

Méthodes de conception et de validation de logiciel (DUGL)

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Agenda

- Présentation du projet (matinée)
- Mise en place technique (début d'après-midi)
 - Eclipse, Git, Github, XML, Junit, Balsamiq
- Premières analyses et discussions

Projet - Objectifs

- #1 Modélisation
- #2 Design patterns, refactoring, test
 - revisite des cours et TDs/TPs
- #3 Méthodes pour conduire un projet, outils (e.g., git), API/framework (e.g., GWT)
 - cette fois dans une situation “réelle” (pas de cours, TDs, TPs)

Organisation

- 2 équipes
- Evaluation
 - Modèles
 - Code (incl. tests)
 - Présentation et Démonstration
- Notes a priori collectives

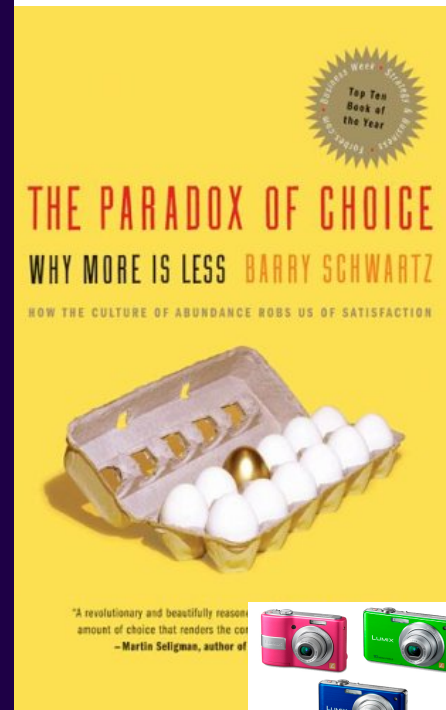
Le projet (contexte)



The Art of Choosing



SHEENA IYENGAR





#1 This is a Product Comparison Matrix (PCM)

Digital Scouting Cameras - Feature Comparison Chart

	Model Capture	Model Capture IR	Model Expert	Model No Flash	Model Excite
Trigger Speed	Hair Trigger (<1/3 sec)	Hair Trigger (<1/3 sec)	Instant Trigger	Instant Trigger	Instant Trigger
Battery Life	up to 2000 images per set	up to 2000 images per set	Battery Wise	Battery Wise	Battery Wise
Megapixels	3.0	3.0 Day, 1.3 Night	3.0	3.0 Day, 1.3 Night	2.0
Flash Range	50 ft.	25 ft.	60 ft.	Still 60 ft., Video 40 ft.	40 ft.
Video Clip Capability	-	-	Day	Day / Night	-
Anti-theft Password Protection	-	-	✓	✓	-
Programmable (owner name/phone)	-	-	✓	✓	-
User Interface	Super simple set up	Super simple set up	EZ / Advanced	EZ / Advanced	EZ
Time Lapse Mode	-	-	✓	✓	-
Adjustable Sensitivity	-	-	✓	✓	✓
Operation Time	24 hour	24 hour	Selectable	Selectable	24 hour
Adjustable Delay Time	30 sec - 30 min.	30 sec - 30 min.	1 min - 1 hr.	1 min - 1 hr.	1 min - 1 hr.
Media Compatibility	SD Memory Card	SD Memory Card	Compact Flash	Compact Flash	Compact Flash
Controls	Rotary Switch	Rotary Switch	5 key touch pad	5 key touch pad	5 key touch pad
Weatherproof Casing	✓	✓	✓	✓	✓
3-D Reality Camouflage Housing	✓	✓	✓	✓	✓
Time and Date on each Photo	✓	✓	✓	✓	✓
Anti-theft hidden lock	-	-	✓	✓	✓
Compact Design	✓	✓	✓	✓	✓
Tree Attachment	Strap	Strap	Screw	Screw	Screw
MSRP	\$ 199.99	\$ 299.99	\$ 349.99	\$ 399.99	\$ 249.99

#2 This is a Product Comparison Matrix (PCM)

2008featuresgrid.xls

Rechercher dans la feuille

Accueil Mise en page Tableaux Graphiques SmartArt Formules Données Révision

Modifier Police Alignement Nombre Format

Remplir Arial 8 Renvoyer à la ligne automatiquement Standard

Coller Effacer Fusionner Mise en forme conditionnelle

Cellules Thèmes

Insérer Supprimer Format Thèmes

Z33

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1												2008 Scouting Cam				
2	Manufacturer	Model	Price	Resolution	Video	Recovery Time	Burst mode	Time Lapse	Mounting	Security	Built-In Viewer	Flash	Internal Memory	mem	Card Capacity	Battery Type
3	Bushnell	Trail Scout 11-9907	\$ 369,95	3/5/7 mpxl	Day/Night Seconds 15	30 Seconds	NO	No	Locking Bracket	Lock & Password	NO	Both	None	SD	2GB	(4) D
4	Bushnell	Trail Sentry 11-9305	\$ 169,95	5.0 mpxl	Day/Night Seconds 15	30 Seconds	NO	No	Strap	NO	NO	Both	None	SD	2GB	(4) D
5	Bushnell	Trail Sentry 11-9204	\$ 94,95	4.0 mpxl	Day Only 15 Seconds	30 Seconds	NO	No	Strap	NO	NO	Incandescent	None	SD	2GB	(4) D
6	Cuddeback	Capture	\$ 199,95	3.0 mpxl	No	30 Seconds	NO	No	Strap	No	NO	Incandescent	30 mb	SD	2GB	(4) D
7	Cuddeback	Capture IR	\$ 249,95	3.0 mpxl	No	30 Seconds	NO	No	Strap	No	NO	IR	30 mb	SD	2GB	(4) D
8	Cuddeback	Excite	\$ 299,95	2.0 mpxl	No	60 Seconds	No	No	Screw Inside Enclosure	Padlock Tab	No	Incandescent	16mb	CF	2GB	(4) D
9	Cuddeback	Expert	\$ 399,95	3.0 mpxl	10-60 Seconds Day Only	60 Seconds	No	1 hour only	Screw Inside Enclosure	Password & Padlock Tab Security enclosure and/or Python	No	Incandescent	16mb	CF	2GB	(4) D
10	DLC	Covert 1	\$ 199,95	5.0 mpxl	0-60 seconds	6-10 seconds	* 3 shot	No	Strap		NO	IR	No	SD	2GB	8 AA
11	DLC	Covert 2	249,95	5.0 mpxl	0-60 seconds	6-10 seconds	* 3 shot	No	Strap	No	NO	IR	No	SD	2GB	8 AA
12	Leaf River	DV-5	\$ 279,95	5.0 mpxl	3-90 Seconds Day Only	20 Seconds	3 Shot	Yes	Enclosed Bracket	Locking Bar Provided	1.6"	Incandescent	16mb	SD	2GB	(4) D & (3) C
13	Leaf River	DV-7SS	\$ 329,95	7.0 mpxl	3-90 Seconds Day Only	20 Seconds	3 Shot	Yes	Enclosed Bracket	Locking Bar Provided	2.4"	Incandescent	16mb	SD	2GB	(4) D & (3) C
14	Leaf River	IR-7SS	\$ 349,95	7.0 mpxl	3-90 Seconds Day Only	20 Seconds	3 Shot	Yes	Enclosed Bracket	Locking Bar Provided	2.4"	Infrared	16mb	SD	2GB	(4) D & (3) C
15	Leaf River	IR-5	\$ 299,95	5.0 mpxl	3-90 Seconds Day Only	20 Seconds	3 Shot	Yes	Enclosed Bracket	Locking Bar Provided	1.6"	Infrared	16mb	SD	2GB	(4) D & (3) C
16	Moultrie	I40	\$ 199,95	4.0 mpxl	Day 5,15,30 Night 5 only	60 Seconds	* 3 shot	No	Strap	NO	NO	Infrared	32 MB	SD	2GB	(6) D
17	Moultrie	I60	\$ 299,95	6.0 mpxl	Day 5,15,30 Night 5 only	60 Seconds	* 3 shot	1 hour only	Strap	Password	1.5"	Infrared	32 MB	SD	2GB	(6) D
18	Moultrie	M40	\$ 167,95	4.0 mpxl	Day Only 5,15,30 second	60 Seconds	* 3 shot	No	Strap	NO	NO	Incandescent	32 MB	SD	2GB	(6) D

#3 This is a Product Comparison Matrix (PCM)

en.wikipedia.org/wiki/Comparison_of_Canon_EOS_digital_cameras



Article [Talk](#)

Comparison of Canon EOS digital cameras

From Wikipedia, the free encyclopedia

The following tables compare general and technical information for a number of [Canon EOS digital cameras](#).

General information [\[edit\]](#)

Model	Image processor	Sensor format	Megapixels	Min ISO	Max ISO	Autofocus points	Display	Storage	Live view?	Max FPS	Release date	Weight (kg)	Dimensions, WxHxD (mm)
1Ds	DIGIC	Full-frame CMOS	11.4	50	1250	45	2.0", 120k pixels	CF	No	3	2002Q4	1.265	156 × 158 × 80
1Ds Mk II	DIGIC II	Full-frame CMOS	16.7	50	3200	45	2.0", 230k pixels	CF, SD	No	4.5	2004Q4	1.215	156 × 158 × 80
1Ds Mk III	Dual DIGIC III	Full-frame CMOS	21.1	50	3200	45	3.0", 230k pixels	CF, SD	Yes	5.0	2007Q4	1.210	156 × 160 × 80
1D	DIGIC	APS-H CCD	4	100	3200	45	2.0", 120k pixels	CF	No	8.0	2001Q4	1.250	156 × 158 × 80
1D Mk II	DIGIC II	APS-H CMOS	8.2	50	3200	45	2.0", 230k pixels	CF, SD	No	8.5	2004Q2	1.220	156 × 158 × 80
1D Mk II N	DIGIC II	APS-H CMOS	8.2	50	3200	45	2.5", 230k pixels	CF, SD	No	8.5	2005Q3	1.225	156 × 158 × 80
1D Mk III	Dual DIGIC III	APS-H CMOS	10.1	50	6400	45	3.0", 230k pixels	CF, SD	Yes	10	2007Q1	1.155	156 × 157 × 80
1D Mk IV	Dual DIGIC 4	APS-H CMOS	16.1	50	102,400	45	3.0", 920k pixels	CF, SD	Yes	10	2009Q4	1.180	156 × 157 × 80
1D X	Dual DIGIC 5+	Full-frame CMOS	18.1	50	204,800	61	3.2", 1040k pixels	CF (x2)	Yes	14	2012Q2	1.530	158 × 164 × 83
5D	DIGIC II	Full-frame CMOS	12.8	50	3200	9	2.5", 230k pixels	CF	No	3	2005Q3	0.81	152 × 113 × 75
5D Mk II	DIGIC 4	Full-frame CMOS	21.1	50	25,600	9	3.0", 920k pixels	CF	Yes	3.9	2008Q4	0.81	152 × 113 × 75
5D Mk III	DIGIC 5+	Full-frame CMOS	22.3	50	102,400	61	3.2", 1040k pixels	CF, SD	Yes	6	2012Q1	0.95	152 × 116 × 76
6D	DIGIC 5+	Full-frame CMOS	20.2	50	102,400	11	3.0", 1040k pixels	SDXC (UHS-I)	Yes	4.5	2012Q4	0.77	145 × 111 × 71
7D	Dual DIGIC 4	APS-C CMOS	18	100	12,800	19	3.0", 920k pixels	CF	Yes	8	2009Q3	0.82	148 × 111 × 74
D30		APS-C CMOS	3.1	100	1600	3	1.8", 114k pixels	CF	No	3	2000Q2	0.78	150 × 107 × 75
D60		APS-C CMOS	6.3	100	1000	3	1.8", 114k pixels	CF	No	3	2002Q1	0.78	150 × 107 × 75
10D	DIGIC	APS-C CMOS	6.3	100	3200	7	1.8", 118k pixels	CF	No	3	2003Q1	0.79	150 × 108 × 75
20D	DIGIC II	APS-C CMOS	8.2	100	3200	9	1.8", 118k pixels	CF	No	5	2004Q3	0.685	144 × 106 × 72
20Da	DIGIC II	APS-C CMOS	8.2	100	3200	9	1.8", 118k pixels	CF	Yes	5	2005Q1	0.685	144 × 106 × 72
30D	DIGIC II	APS-C CMOS	8.2	100	3200	9	2.5", 230k pixels	CF	No	5	2006Q1	0.7	144 × 106 × 74
40D	DIGIC III	APS-C CMOS	10.1	100	3200	9	3.0", 230k pixels	CF	Yes	6.5	2007Q3	0.74	146 × 108 × 74
50D	DIGIC 4	APS-C CMOS	15.1	100	12,800	9	3.0", 920k pixels	CF	Yes	6.3	2008Q4	0.73	146 × 108 × 74
60D	DIGIC 4	APS-C CMOS	18	100	12,800	9	3.0", 920k pixels, 3:2, articulated	SDXC	Yes	5.3	2010Q3	0.755	145 × 106 × 79
60Da	DIGIC 4	APS-C CMOS	18	100	12,800	9	3.0", 920k pixels, 3:2, articulated	SDXC	Yes	5.0	2010Q3	0.755	145 × 106 × 79

Country code	Country	Speed limit at motorway (km/h)	Speed limit at dual carriageway (km/h)	Speed limit at single carriageway (km/h)	Speed limit at urban area	Permitted alcohol level (%)	Toll roads	Seatbelt required	Minimum child age (front seat)	Triangle required	First aid required
A	 Austria	130	100	100	50	0.05	Yes	All	N/A	Yes	Yes
AL	 Albania	110	N/A	90	40	0		N/A	N/A	Recommended	Recommended
AND	 Andorra	N/A	N/A	90	50	0.05		Front	10	Yes	Recommended
B	 Belgium	120	120	90	50	0.05	No ^[1]	All	12	Yes	Yes
BG	 Bulgaria	140	N/A	90	50	0.05	Yes	All	10	Yes	Yes
BIH	 Bosnia and Herzegovina	130	100	80	50	0.03		Front	12	Yes	Yes
BY	 Belarus	110	N/A	90	60	<0.03	Yes	Front	12	Yes	Yes
CH	 Switzerland	120	100	80	50	0.05	Yes	All		Yes	Recommended
CY	 Cyprus	100	N/A	80	50	0.05		All	12	Yes, 2x	Recommended
CZ	 Czech Republic	130 (urban 80)	130 (urban 80)	90	50	0 (tolerated 0.02)	Yes	All	12	Yes	Yes

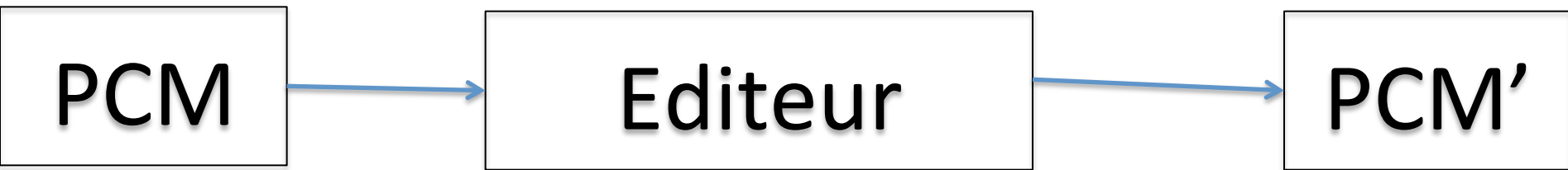
Features C						
Service name A	Automatic forwarding	E-mail client access ¹⁴	client E-mail for other server B	Integration with IM service	Domain Name customization	Interface script technique
AOL Mail	No	Yes (POP3, IMAP, SMTP)	Yes ⁰	AOL Instant Messenger	No ¹	JavaScript/ Ajax 4
Bigfoot Communications	Premium account only	Yes (POP3, IMAP, SMTP)	Yes (POP3 only)	XMPP 3	Yes	HTML/ JavaScript/ CSS/Ajax
FastMail.FM	Paid accounts only	Yes (IMAP) ⁷ 2	Paid accounts (POP3, Hotmail)	XMPP	Enhanced and group (Business/ Family) accounts	HTML/ JavaScript/ CSS/Ajax (Optional user supplied custom css+JavaScript)
Gmail	Yes	Yes (POP3, IMAP) SSL/TLS supported SMTP restricted ¹⁸	Yes (POP3 only)	Google Talk ^{beta} (XMPP), AOL Instant Messenger	Yes (Google Apps \$5.00 monthly/ \$50.00 annually)	HTML/ JavaScript/ Ajax ²
GMX Mail	No	Yes (POP3, IMAP ¹⁷ , SMTP) SSL/TLS supported	Yes (POP3 only)	XMPP	Yes	HTML/ JavaScript/ Ajax
Hushmail	No	Extra cost ⁸	? 5	No	\$1.99/\$3.99 monthly through Hushmail Business	Java or HTML
Mail.com	No	Yes (POP3, IMAP, SMTP) SSL/TLS supported	Yes (POP3 only)	Google Talk (XMPP)	No	HTML/ JavaScript/ Ajax ²
Mail.ru	Yes	Yes (POP3, IMAP)	Yes (POP3 only)	custom 7	?	HTML/ Ajax (Beta)
rediff	No	Plus members only	?	Rediff Bot	Yes 1	JavaScript/ Ajax ²
Runbox	Yes	Yes (IMAP, POP, SMTP) SSL/TLS supported	Yes (POP3, Hotmail, Gmail) SSL/TLS supported	XMPP, Google Talk, AOL Instant Messenger, MSN, ICQ, IRC ^[41]	Yes	HTML/ JavaScript/ CSS/Ajax
Seznam.cz	Yes	Yes (POP3, IMAP, SMTP) SSL/TLS supported	Yes (POP3 only)	No	No	HTML/ JavaScript
Windows Live Hotmail	Yes	Partial (POP3, SMTP) ³	Yes (POP3 only)	Windows Live Messenger	Yes ⁴	HTML/ JavaScript/ CSS/Ajax
Yahoo! Mail	Plus accounts only	Yes (POP3-Plus members only, but free in some countries, IMAP SSL/TLS supported)	? 6	Yes (POP3 only)	Yahoo! Messenger, Windows Live Messenger	\$35 yearly 7
Yandex Mail	Yes	Yes (POP3, IMAP, SMTP, SSL)	Yes (POP3 only)	Ya Online, any XMPP IM	Yes (Free, Yandex PDD supports up to 1000 mailboxes without verification of legal use)	HTML/ JavaScript/ CSS/Ajax

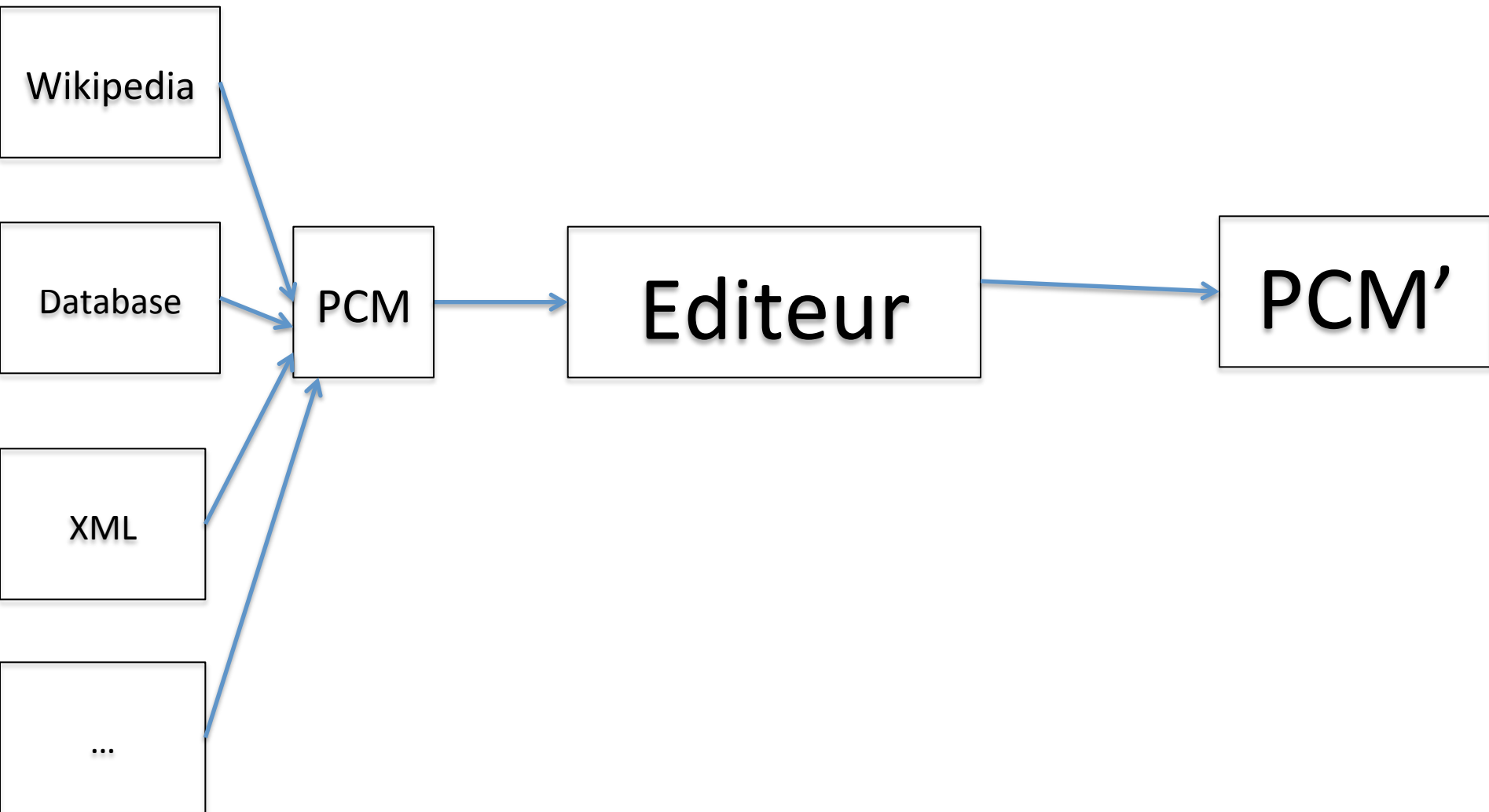
1. Boolean yes/no answers
- Partial/constrained yes/no answers
3. Single-value answers
4. Multiple values answers
5. "Unknown" answers
6. Empty cells
7. Inconsistent cells
8. Additional / Extra information

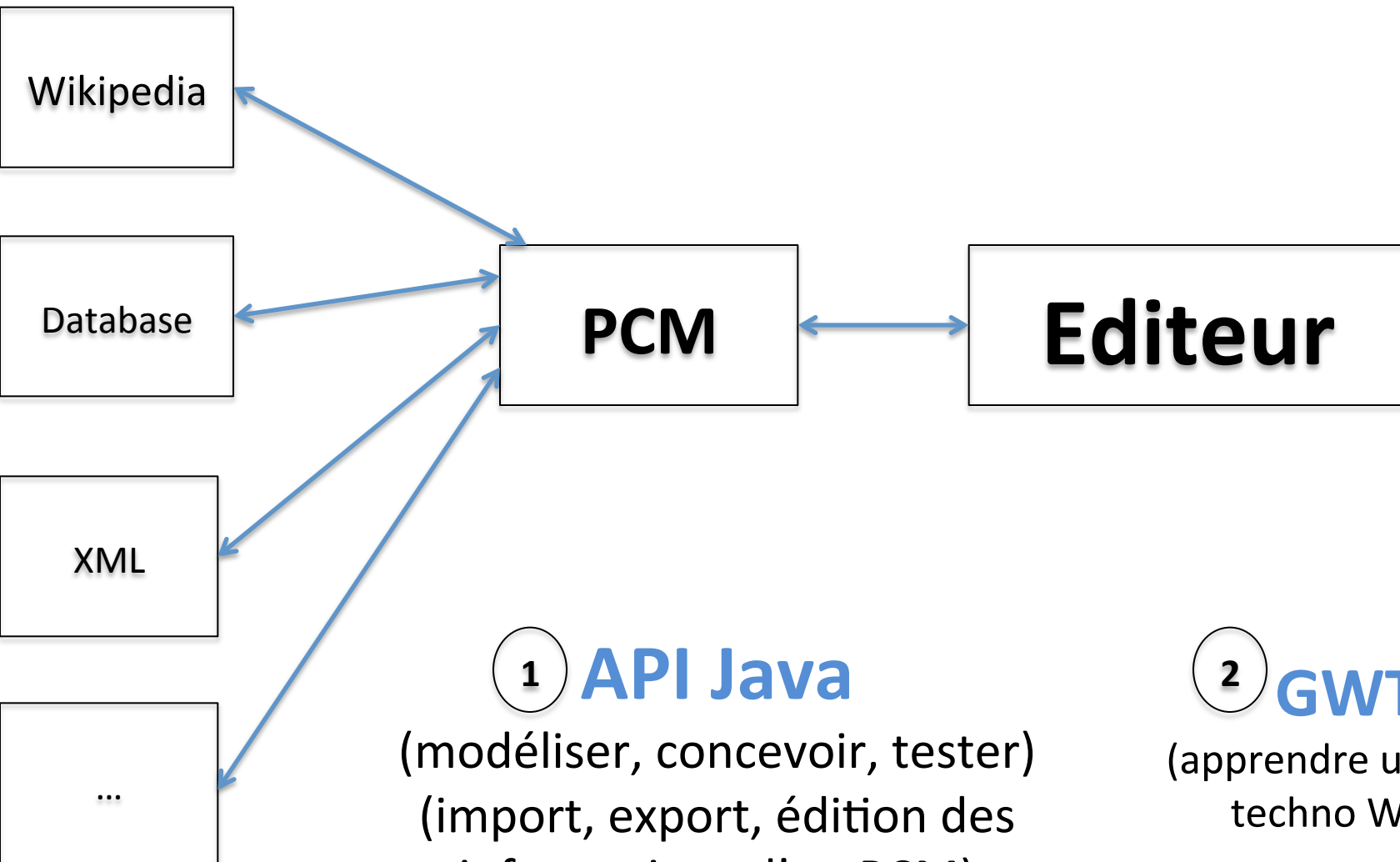
Le projet (objectifs)

Objectif: un éditeur de PCM

- Product Comparison Matrices aka **PCM**
 - Matrice de Comparaison de Produits
 - Liste de produits + Critères + Valeurs
- Plus qu'un tableau avec des cellules
 - les valeurs des cellules sont “typées”
 - on souhaite visualiser cette information de typage, l'éditer, et la sauvegarder = un éditeur de PCM







1 API Java

(modéliser, concevoir, tester)
(import, export, édition des informations d'un PCM)

2 GWT

(apprendre une API, techno Web)

Projet - Objectifs

- Input: PCMs dans un format XML
 - avec un code démontrant comment lire et analyser le fichier
- Concevoir une API Java pour
 - importer/exporter des PCMs (e.g., au format XML),
 - manipuler les PCMs (e.g., éditer une cellule)
- Construire un éditeur pour
 - visualiser et éditer un PCM

XML

?? (API)

?? (éditeur)

Projet - Objectifs

- API / Editeur
- Etudier le XML
- Spécifier les fonctionnalités de l'éditeur
 - e.g., les interactions possibles de l'utilisateur
 - et donc de l'API
 - à discuter avec deux "clients"
- Concevoir, implémenter, et tester l'API
- Concevoir et implémenter l'éditeur
- Intégrer les différentes parties

XML

?? (API)

?? (éditeur)

Agenda

- Présentation du projet
- Mise en place technique
 - Eclipse, Git, Github, XML, JUnit
 - <https://github.com/gbecan/Tools4PCM/tree/master/PCM-reader>
 - Balsamiq (création de compte et démonstration)
 - <https://universityofrennes1miage.mybalsamiq.com/login>
- Premières analyses et discussions