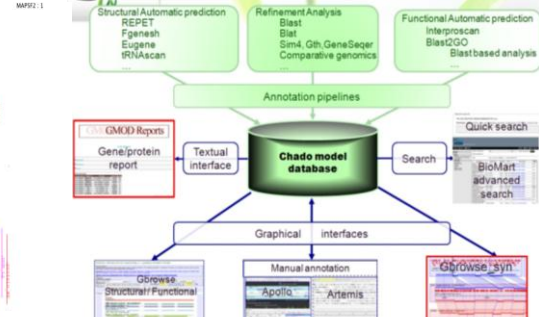
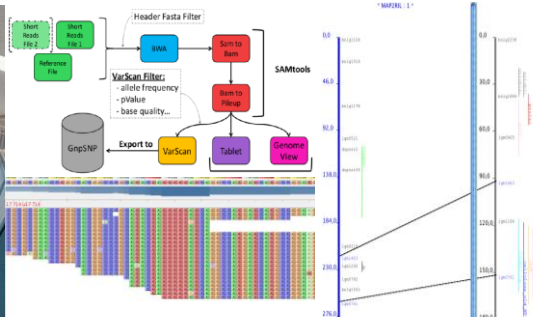


Retours sur la démarche qualité à l'URGI

Hadi Quesneville

Journée politique et référentiel qualité Inra

21/03/2013



Research Unit

- INRA unit (French National Institute for Agricultural Research)
- Plant breeding and Genetics Department
- Strong connexions with other plant INRA departments

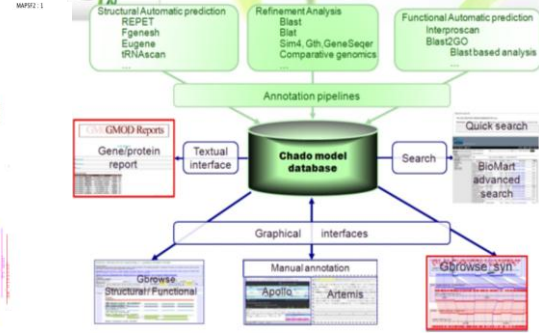
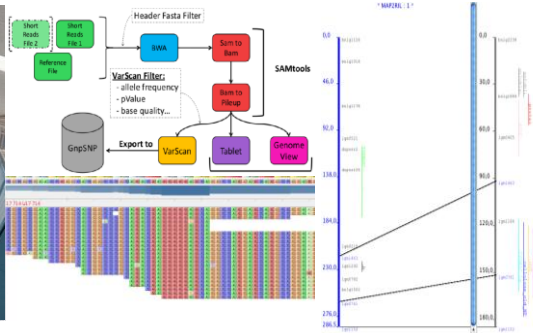
Bioinformatic platform

- INRA « Strategic » (CNOC)
- IBISA Grade, Member of the French National Network of Bioinformatic Platforms (ReNaBi)
- ISO 9001

Research

- Data integration
- Genome structure and dynamics

The URGI QMS



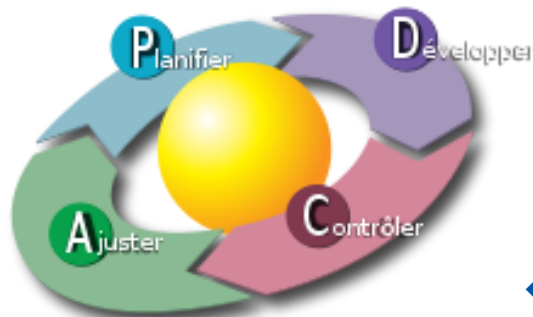
History

- **2006: follow the INRA system of reference**
- **2008: follow the ISO 9001: 2008 standard**
 - define activities and classify into processes
- **2010:**
 - define Quality policy and objectives
 - define indicators for each objectives
 - annual process reviews
 - annual management reviews
 - documentary audit
 - partial internal audit
- **2011: Quality manual**
- **2012: iso9001 certification**

Objectives

- **To improve the control of platform processes and the quality of the offered services**
- **To provide robust software and databases**
- **To provide robust computer resources**
- **To provide up-to-date high quality data**
- **To manage bioinformatics for large collaborative projects**
- **To improve user support**
- **To share skills among agents**
- **To obtain a national and an international visibility**

La qualité selon la norme iso9001:2008



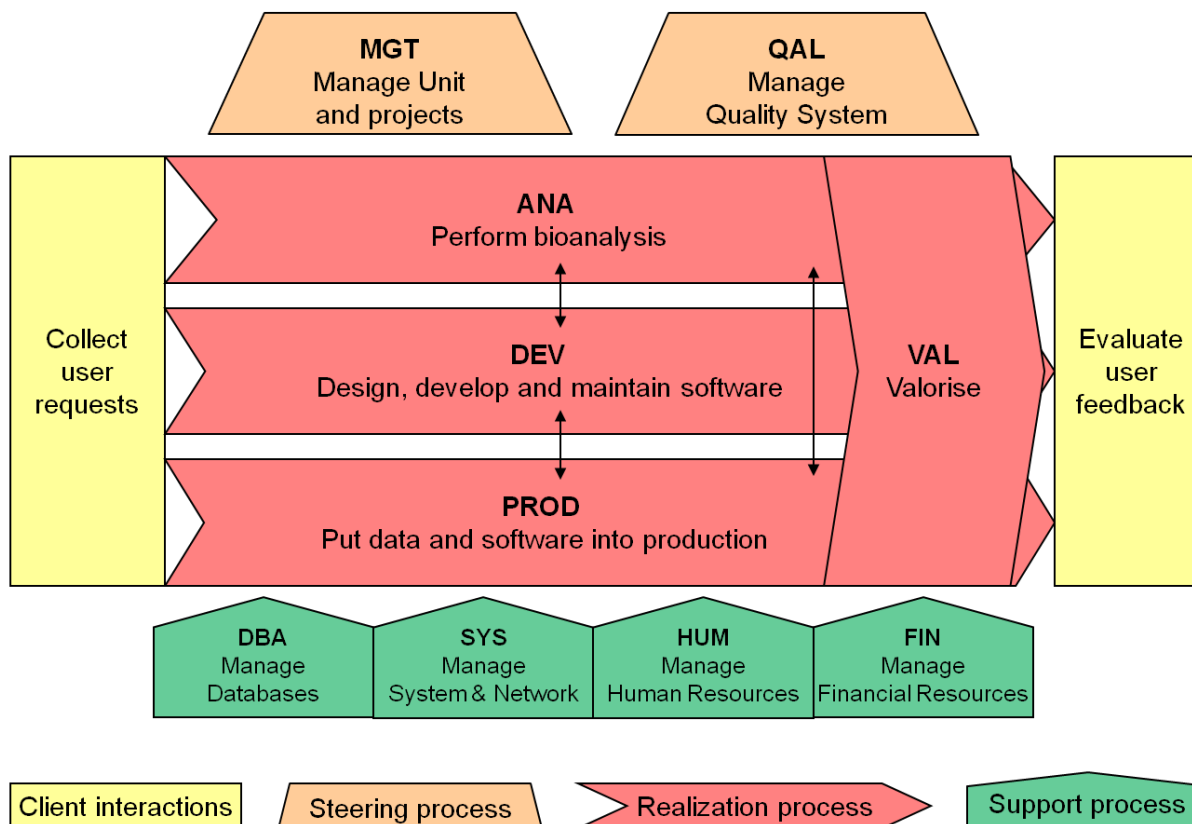
Principes

- ◆ L'orientation client
- ◆ Le leadership
- ◆ L'implication du personnel
- ◆ L'approche processus
- ◆ La gestion par approche système
- ◆ L'amélioration continue
- ◆ L'approche factuelle pour la prise de décision
- ◆ Les relations mutuellement bénéficiaires avec les fournisseurs

Outils

- ◆ Gestion des risques
- ◆ Planification
- ◆ Amélioration continue
- ◆ Indicateurs
- ◆ Réunions : revue de direction, revue de processus, information
- ◆ Revue, vérification, validation
- ◆ animateur qualité

Process map

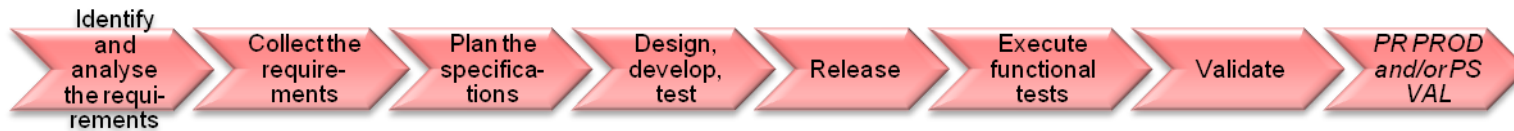


Processus

MGT



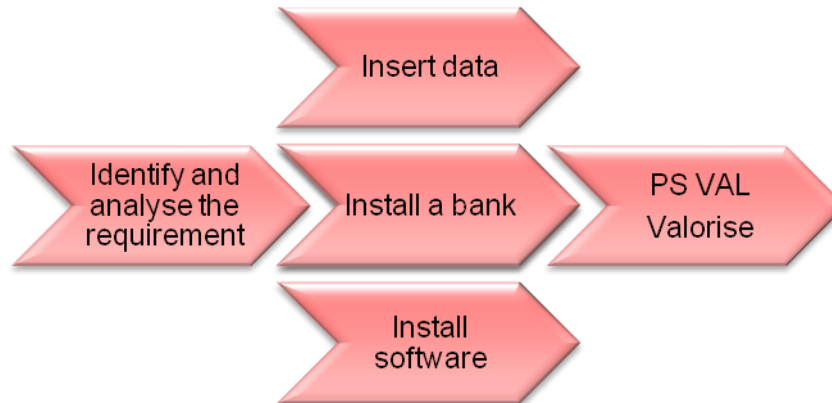
DEV



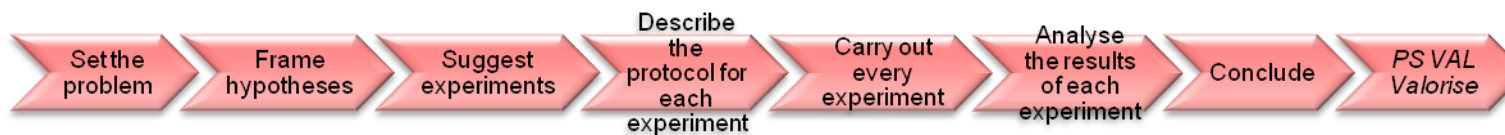
VAL



PROD



ANA



Step	1	2	3	4	5	6	7
Who and With who	Researchers, clients	Researchers, clients	Researchers, clients	Researchers, Bioanalysts	Researchers, Bioanalysts	Researchers, Bioanalysts	Researchers, clients
What	Set the problem	Frame hypotheses	Suggest experiments	Describe the protocol for each experiment	Carry out every experiment	Analyze the results of each experiment	Conclude
Example	Do TE affect gene expression?	If an effect is observed, there are less TE in genes than expected in a random distribution.	Compute the overlap rate.	Materials and methods for the computation.	Use analysis tools.	Compute stats.	Write a report.
Output products and traceability	- scientific question in project card (Alfresco or website, use website project template)	- Hypothesis in JIRA task	- JIRA issue	- Description in JIRA issues + link to projectCard - Scripts, programs and workspace referenced in JIRA (history file in the workspace is recommended)	- Results of the scripts and the programs - Commands, start and end dates of the programs in JIRA (a history file in the workspace is recommended)	- Analysis result in the workspace, referenced in JIRA	- Analysis report on the conclusions and perspectives in alfresco, referenced in JIRA
Specific resources	Bibliography, Collective thinking	Collective thinking	Collective thinking PR_ANA_001_Manage_bio analysis_using_JIRA	Programs and system tools documentation	Computing server Databases	Statistical computing software	TP_WLC_001 Document template Optional
Quality key points	Check that the problem is original. See PS_MGT	Check that the hypotheses answer the problem.	Check the feasibility of the experiments (CPU, disks)	Check the adequacy of the algorithms and the quality of the implementation. See PS_DEV.	Before launching, check the availability of the resources. Evaluate the impact on other projects.	Check the return status of all the scripts and the consistency of the results.	Answer the initial problem. Report should be brief.

Indicators

Global objectives			Process objectives		
0	To improve the control of platform processes	0;4;7	a	Improve analysis traceability, reproducibility and fiability	
1	To improve the quality of the offered services	0;4	b	Improve analysis quality in relation with client demand	
2	To provide robust software and databases	0;4	c	Improve access to final data results	
3	To provide robust computer resources	7	d	Improve access to protocols and reports	
4	To provide up to date high quality data				
5	To manage bioinformatics for large collaborative projects				
6	To improve user support				
7	To share skills among platform agents				
8	To obtain a national and an international visibility				

Nouveaux Indicateurs

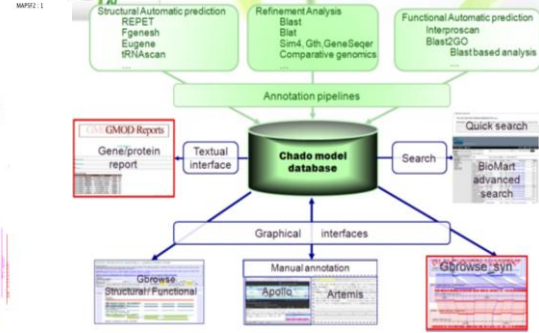
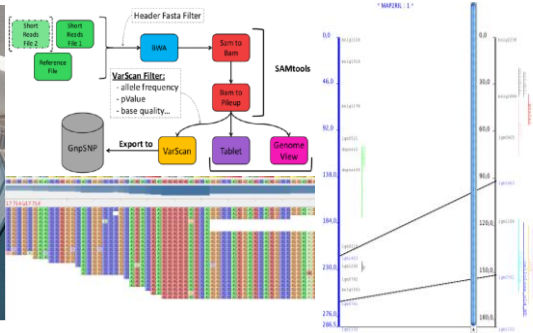
Domain	Objectifs	Indicateur	Measurement	Frequency	2011*	2012/12
ANA	a	Percent of actors without JIRA task			NA	23,07
ANA	a;c	Percent of sub-task Resolved/closed with path to results	JIRA filter	yearly	18,33	84,46
ANA	b;d	Percent of main issue Resolved/closed with path to reports	JIRA filter	yearly	6,67	37,84
ANA	b	Percent of main issues linked to project card	JIRA filter	yearly	NA	21,62

Objectif qualité	Indicateur	Valeur	Cible
Improve analysis traceability, reproducibility and reliability	Actors without JIRA task typed as bio-analysis	23%	0-10 11-20 21-100
Improve analysis traceability, reproducibility and reliability and accessibility to final data results	Sub-task Resolved/closed with path to results	84,46%	0-50 51-75 76-100
Improve analysis quality in relation with client demand and accessibility to final reports	Main issue (Task) Resolved/closed with path to reports	37,84%	0-30 51-75 76-100
Improve analysis quality in relation with client demand	Main issues linked to project description	21,62%	0-30 51-75 76-100

Global indicators

INRA URGI		Record				Date: 2012-10-19	
		Indicators					
Global objectives							
	0	To improve the control of platform processes					
	1	To improve the quality of the offered services					
	2	To provide robust software and databases					
	3	To provide robust computer resources					
	4	To provide up to date high quality data					
	5	To manage bioinformatics for large collaborative projects					
	6	To improve user support					
	7	To share skills among platform agents					
	8	To obtain a national and an international visibility					
Domain	Objectifs	Indicator	Measurement method	Frequency	2009	2010	2011
QAL	0	Number of audits, reviews per year	cf QAL	yearly	>= 13	1	2
PROD	2	Nb of bugs noticed by users	Filtre JIRA	yearly	2	43	55
DBA	2	Nb of nonconformities concerning DBA	cf DBA	yearly	8	11	2
SYS	3	Annual down time for each server	cf SYS	yearly	87h	84h	117h
PROD	4	Nb of data batch updated or inserted	cf PROD	yearly	0	0	13
MGT	5;8	Nb of accepted projects at the national level	cf MGT	yearly	11	14	25
MGT	5;8	Nb of accepted projects at the international level	cf MGT : European+Inte	yearly	6	6	9
PROD;S	1;6	Rate of user requests treated with success	cf PROD & SYS	yearly	97%	96%	97%
DEV	7	Nb of pair days per month per person	cf DEV	yearly		7,7	4,8

Bilan



Clarify the objectives

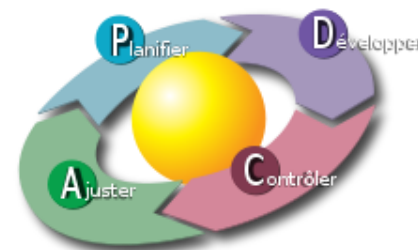
- **Define the objectives**
- **Everyone has a global vision on all Unit activities and a detailed vision of his/her process(es)**
 - ◆ Share common goals
 - ◆ Help to define the priorities
 - ◆ Everyone knows his/her role in the activities
- **Process and management reviews participate to staff awareness and involvement**

Share good practices

- **Procedure knowledge is shared**
 - ◆ Better knowledge transfer during staff departure / arrival
 - ◆ Skills are shared
- **Actors improve the procedures**
 - ◆ Discuss how to best manage tasks
 - ◆ Gain from collective experience

Improve work quality

- **Better traceability and reproductibility of activities**
 - ◆ Understand and avoid errors
- **Better organization and better activity management**
 - ◆ Understanding of the whole process
- **Gives a framework for improvement**
 - ◆ Measure performance
 - ◆ Handle improvement actions
- **Better reactivity to handle problems**
 - ◆ Trace non-conformities



Tips

- **Sustainable by actors**
 - ◆ Participative process
 - ◆ Must fit the real activity
- **Iterative process**
 - ◆ Start small
 - ◆ Improve what is a priority
- **Set reachable targets**

Thanks



URGI

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