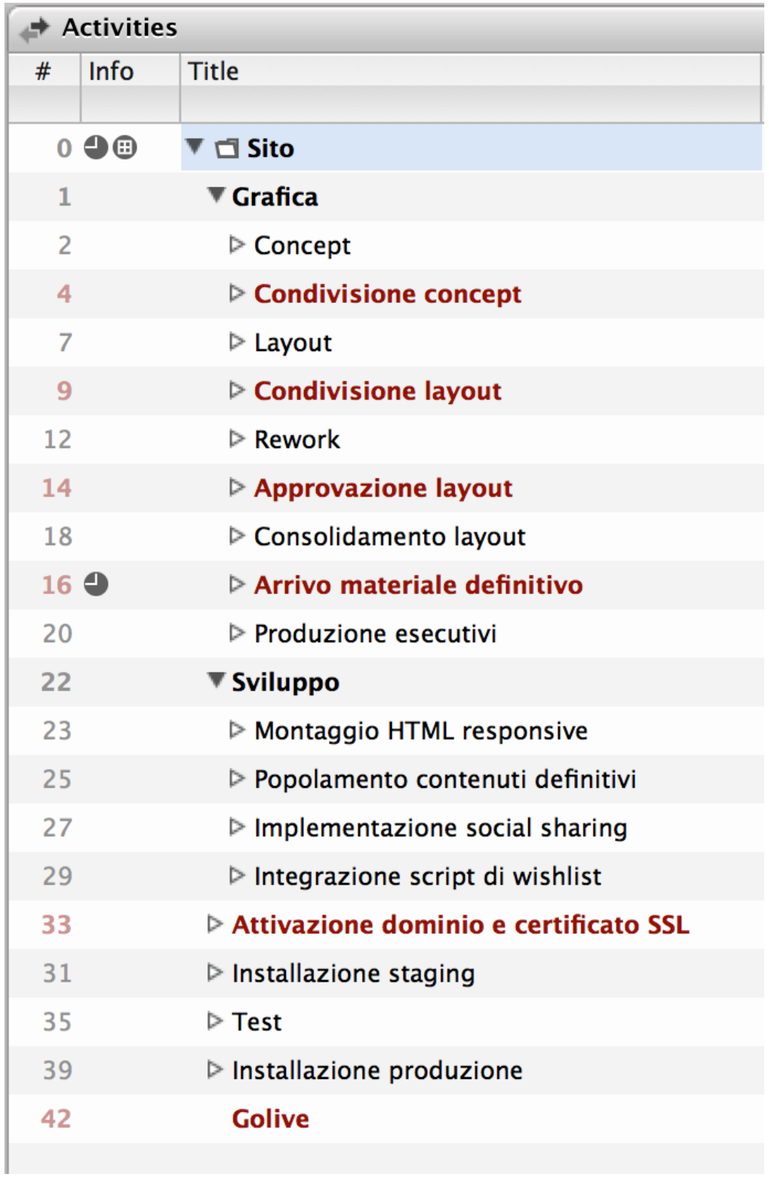
If in doubt, in the first draft, keep the durations as long as possible.



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STEP FOUR - IDENTIFY THE MILESTONES

They will represent the important dates to share with both the client and the work team.



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STEP FIVE - LET'S START DEFINE HIERARCHIES

In this first step, we begin to identify logical connections without worrying about what end date will come out.

Starting from a clear and solid plan is the best way to proceed with the optimizations, without the risk of errors and overlaps

Activities

#	Info	Title	# Predecessors
0		**Sito**	
1		**Grafica**	
2		Concept	
4		**Condivisione concept**	2
7		Layout	4
9		**Condivisione layout**	7
12		Rework	9
14		**Approvazione layout**	12
18		Consolidamento layout	16
16		**Arrivo materiale definitivo**	
20		Produzione esecutivi	18
22		**Sviluppo**	
23		Montaggio HTML responsive	14
25		Popolamento contenuti definitivi	23
27		Implementazione social sharing	23
29		Integrazione script di wishlist	27
33		**Attivazione dominio e certificato SSL**	27
31		Installazione staging	29
35		Test	31
39		Installazione produzione	35
42		**Golive**	39

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STEP SIX - LET'S ALLOCATE RESOURCES

Here too, we start from a basic assignment.

Since all activities are cascade, this first step will serve as a verification of the formal correctness of the hierarchies



Activities

#	Info	Title	# Predecessors	Assigned Resources
0		**Sito**		**CLIENTE; FE; BE; H-ART; AD**
1		**Grafica**		**CLIENTE; H-ART; AD**
2		Concept		AD
4		**Condivisione concept**	**2**	**H-ART; CLIENTE**
7		Layout	4	AD
9		**Condivisione layout**	**7**	**H-ART; CLIENTE**
12		Rework	9	AD
14		**Approvazione layout**	**12**	**CLIENTE**
18		Consolidamento layout	16	AD
16		**Arrivo materiale definitivo**		**CLIENTE**
20		Produzione esecutivi	18	AD
22		**Sviluppo**		**BE; FE**
23		Montaggio HTML responsive	14	FE
25		Popolamento contenuti definitivi	23	FE
27		Implementazione social sharing	23	BE
29		Integrazione script di wishlist	27	BE
33		**Attivazione dominio e certificato SSL**	**27**	**CLIENTE**
31		Installazione staging	29	BE
35		Test	31	FE; BE; CLIENTE
39		Installazione produzione	35	FE; BE
42		**Golive**	**39**	

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STEP SEVEN - LET'S INSERT THE WORK DAYS

Again starting from the Project Estimate, we begin to insert the working days foreseen for each individual task

Activities

#	Info	Title	# Predecessors	Given Planned Work	Assigned Resources
0		**Sito**			**CLIENTE; FE; BE; H-ART; AD**
1		**Grafica**			**CLIENTE; H-ART; AD**
2		Concept		2 days	AD
4		**Condivisione concept**	**2**		**H-ART; CLIENTE**
7		Layout	4	1 day	AD
9		**Condivisione layout**	**7**		**H-ART; CLIENTE**
12		Rework	9	1 day	AD
14		**Approvazione layout**	**12**		**CLIENTE**
18		Consolidamento layout	16	3 days	AD
16		**Arrivo materiale definitivo**			**CLIENTE**
20		Produzione esecutivi	18	1 day	AD
22		**Sviluppo**			**BE; FE**
23		Montaggio HTML responsive	14	10 days	FE
25		Popolamento contenuti definitivi	23	3 days	FE
27		Implementazione social sharing	23	1 day	BE
29		Integrazione script di wishlist	27	1 day	BE
33		**Attivazione dominio e certificato SSL**	**27**		**CLIENTE**
31		Installazione staging	29	1 day	BE
35		Test	31	2 days	FE; BE; CLIENTE
39		Installazione produzione	35	1 day	FE; BE
42		**Golive**	**39**		

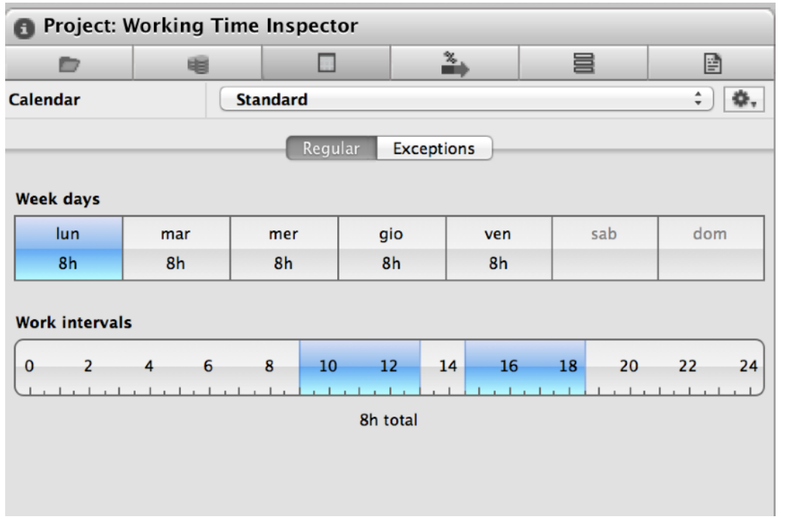
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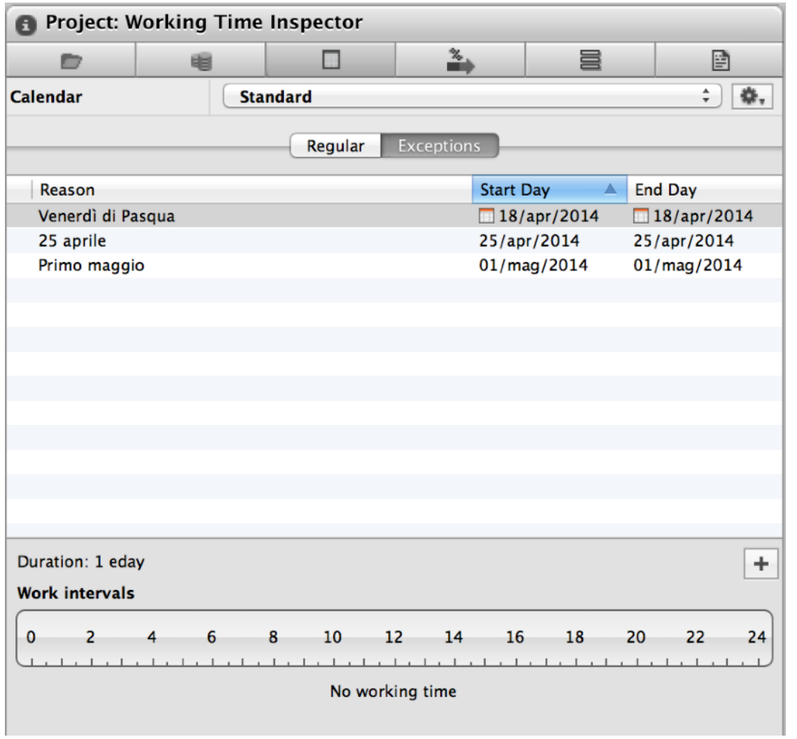
THE WORKING CALENDAR AND HOLIDAYS

As a rule, the tools for drawing up Gantts already consider the normal working week, but they DO NOT have national holidays pre-set, which must be managed manually

Working hours could also make a difference when sharing a Gantt with the client. If you have defined a delivery or approval for day “X” make sure that the time is also correct compared to expectations

Condivisione UX Design	8	0 hours	10/apr/2014 18:30	10/apr/2014 18:30
Consegna materiale d'immagine coordinata	14FS-2 days	0 hours	14/apr/2014 09:00	14/apr/2014 09:00



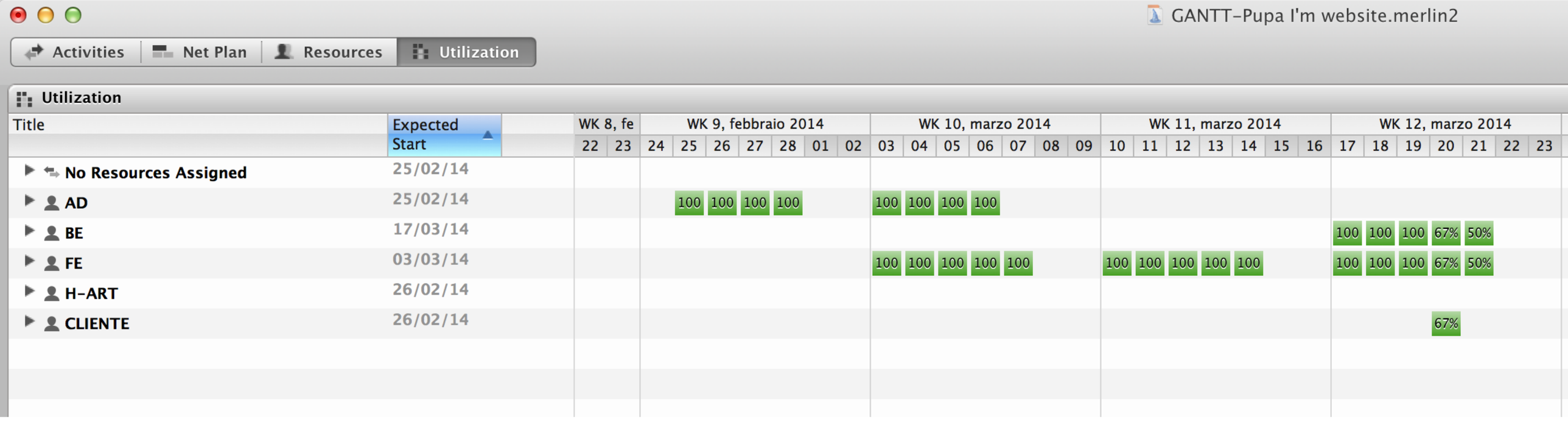


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DOUBLE CHECK

If all hierarchies and assignments have been set up correctly, the resource usage diagram will not show any conflicts.

From here you can also quickly double-check that a day that isn't has not been defined as working.



AND NOW LET'S TAKE A NICE LOOK TO OUR DEDALINE

DATE EXPECTED BY THE CUSTOMER FOR RELEASE: MAY 10

1	Kick-off	01/apr/2014 08:00			01/apr/2014 08:00
2	▼ App mobile	11/giu/2014 18:30			01/apr/2014 09:00
3	▼ Concept	06/mag/2014 18:30			01/apr/2014 09:00
4	Stesusra macro con...	04/apr/2014 18:30	4d	1	01/apr/2014 09:00
5	Consegna material...	05/apr/2014 08:00			05/apr/2014 08:00
6	Condivisione macro...	07/apr/2014 18:30	1d?	4; 5	07/apr/2014 09:00
7	Approvazione mac...	07/apr/2014 18:30		6	07/apr/2014 18:30
8	UX Design	10/apr/2014 18:30	3d	7	08/apr/2014 09:00
9	Condivisione UX D...	10/apr/2014 18:30		8	10/apr/2014 18:30
10	Rework	11/apr/2014 18:30	1d	9	11/apr/2014 09:00
11	Approvazione UX...	11/apr/2014 18:30		10	11/apr/2014 18:30
12	Declinazione UX su...	16/apr/2014 18:30	3d	11	14/apr/2014 09:00
13	Consegna material...	14/apr/2014 09:00		14FS-2 days	14/apr/2014 09:00
14	Definizione Concept	15/apr/2014 18:30	2d	11	14/apr/2014 09:00
15	Condivisione concept	15/apr/2014 18:30		14	15/apr/2014 18:30
16	Rework	17/apr/2014 18:30	2d	15	16/apr/2014 09:00
17	Approvazione con...	17/apr/2014 18:30		16	17/apr/2014 18:30
18	Declinazione tavole	06/mag/2014 18:30	10d	17	21/apr/2014 09:00
19	▼ Development	14/mag/2014 18:30			14/apr/2014 09:00
20	Sviluppo backend	14/mag/2014 18:30	20d	11	14/apr/2014 09:00
21	Sviluppo app iOs	14/mag/2014 18:30	20d	11	14/apr/2014 09:00
22	Sviluppo Android	14/mag/2014 18:30	20d	11	14/apr/2014 09:00
23	▼ Content	28/mag/2014 18:30			15/mag/2014 09:00
24	Caricamento contenuti	28/mag/2014 18:30	10d	20	15/mag/2014 09:00
25	Deploy on stage	15/mag/2014 18:30	1d	19	15/mag/2014 09:00
26	Test	21/mag/2014 18:30	4d	25	16/mag/2014 09:00
27					
28	28	Go live			11/giu/2014 18:30
29					



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DON'T PANIC

THE

ANSWER IS 42

THE SITUATION IS QUITE COMMON...

... having initially defined all activities as cascading.

However, we have many tools at our disposal to refine and optimize the sequence of activities:

- **parallelize** tasks using more resources

- recheck the **dependencies**, identifying the activities that can start independently

- review, if possible, the **times assigned to the customer** for reviews and approvals

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PARALLELIZE TASKS USING MORE RESOURCES

Once the criticality linked to the time available has been identified, thanks to the Gantt, it is possible to understand what the **actual number of resource**s is necessary to complete the activities within the deadline.

The diagram can be used to carry out **simulations** by changing assignments on multiple people.

Once the optimal solution has been identified, it will be essential to **verify the allocations** before sharing the planning with the client.

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REVERIFY THE DEPENDENCES, IDENTIFYING THE ACTIVITIES THAT THEY CAN LEAVE INDEPENDENTLY

Some examples of questions we can ask ourselves:

- Are there any tasks that can start even without approval of the graphics?

- Can the backend implementation start before the frontend?

- Are there development branches that I can parallelize? for example iOS and Android implementation, or a Facebook tab in parallel with the site, etc

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REVIEW, IF POSSIBLE, THE TIMES ALLOCATED TO THE CUSTOMER FOR REVIEWS AND APPROVALS

It can often be a useful approach to share a version of the Gantt with the client without these types of optimizations, to show them what type of commitment is needed, on both sides, to arrive at a common result.

Setting a date well ahead of expectations, and then showing what a solution could be to stay on time, helps to make people understand how rapid feedback and approvals are strategic.

Sometimes it will not be possible for them to accelerate their internal sharing phases, but making the status of the time available immediately clear can still be the key to preventing any subsequent problems.

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Why a Gantt is important

BECAUSE…

- represents a **common language**

- helps to **understand immediately** what will happen

- allows you to **detect any problems in time**, also giving you the opportunity to **simulate** a solution

- allows us to give a clear picture of the **deadlines to be respected**, but also to the customer

- **prevents** problems and conflicts

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And now an exercise

BRIEF

Creation of a minisite and a Facebook tab for the launch of a new bag collection.

We sold:

- ux: 3 days
- concept: 5 days
- graphics: 6 days
- development: 15 days FE minisite, 6 days FE facebook tab, 8 days BE, 3 days of testing, 6 days of deployment

The Facebook tab will be a landing containing a video and some product launches, towards the minisite.

The client:

- expects to be able to independently manage part of the contents, both for the minisite and for the tab.
- declares that he needs 1 week to evaluate the graphics

Deadline linked to the commercial launch of the new products: 24 June.

Project kick-off: April 30th.

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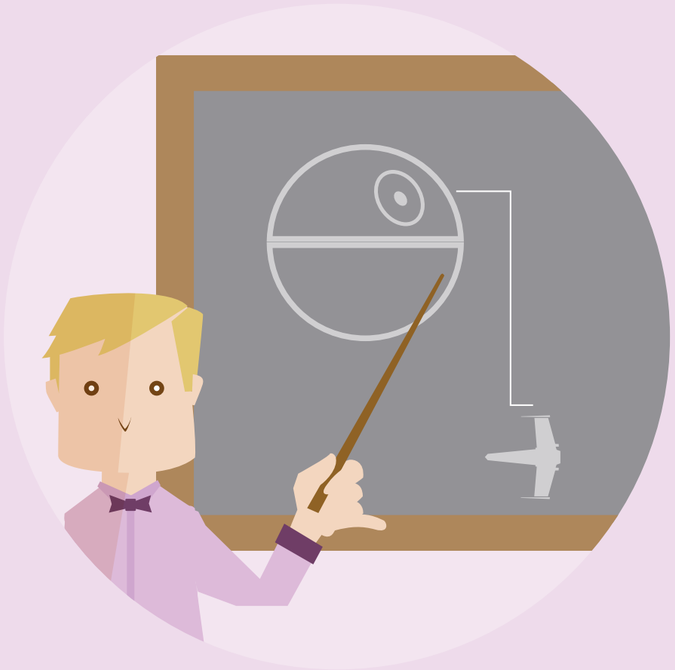
A POSSIBLE PLANNING

Activities

#	Info	Title	Given Planned Work	Expected Duration	# Predecessors	Expected Start	Expected End	Assigned Resources
0		**New Bags site**		1,85 months		30/apr/2014 09:00	24/giu/2014 18:30	CLIENTE; FORNITORE HOSTING; FE2; GRAF...
1		UX	2 days	2 days		30/apr/2014 09:00	05/mag/2014 18:30	UX
3		**Condivisione UX**		0 hours	1	05/mag/2014 18:30	05/mag/2014 18:30	H-ART; CLIENTE
6		Rework UX	1 day	1 day	3FS+3 days	09/mag/2014 09:00	09/mag/2014 18:30	UX
8		**Approvazione UX**		0 hours	6	09/mag/2014 18:30	09/mag/2014 18:30	CLIENTE
10		**Grafica**		3,2 weeks		12/mag/2014 09:00	03/giu/2014 18:30	CLIENTE; GRAFICO; AD; H-ART
11		Concept	3 days	3 days	8	12/mag/2014 09:00	14/mag/2014 18:30	AD
13		**Condivisione concept**		0 hours	11	14/mag/2014 18:30	14/mag/2014 18:30	H-ART; CLIENTE
16		Rework	2 days	2 days	13FS+1 week	22/mag/2014 09:00	23/mag/2014 18:30	AD
18		**Approvazione concept**		0 hours	16	23/mag/2014 18:30	23/mag/2014 18:30	CLIENTE
20		Declinazione grafica	6 days	1,2 weeks	18	26/mag/2014 09:00	03/giu/2014 18:30	GRAFICO
22		**Sviluppo**		1,4 months		12/mag/2014 09:00	19/giu/2014 18:30	FE1; FE2; BE
23		Frontend minisito	15 days	3 weeks	20FS-3 days	29/mag/2014 09:00	19/giu/2014 18:30	FE1
25		Frontend tab	6 days	1,2 weeks	20FS-4 days	28/mag/2014 09:00	05/giu/2014 18:30	FE2
27		Backend	8 days	1,6 weeks	8	12/mag/2014 09:00	21/mag/2014 18:30	BE
29		Deploy staging	3 days	1 day	22	20/giu/2014 09:00	20/giu/2014 18:30	FE1; FE2; BE
33		**Setup server di produzione e attivazione certificato SSL**		0 hours	39FS-3 days	20/giu/2014 09:00	20/giu/2014 09:00	FORNITORE HOSTING
35		Test	3 days	1 day	29	23/giu/2014 09:00	23/giu/2014 18:30	FE1; FE2; BE
39		Deploy prod	3 days	1 day	35	24/giu/2014 09:00	24/giu/2014 18:30	FE1; FE2; BE
43		**Golive**		0 hours	39	24/giu/2014 18:30	24/giu/2014 18:30	

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THANK YOU



H»ART.
DEVOTED TO EMOTIONS AND IMPACT.

UNCOLLEGE

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