Projet de Développement Logiciel

(Master 1 – MIAGE)

http://mathieuacher.com/teaching/PDL/

Mathieu Acher

Maître de Conférences

mathieu.acher@irisa.fr

UNIVERSITÉ DE RENNES 1

istic Informatique Électronique

PDL: objectifs pédagogiques

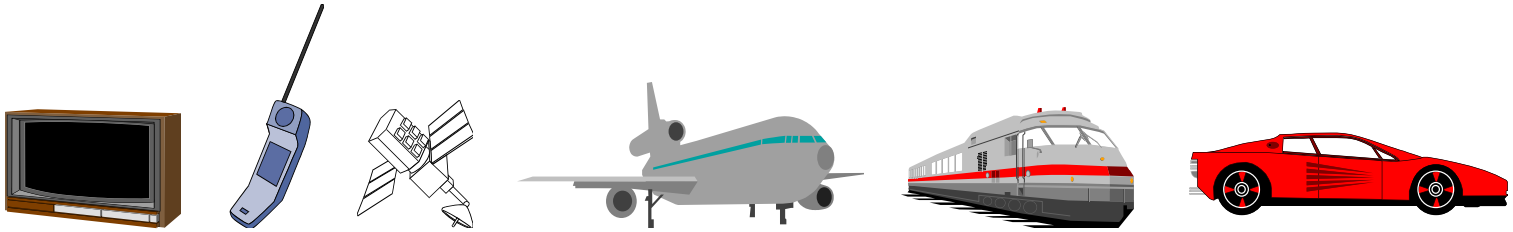
- Pratique et (re-)visite de votre **cursus**
  - Modélisation/UML, Programmation OO, test, design patterns, etc
  - Outils: git, IDE, Maven, intégration continue, documentation
  - Méthodes: travail en groupe, dates limites
- Une **expérience** de la difficulté du développement logiciel
  - indispensable pour votre future vie professionnelle
- **Contribution** à un projet réel, open source

Développer du logiciel ~=

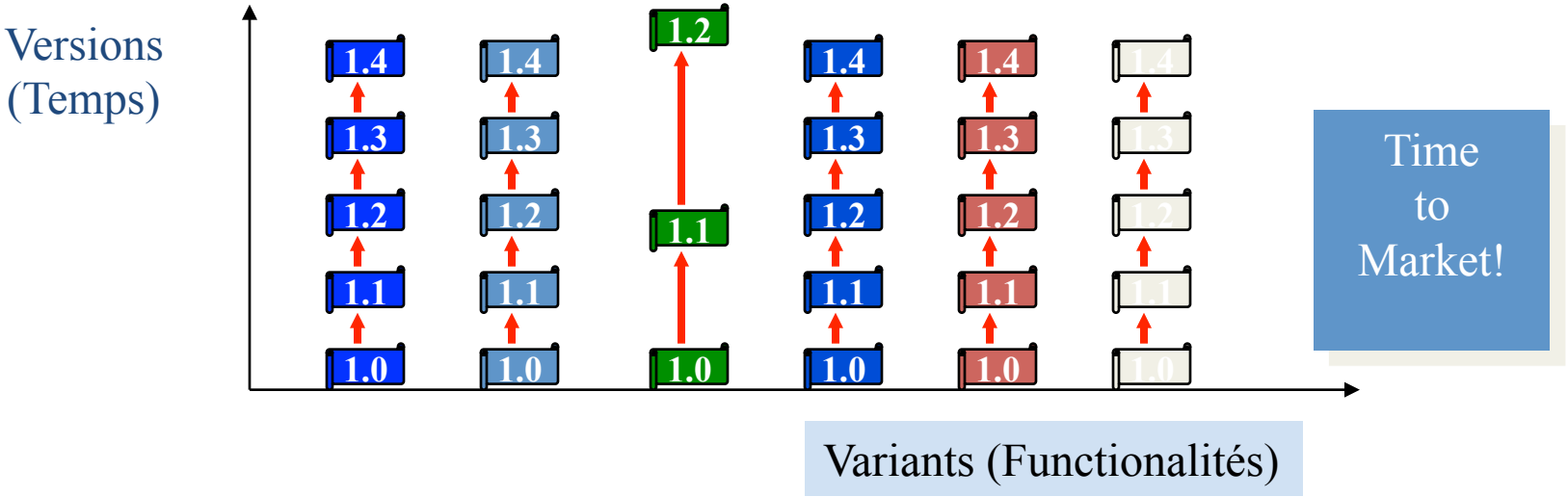
« Multi-Person Construction Of Multi-Versions Programs »

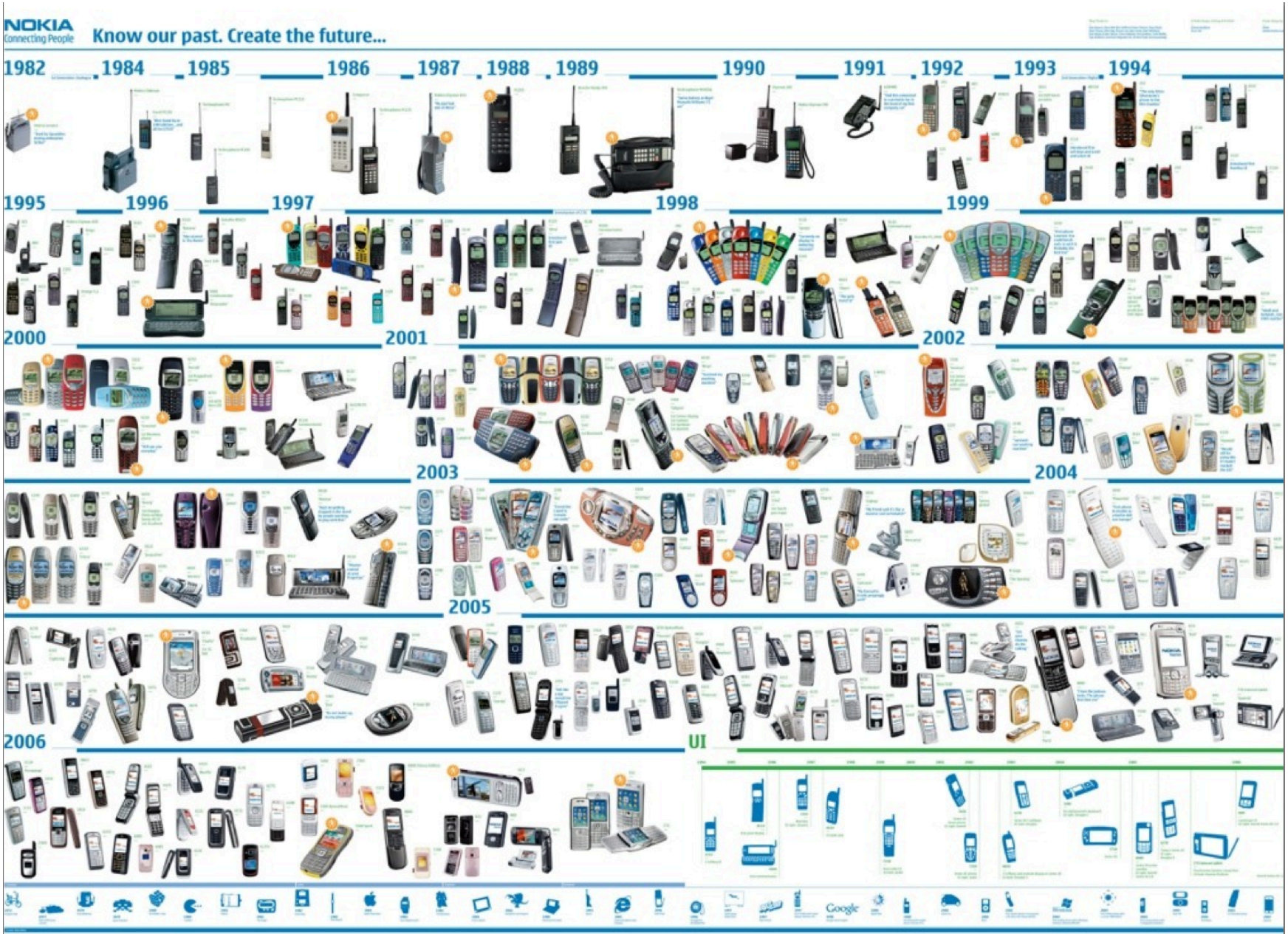
David Parnas, 2014

Ingénierie du logiciel



- De plus en plus complexe
  - Systèmes distribués
  - Qualité de service: performance, sécurité, sûreté, utilisabilité, etc.
- Explosion des fonctionnalités
  - Lignes de produits (espace/temps)




NOKIA
Connecting People
Know our past. Create the future...
1982
1984
1985
1986
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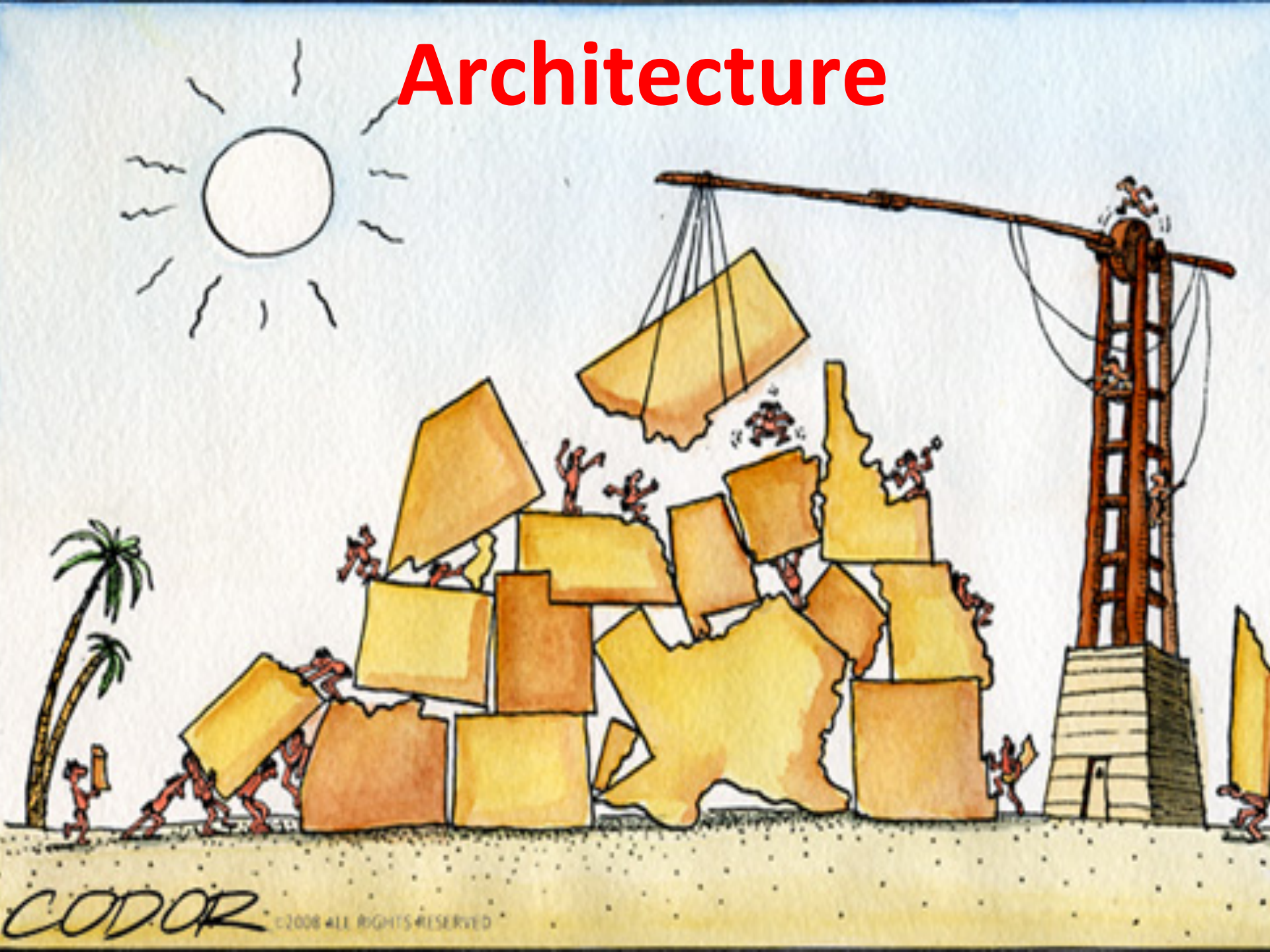
2006
UI


4°C

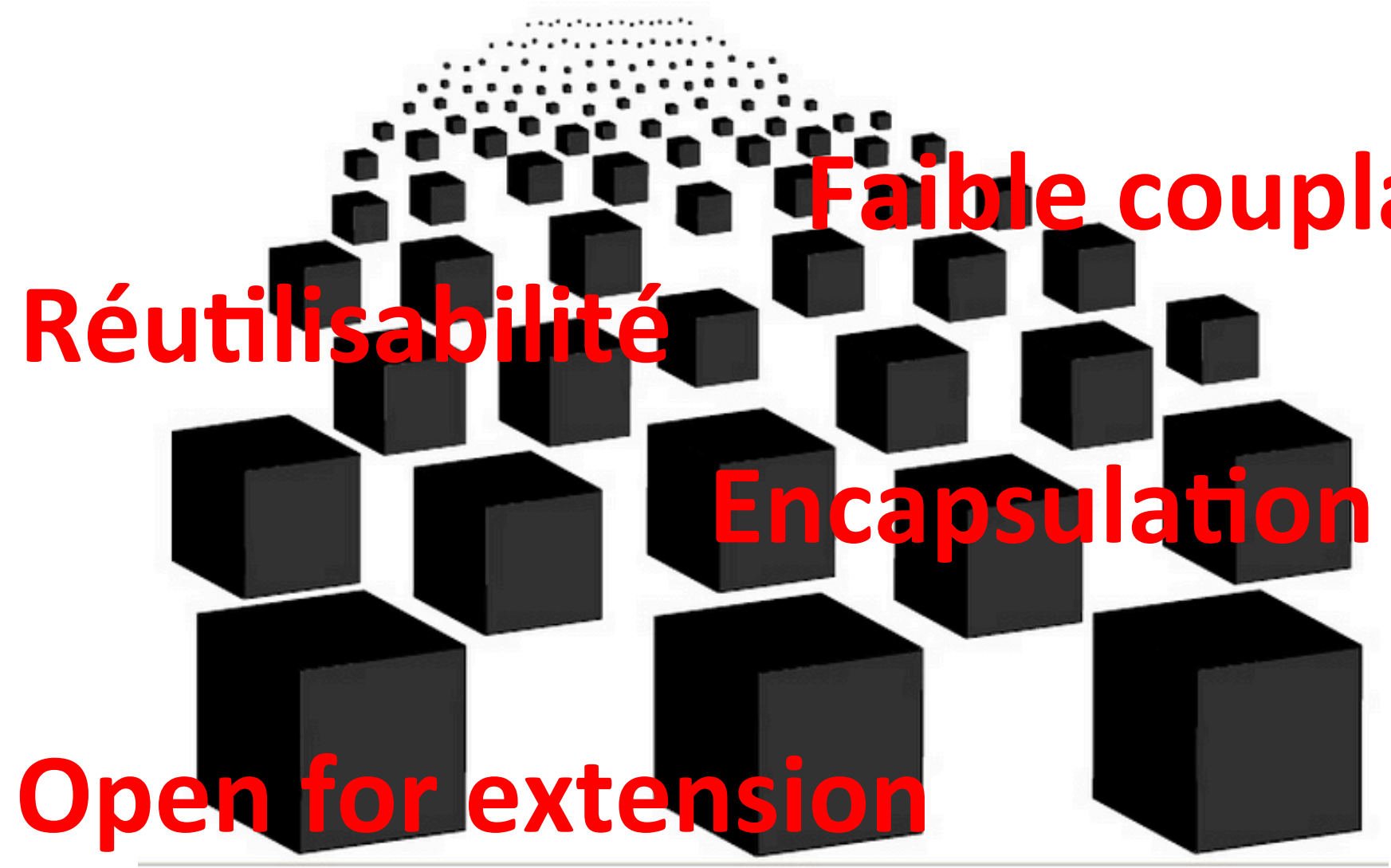
Travail d'équipe

- Organisation
  - Partage des tâches
  - Planification
  - Communication
- Code idéalement…
  - Bien conçu, modulaire, documenté
  - Maintenable, compréhensible
  - Testable
- Outils
  - Collaboratifs (e.g., système de versions)

Architecture



Idéalement:
« modular black boxes »



Faible couplage

Réutilisabilité

Encapsulation

Open for extension

Testing


I don't make mistakes
Microsoft Visual Studio
Package Load Failure
Package 'ArtOfTest.WebAiiVSIP.WebAiiVSIP, ArtOfTest.WebAiiVSIP, Version=1.0.0.0, Culture=neutral, PublicKeyToken=14176981d1873d86' has failed to load properly (GUID = {D5EDEC6D-8025-40CF-987C-B8EABA2C7451}). Please contact package vendor for assistance. Application restart is recommended, due to possible environment corruption. Would you like to disable loading this package in the future? You may use 'devenv /resetskippkgs' to re-enable package loading.
Yes
No

Djikstra

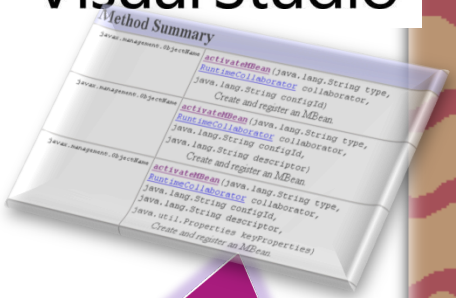

Program testing can be used
to show the presence of bugs, but
never to show their absence!

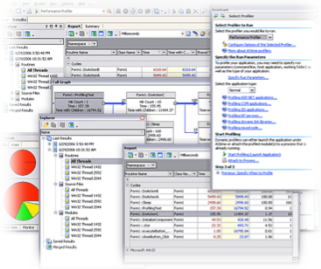
Software Integration

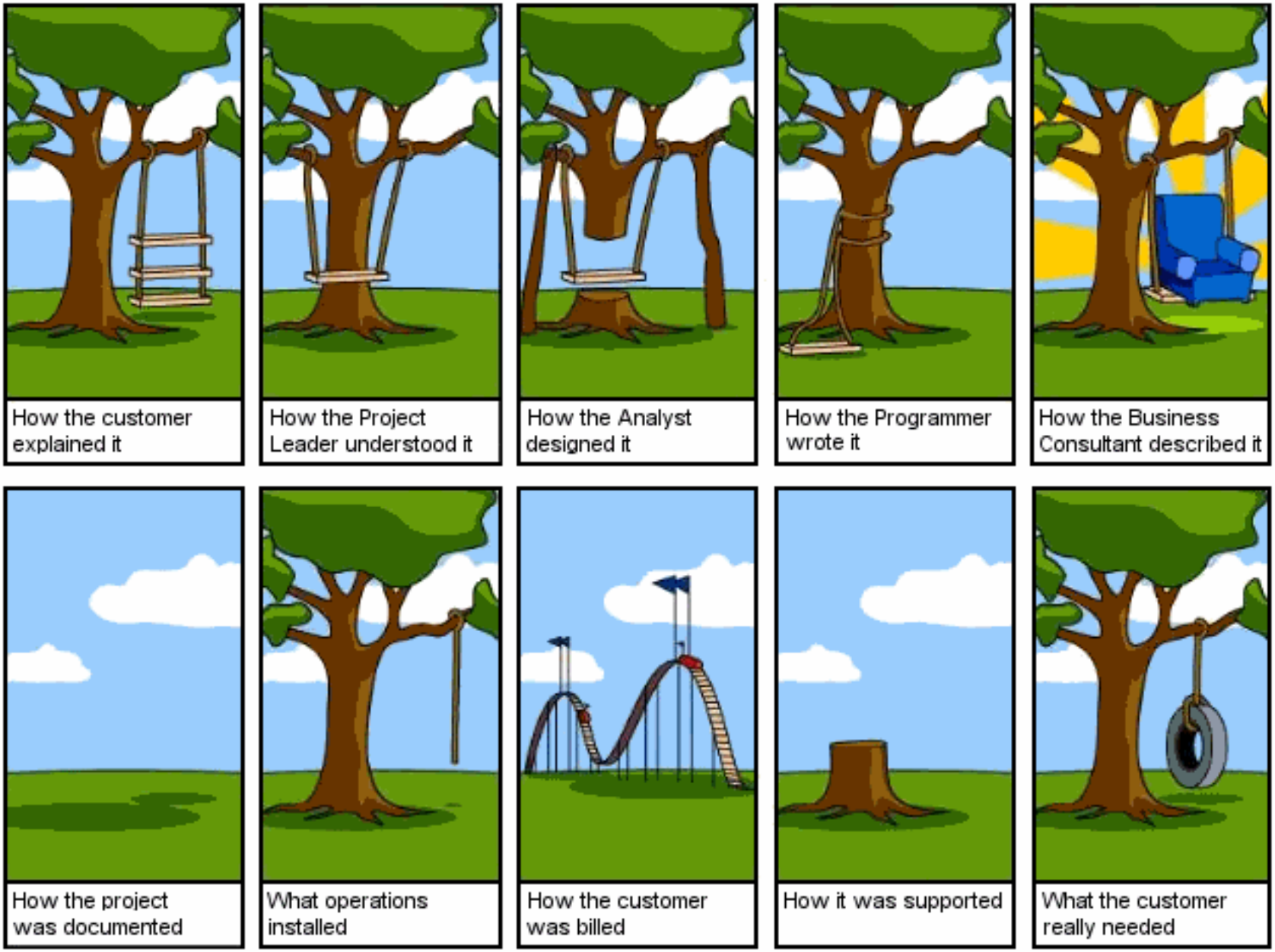
google-guice

Guice (pronounced 'juice') is a lightweight dependency injection framework for Java 5 and above, brought to you by Goo

Développement Logiciel






How the customer explained it
How the Project Leader understood it
How the Analyst designed it
How the Programmer wrote it
How the Business Consultant described it
How the project was documented
What operations installed
How the customer was billed
How it was supported
What the customer really needed

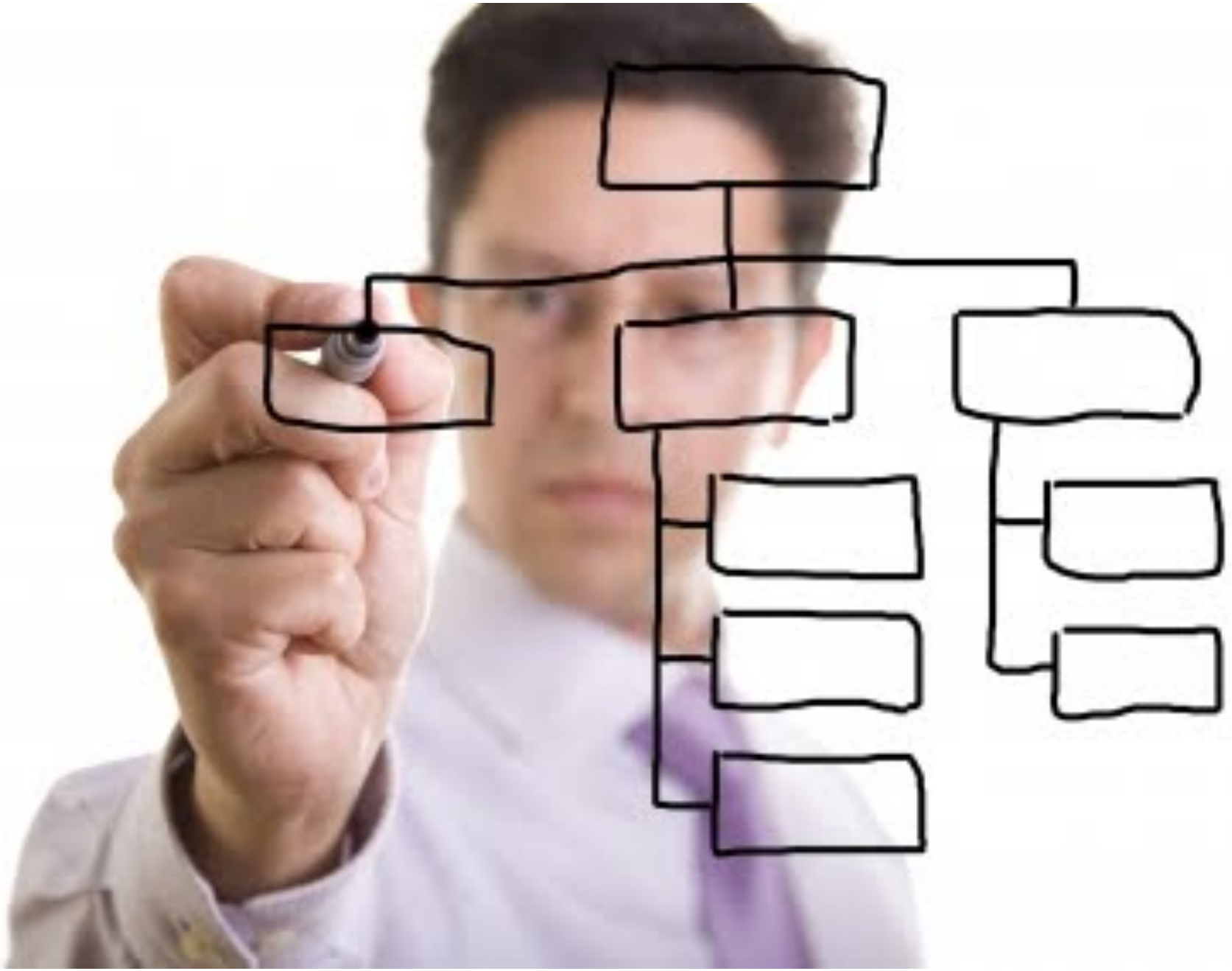
PDL: Objectifs

- Analyse, conception, réalisation, test, par la pratique
  - (Re)visite de votre cursus (UML, Programmation OO, etc.)

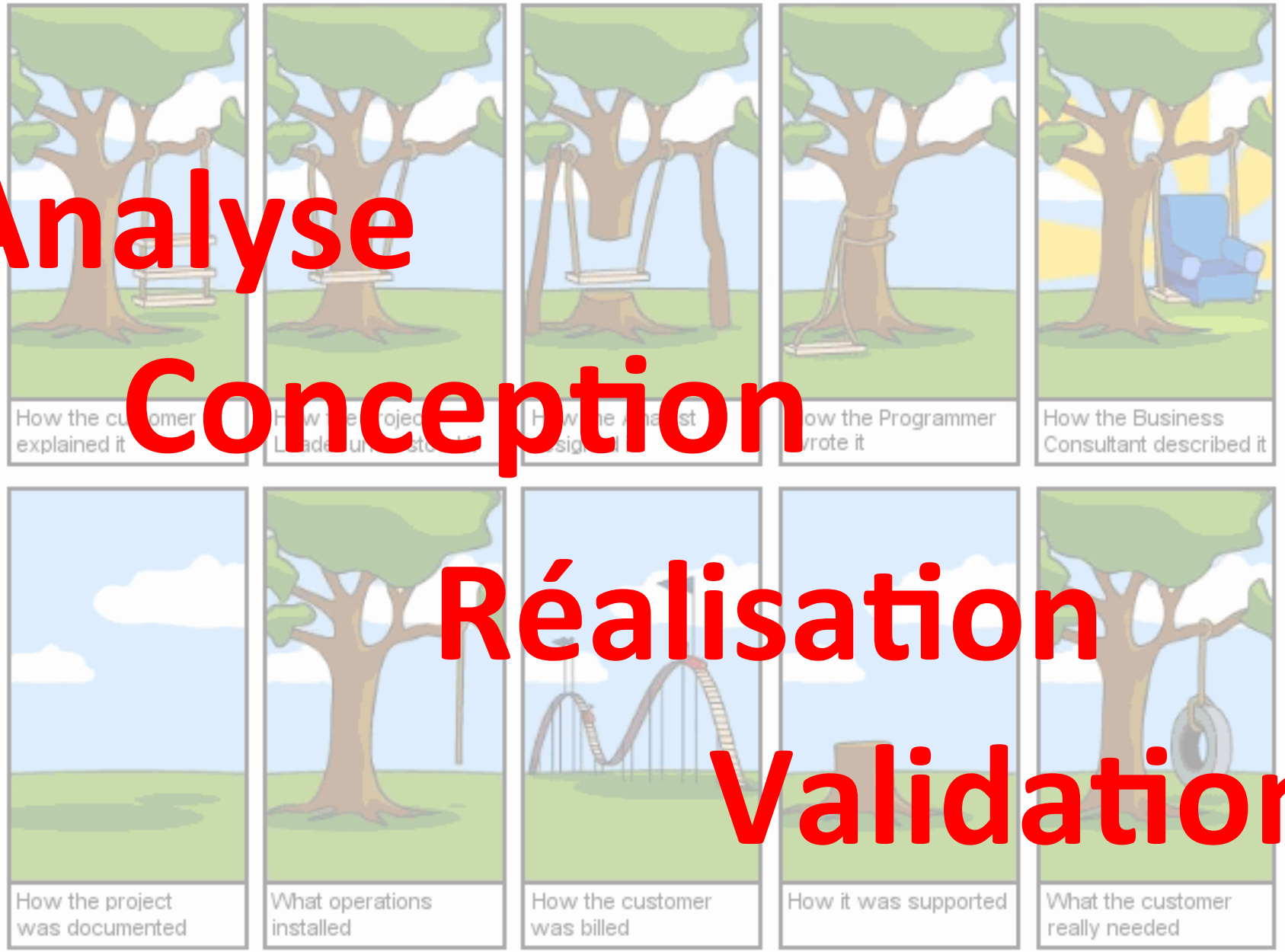
- Gestion de projets
  - Sur un exemple « joué » mais bien réel où des résultats sont attendus
  - Projet en groupe

- Préparation pour le stage au 2ème semestre
  - Et pour votre future vie professionnelle !


Système



PDL en pratique?



Quatre objectifs, trois rendus

- (E0) Comprendre un projet existant
  - comment récupérer le code source? comment exécuter, installer et déployer une application? quelles sont les technologies utilisées? comment exécuter des cas de tests? intégration continue? quelle est l'architecture du projet? comment maintenir et étendre la fonctionnalité Y?
- (EX) Eliciter des exigences, proposer et valider, et effectuer des choix techniques
- (SP) Implémenter dans un laps de temps prédéfini
  - boucle avec EX; interactions nécessaires avec le « client »
- (PR) Présentation pendant 30' (20' + 10'): expliquer et défendre un travail, synthèse, bilan

Projets

PDL: les “projets”

- Trois projets sont proposés:
  - technologies, domaines, besoins différents
- Points communs, extension/reprise d’un projet:
  - Open source
  - Github
  - Constante évolution
  - Peut-être mal documenté, difficile à tester et déployer
- Basé sur le travail exceptionnel de **Hugo Vallée**, **Stéphane Mangin**, et **François Esnault** (ex-MIAGE 1, stages)

PDL: les “projets”

- Trois projets sont proposés:
  - technologies, domaines, besoins différents
- Groupe de 4 personnes (min)
  - 5 personnes max.
- Les trois projets doivent être couverts par l’ensemble des groupes
  - maximum 3 groupes par projet
- Premier arrivé, premier servi:

http://tinyurl.com/PDL-MIAGE1516

3 Projets

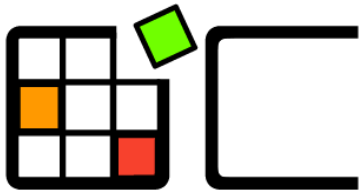
- 2 projets sur opencompare.org
- 1 projet sur les échecs

- En pratique les activités sont très similaires:
  - Eliciter et valider des exigences
  - Développement Java pour traiter des données
  - Génération de HTML/CSS/JavaScript
  - Tester
  - Travail collaboratif (github)

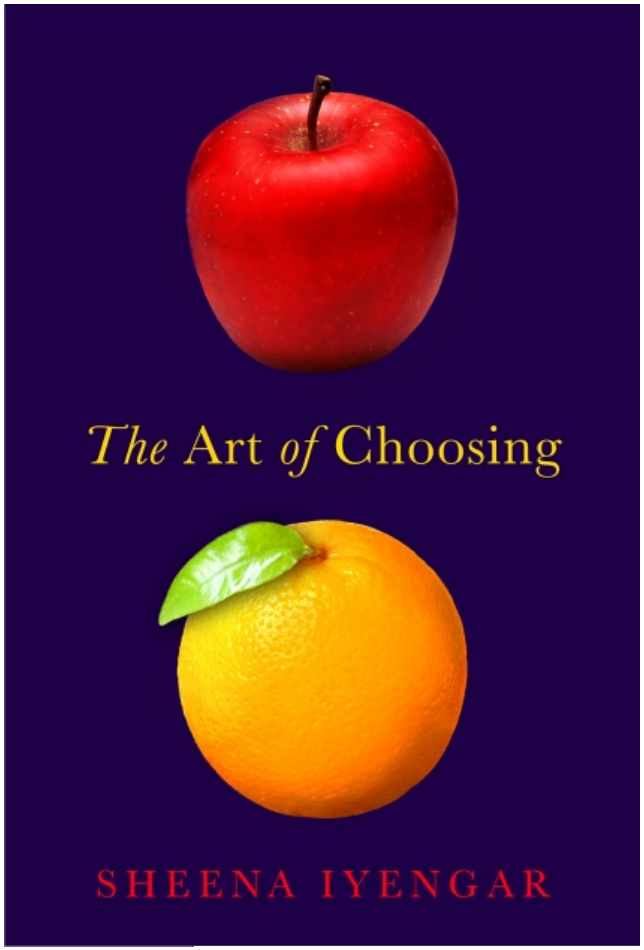
Projet #1 + #2

(opencompare)

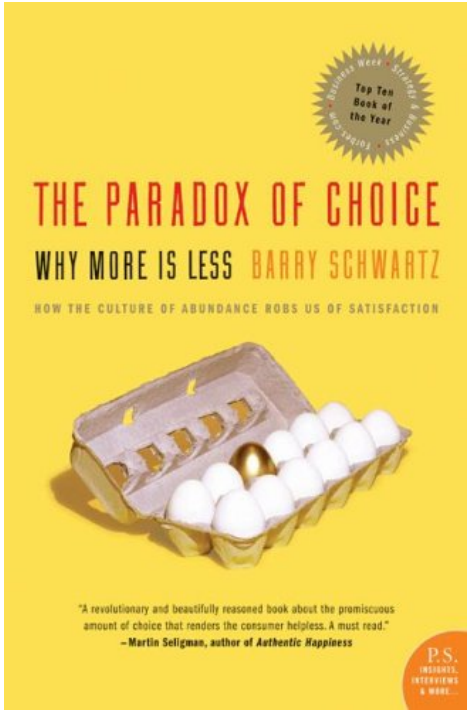
opencompare.org

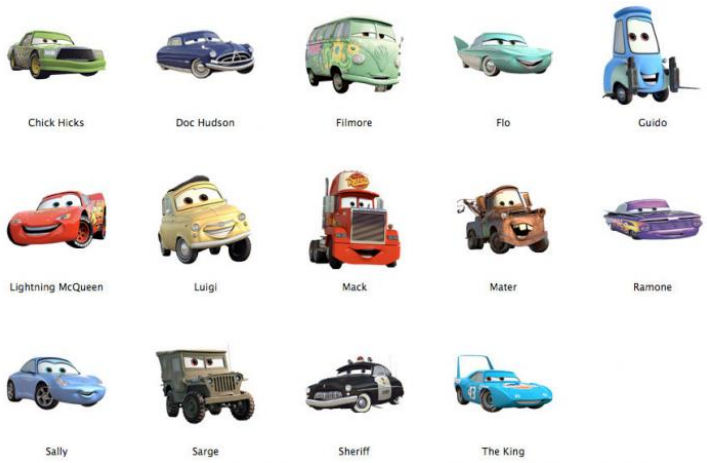


OpenCompare


The Art of Choosing
SHEENA IYENGAR


Canon
Nikon
COOLPIX
Canon
Canon

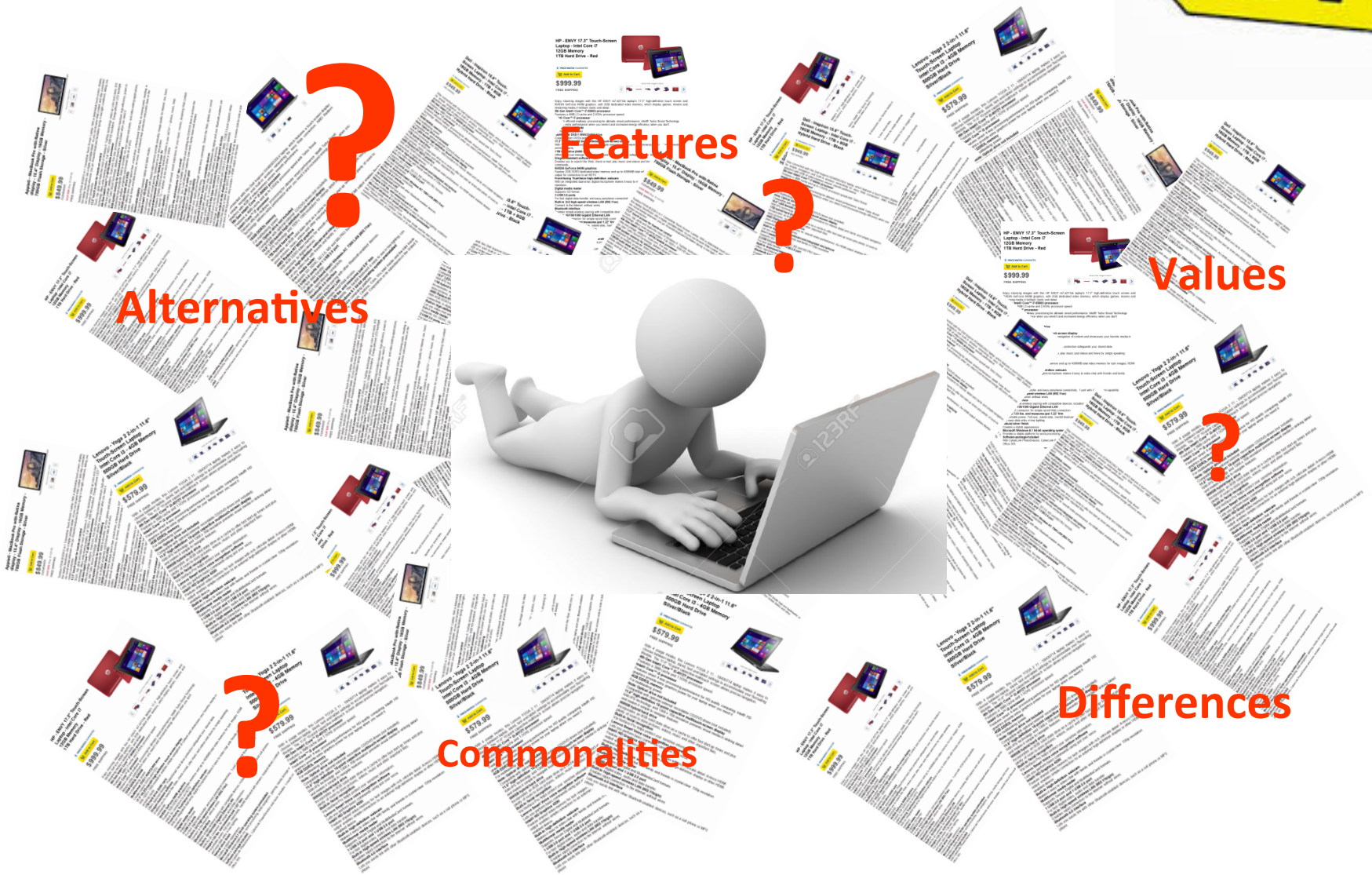

Top Ten Book of the Year
THE PARADOX OF CHOICE
WHY MORE IS LESS BARRY SCHWARTZ
HOW THE CULTURE OF ABUNDANCE ROBS US OF SATISFACTION
"A revolutionary and beautifully reasoned book about the promiscuous amount of choice that renders the consumer helpless. A must read."
–Martin Seligman, author of Authentic Happiness
P.S.


Chick Hicks
Doc Hudson
Filmore
Flo
Guido
Lightning McQueen
Luigi
Mack
Mater
Ramone
Sally
Sarge
Sheriff
The King


Choose your BEST Laptop ..


Dell - Inspiron 15.6" Touch-Screen Laptop - Intel Core i7 - 16GB Memory - 1TB + 8GB Hybrid Hard Drive - Black
$949.99
HP - ENVY 17.3" Touch-Screen Laptop - Intel Core i7 12GB Memory 1TB Hard Drive - Red
$999.99
Lenovo - Yoga 2 2-in-1 11.6" Touch-Screen Laptop Intel Core i3 - 4GB Memory 500GB Hard Drive Silver/Black
$579.99
Apple® - MacBook Pro with Retina display - 15.4" Display - 16GB Memory - 750GB Flash Storage - Silver
$849.99
Add to Cart
FREE SHIPPING

Choose your BEST Laptop..



4 produits				
Cliquez sur les flèches pour trier par caractéristique	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Notation	Pas encore noté	★★★★★	Pas encore noté	Pas encore noté
Processeur et chipset	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Modèle	Processeur Intel® Core™ i5-3230M (2,60 GHz)	Processeur Intel® Core™ i5-3337U (1,80 GHz)	Processeur Intel® Core™ i5-4200U (1,60 GHz)	Processeur Intel® Core™ i3-3120M (2,50 GHz)
Nombre de cœurs	2	2	2	2
Mode Turbo	3,10 GHz	2,70 GHz	2,60 GHz	-
Northbridge	Intel® HM75	Intel® HM76	-	-
Mémoire	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Capacité mémoire	4096 Mo	4096 Mo	6144 Mo	4096 Mo
Barrette(s) installée(s)	1	1	2	1
Emplacement(s) disponible(s)	1	1	-	1
Type	SO-DIMM DDR3	SO-DIMM DDR3	SO-DIMM DDR3L	SO-DIMM DDR3
Fréquence	1600 MHz	1600 MHz	1600 MHz	1600 MHz
Maximum	-	8192 Mo	-	16384 Mo
Affichage	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Écran	15,6"	15,6"	15,6"	17,3"
Résolution	WXGA (1366 x 768)	WXGA (1366 x 768)	WXGA (1366 x 768)	WSXGA (1600 x 900)
Dalle	-	Color Shine avec technologie LED	-	Rétro-éclairage LED
Aspect de la dalle	Mat / Anti-reflets	Brillant	Brillant	Mat / Anti-reflets
Carte graphique	nVidia® GeForce™ 710M	NVIDIA® GeForce™ GT 720M	AMD Radeon HD 8670M	nVidia® GeForce™ 710M
Type GDDR	-	GDDR3	-	-
Mémoire totale	2048 Mo	2048 Mo	2048 Mo	1024 Mo
Stockage	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Nombre d'unité de stockage	1	1	1	1
Espace disque total	750 Go	1000 Go	1000 Go	500 Go
Type	HDD	HDD	HDD	HDD
Vitesse HDD (trs/min)	5400	5400	5400	5400
Stockage optique	Samsung ATIV Book 2 NP270E5E-X06FR	Asus R510CC-XX577H - Blanc	Dell Inspiron 15R-5537 - i5 - Radeon HD (Argent)	Toshiba Satellite Pro C70-A-12C
Lecteur optique	Graveur DVD±RW DL	Graveur DVD±RW DL	Graveur DVD±RW DL	Graveur DVD±RW DL

			
Vehicle			
Number of Passenger Doors		4	
Brakes			
Brake Type	Pwr	Pwr	Pwr Regenerative
Brake ABS System	4-Wheel	4-Wheel	4-Wheel
Disc - Front (Yes or)	Yes	Yes	Yes
Disc - Rear (Yes or)	Yes	Yes	Yes
Front Brake Rotor Diam x Thickness (mm/in)	- TBD - / - TBD -	278 x 25 / 11.0 x 1.0	300 x - TBD - / 11.9 x - TBD -
Rear Brake Rotor Diam x Thickness (mm/in)	- TBD - / - TBD -	280 x 11 / 11.1 x 0.5	284 x - TBD - / 11.2 x - TBD -
Seat Trim	BISQUE, SEAT TRIM , DARK GREY, SEAT TRIM	MEDIUM LIGHT STONE, CLOTH SEAT TRIM , CHARCOAL BLACK, CLOTH SEAT	CAMEL, CLOTH SEATS , GRAY, CLOTH SEATS


TABLEAU COMPARATIF
VÉLOS ELLIPTIQUES
DOMYOS.COM
ROUE D'INERTIE 4 KG
14
ELLIPTIQUES
Conçu pour la pratique occasionnelle du cardio-training à domicile (jusqu'à 30mn d'utilisation cumulée par jour).
SOLIDITÉ
CARDIO TRAINING

Comparison of video player software

From Wikipedia, the free encyclopedia

This article is about video player software. For a comparison of audio player software, see Comparison of audio player software. For a comparison of hardware device type portable media players, see Comparison of portable media

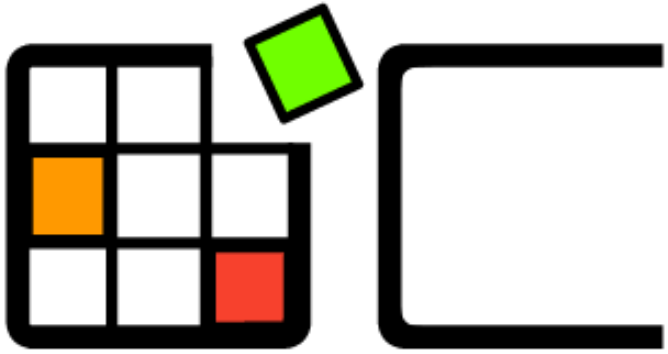
The following **comparison of video players** compares general and technical information for notable software media player programs.

For the purpose of this comparison, "video players" are defined as any media player which can play video, even if it can also play audio files.

Contents [hide]

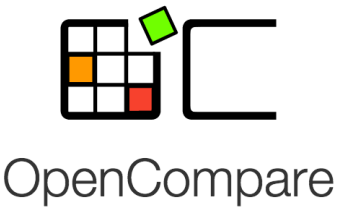
General [edit]

Name	Author	First public release	Stable version	Cost	Software license	Based framework	Written in
ALLPlayer	ALLPlayer Group Ltd. Partnership	1998	6.1.1 (February 12, 2015; 6 months ago) [±]	Free	Proprietary	FFmpeg + original + DirectShow	Object Pascal (Delphi)
Apprentice Video	Pavel Koshevoy	2011	r407 and later	Free	MIT	FFmpeg	C++ (Qt)
Banshee	Aaron Bockover	Aug 2005	2.6.2 (February 18, 2014; 18 months ago[1]) [±]	Free	MIT	GStreamer	C#
Creative MediaSource	Creative Technology	2002	5.10.38 (December 22, 2006; 8 years ago) [±]	Requires Creative product	Proprietary	?	?
CorePlayer	CoreCodec Inc.	2006	3.0.1 (September 9, 2011; 3 years ago) [±]	US$19.95	Proprietary	?	?
CrystalPlayer	Crystal Reality LLC	Oct 2002	1.99 (September 1, 2012; 2 years ago) [±]	US$29.95	Proprietary	FFmpeg	?
DSPlayer	DSPlayer team	2002	0.999	Free	Proprietary		Object Pascal (Delphi), C++
FFplay	FFmpeg project	06 Jun 2003	2.7.2 (July 20, 2015; 42 days ago[2]) [±]	Free	LGPL, part GPL	FFmpeg	C
GOM Player	Gretech Corporation	07 Jan 2003	2.2.67.5221 (February 4, 2015; 6 months ago) [±]	Free	Proprietary	FFmpeg	?
iTunes	Apple Inc.	09 Jan 2001	12.2.2.25 (August 13, 2015; 18 days ago[3]) [±]	Free	Proprietary	QuickTime	?
jetAudio (Basic)	Cowon Systems	1997	8.1.3 October 16, 2014; 10 months ago	Free	Proprietary	FFmpeg	C++



OpenCompare

OpenCompare.org



standard format

collaborative edition

import/export of numerous formats

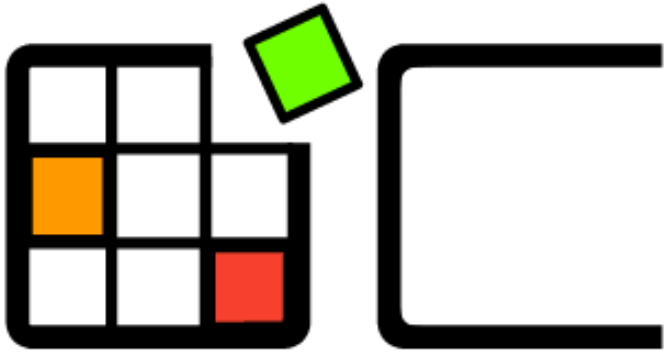
embeddable editor

open source (https://github.com/gbecan/OpenCompare)

open data (opencompare.org/api/get/ID)

innovative services (e.g., for visualizing, configuring, filtering and « playing » with comparisons; ways to share, collaborate, and easily create comparisons)

Demo!



OpenCompare

Projet #1

(opencompare
+ "product" charts)

Projet #1

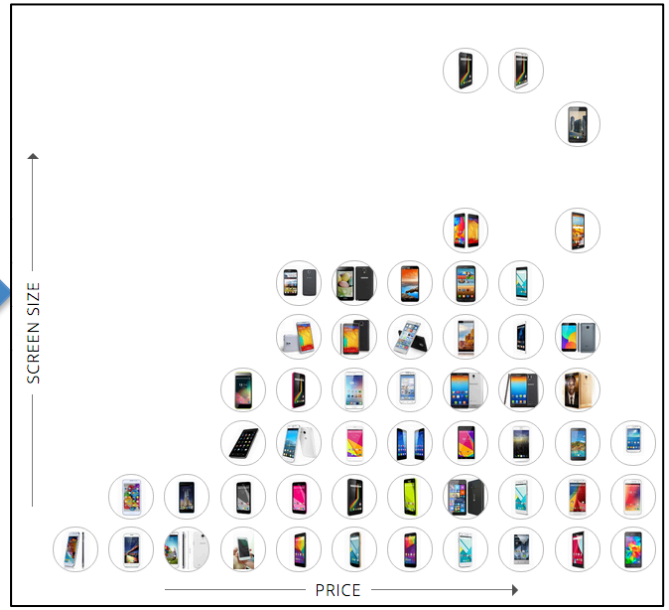
OpenCompare

opencompare et productcharts

OpenCompare

Product	Image process..	Sensor format	Sensor type	Sensor manufa..	Megapixels	Focus points	Metering pixels	Viewfinder cov..
Find								
D3X	EXPEED	Full-frame	CMOS	Sony	24.5	51	1005	100%
D2Xs	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D2X	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D1X	-	APS-C	CCD	Sony	5.3	5	1005	96%
D1	-	APS-C	CCD	Sony	2.66	5	1005	96%
D4S	EXPEED 4	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D4	EXPEED 3	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D3S	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D3	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D2Hs	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D2H	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D1H	-	APS-C	CCD	Sony	2.7	5	1005	96%
D810	EXPEED 4	Full-frame	CMOS	Sony	36.3	51	91000	100%
D800	EXPEED 3	Full-frame	CMOS	Sony	36.3	51	91000	100%
D700	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	95%
D750	EXPEED 4	Full-frame	CMOS	Nikon[citation ne...	24.9	51	91000	100%
Df	EXPEED 3	Full-frame	CMOS	Nikon	16.2	39	2016	100%
43 / 43								

(matrice)



(“product” chart)

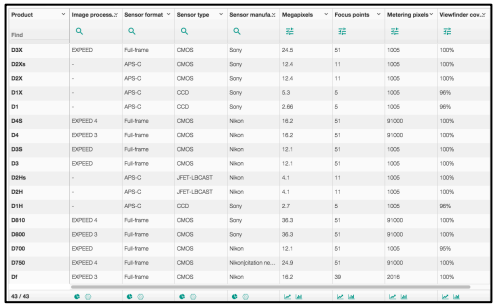
Suite des travaux exceptionnels de Hugo Vallée et Stéphane Mangin en 2015 (ex MIAGE 1)

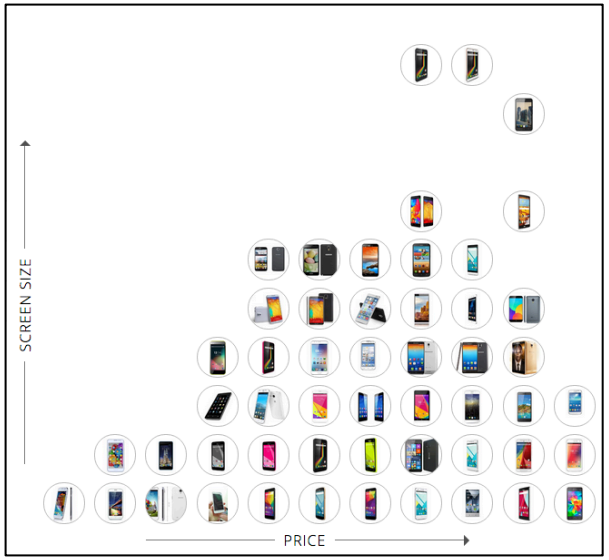
Projet #1

OpenCompare

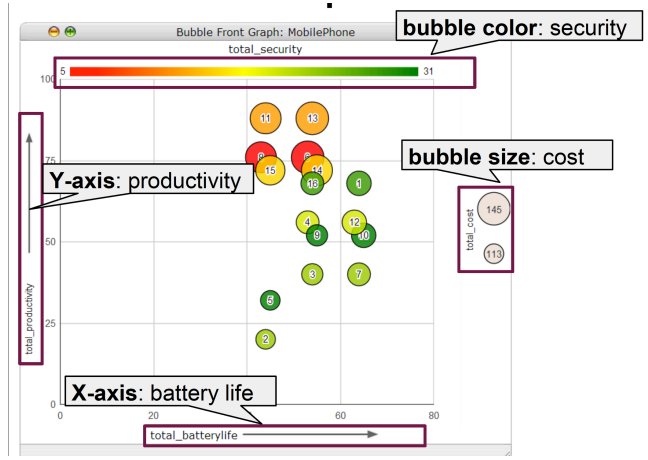
opencompare et productcharts

OpenCompare



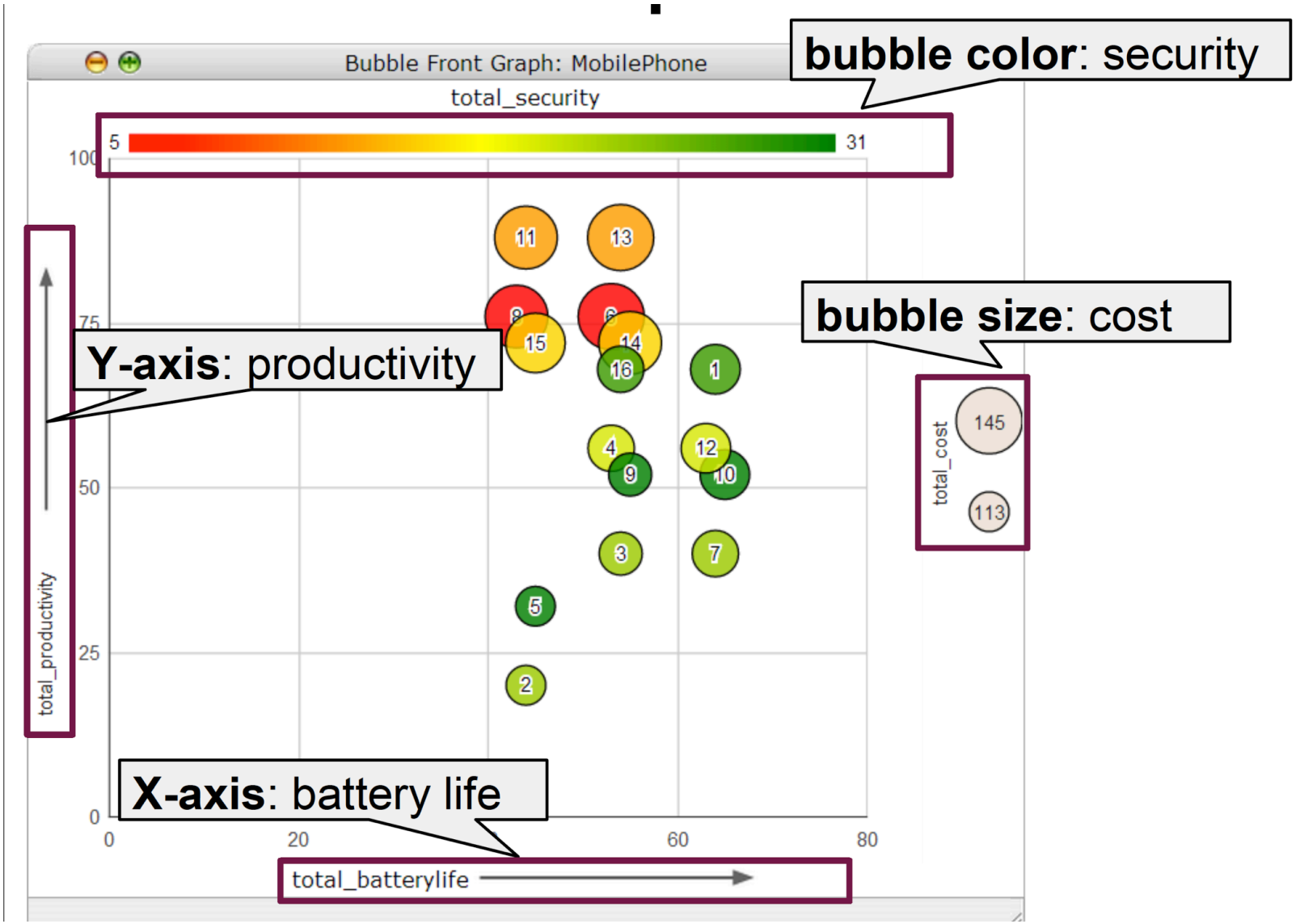


(matrice)



2D vision
3D with “bubbles”
4D with “colors”

ClaferMooVisualizer (U. Waterloo, SPLC'13)



Projet #2

(opencompare
+ HTML configurable)

Projet #2

export HTML configurable

OpenCompare

OpenCompare

Product	Image process..	Sensor format	Sensor type	Sensor manufa..	Megapixels	Focus points	Metering pixels	Viewfinder cov..
Find								
D3X	EXPEED	Full-frame	CMOS	Sony	24.5	51	1005	100%
D2Xs	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D2X	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D1X	-	APS-C	CCD	Sony	5.3	5	1005	96%
D1	-	APS-C	CCD	Sony	2.66	5	1005	96%
D4S	EXPEED 4	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D4	EXPEED 3	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D3S	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D3	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D2Hs	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D2H	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D1H	-	APS-C	CCD	Sony	2.7	5	1005	96%
D810	EXPEED 4	Full-frame	CMOS	Sony	36.3	51	91000	100%
D800	EXPEED 3	Full-frame	CMOS	Sony	36.3	51	91000	100%
D700	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	95%
D750	EXPEED 4	Full-frame	CMOS	Nikon[citation ne...	24.9	51	91000	100%
Df	EXPEED 3	Full-frame	CMOS	Nikon	16.2	39	2016	100%
43 / 43								

(matrice)

(HTML representation of the matrix with ways of customizing the graphical styles)

Projet #2

OpenCompare

export HTML configurable

Product	Image process.	Sensor format	Sensor type	Sensor manufa.	Megapixels	Focus points	Metering pixels	Viewfinder cov.
Find								
D3X	EXPEED	Full-frame	CMOS	Sony	24.5	51	1005	100%
D2Xs	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D2X	-	APS-C	CMOS	Sony	12.4	11	1005	100%
D1X	-	APS-C	CCD	Sony	5.3	5	1005	96%
D1	-	APS-C	CCD	Sony	2.66	5	1005	96%
D4S	EXPEED 4	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D4	EXPEED 3	Full-frame	CMOS	Nikon	16.2	51	91000	100%
D3S	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D3	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	100%
D2Hs	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D2H	-	APS-C	JFET-LBCAST	Nikon	4.1	11	1005	100%
D1H	-	APS-C	CCD	Sony	2.7	5	1005	96%
D810	EXPEED 4	Full-frame	CMOS	Sony	36.3	51	91000	100%
D800	EXPEED 3	Full-frame	CMOS	Sony	36.3	51	91000	100%
D700	EXPEED	Full-frame	CMOS	Nikon	12.1	51	1005	95%
D750	EXPEED 4	Full-frame	CMOS	Nikon[citation ne...	24.9	51	91000	100%
Df	EXPEED 3	Full-frame	CMOS	Nikon	16.2	39	2016	100%
43 / 43								

(matrice)

HTML representation of the matrix with ways of customizing the graphical styles, eg:

- Colors/size of cells, headers, products
- Layout (product at the top or left-hand side)
- Some value “types” can be replaced by visual elements (eg stars for numbers/scores) or highlighted with a specific colors (eg Yes/no)

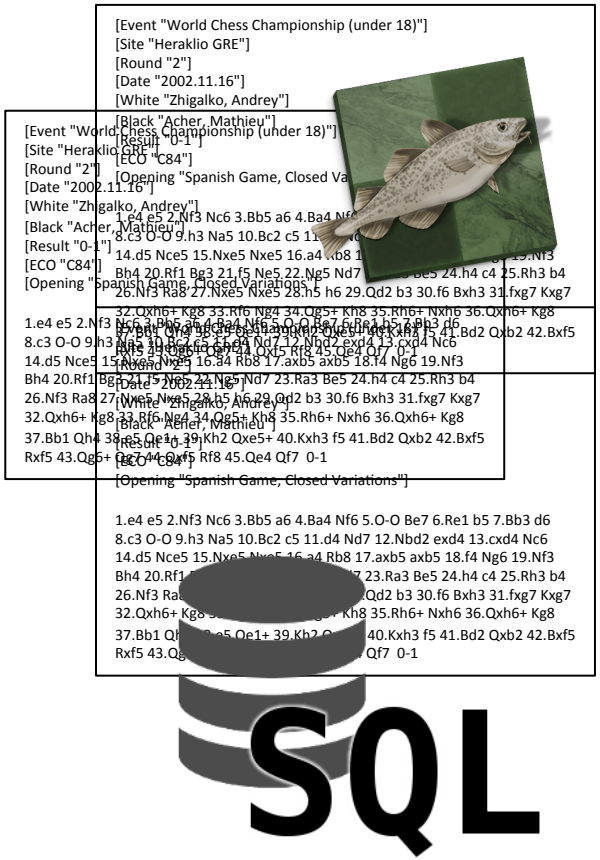
Suite des travaux exceptionnels de Hugo Vallée et Stéphane Mangin en 2015 (ex MIAGE 1)

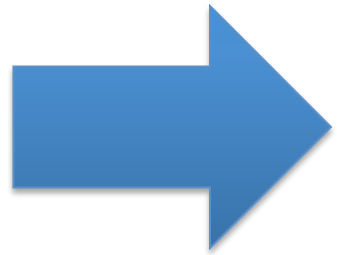
Projet #3

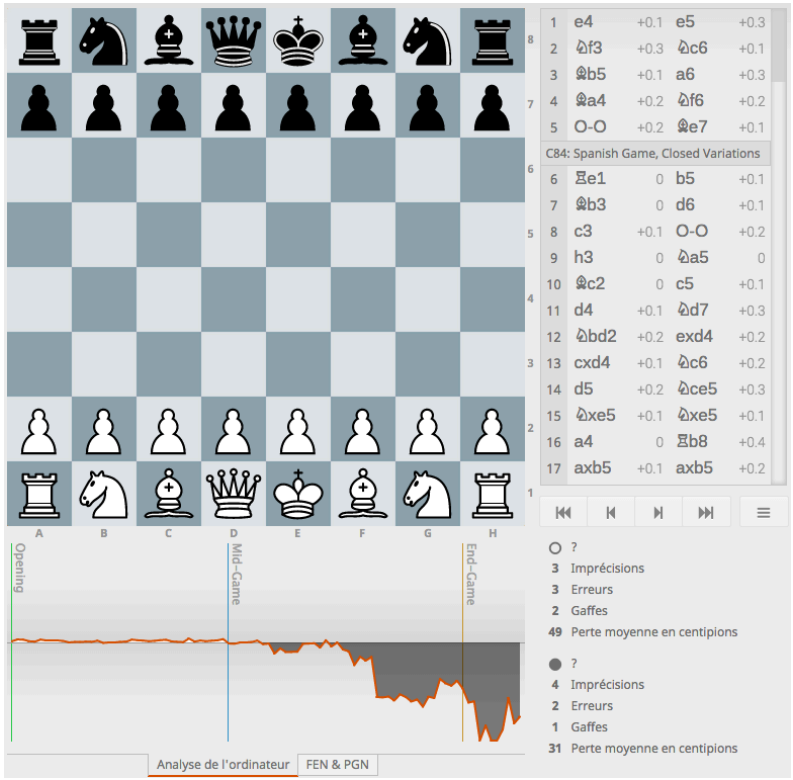
(échecs)

Projet #3

échecs





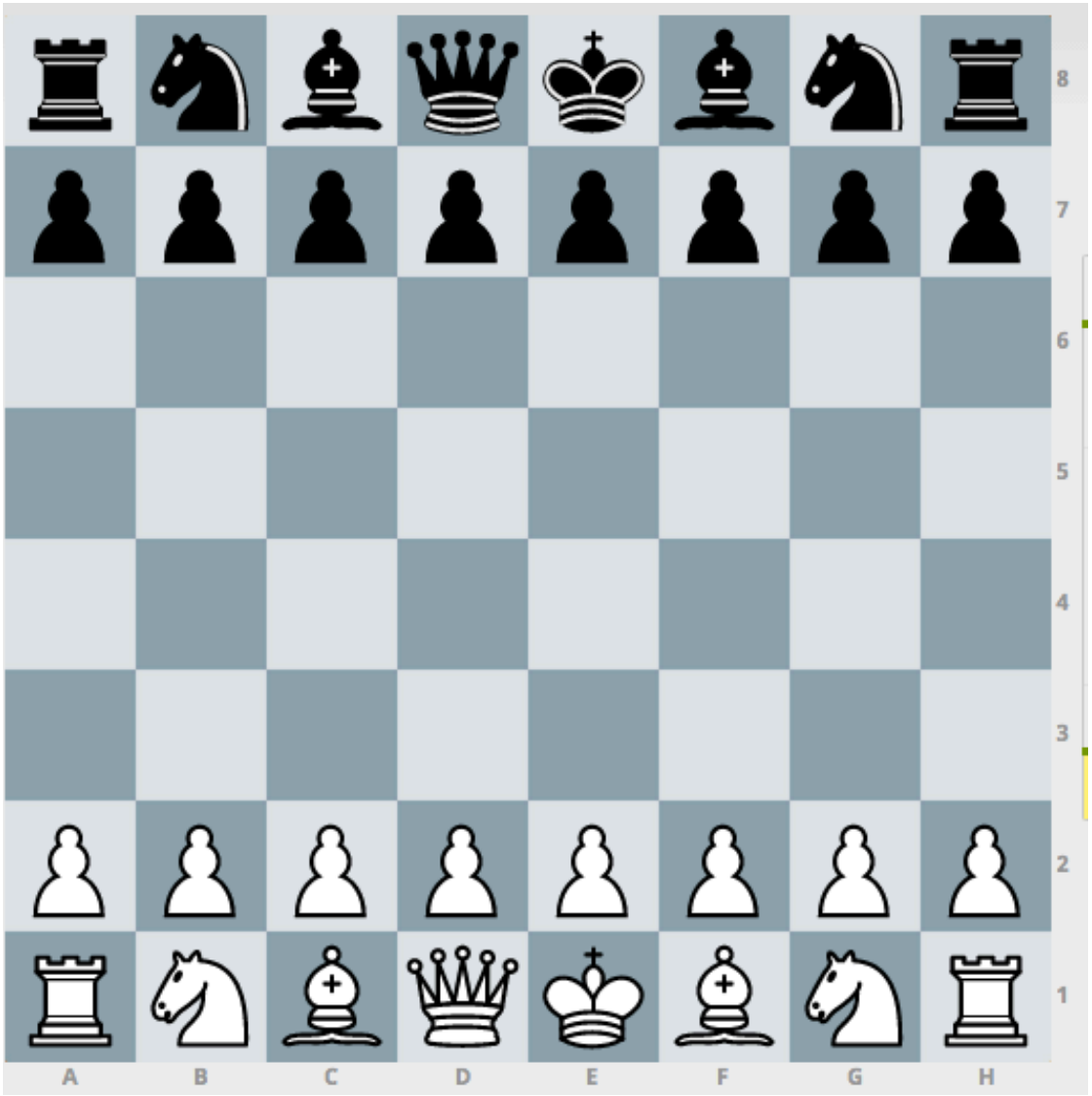


(base de données d'analyses du jeu d'échecs)

(chessanalysis.org)

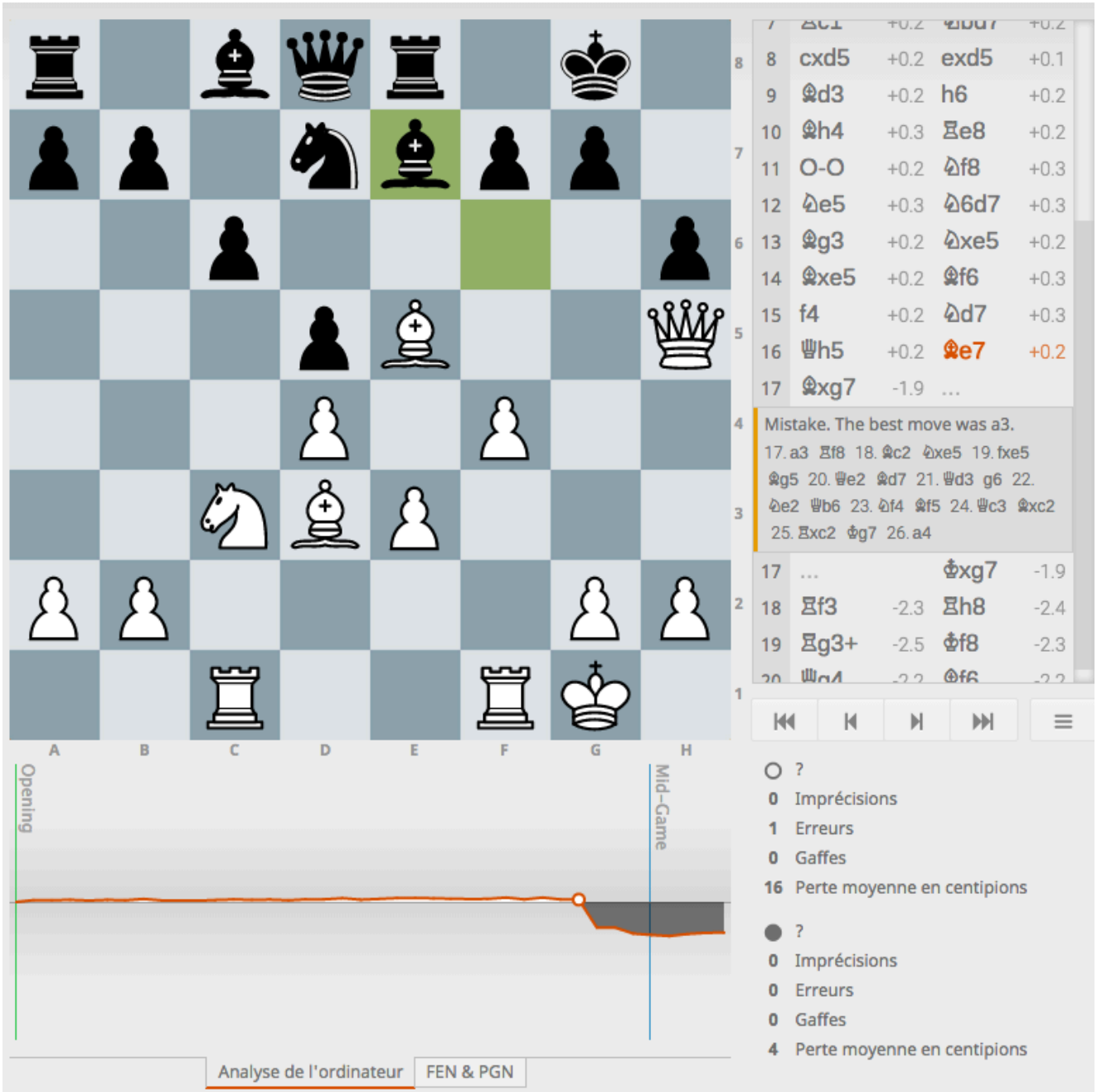
Suite du travail exceptionnel de François Esnault en 2015 (ex MIAGE 1)

Chess (les échecs)



Chess (les échecs)

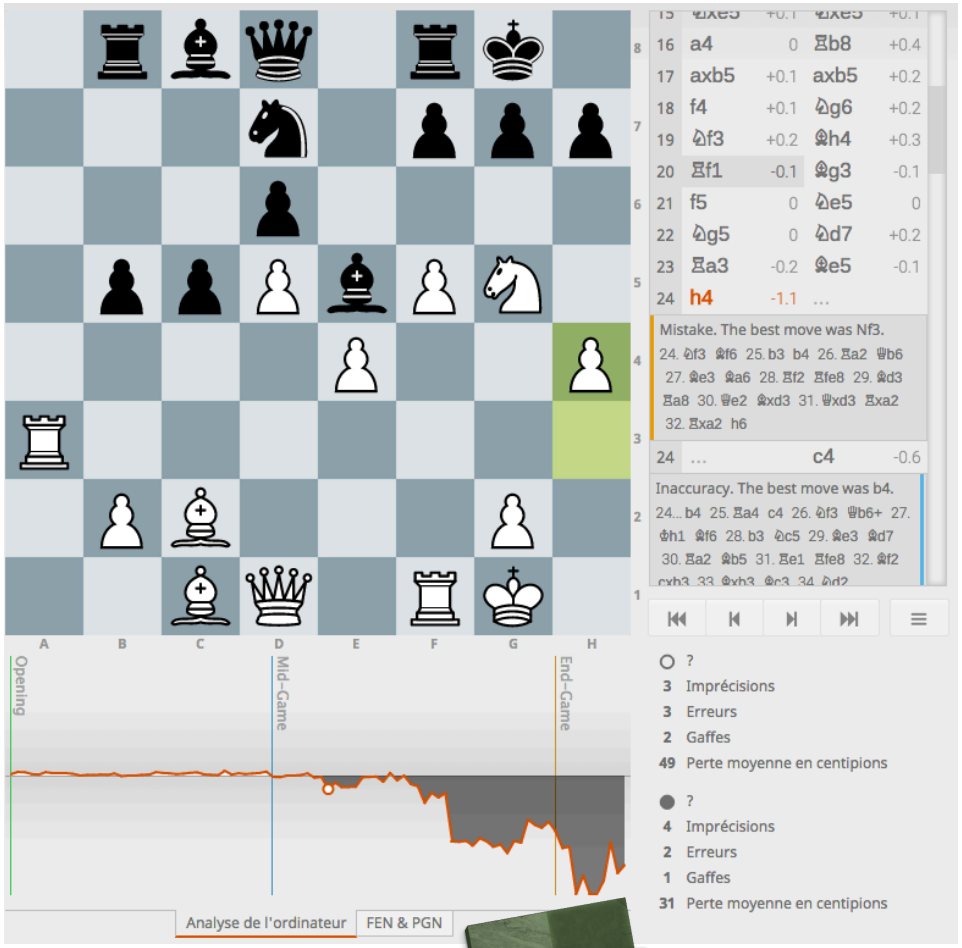
http://fr.lichess.org/eR568RTD#32



Games + Chess analysis

[Event "World Chess Championship (un
[Site "Heraklio GRE"]
[Round "2"]
[Date "2002.11.16"]
[White "Zhigalko, Andrey"]
[Black "Acher, Mathieu"]
[Result "0-1"]
[ECO "C84"]
[Opening "Spanish Game, Closed Variations"]

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.O-O Be7 6.Re1 b5 7.Bb3 d6 8.c3 O-O 9.h3 Na5 10.Bc2 c5 11.d4 Nd7 12.Nbd2 exd4 13.cxd4 Nc6 14.d5 Nce5 15.Nxe5 Nxe5 16.a4 Rb8 17.axb5 axb5 18.f4 Ng6 19.Nf3 Bh4 20.Rf1 Bg3 21.f5 Ne5 22.Ng5 Nd7 23.Ra3 Be5 24.h4 c4 25.Rh3 b4 26.Nf3 Ra8 27.Nxe5 Nxe5 28.h5 h6 29.Qd2 b3 30.f6 Bxh3 31.fxg7 Kxg7 32.Qxh6+ Kg8 33.Rf6 Ng4 34.Qg5+ Kh8 35.Rh6+ Nxh6 36.Qxh6+ Kg8 37.Bb1 Qh4 38.e5 Qe1+ 39.Kh2 Qxe5+ 40.Kxh3 f5 41.Bd2 Qxb2 42.Bxf5 Rxf5 43.Qg6+ Qg7 44.Qxf5 Rf8 45.Qe4 Qf7 0-1



http://fr.lichess.org/nNUU6dEr

Large-scale Analysis of Chess Games

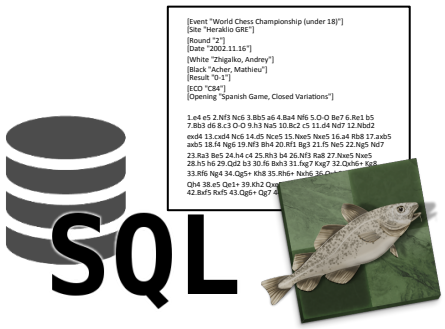
- We have ~5 millions of games in PGN
  - Numerous tournaments, (top) players over several years; still increasing
  - 270 millions of unique positions (FEN)
- And the evaluation/judgments of computer engines for each FEN: 1,5 tera-octets
  - Best move
  - Score evaluation
  - For all depths between 1 and 20
- Fantastic work of **François Esnault** (MIAGE 2, internship summer): https://github.com/ChessAnalysis

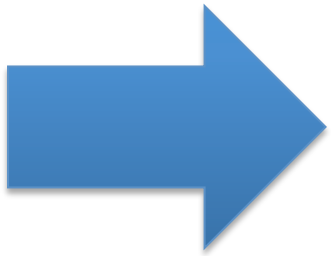
Large-scale Analysis of Chess Games

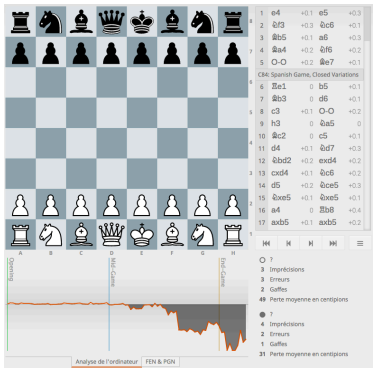
- We have ~5 millions of games in PGN
- And the evaluation/judgments of computer engines for each position (FEN): 1,5 tera-octets
- We can address some interesting questions and gather/ infer some insights like:
  - How many “blunders” per game? Is there any correlation with Elo rating? Which ply (move number) is likely to provoke blunders? What is the worst blunder ever for a grandmaster?
  - How many checkmates are missed out?
  - Metrics like the matching move played/best move can be computed
  - Does depth (19 or 20) matter?

Large-scale Analysis of Chess Games

- We have ~5 millions of games in PGN
- And the evaluation/judgments of computer engines for each position (FEN): 1,5 tera-octets
- We can address some interesting questions and gather/ infer some insights
- **Your job: computation and visualisation of answers/ insights as part of chessanalysis.org**

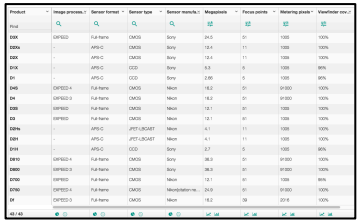




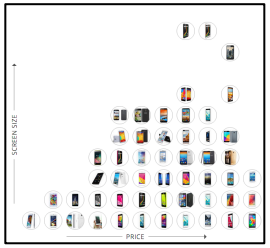


Projet #1

opencompare et productcharts

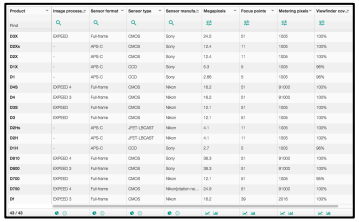


OpenCompare



Projet #2

export HTML configurable

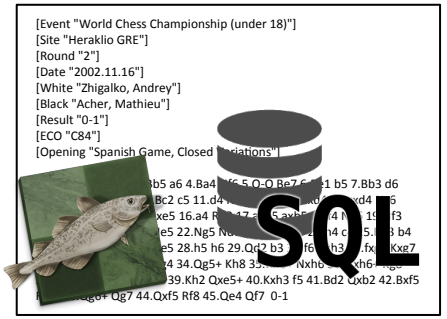


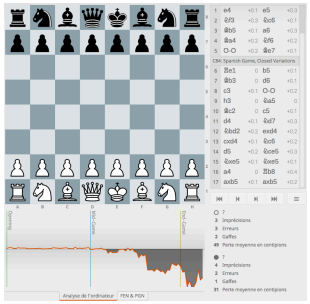
OpenCompare

HTML JS CSS

Projet #3

échecs





3 Projets

- 2 projets sur opencompare.org
- 1 projet sur les échecs

- En pratique les activités sont très similaires:
  - Eliciter et valider des exigences
  - Développement Java pour traiter des données
  - Génération de HTML/CSS/JavaScript
  - Tester
  - Travail collaboratif (github)

Organisation et évaluation

A rendre

- Eliciter des exigences et valider des technologies (EX)
  - rédaction d'un document/cahier des charges
  - soumission au « client » ainsi que sous la forme d'un document PDF à mathieu.acher@irisa.fr

- Sprint (SP)
  - code source, instructions, compte rendu succinct (en français)
  - commit sur github

- Présentation (PR)
  - mi-janvier: préparation de slides et présentation collective de 20' + 10' de questions (en français)

Soutenance (PR)

- 20’ de présentation
  - Rappel du contexte
  - Elaboration des exigences (EX)
  - Description de l’implémentation (SP)
  - Retour d’expérience

- 10’ de questions par le jury

Séances

- 6 séances
  - Une partie TD et une partie TP, 6 * 2 = 12
- TP et TD
  - 2 intervenants (Charles Quéguiner + Mathieu Acher)
  - S'organiser pour que chaque groupe de TP (resp. TD) corresponde à un projet unique (e.g., tous les groupes qui ont choisi le projet #1 vont dans un même groupe de TP/TD)
- Cours magistraux: adaptatifs (wait & see)
  - Outils, Méthodologie de tests, JavaScript

Evaluation

- EX (5 points)
  - ~ début novembre
- SP (10 points)
  - ~ mi-décembre
- PR (5 points)
  - ~ mi-janvier

Projet

- Groupe
  - Outils de versioning (git, github)
  - Outils collaboratifs
- Répartissez-vous les rôles
  - Autrement: impossible de rendre en temps et en heure
- Résultats attendus
  - Très fortes contraintes sur les dates de rendus (cela fait partie intégrante de l'exercice)

Choix

- Constitution des groupes
- Inscription sur github
- Un email du responsable de chaque groupe pour me notifier du choix du projet

- Constitution des groupes (nom des membres + email + nom d'utilisateur sur github) => http://tinyurl.com/PDL-MIAGE1516

- Une concertation à l'échelle de la promotion est nécessaire; à vous de jouer!

PDL: les “projets”

- Groupe de 5 personnes (min et max)
  - Une ou deux exceptions possibles (+- 1); m’en parler ASAP
- Les trois projets doivent être couverts par l’ensemble des groupes
  - maximum 3 groupes par projet
- Premier arrivé, premier servi:

http://tinyurl.com/PDL-MIAGE1516

Date limite: vendredi 11 septembre midi