Discrete 3D surfaces of revolution

Final presentation

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Outline

1. Introduction
2. Work achieved
3. Gestion de projet
4. Conclusion

Outline

1. Introduction
   - Collaborators and clients
   - Roles
   - Context
   - Objectifs
2. Work achieved
3. Gestion de projet
4. Conclusion

Collaborators and clients

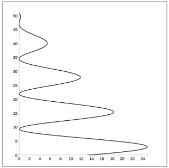
- Clients :
  - Éric ANDRES (Professor and former director of XLIM-SIC department)
  - Gaëlle LARGETEAU-SKAPIN (University lecturer, Discrete geometry)
- Exemple of final user :
  - Aurélie MOURIER (Artist)
- Pedagogic Supervisor :
  - Philippe MESEURE (Professor, Computer Graphics)

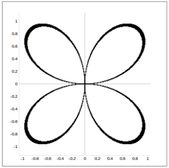
Roles

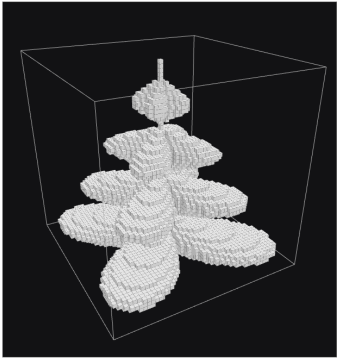
- Team composition :
  - Thomas Benoist - Project manager
  - Zied Ben Othmane - Quality manager
  - Adrien Bisutti - Risks manager
  - Lydie Richaume - Tasks manager

Context

- Éric ANDRES and Gaëlle LARGETEAU-SKAPIN developped a new algorithm to model discrete surfaces of revolution.
- Display the result with Mathematica







- Need of a tool useable by everyone and everywhere

Objectifs

- Outil de visualisation de surfaces
  - Visualiser en 3D, en coupe
  - Choisir les méridianes et les courbes de révolution
  - Exporter des objets obtenus
- Algorithme de construction des surfaces de révolution
  - Fourni par les clients
  - Possibilité d'évolution de l'algorithme

Outline

1 Introduction

2 Work achieved

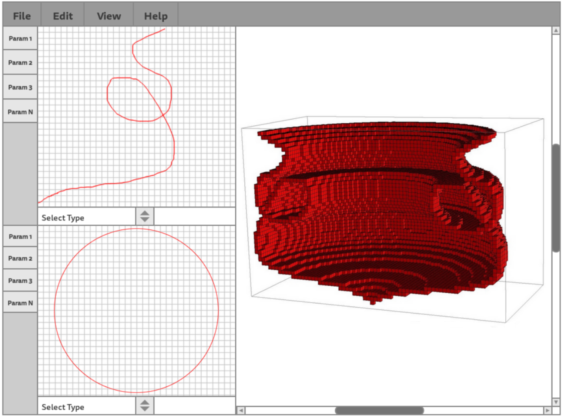
- Maquette
- Demonstration

3 Gestion de projet

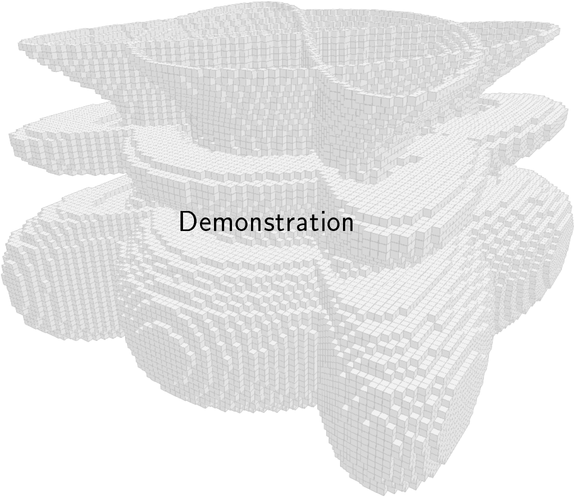
4 Conclusion

Maquette

- Listes des fonctionnalitées
- Étude et transcription de l'algorithme
- Documentation technique
- Maquette



Demonstration



Demonstration

Outline

1. Introduction

2. Work achieved

3. Gestion de projet
   - Gantt diagram
   - Progress
   - Risk evolution
   - Quality insurance plan
   - Costs

4. Conclusion

Gantt diagram

Diagramme prévisionnel

Diagramme réalisé

Zoom

Diagramme prévisionnel

Diagramme réalisé

Progress

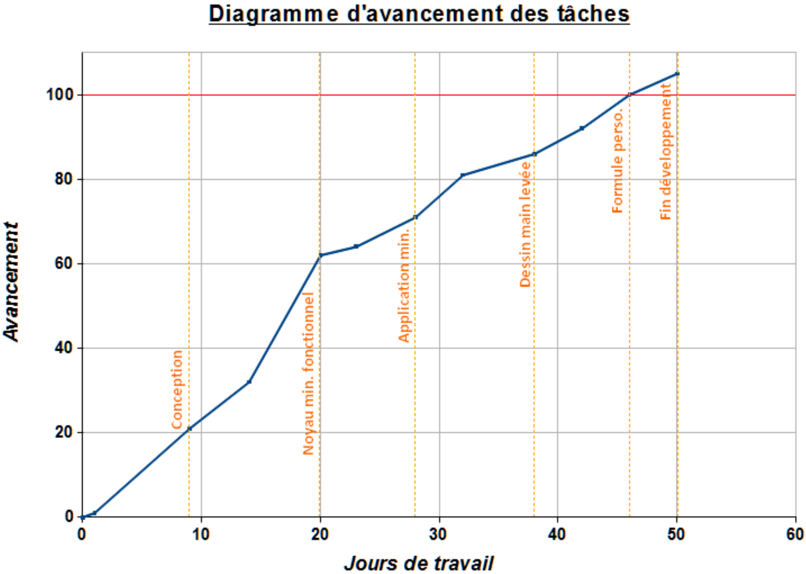
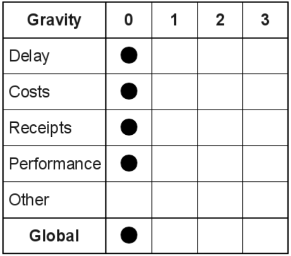


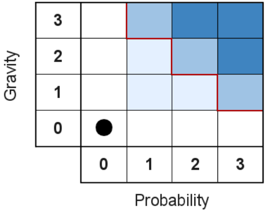
Diagramme d'avancement des tâches
Avancement
Jours de travail
0
20
40
60
80
100
0
10
20
30
40
50
60
Conception
Noyau min. fonctionnel
Application min.
Dessin main levée
Formule perso.
Fin développement

Risk evolution

- Server linked problems



Gravity	0	1	2	3
Delay	●			
Costs	●			
Receipts	●			
Performance	●			
Other				
Global	●			

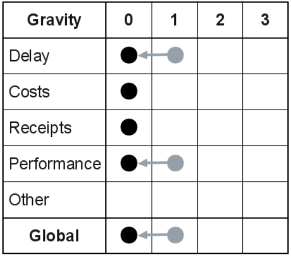


Gravity				
3				
2				
1				
0	●			
	0	1	2	3

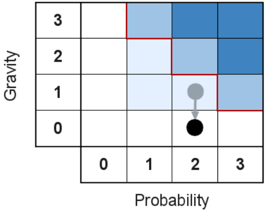
Level	Gravity	Probability	Criticity
0	Aucune	$< 1\%$	No critical
1	Faible (marges)	de 1% à 5%	
2	Significative	de 5% à 20 %	Critical
3	Danger	$> 20\%$	

Risk evolution

- New clients



Gravity	0	1	2	3
Delay	●	←●		
Costs	●			
Receipts	●			
Performance	●	←●		
Other				
Global	●	←●		



Level	Gravity	Probability	Criticity
0	Aucune	$< 1\%$	No critical
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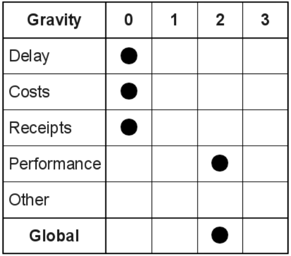
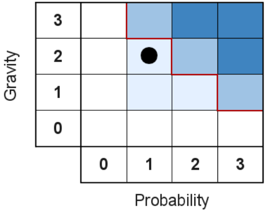
Risk evolution

- Generation algorithm evolution



Gravity	0	1	2	3
Delay	●			
Costs	●			
Receipts	●			
Performance			●	
Other				
Global			●	



Gravity				
3				
2		●		
1				
0				
	0	1	2	3

Level	Gravity	Probability	Criticity
0	Aucune	$< 1\%$	No critical
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2	Significative	de 5% à 20 %	Critical
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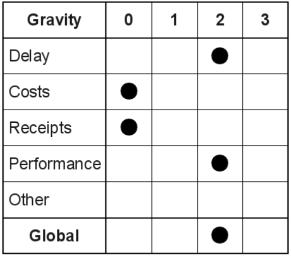
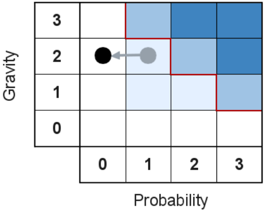
Risk evolution

- Risque de rendu



Gravity	0	1	2	3
Delay			●	
Costs	●			
Receipts	●			
Performance			●	
Other				
Global			●	



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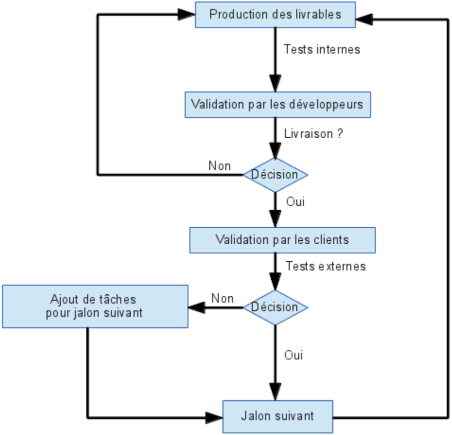
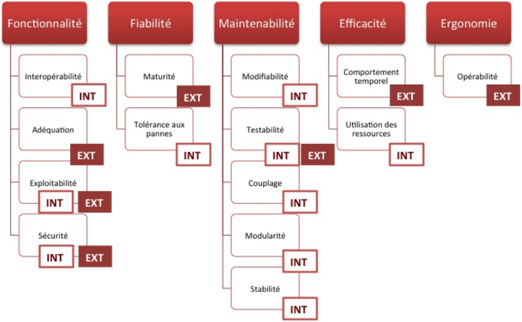
Quality insurance plan



Validation par les clients à chaque jalon.

ISO 9126

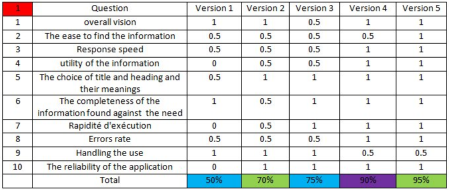


- Fonctionnalité
  - Interopérabilité INT
  - Adéquation EXT
  - Exploitabilité INT EXT
  - Sécurité INT EXT
- Fiabilité
  - Maturité EXT
  - Tolérance aux pannes INT
- Maintenabilité
  - Modifiabilité INT
  - Testabilité INT EXT
  - Couplage INT
  - Modularité INT
  - Stabilité INT
- Efficacité
  - Comportement temporel EXT
  - Utilisation des ressources INT
- Ergonomie
  - Opérabilité EXT

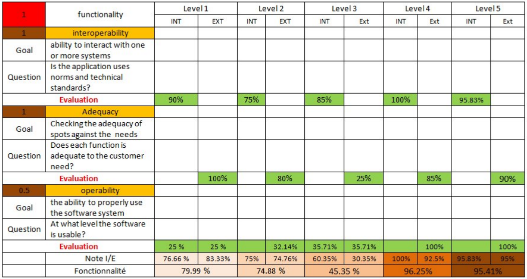
Why ISO-9126 ?

- International standard for the evaluation of software quality
- Given a quality note according to different criteria
- Validation of the application by the clients and the quality manager
- Externals and internals tests

Software quality measurment



1	Question	Version 1	Version 2	Version 3	Version 4	Version 5
1	overall vision	1	1	0.5	1	1
2	The ease to find the information	0.5	0.5	0.5	0.5	1
3	Response speed	0.5	0.5	0.5	1	1
4	utility of the information	0	0.5	0.5	1	1
5	The choice of title and heading and their meanings	0.5	1	1	1	1
6	The completeness of the information found against the need	1	0.5	1	1	1
7	Rapidité d'exécution	0	0.5	1	1	1
8	Errors rate	0.5	0.5	0.5	1	1
9	Handling the use	1	1	1	0.5	0.5
10	The reliability of the application	0	1	1	1	1
	Total	50%	70%	75%	90%	95%

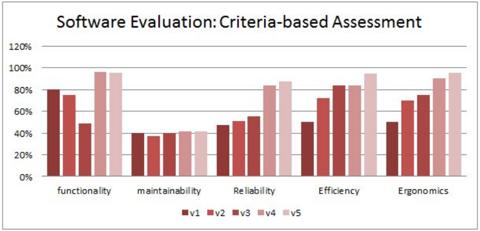


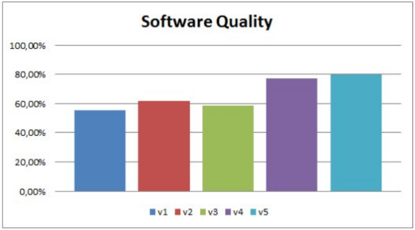
1	functionality	Level 1		Level 2		Level 3		Level 4		Level 5	
		INT	EXT	INT	EXT	INT	Ext	INT	Ext	INT	Ext
1	interoperability										
Goal	ability to interact with one or more systems										
Question	Is the application uses norms and technical standards?										
Evaluation		90%		75%		85%		100%		95.83%	
1	Adequacy										
Goal	Checking the adequacy of spots against the needs										
Question	Does each function is adequate to the customer need?										
Evaluation			100%		80%		25%		85%		90%
0.5	operability										
Goal	the ability to properly use the software system										
Question	At what level the software is usable?										
Evaluation		25 %	25 %		32.14%	35.71%	35.71%		100%		100%
	Note I/E	76.66 %	83.33%	75%	74.76%	60.35%	30.35%	100%	92.5%	95.83%	95%
	Fonctionnalité	79.99 %		74.88 %		45.35 %		96.25%		95.41%	

Standard divisions

1. quality model
2. external metrics
3. internal metrics
4. quality in use metrics.

Software quality evaluation

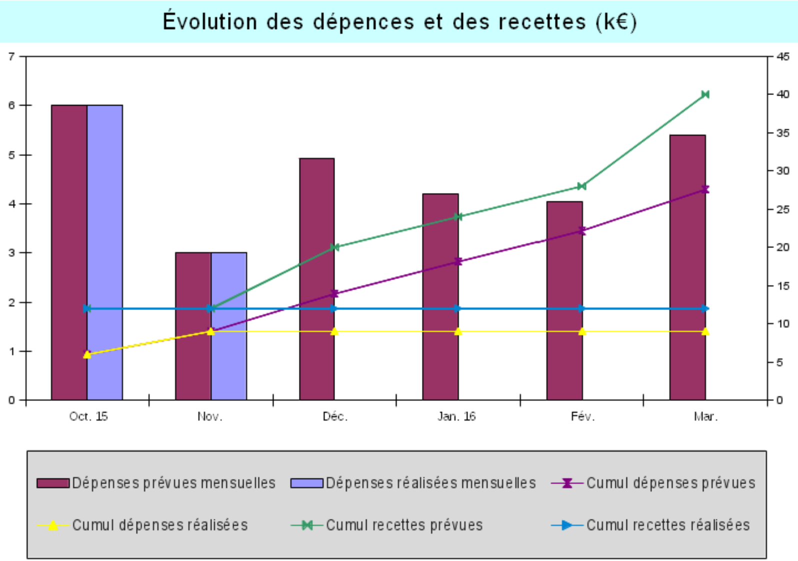




Q.I.P Reviews

1. The use of such techniques for explicitly and analyzing such quality during the requirements phases
2. Well-differentiated characteristics of software quality has been developed
3. A large number of software quality-evaluation metrics have been defined
4. Quality can lead to significant savings in software life-cycle costs

Costs


Évolution des dépences et des recettes (k€)
7
6
5
4
3
2
1
0
45
40
35
30
25
20
15
10
5
0
Oct. 15
Nov.
Déc.
Jan. 16
Fév.
Mar.
Dépenses prévues mensuelles
Dépenses réalisées mensuelles
Cumul dépenses prévues
Cumul dépenses réalisées
Cumul recettes prévues
Cumul recettes réalisées

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Conclusion

- Apport technique javascript (classe, worker, blob, webgl, etc.)
- Livraison en deux étapes
- Perspectives

Discrete 3D surfaces of revolution

Final presentation

Thanks for your attention.

Are there any questions ?