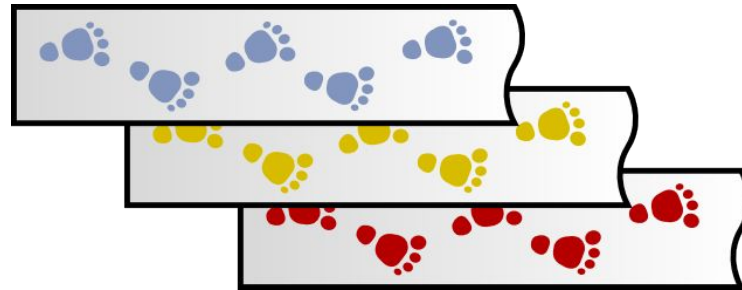


Trace-Based Reasoning

Combining Case-Based Reasoning and Traces to reason on experiences



Amélie Cordier

Octobre 2016



Case-Based Reasoning

Case-Based Reasoning



Reusing past experiences to solve new problems

Genesis

- Marvin Minsky [1975] a model of memory -> frames
- Robert Schank [1982], a dynamic memory -> scripts
- CBR cycle [1994], CBR step by step

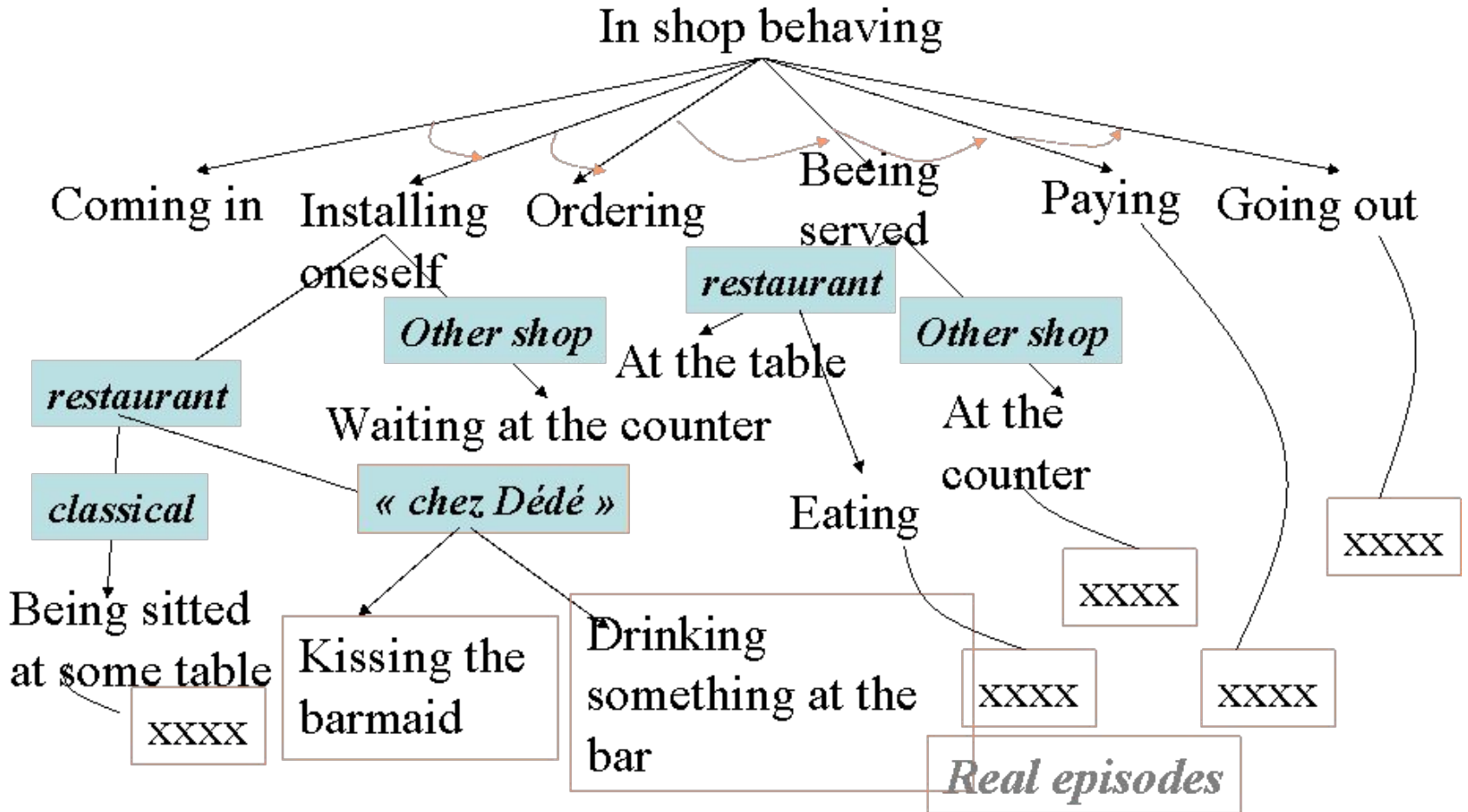
Minsky's theory

*“Here is the essence of the theory: When one encounters a **new situation** (or makes a substantial change in one's view of the present problem) one selects from memory a structure called a **Frame**. This is a **remembered framework to be adapted to fit reality by changing details as necessary.**”*

Schank introduces dynamic memory

- Understanding \Leftrightarrow Explaining
 - Natural language understanding
 - Using scripts to describe propositions
 - Using concrete experience to build incrementally the scripts.

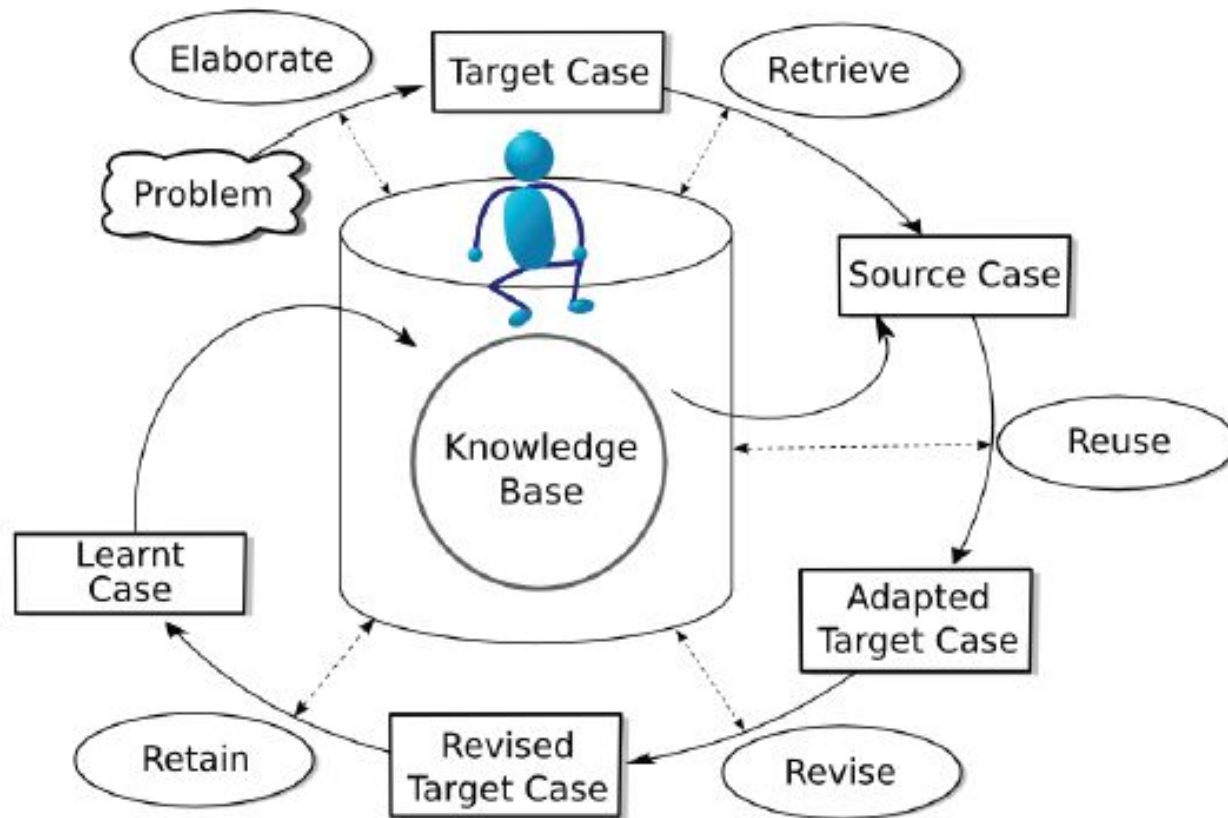
Script memory



Reasoning process according to Schank

- In a memory of concrete experiences (dynamically organized in a generalization hierarchy),
- One retrieves the « closest » experience to the current one,
- The corresponding script has to be generalized as less as possible to be re-specialized in the current context,
- Memory is re-organized if necessary according to what happens really.

Case-Based Reasoning



What is a case?

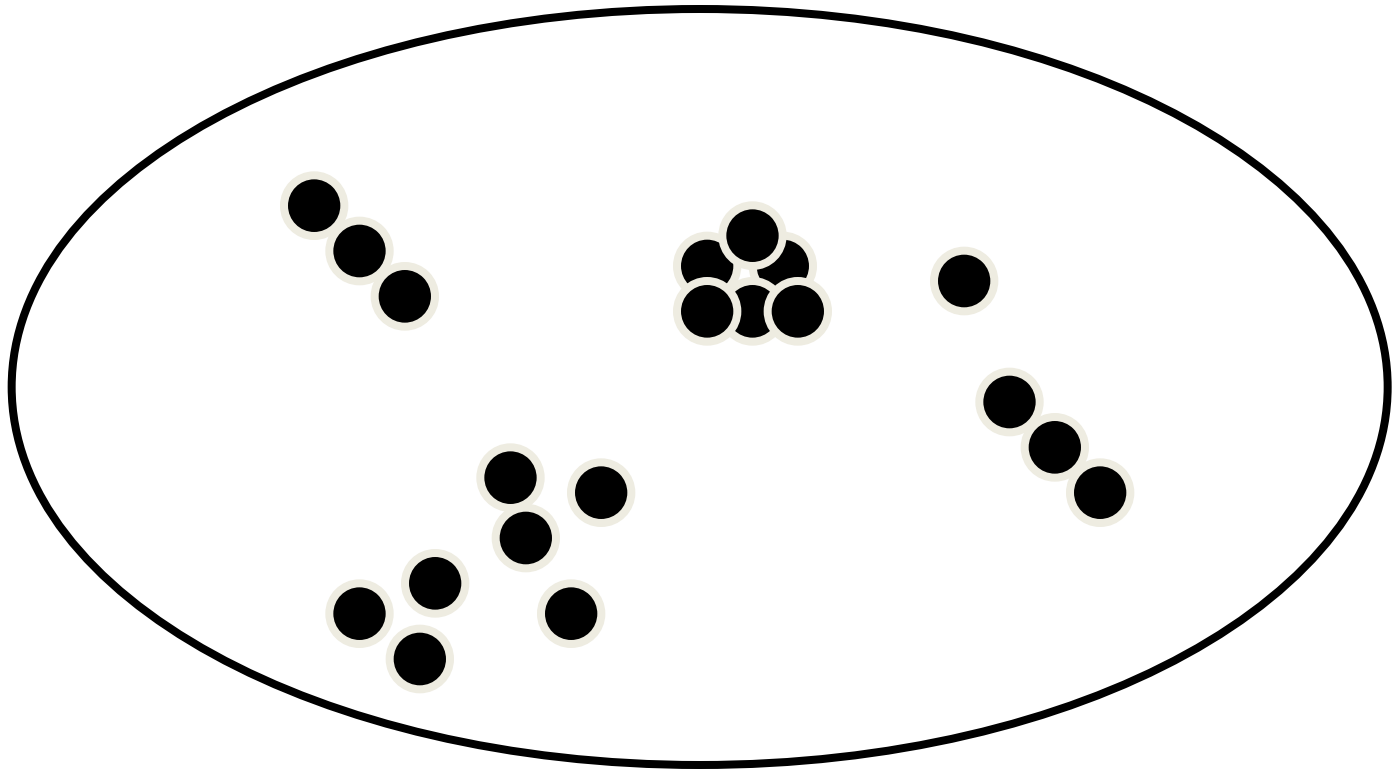
A case is the description of a problem solving episode.

Its structure fits the situation of the task:
diagnostic, planning,
decision helping, design, etc.

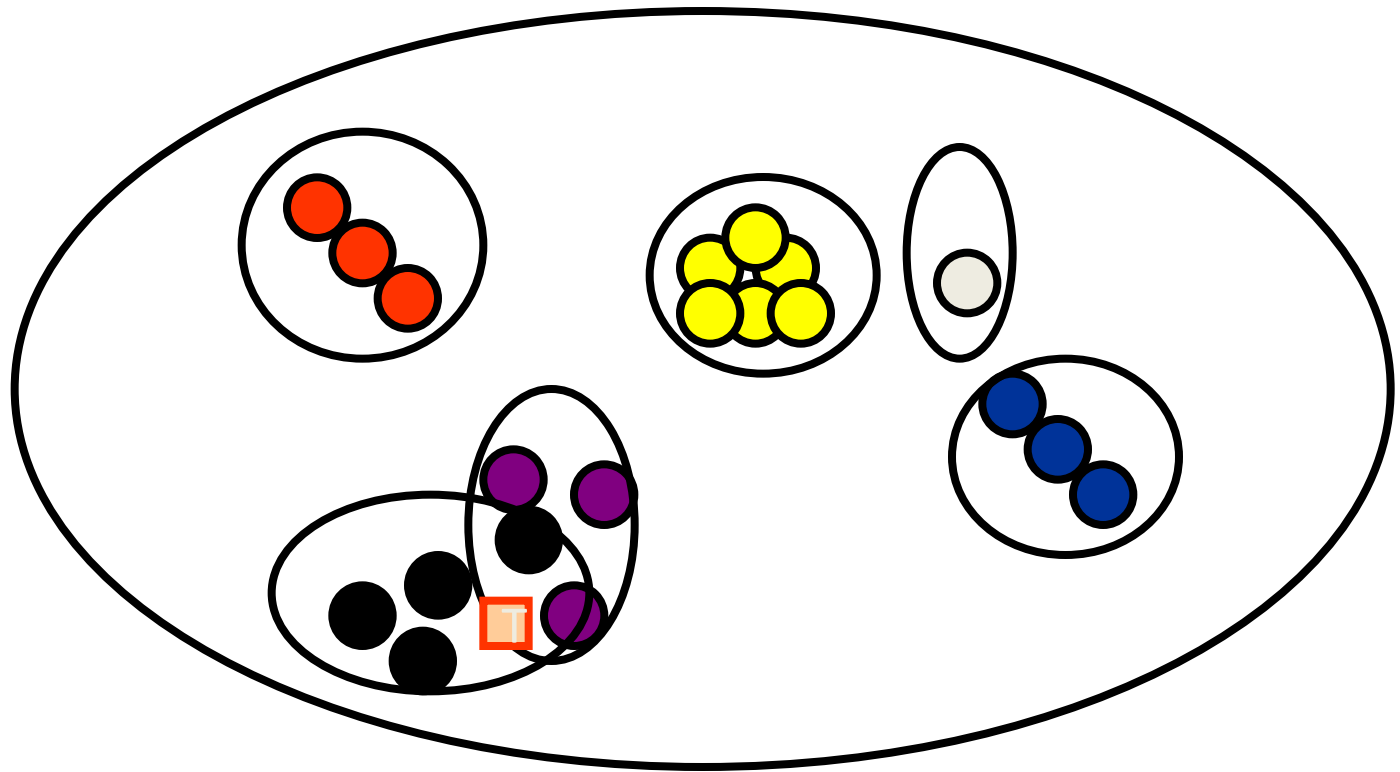
Case descriptors

- A case is composed of a problem description and its corresponding solution description
- A **source** case is a case whose solution will be adapted to find a solution for a new case, we call **target case**.
- A source case is formulated as:
Source_case=(source,Sol(source))
- And a target case:
Target_case=(target,Sol(target))

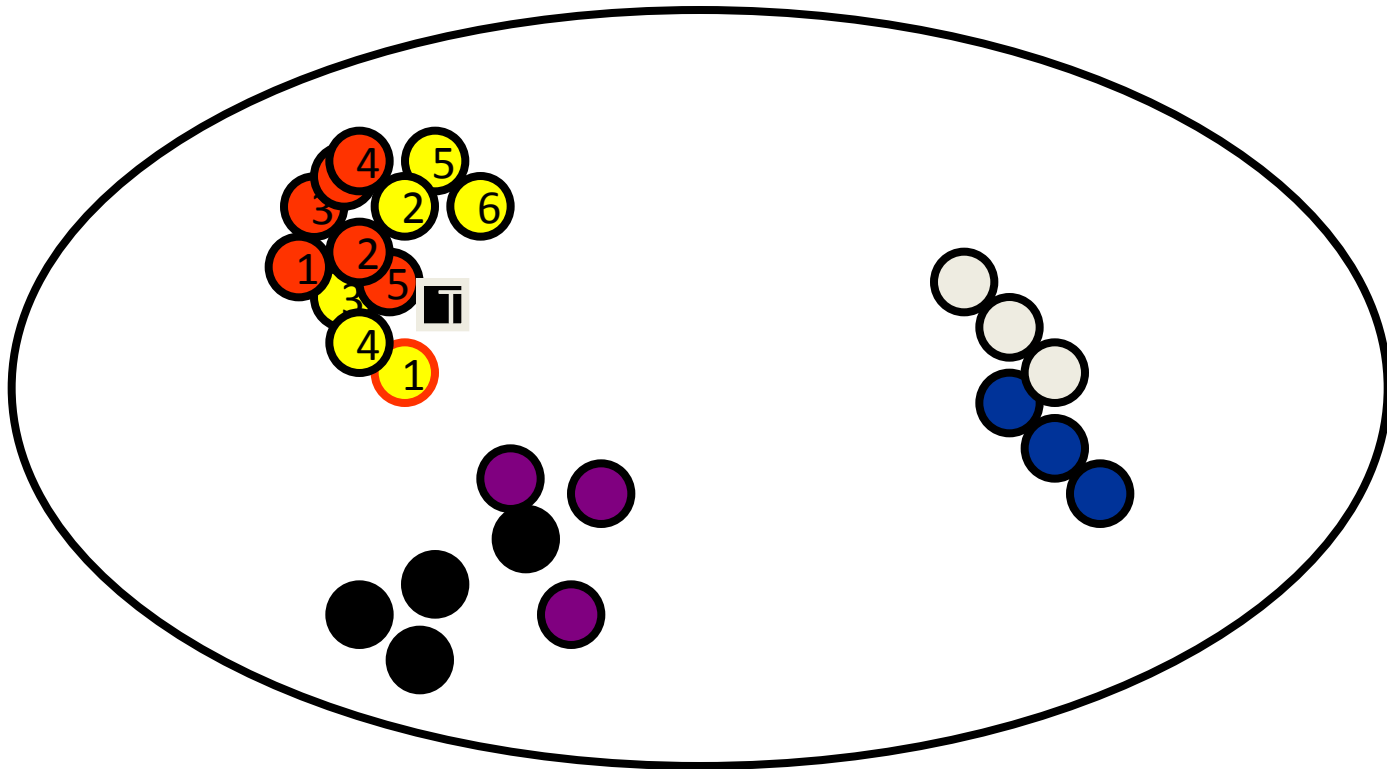
Cases in the solution space



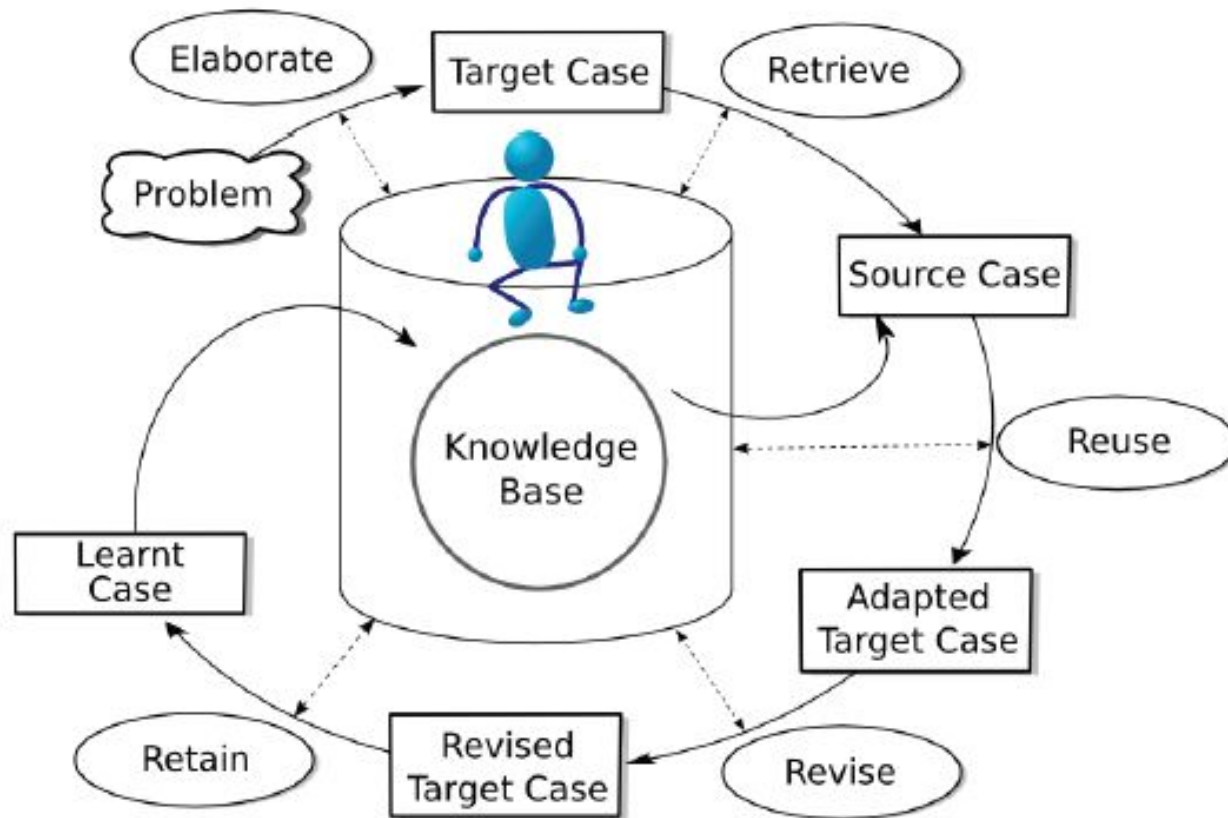
Different classes of solutions



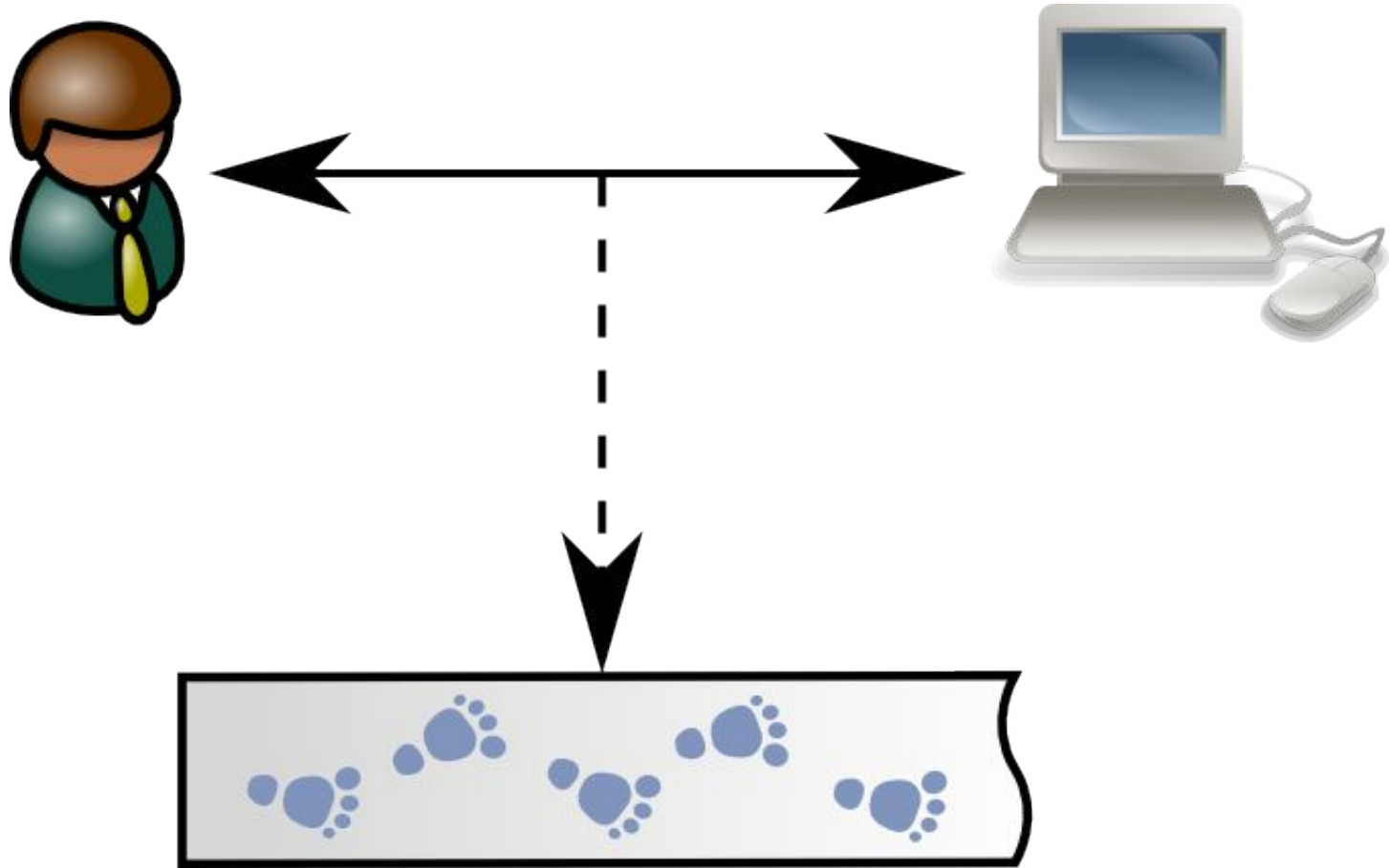
Choice of a source case



Case-Based Reasoning

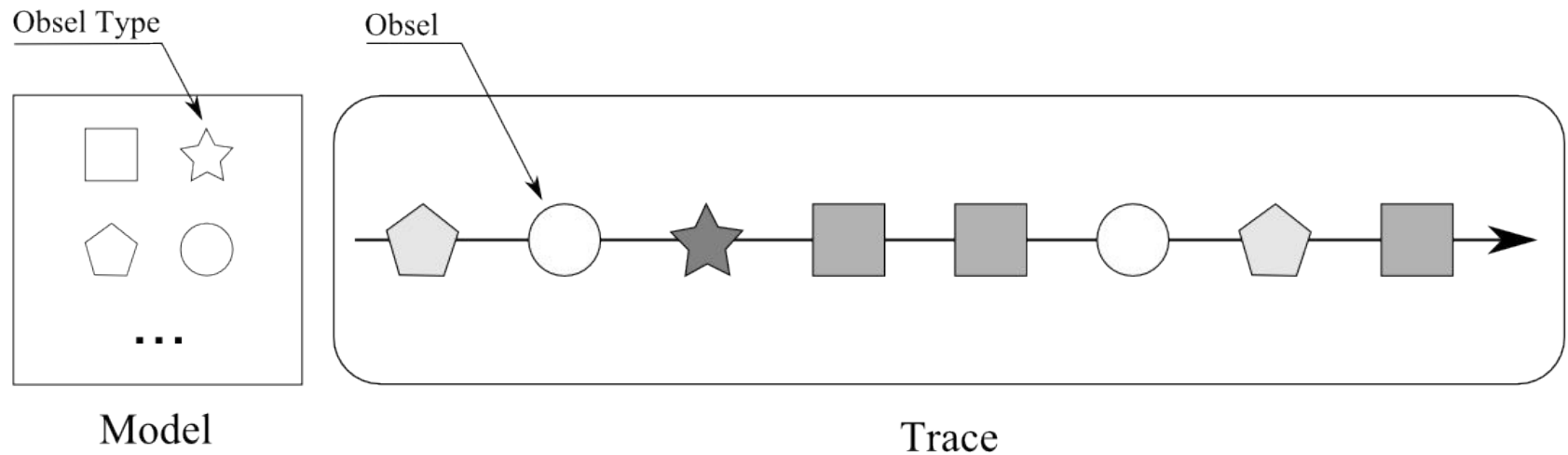


Trace-Based Reasoning

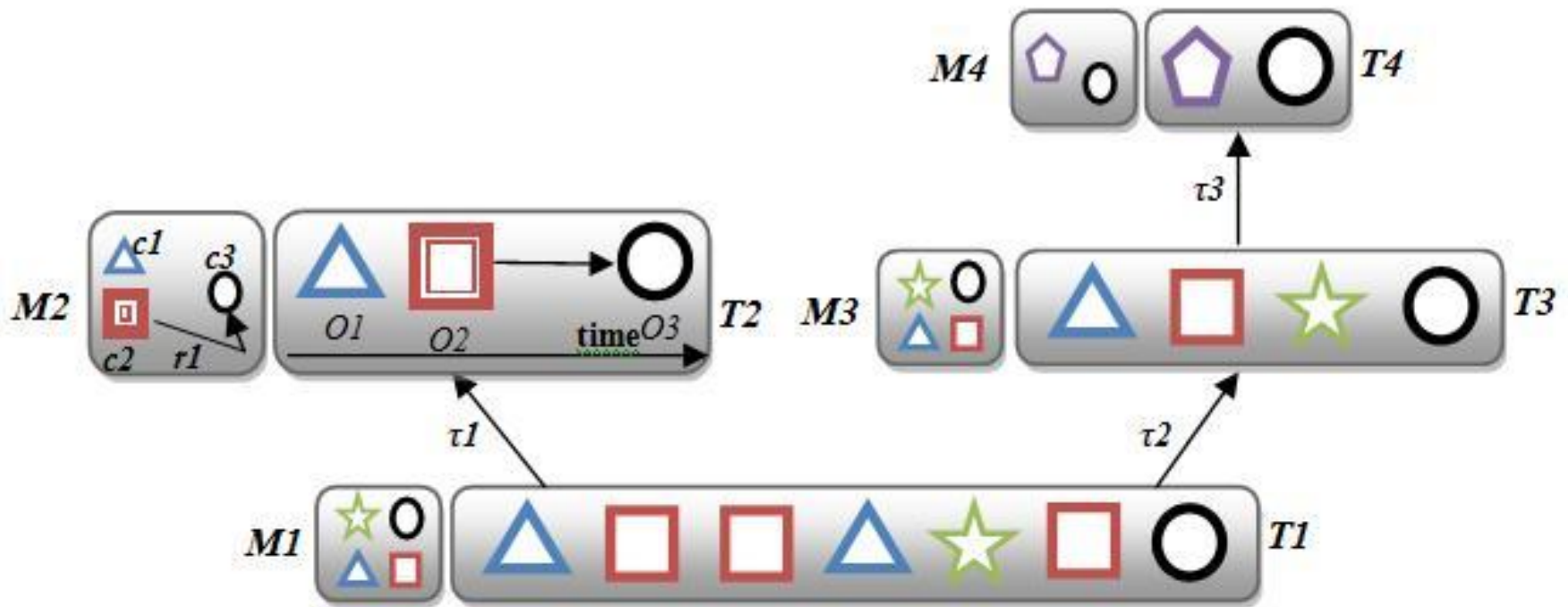


Trace

A trace is nothing without its model



Transformations





A trace is an experience container!

Objects

Obsel

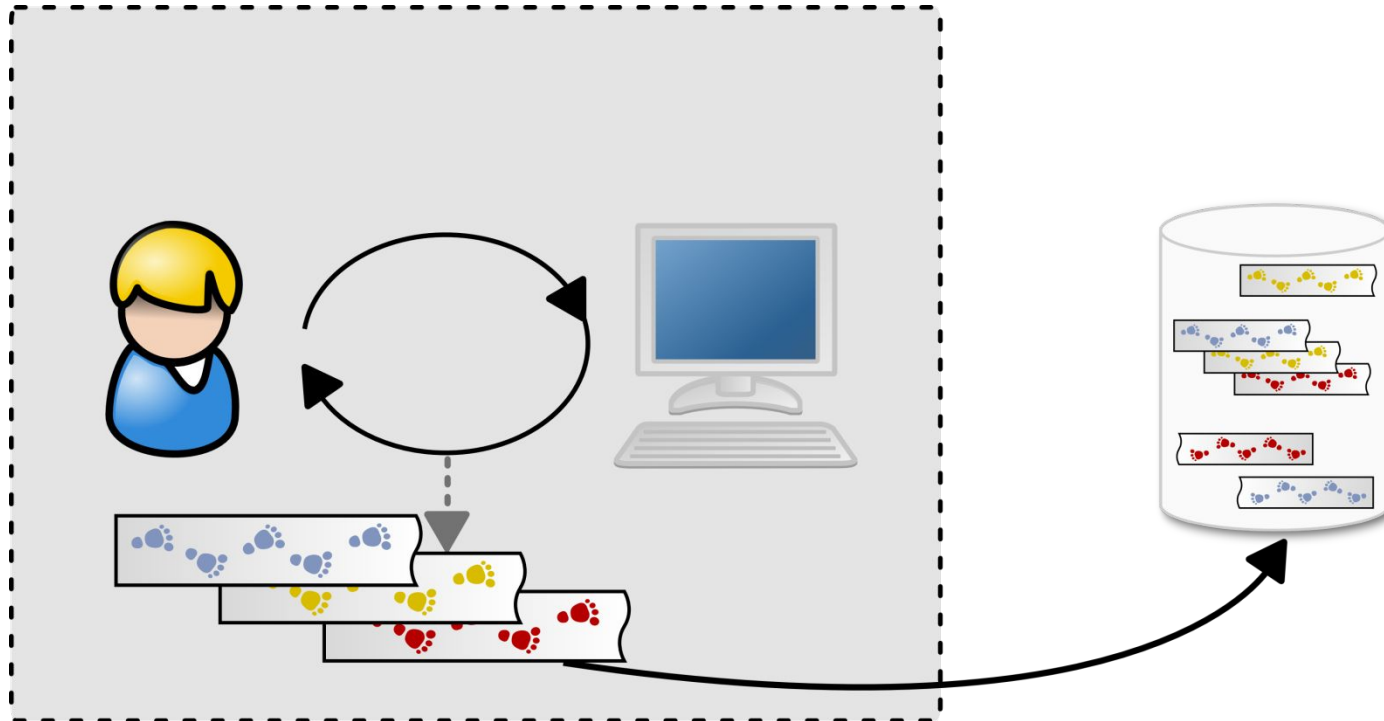
Model

KTBS

Processes

Collect

Transformation



KTBS: a Kernel for Trace-Based Systems

Properties

Open source

Simple data model

Extensible

<http://liris.cnrs.fr/sbt-dev/ktbs/>

Technical details

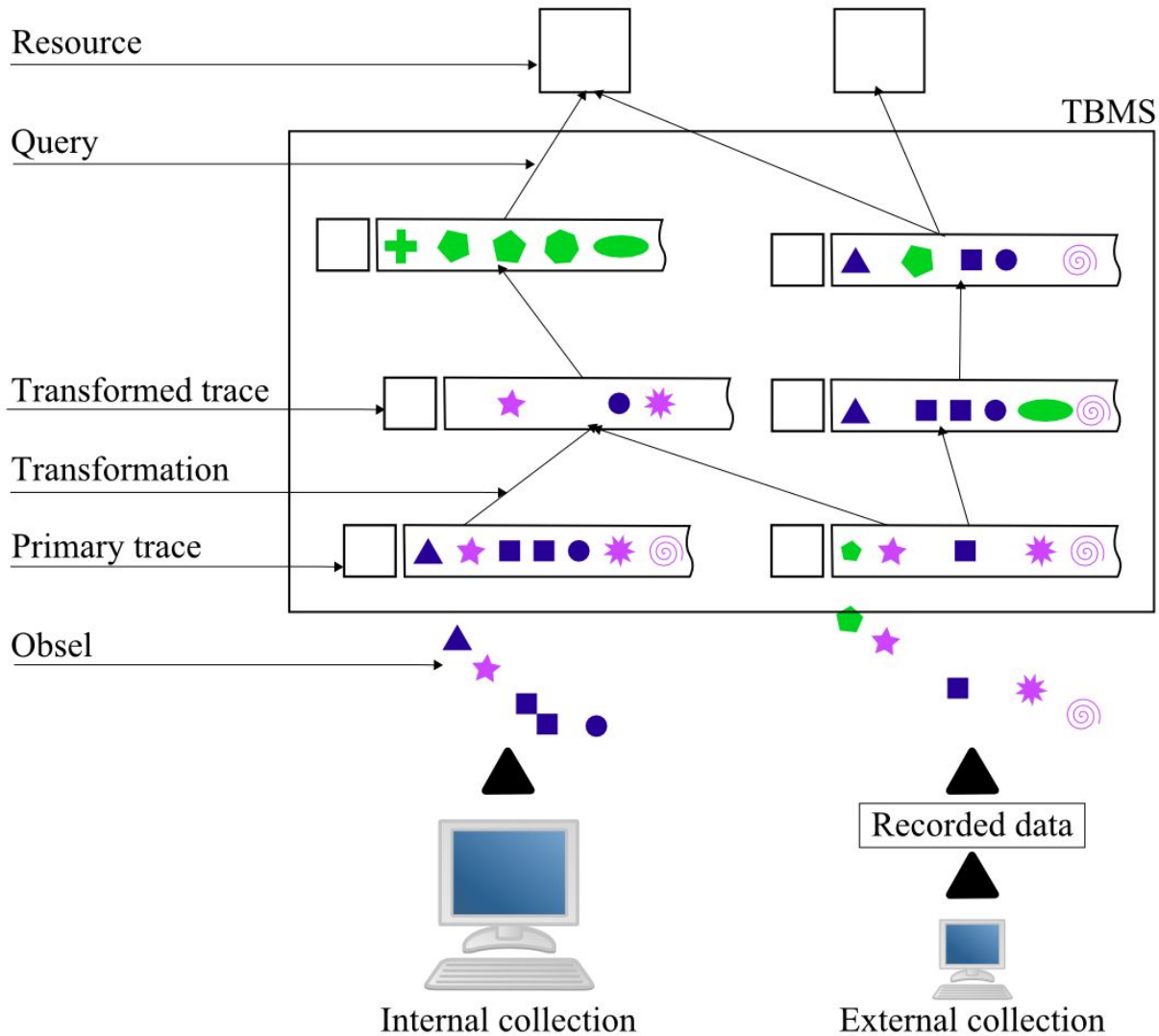
RDF for representing its data

RESTful HTTP for interaction

Available in all programming languages

Client API in Python, Java, ActionScript

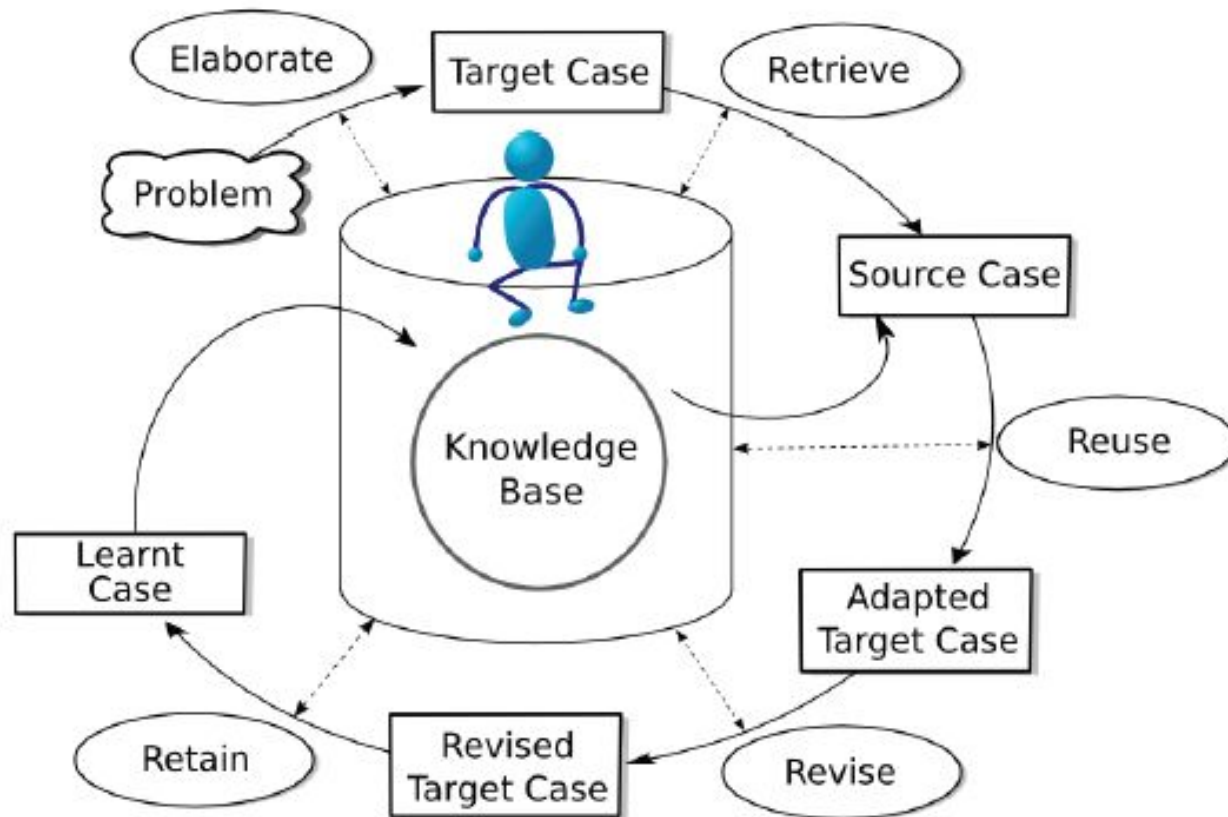
kTBS in action!



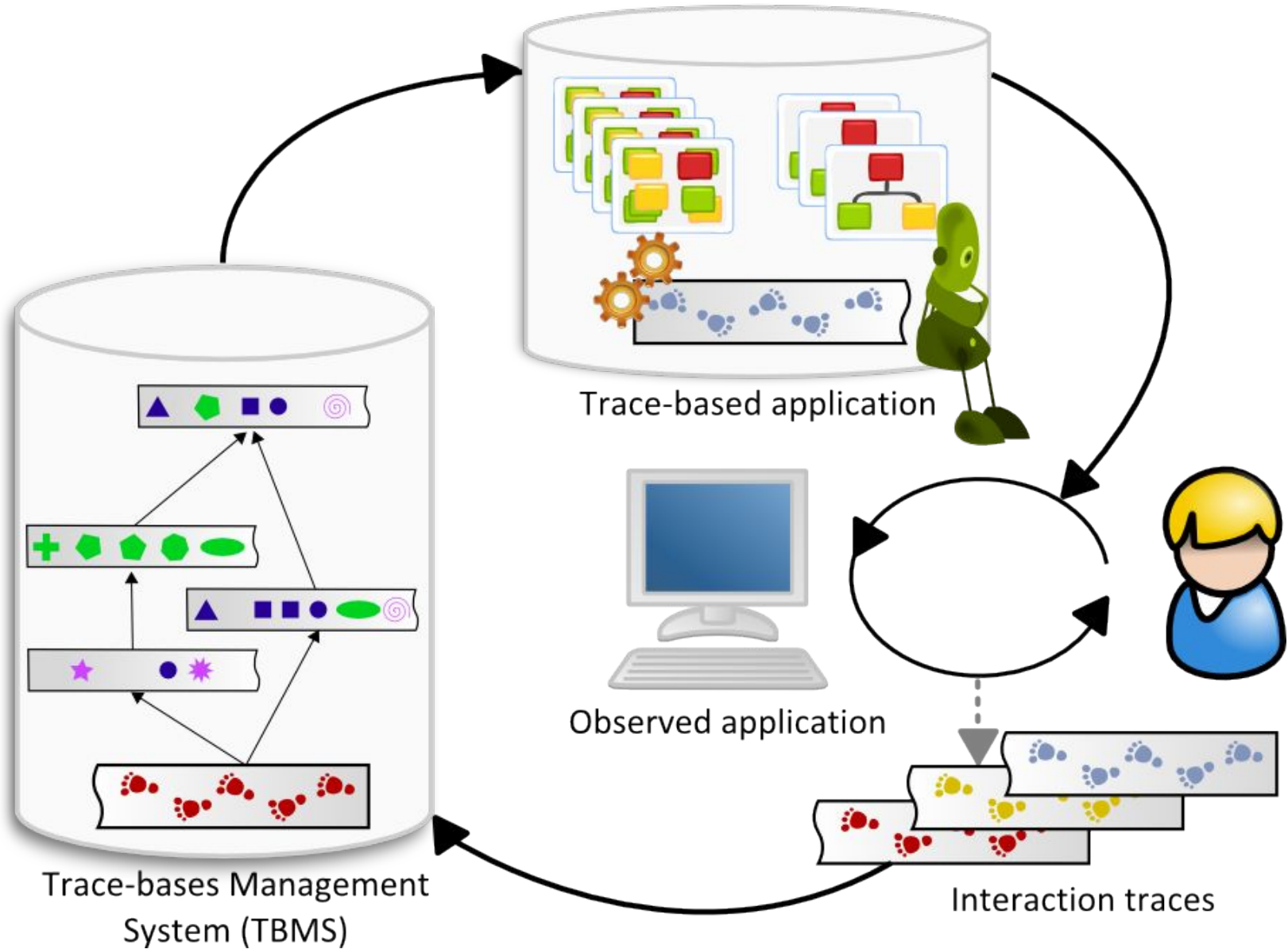


KTBS stores traces!

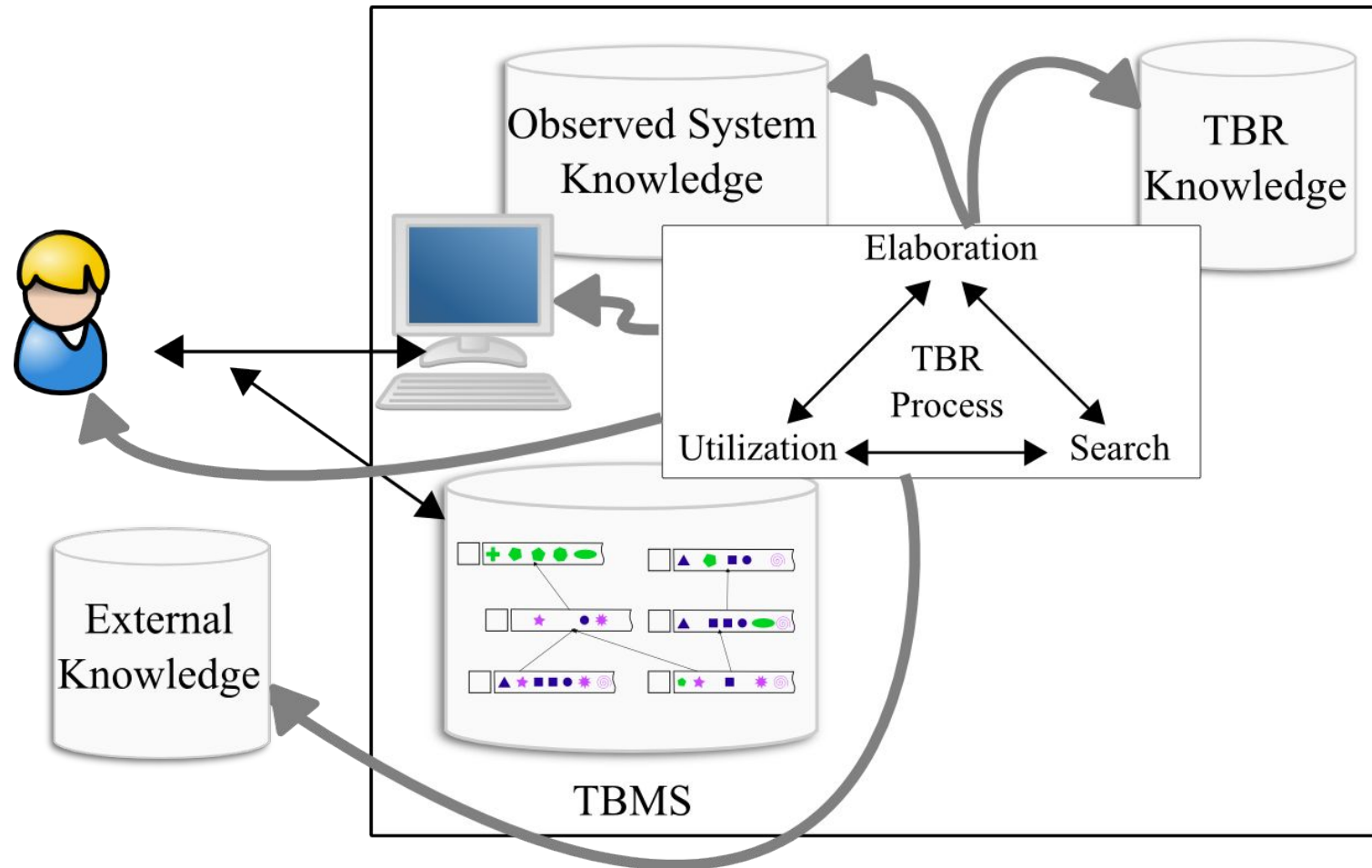
From Case-Based Reasoning to Trace-Based Reasoning?



Trace-Based Reasoning for user assistance



Trace-Based Reasoning for other purposes



What can we do with traces?

Knowledge acquisition

Replay

Visualisation

Learning

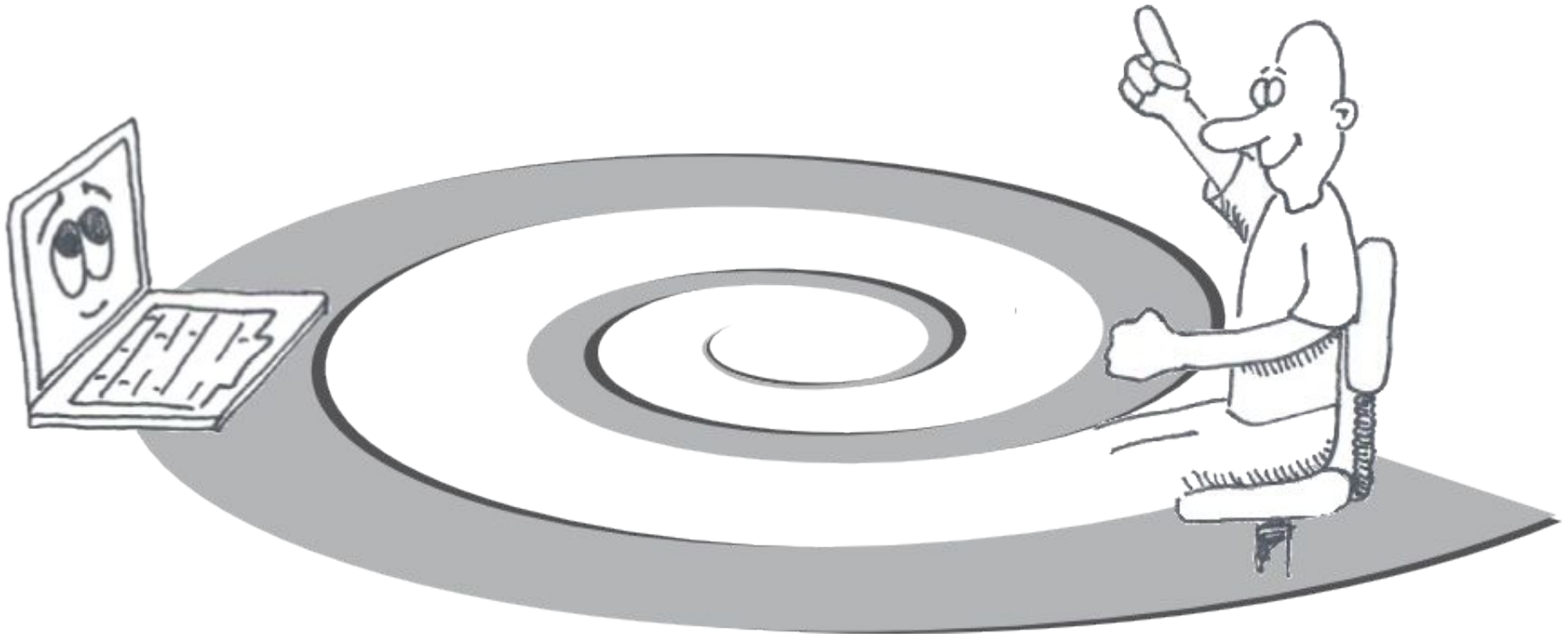
Assistance



Co-Construction

of knowledge

Interactive knowledge acquisition, both for humans and machines?



Why should we put the user back in the loop?

Applications

Name: **Abstract and Abstract Lite**

Author: Olivier Georgeon (et al.)

Project Type: PhD thesis (and more...)

Date: 2007-2011

Collaborations: INRETS

Research issues: Activity traces visualization
Tools for human activity analysis
Knowledge discovery
(a lot of application domains)

Websites: <http://liris.cnrs.fr/abstract/>
<http://vm.liris.cnrs.fr:34080/abstract/lite>

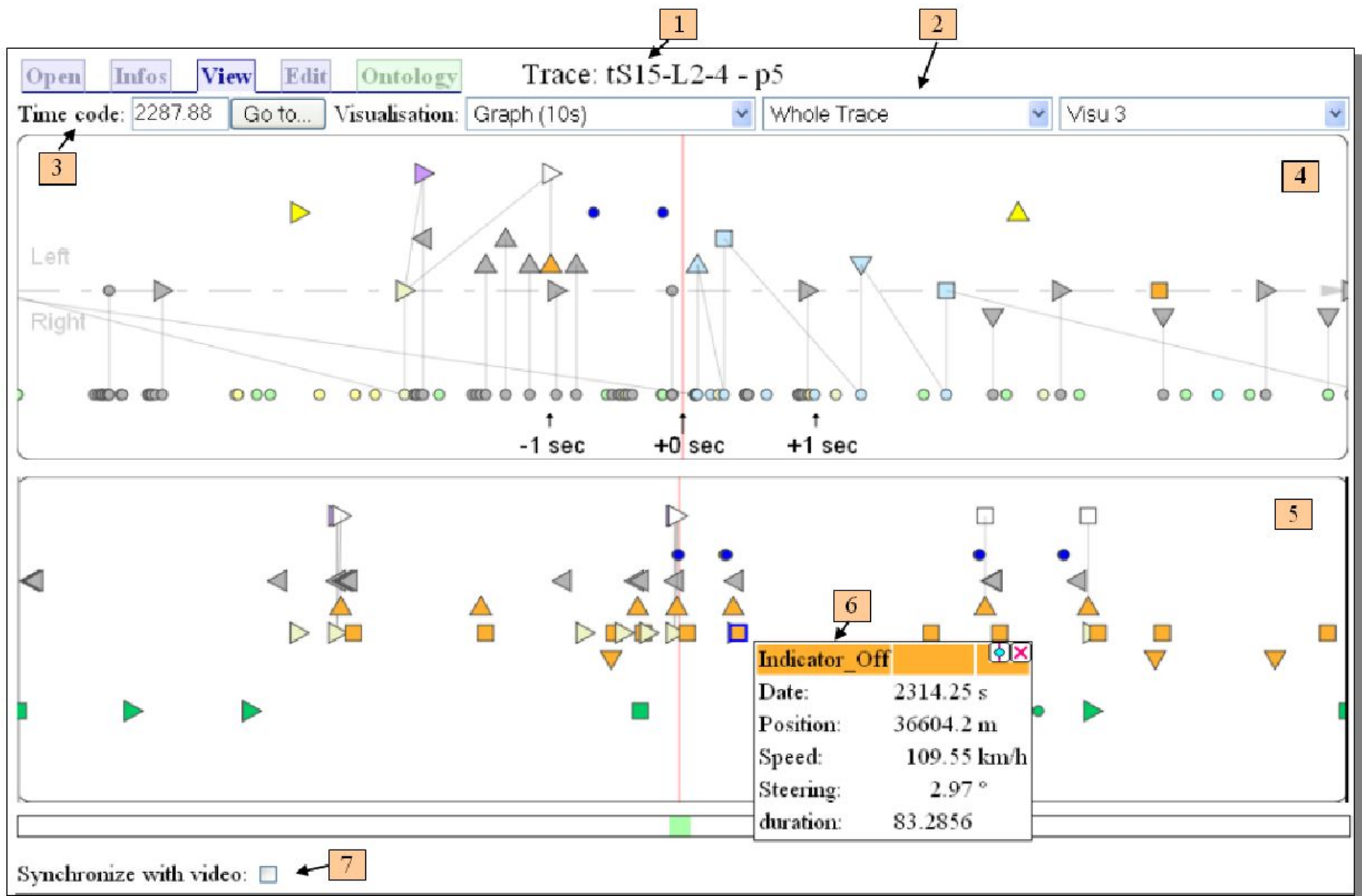


Case study: Analysis of drivers' behaviours



Abstract

A.B.S.T.R.A.C.T.



Abstract

A.B.S.T.R.A.C.T.

Disconnect Change password My cookie Help

Instantaneous symbol Not playing
 (Fields are xpath expressions)

Condition:

Shape:

Color:

Vertical offset:

Image URL: (if shape evaluates to 'image')

X scale: (leave empty if none)

Y scale: (leave empty if none)

Rotation: (leave empty if none)

X skew: (leave empty if none)

Y skew: (leave empty if none)

Share customization

Save customization as
 Name:

Customization list

Trace list
 • ▶ 10 x ↓

Always play last

Upload a trace

Interval symbol
 (Fields are xpath expressions)

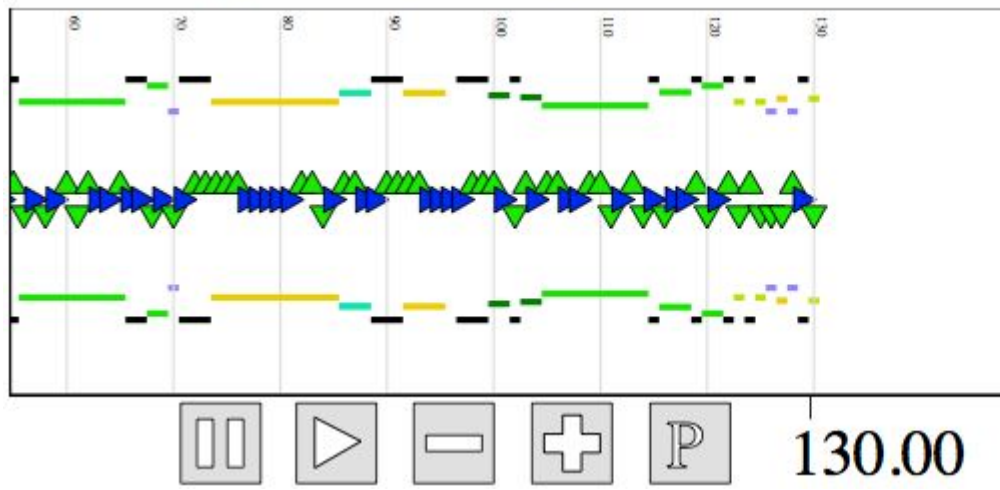
Begin condition:

Begin event properties

Shape:

Color:

Disconnect Change password My cookie Help



Name:

Author: Raafat Zarka

Project Type: Master Research project

Date: 2010

Collaborations: SAP (Paris, France)

Research issues: Trace-based reasoning for user assistance

- Collect of traces

- Replay of traces

- Impact propagation of changes

Website:

<http://liris.cnrs.fr/raafat.zarka/ReplayTraceDemo/>



Information Spaces

Category Values

Home | Explore: UNData1 | Search Results: Asia | Explore: test2

Bookmark | Email | **Export** | Find | Refreshed on: 2010/03/31 17:28 Records 3,2

Measures (1/3 max)

Trade USD (SUM)

Trade Import U...

Trade Export US...

Weight Tons (S...

Occurrences (C...

Add Calculation...

Commodity Group	Commodity	Continent Name	Country Prefix
99 Commoditi...	Commodities ...	North America	U
88 Aircraft, s...	Fixed wing air...	8318079087...	831807
10 Cereals	Aircraft parts ...		
97 Works of a...	Paintings/dra...		
47 Pulp of wo...	Fixed wing air...		
96 Miscellane...	Maize except ...		
75 Miscellane...	Maize except ...		
Explore more...	Explore more...		

Country: United States of Am... | **Years:** 2000-2009

Displaying: Trade USD | < Best guess > : Commodity Group | Other Values

Chart Types

- Comparison
- Percentage
- Correlation

9.54 %

1.39 %

1.58 %

1.62 %

1.72 %

1.88 %

1.93 %

3.48 %

5.46 %

6.01 %

33.45 %

30.54 %

Commodity Group	Trade USD
99 Commodities not	33.45 % [27827684531
88 Aircraft, spacecra	30.54 % [25407067964
10 Cereals	6.01 % [49975334846
97 Works of art, colle	5.46 % [45389507366
47 Pulp of wood, fibr	3.48 % [28930681972
Total (30)	831807908719.00

Current Trace

Trace Level 2 ▼

Obsel Description

Replay

- Input
 - openInfoSpace (16:21:34 GMT+0200)
 - systemDefaults (16:21:51 GMT+0200)
- Exploration
 - measureSelected (16:21:51 GMT+0200)**
 - categoryValueSelected (16:21:55 GMT+0200)
 - categoryValueSelected (16:21:59 GMT+0200)
 - drillDown (16:22:08 GMT+0200)
- Visualization
 - groupingSortingChanged (16:22:19 GMT+0200)
 - chartTypeChanged (16:22:23 GMT+0200)
- Output
 - email (16:22:27 GMT+0200)
 - closeInfoSpace (16:22:44 GMT+0200)

Attribute	Value
label	measureSelected
startTime	Mon Aug 9 16:21:51 GMT+0200 2010
endTime	Mon Aug 9 16:21:51 GMT+0200 2010
block	2
category	Exploration

- values
 - dataSource (id="f7784ce2-0bf3-47d7-aa10-fd5c9e2abfe0")
 - selectedMeasureForFacetValue
 - measure (id="DS0.DO94", name="Quantity sold", aggregationFunction)
 - selectedMeasures
 - measure (id="DS0.DO94", name="Quantity sold", aggregationFunction)**

Name: **Wanaclip**

Author: Raafat Zarka

Project Type: PhD (French National grant)

Date: 2011

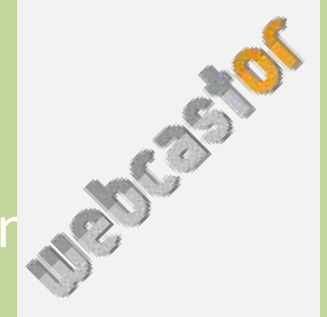
Collaborations: Webcastor (Lyon, France)

Research issues: Trace-based reasoning for user assistance

Collect

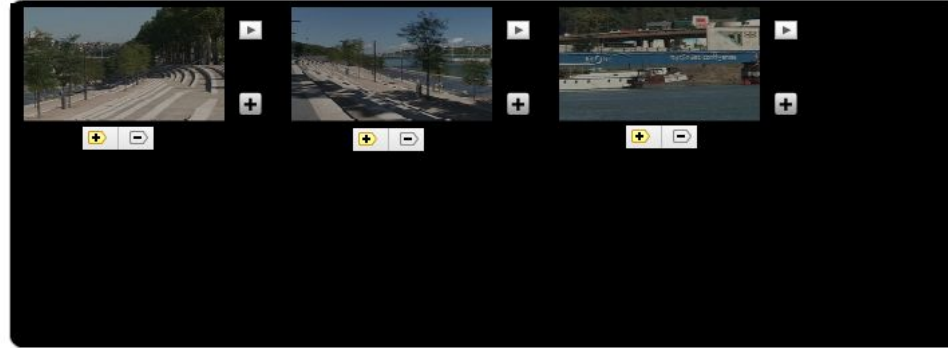
Trace-based recommendations

Website: <http://liris.cnrs.fr/raafat.zarka/>

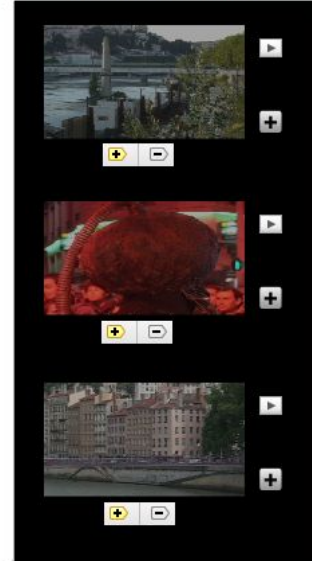


Selection II Selection III

(50 / 6661) Résultats Trouvées



Recommandations



Espace media



play

stop

volume

Espace de travail



glisser vos objets pour les supprimer

Lire la selection

Vider cet espace



Text

Text

Name: Taaable

Author: Amélie Cordier (et al.)

Project Type: Open project

Date: 2008-2011

Collaborations: LORIA, LINA, LIPN (French labs.)

Research issues: Case-based Cooking
Knowledge representation
Collaborative work
Semantic wikis

Websites: <http://taaable.fr/>
<http://computercookingcontest.net>

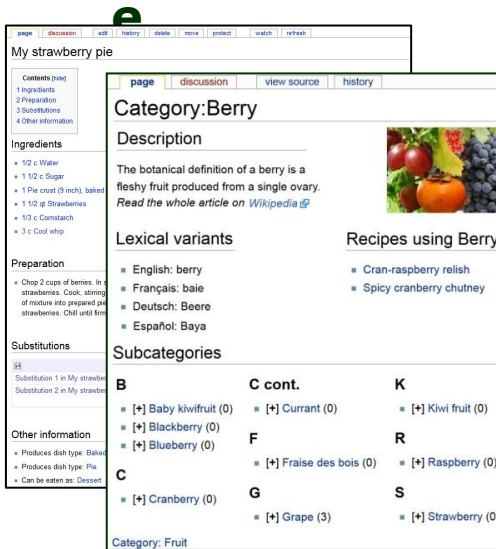


ABOUT TAAABLE



Taaable components

WikiTaaabl



The screenshot shows the WikiTaaabl interface for the article 'My strawberry pie'. The page includes a navigation bar at the top with options like 'page', 'discussion', 'view source', and 'history'. The main content area is divided into several sections: 'Category: Berry', 'Description' (with a botanical definition and a link to Wikipedia), 'Lexical variants' (listing translations in English, French, German, and Spanish), 'Recipes using Berry' (listing 'Cran-raspberry relish' and 'Spicy cranberry chutney'), and 'Subcategories' (listing various berries like Baby kiwifruit, Blackberry, Blueberry, Cranberry, Currant, Fraise des bois, Grape, Kiwi fruit, Raspberry, and Strawberry). A sidebar on the left contains 'Contents' (Ingredients, Preparation, Substitutions, Other information) and 'Ingredients' (Water, Sugar, Pie crust, Strawberries, Cornstarch, Cool whip). The bottom of the page shows the 'Category: Fruit'.



**Reasoning
Process**



**Knowledge
Discovery
Process**



Taaable CBR engine

- Adaptation of recipes
- Example

I want a dessert, with apples but no cinnamon

- Adaptation

Adapt "My Strawberry Pie", because I do not have strawberry



Taaable knowledge

- WikiTaaable
 - Semantic Wiki
 - Ontology



The screenshot shows a WikiTaaable page for the category "Berry". At the top, there are navigation tabs for "page", "discussion", "view source", and "history". The main heading is "Category:Berry". Below this is a "Description" section with the text: "The botanical definition of a berry is a fleshy fruit produced from a single ovary. Read the whole article on [Wikipedia](#)". To the right of the description is an image of various berries, including raspberries, blueberries, and a persimmon. Below the description are two columns of content. The left column is titled "Lexical variants" and lists translations: English: berry, Français: baie, Deutsch: Beere, and Español: Baya. The right column is titled "Recipes using Berry" and lists "Cran-raspberry relish" and "Spicy cranberry chutney". Below these is a "Subcategories" section, which is a grid of letters and their corresponding subcategories. The grid is as follows:

B	C cont.	K
<ul style="list-style-type: none">[+] Baby kiwifruit (0)[+] Blackberry (0)[+] Blueberry (0)	<ul style="list-style-type: none">[+] Currant (0)	<ul style="list-style-type: none">[+] Kiwi fruit (0)
C	F	R
<ul style="list-style-type: none">[+] Cranberry (0)	<ul style="list-style-type: none">[+] Fraise des bois (0)	<ul style="list-style-type: none">[+] Raspberry (0)
G	S	
<ul style="list-style-type: none">[+] Grape (3)	<ul style="list-style-type: none">[+] Strawberry (0)	

At the bottom of the page, it says "Category: Fruit".



And some recipes

[page](#)[discussion](#)[edit](#)[history](#)[delete](#)[move](#)[protect](#)[watch](#)[refresh](#)

My strawberry pie

Contents [\[hide\]](#)

- [1 Ingredients](#)
- [2 Preparation](#)
- [3 Substitutions](#)
- [4 Other information](#)

Ingredients

[\[edit\]](#)

- 1/2 c Water
- 1 1/2 c Sugar
- 1 Pie crust (9 inch), baked
- 1 1/2 qt Strawberries
- 1/3 c Cornstarch
- 3 c Cool whip

Preparation

[\[edit\]](#)

- Chop 2 cups of berries. In saucepan combine sugar and cornstarch. Slowly add water to combine smoothly. Add chopped strawberries. Cook, stirring constantly until mixture thickens and boils. Cool in refrigerator for about 1/2 hour. Pour about 3/4 of mixture into prepared pie crust. Stand up whole strawberries in syrup (to fill crust). Pour remaining syrup over strawberries. Chill until firm (about 3 hours). Spread cool whip over top of pie and serve.



User interface



Dietary practices: Vegetarian Nut-free No alcohol Low cholesterol Gout Diet

[Adapt a specific recipe...](#)

Example. If you want an apple pie without cinnamon, enter "apple pie_dish -cinnamon".

[Customize your dietary practices...](#)

[Learn more about advanced queries...](#)

Your request is: **dessert_dish fig rice**

The request used for adaptation is: **dessert_dish fig rice**

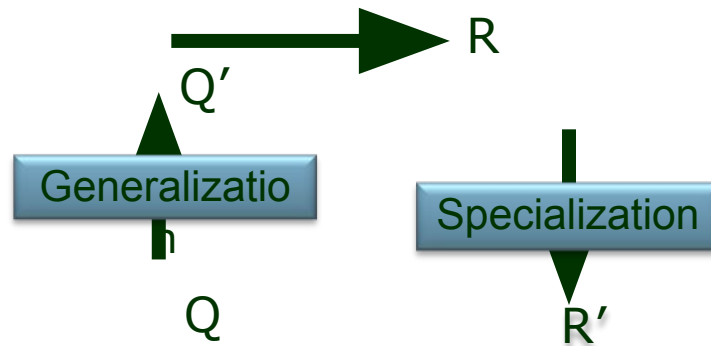
#	Original recipe name (click to open recipe)	Adaptation overview (click to see the details)
1	Glutinous rice with mangoes	Replace: Mango by Fig

Results 1 - 1 on 1 | Processing time: 0.6189 seconds



Reasoning process

- Adaptation
 - Retrieve similar recipes
 - Replace some ingredients by others



Examples of adaptation

Glutinous rice with mangoes

The ingredient substitutions

OK

not OK

1. Mango → Fig

Ingredient Quantities

Ingredient	Initial Quantity	New Quantity
Salt	=	1 tsp (7.0 grams)
Mango	6 whole (1242.0 grams)	0 whole (0.0 grams)
Coconut cream	=	2 cup (648.0 grams)
Glutinous rice	=	3 cup (522.0 grams)
Sesame seed	2 tbsp (16.0 grams)	1 tbsp (10.0 grams)
Fig	0 grams (0.0 grams)	1242 grams
Sugar	=	2 cup (625.0 grams)

Preparation Adaptation

Cut figs into wedges. SEASONINGS SAUCE GARNISH Soak the rice in cold water for 2 hours. Drain. Line a steamer with cheesecloth, heat steamer and lay rice on the cheesecloth. Steam for 30 minutes or until cooked through. The rice will become glossy. Mix the SEASONINGS_ingredients in a large bowl and gently mix in the hot steamed rice. Cover tightly and let soak for 30 minutes to absorb the coconut flavour. Blend the

SAUCE_ingredients in a pot and heat until it just reaches the boiling point. Let cool. ~~Pool the mangoes, slice lengthwise and remove the pits.~~ Divide the rice among 6 plates. Place ~~mango~~ fig slices on top and cover with the sauce. Sprinkle with the sesame seeds and serve.

Show details



Adaptation Knowledge Acquisition

- Based on the extraction of closed itemsets on variations of ingredients in recipes



ADAPTATION RULES FOR My Strawberry Pie ACCORDING TO -strawberry

Strawberry, CoolWhip → Cherry, RedFoodColoring	<input type="checkbox"/> OK	<input type="checkbox"/> not OK
Strawberry, CoolWhip → Raspberry	<input type="checkbox"/> OK	<input type="checkbox"/> not OK
Strawberry, CoolWhip → Peach	<input type="checkbox"/> OK	<input type="checkbox"/> not OK
Strawberry, CoolWhip → Apple, AppleJuice	<input type="checkbox"/> OK	<input type="checkbox"/> not OK
Strawberry, CoolWhip → Cranberry, Mincemeat	<input type="checkbox"/> OK	<input type="checkbox"/> not OK



Adaptation knowledge in a semantic wiki

[page](#) [discussion](#) [edit](#) [history](#) [delete](#) [move](#) [protect](#) [watch](#)

Substitution 1 in My strawberry pie

Contents [\[hide\]](#)

- 1 In Context
- 2 Replace
- 3 By
- 4 Origin

In Context [\[edit\]](#)
My strawberry pie

Replace [\[edit\]](#)
Ingredient : Strawberry

By [\[edit\]](#)
Ingredient : Raspberry

Origin [\[edit\]](#)
Adaptation source : *Taaable*

Category: Specific substitution



Adaptation knowledge

[page](#) [discussion](#) [edit](#) [history](#) [delete](#) [move](#) [protect](#) [watch](#) [refresh](#)

My strawberry pie

Contents [\[hide\]](#)

- [1 Ingredients](#)
- [2 Preparation](#)
- [3 Substitutions](#)
- [4 Other information](#)

Ingredients [\[edit\]](#)

- 1/2 c Water
- 1 1/2 c Sugar
- 1 Pie crust (9 inch), baked
- 1 1/2 qt Strawberries
- 1/3 c Cornstarch
- 3 c Cool whip

Preparation [\[edit\]](#)

- Chop 2 cups of berries. In saucepan combine sugar and cornstarch. Slowly add water to combine smoothly. Add chopped strawberries. Cook, stirring constantly until mixture thickens and boils. Cool in refrigerator for about 1/2 hour. Pour about 3/4 of mixture into prepared pie crust. Stand up whole strawberries in syrup (to fill crust). Pour remaining syrup over strawberries. Chill until firm (about 3 hours). Spread cool whip over top of pie and serve.

Substitutions [\[edit\]](#)

	Context	Replace	By	Origin
Substitution 1 in My strawberry pie	My strawberry pie	Strawberry	Raspberry	Taaable



Taaable writing bot

Glutinous rice with mangoes

The ingredient substitutions

OK

not OK

1. Mango → Fig
-



Recipe and substitution

[page](#) [discussion](#) [edit](#) [history](#) [delete](#) [move](#) [protect](#) [watch](#) [refresh](#)

My strawberry pie

Contents [\[hide\]](#)

- 1 Ingredients
- 2 Preparation
- 3 Substitutions
- 4 Other information

Ingredients [\[edit\]](#)

- 1/2 c Water
- 1 1/2 c Sugar
- 1 Pie crust (9 inch), baked
- 1 1/2 qt Strawberries
- 1/3 c Cornstarch
- 3 c Cool whip

Preparation [\[edit\]](#)

- Chop 2 cups of berries. In saucepan combine sugar and cornstarch. Slowly add water to combine smoothly. Add chopped strawberries. Cook, stirring constantly until mixture thickens and boils. Cool in refrigerator for about 1/2 hour. Pour about 3/4 of mixture into prepared pie crust. Stand up whole strawberries in syrup (to fill crust). Pour remaining syrup over strawberries. Chill until firm (about 3 hours). Spread cool whip over top of pie and serve.

Substitutions [\[edit\]](#)

<input type="checkbox"/>	<input type="checkbox"/> Context	<input type="checkbox"/> Replace	<input type="checkbox"/> By	<input type="checkbox"/> Origin
Substitution 1 in My strawberry pie	My strawberry pie	Strawberry	Raspberry	Taaable
Substitution 2 in My strawberry pie	My strawberry pie	Strawberry Cool whip	Raspberry Food color	AKExtractor

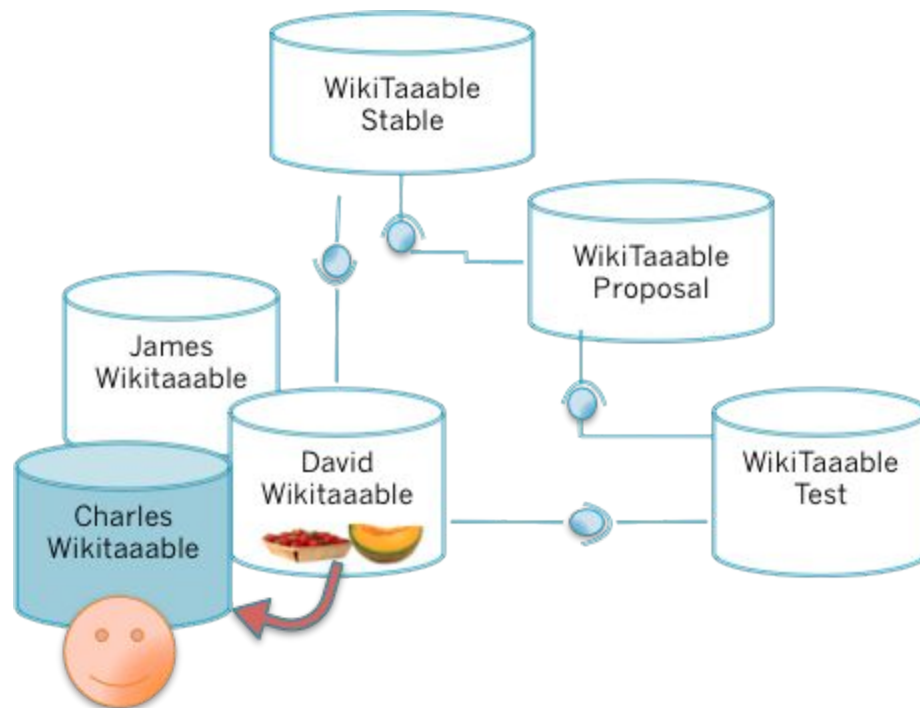
Other information [\[edit\]](#)

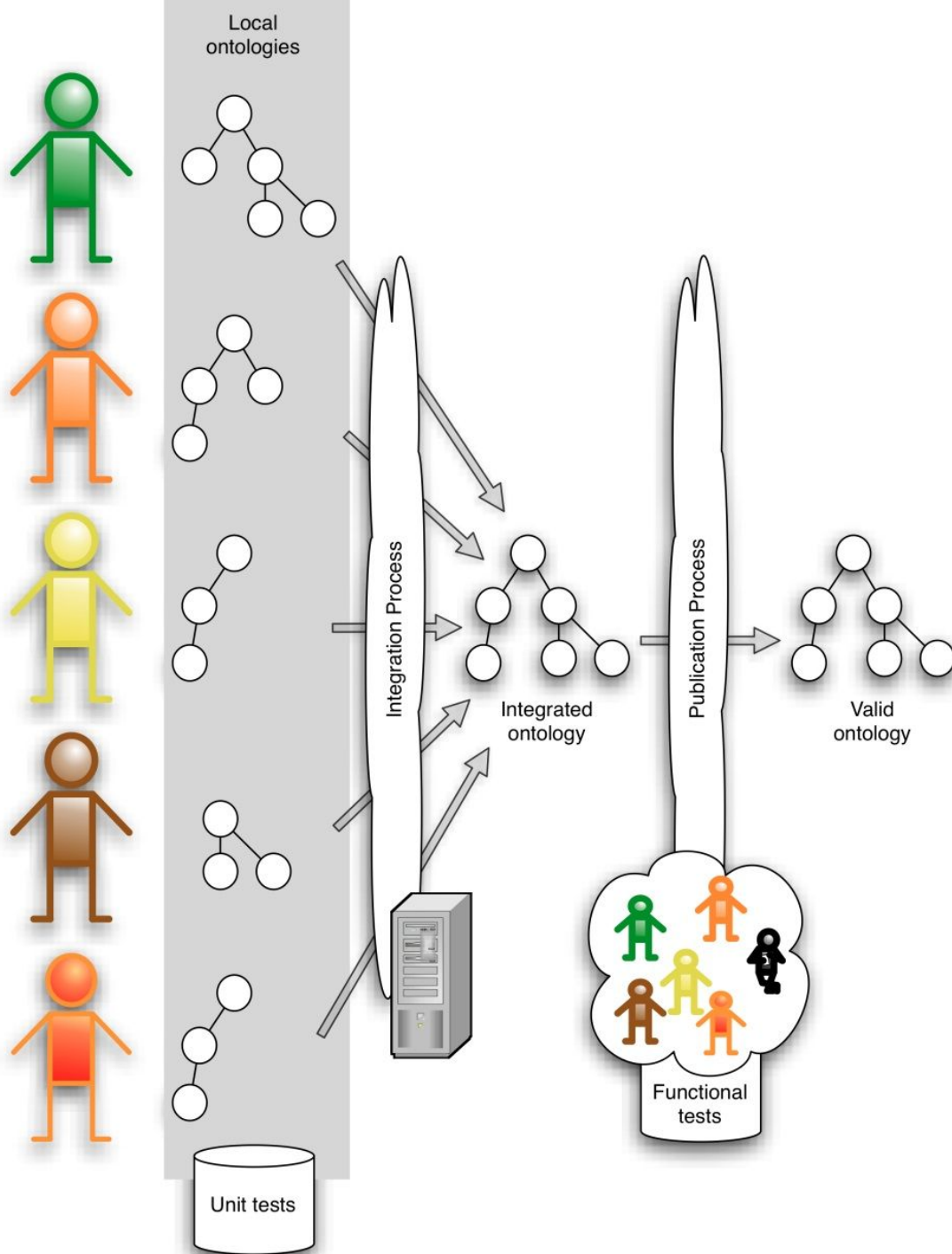
- Produces dish type: [Baked good](#)
- Produces dish type: [Pie](#)
- Can be eaten as: [Dessert](#)

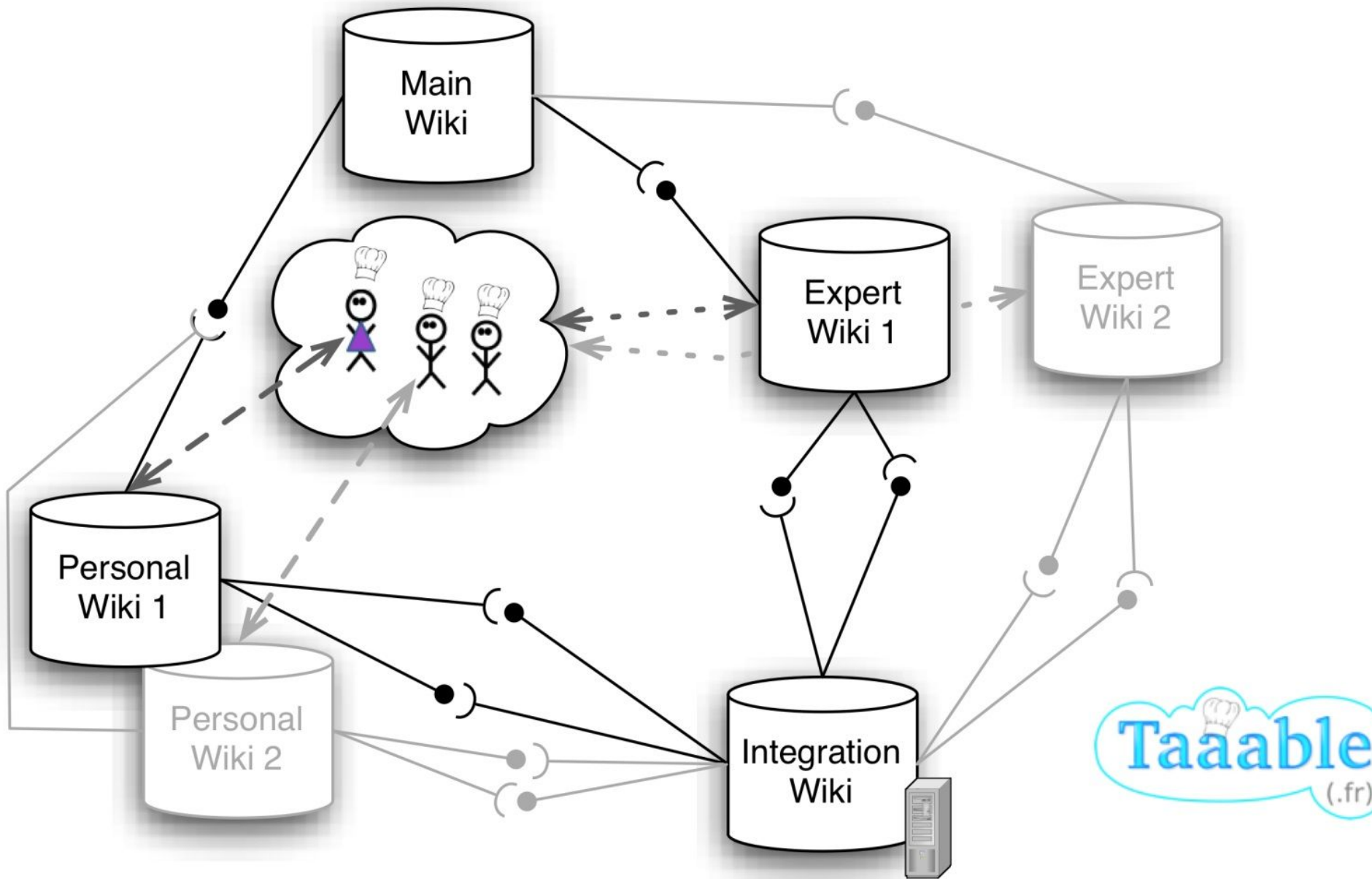


AGENCE NATIONALE DE LA RECHERCHE
ANR **koiflow**

Kolflow aims at building a **social semantic space** where **humans** collaborate with **smart agents** in order to produce **knowledge understandable** by humans and machines







Dietary practices: Vegetarian Nut-free No alcohol
 Low cholesterol Gout Diet

[Customize your dietary practices...](#)[Adapt a specific recipe...](#)

Example. If you want an apple pie without cinnamon, enter "apple pie_dish -cinnamon".

[Learn more about advanced queries...](#)

Your request is: **pear pie_dish**

The request used for adaptation is: **pear pie_dish**

#	Original recipe name (click to open recipe)	Adaptation overview (click to see the details)
1	La tarte tatin	Replace: Golden delicious apple by Pear
2	Custard apple tart	Replace: Apple by Pear
3	Individual almond-cream tarts	Replace: Apple by Pear

Results 1 - 3 on 3 | Processing time: 0.6166 seconds

navigation

- [Main page](#)
- [Community portal](#)
- [Current events](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)

search


toolbox

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)
- [Browse properties](#)

Category:Food

Description

Food is any substance consumed to provide nutritional support for the body. It is usually of plant or animal origin, and contains essential nutrients, such as vitamins, or minerals...

Read the whole article on [Wikipedia](#) 

Lexical Variants

- English: Food (*Food*)
- Français: Aliment (*Aliments*)
- Deutsch: Lebensmittel (*Plural not available*)
- Español: Alimento (*Alimentos*)

Recipes using food

[ForNavigationPurposeViewPoint](#)

Subcategories

This category has the following 19 subcategories, out of 19 total.

A

- [\[+\] Accompaniment](#) (7)

B

- [\[+\] Baking mix](#) (5)

F cont.

- [\[+\] Foodcomponent](#) (4)
- [\[+\] Fruit](#) (10)

G

M

- [\[+\] Meat](#) (12)

O

- [\[+\] Oil](#) (18)

How to cook a perfect love story



<http://www.youtube.com/watch?v=UMJyZnfqwYQ>



Best Music Award at
IJCAI 2009 Video
Competition

Taaable

Name: **Kolflow**

Author: Kolflow team



Project Type: ANR Contint Project

Date: 2011-2014

Collaborations: LORIA, LINA, INRIA

Research issues: Co-Construction of knowledge
Trace-based user assistance
Semantic wikis

Websites: <http://kolflow.univ-nantes.fr>



Home

DSMW is an extension of [Semantic Mediawiki](#) (SMW). It allows to create a network of SMW servers that share common semantic wiki pages. DSMW manages synchronisation of shared semantic pages and ensures CCI consistency as in [Google Wave](#). CCI stands for Causality, Convergence, Intentions (see [papers](#) for more informations). DSMW provides to SMW nearly the same features as a [Distributed Version Control](#) systems:

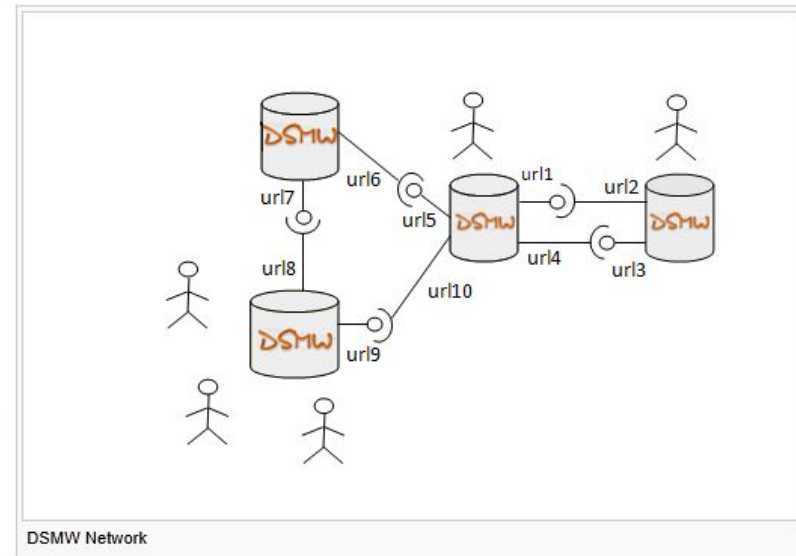
- you can work in isolation with your own server, test some stuff,
- publish changes to your own DSMW public feeds,
- you can also subscribe to any remote public DSMW feeds.

By this way, users can implements their own dataflows and represents any kind of dataflow oriented processes such as edit/review/publish.

DSMW is a network of a semantic wikis servers (DSMW peers). The number of peer is unknown. Semantic wiki pages can be replicated on several DSMW servers. A peer can replicate all or just some semantic wiki pages. The communication between DSMW peers is made through channels (feeds). This feeds are transporting operations that, when applied, modify local semantic wiki pages. If you are common to version control systems, a DSMW peer can be seen as a workspace, and a feed can be seen as a branch. DSMW works as follow:

- When a semantic wiki page is updated on a DSMW server, it generates a set of corresponding operations ([Patch](#)).
- The user can publish this patch into channels ([PushFeed](#)). The publication mechanism uses a semantic query. This query defines the pages' patches to be published (pushed).
- An authorized server can pull the patch(es) and integrated it (them) to the local replica of the pages. If needed, the integration process merges this modification with concurrent ones, generated either locally or received from a remote server. To do this, the user must create a [PullFeed](#) with the corresponding [PushFeed](#) features. For more information see ([DSMW User Manual](#)).

The system is correct if it ensure Causality, Convergence and Intention Preservations. Generation and integration is managed by the Logoot algorithm (see [papers](#)). DSMW allows users to build their own cooperative networks. The construction of the collaborative community is declarative, in the sense, every user declares explicitly with whom she would like to



- navigation
- Main Page
 - Download/Install
 - Licensing:
 - Getting Started
 - FAQ
 - Team
 - Recent changes
- documentation
- DSMW User Manual
 - Presentation and Papers
- community
- Support
 - Contributing
 - Issue tracker
 - Forums
 - Mailing lists
 - News
 - Roadmap
- developpers
- Gforge Home
 - Source documentation
 - Source code

<http://dsmw.loria.fr/>

Name: IIBM: Intelligent
Interaction Based on
Motion

Author: Amélie Cordier (et al.)

Project Type: Internal Project

Date: 2009-2011

Collaborations: Multidisciplinary project

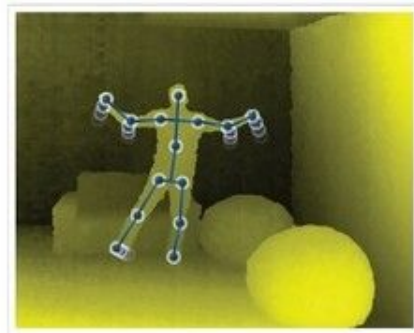
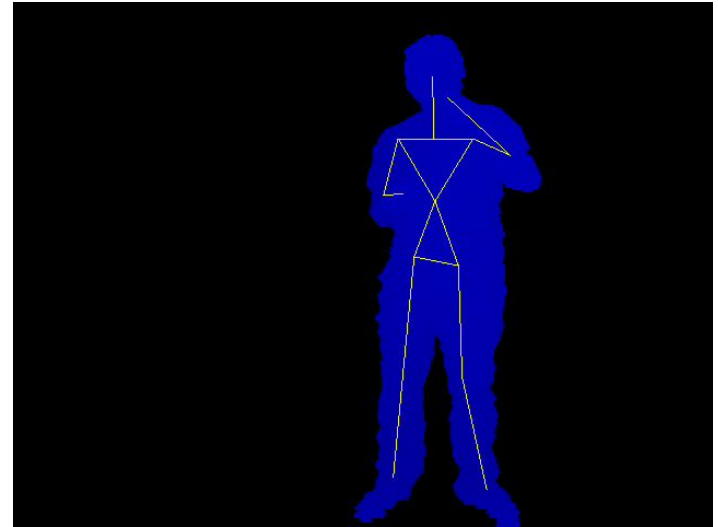
Research issues: Motion capture
Intelligent interactions
Trace-based user assistance

Website: <http://liris.cnrs.fr/iibm>



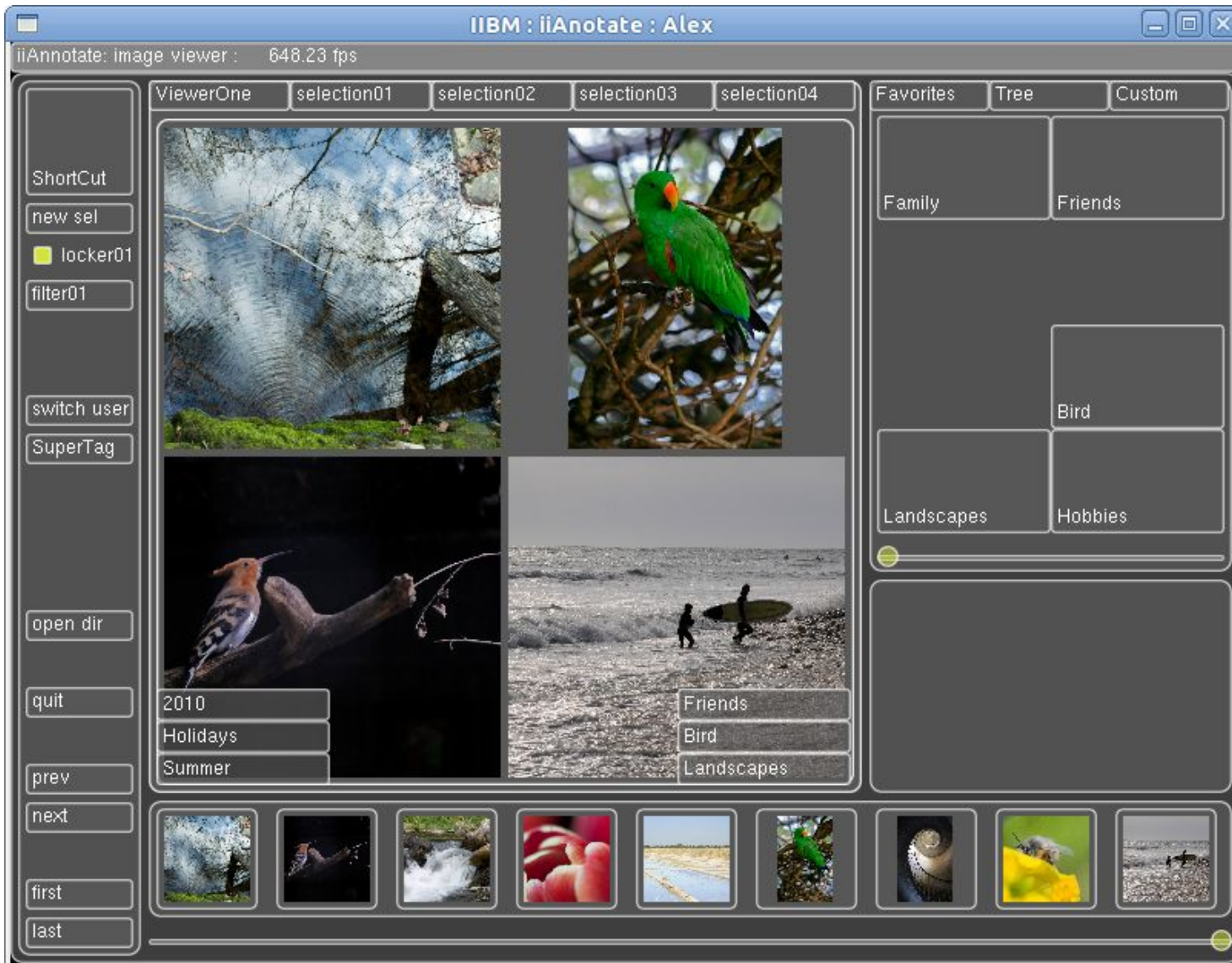


Kinect
OpenNI / NITE



IIBM





IIBM



Name: **Scheme Emerger**

Author: Damien Cram

Project Type: PhD, ANR Procogec

Date: 2010

Collaborations: Knowings, DFKI

Research issues: Sequence Mining

Chronicle discovery

Trace analysis

Website: <http://sourceforge.net/projects/schemerger/>

The screenshot displays the Scheme Emerger interface with several key components:

- Explorer (4):** A file tree on the left showing project structure including adapters, sequences, chronicles, and requests.
- req-benoit (1):** Configuration panel for a sequence, showing 'Sequence' (01_abstrait.seq) and 'Constraint Database' (brid-5000.cstdb).
- controle-droit-gauche (2):** A diagram showing a transition from state H to state M with a constraint of [0,3000].
- Types (3):** A table listing event types and their frequencies.
- Chronicle (5):** A diagram showing a sequence of events A, M, and B.
- Results (6):** A table of results for different episodes.
- Occurrences (8):** A list of event occurrences with timestamps.
- Sequence (7):** A progress view showing a timeline of events for a specific sequence.

Label	URI	f
H	Gaze_Ahead	51
bh	Straight	34
O	Gaze_Right	29
C	Close_Left_Up	26
B	Close_Left_Down	25
L	Gaze_Left	18
N	Gaze_Off	15
I	Gaze_Center_Mirror	10
D	Close_Right_Down	7
E	Close_Right_Up	7
J	Gaze_Dashboard	6
M	Gaze_Left_Mirror	5
X	Right_On	5

Episode	Time Constraints	Freq	Length
A B L	A[0,5000]B A[0,5000]L B[0,5000]L	2	3
A B M	A[0,5000]B A[-5000,5000]M B[-5000,0]M	2	3
A B O	A[0,5000]B A[-5000,5000]O B[-5000,5000]O	2	3
A B P	A[0,5000]B A[-5000,5000]P B[-5000,0]P	2	3

Time	Time	Time
38:05.930	38:07.210	38:09.220
38:28.670	38:32.790	38:33.610

Scheme Emerger

Name: **IDEAL: Implementation of
DEvelopmentAl Learning**

Author: Olivier Georgeon

Project Type: ANR RPDoc

Date: 2010-2013

Collaborations: Pennsylvania State University,
Sarah Lawrence College (NY)

Research issues: Early-stage cognitive development

Intrinsic motivation

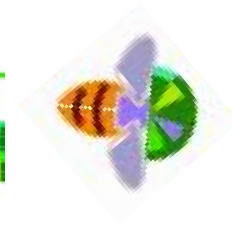
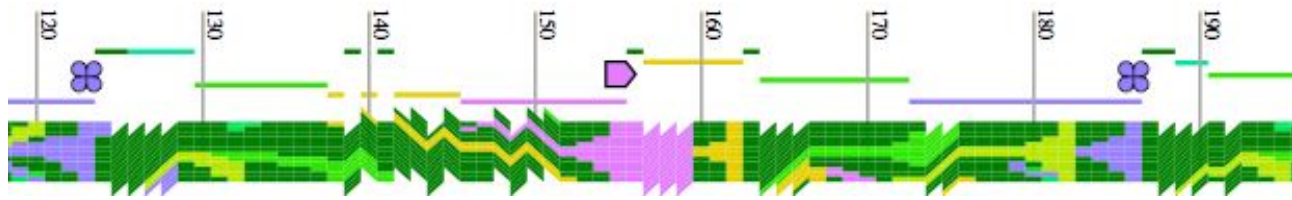
Emergent situation awareness

Autonomous hierarchical skill learning

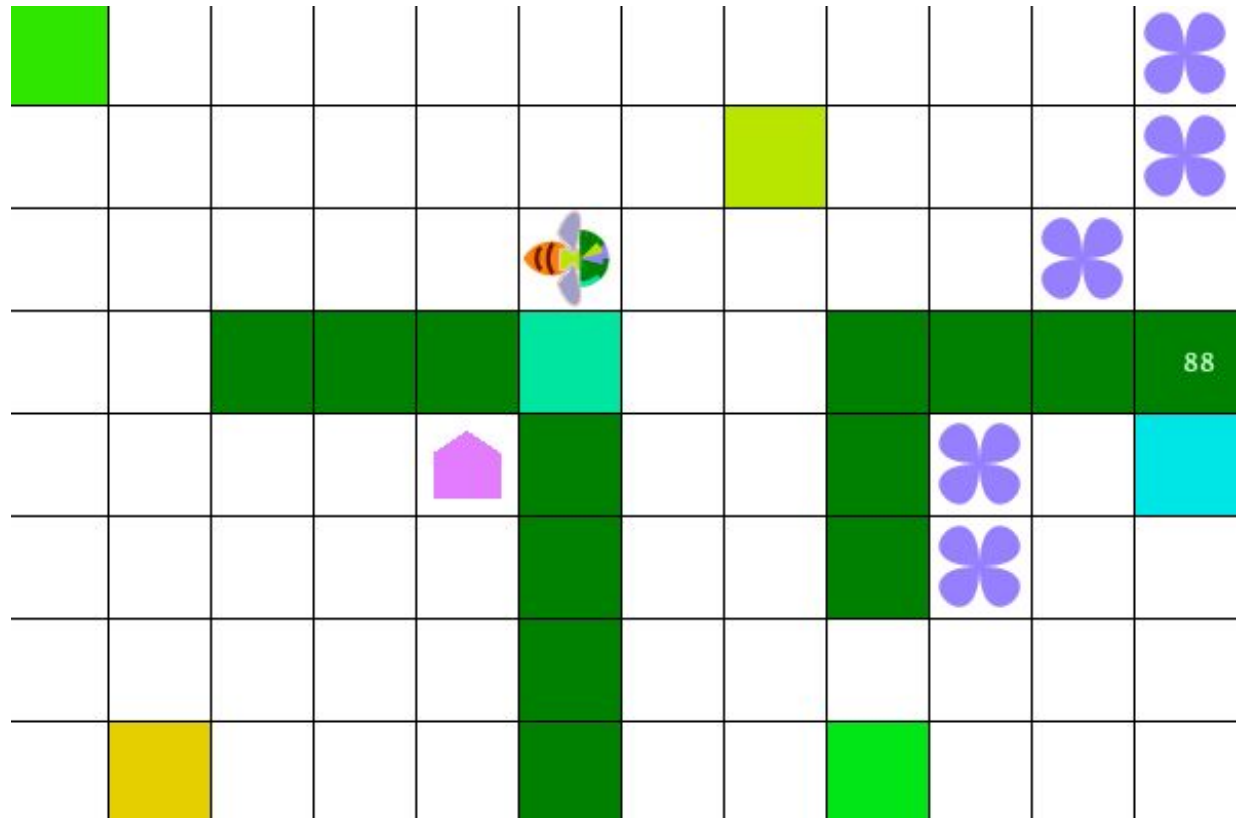
Websites: <http://e-ernest.blogspot.com/>

<http://liris.cnrs.fr/ideal/demo/>

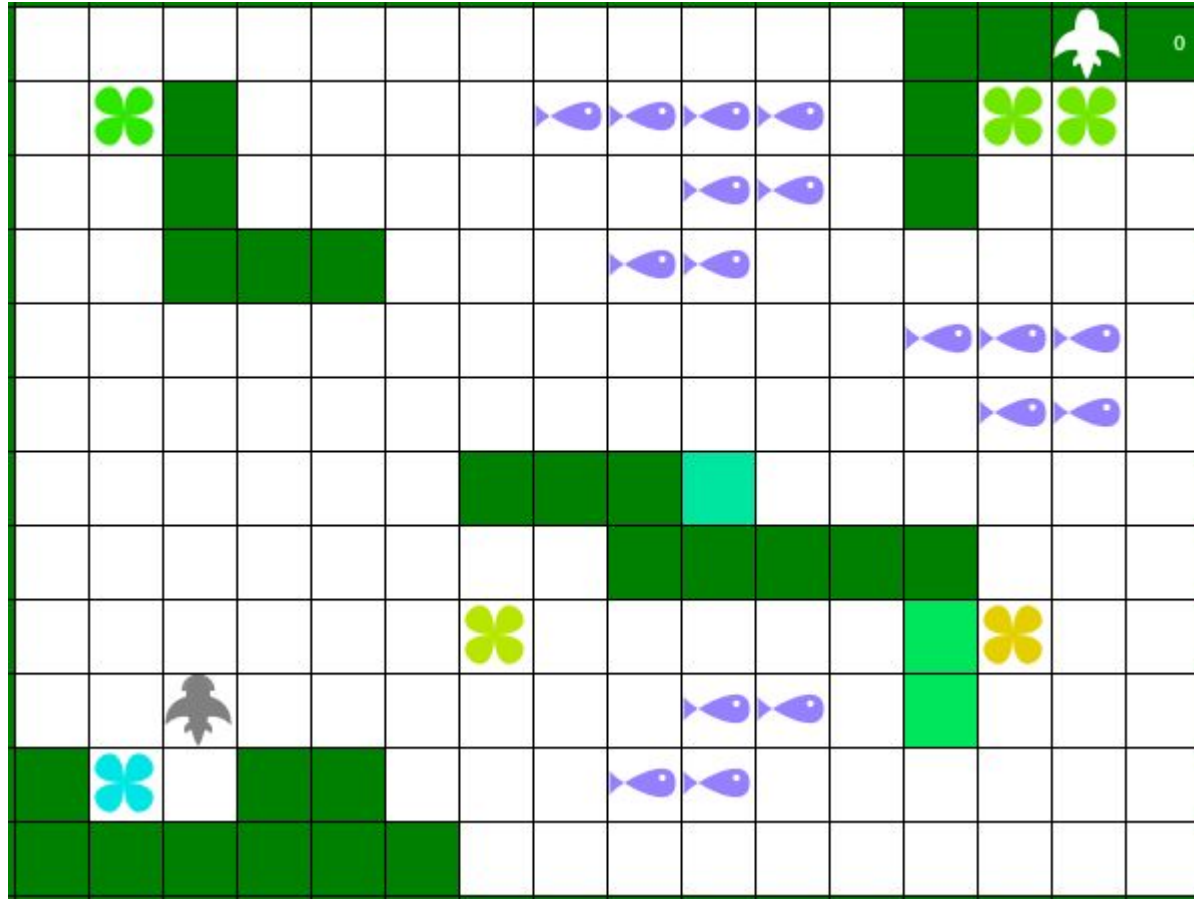




Ernest leaves traces!

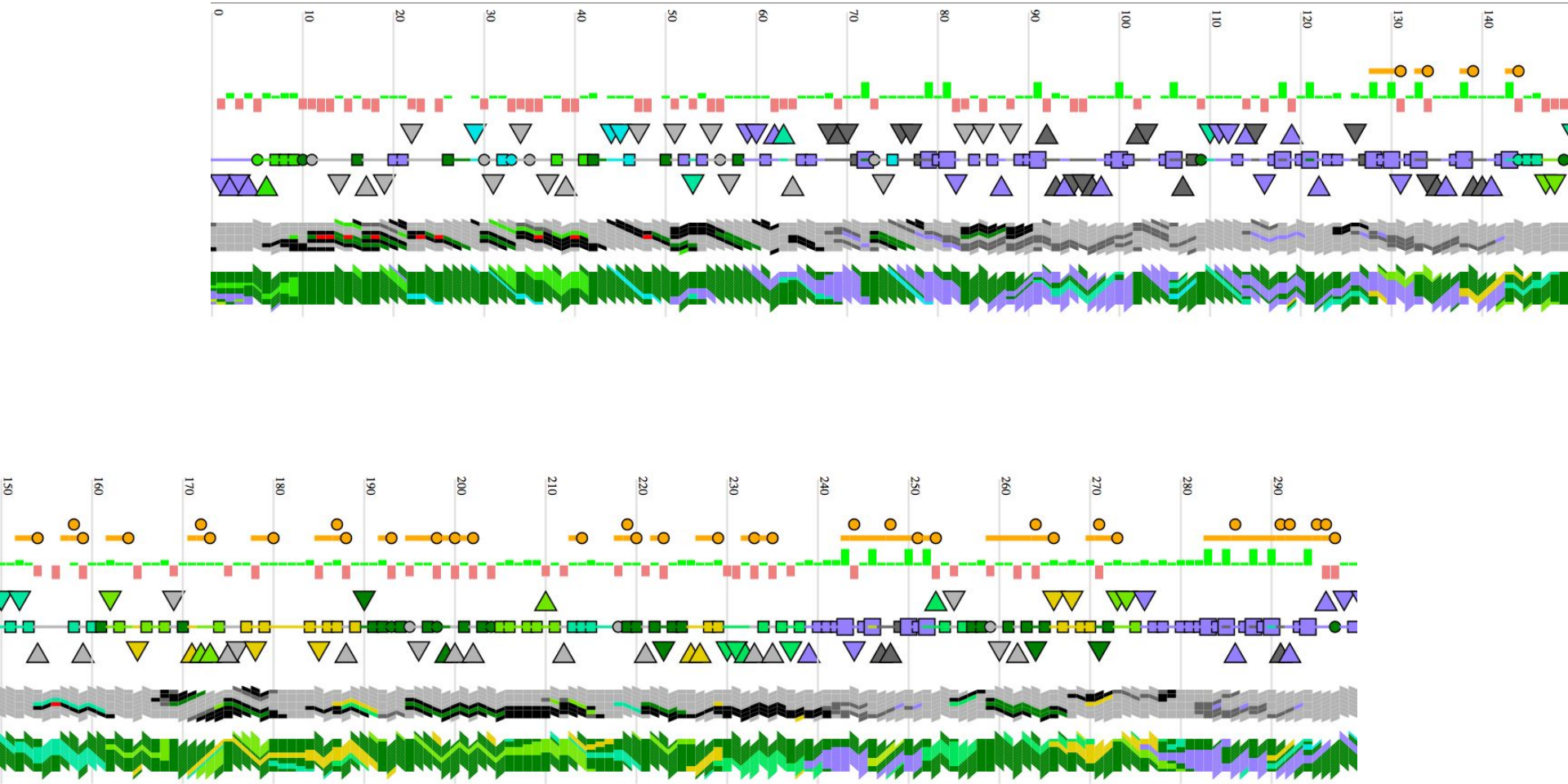


An evolution of Ernest



IDEAL





IDEAL



Interact with Ernest in 3D



IDEAL



Name: **Advene / ACAV**

Author: Yannick Prié (et al.)

Project Type: ANR

Date: 2008-...

Collaborations: Dailymotion

Eurecom

Research issues: Collaborative Annotations for Video

Accessibility

Interaction traces

Website: <http://blog.dailymotion.com/acav/>

Advene - Nosferatu Demo

File Edit View Player Packages Help

Links History No active dynamic view Popups Transcription x

00:08:13.844
00:07:37.360
00:13:52.158

The Book of the Vampires

I may be away for several months, Nina. Renfield is sending me to some lost corner of the Carpathians...
Harker left Nina with his good friends, Westenra and his wife Lucy.
Don't worry, Nina. Nothing will happen to me.
From relay to relay, through the dust raised by the stages, Harker hurried on.
Dinner, quickly ! I should already be at Count Dracula's castle.
You must not leave now! The evil spirits become all-powerful after dark!
The Book of the Vampires
and it was in 1443 that the first Nosferatu was born.
that name rings like the cry of a bird of prey. Never speak it aloud....
Men do not always recognize the dangers that beasts can sense at certain times.
hurry! The sun will soon be setting !
We will go no further, sir. Not for a fortune !

Tree view x HTML Viewer x
Back Refresh Home hi

The different panels of the movie

Search for a string in the english content :
Search

Displaying all panels

Inspector
Annotation a636
00:13:47.600 - 00:13:55.400
Screenshot

Contents
origin=The Book of the Vampires
originfr=Le Livre des Vampires
texte=The Book of the Vampires
textefr=Le Livre des Vampires

Timeline x
16.917 | 00:09:20.300 | 00:10:53.684 | 00:12:27.067 | 00:14:00.451 | 00:15:33.834 | 00:17:07.2

1mark=1m33.38s

Shot
Episode
Movie Part
test_zone
test_svg
important
Panel
Actor
Supernatural
Nightmare
Nightmare triangel

The Book of the Vampires (a636)
00:13:47.600 - 00:13:55.400

13:23:28 - Loaded package Nosferatu Demo
13:23:28 - Activating package Nosferatu Demo

Advene

Advene - Elephants Dream

Fichier Édition Vues Lecteur Recueils Aide

Aucune vue dynamique active

Popups Note taking x

Générique lézard titre reflet+visage tête

00:00:50.041

Pause

Timeline x

Défilement discret

10%

Inspecteur

Annotation a161

00:00:36.618 - 00:00:50.041

Aperçu

Contenu

num=10

Déposez des marques de temps ici

13:57:28 - Loaded package Elephants Dream

13:57:28 - Activation du recueil Elephants Dream

The screenshot displays the Advene software interface for editing and playing video content. The main window is titled 'Advene - Elephants Dream'. At the top, there is a menu bar with options: 'Fichier', 'Édition', 'Vues', 'Lecteur', 'Recueils', and 'Aide'. Below the menu is a toolbar with various icons for file operations and playback. The central area is divided into several panels. On the left, a video player shows a scene with a man's face and a lizard, with a progress bar at 00:00:50.041 and a 'Pause' button. To the right of the video player is a 'Popups' panel with a 'Note taking' tab, containing text: 'Générique', 'lézard', 'titre', 'reflet+visage', and 'tête'. Below the video player is a 'Timeline' panel with a 'Défilement discret' (discrete scrolling) mode and a zoom level of 10%. The timeline shows a sequence of shots and annotations. A specific annotation 'a161' is highlighted, with a preview window showing a still image and the text 'Contenu num=10'. On the far right, a 'Tree view' panel shows a hierarchical structure of the video content, including 'Text annotation', 'Début', and 'sonnerie' (bell) with time markers. At the bottom, a status bar shows the time '13:57:28' and messages: 'Loaded package Elephants Dream' and 'Activation du recueil Elephants Dream'.

Advene

Braille
emulation

Rendering
views

Enriched
Media Player

Timeline with
typed
annotations

The screenshot displays the Advene software interface, which is designed for accessibility. It features several key components:

- Enriched Media Player:** Located on the left, it shows a video frame with a green circle highlighting a specific area.
- Braille Emulation:** A central window displays the Braille equivalent of the video content, showing the text "Frederic s'elance, f" in Braille characters.
- Rendering Views:** On the right, a list of views is shown, including "Synthèse vocal niveau 1", "Synthèse vocal niveau 2", and "Vue 2 : Braille littéraire toutes descriptions".
- Timeline with typed annotations:** At the bottom, a timeline displays various annotations such as "Plan et mouvement de caméra", "Présentation Type AVH", "Décors", "Action personnage : Frédéric", "Action personnage : Garance", "Action personnage : Lacenaire", and "Description des personnages".

Red arrows point from the text labels to the corresponding elements in the interface. Green boxes highlight the video player, Braille emulation, rendering views, and timeline sections. A red arrow also points to the Braille emulation window from the top label.

Advene

Name: VISU

Author: Yannick Prié (et al.)

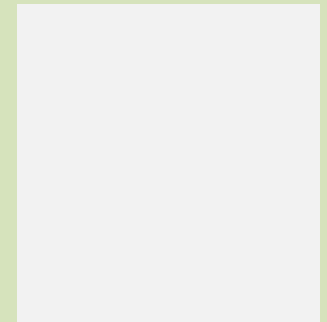
Project Type: ANR (Project ITHACA)

Date: 2008-2011

Collaborations: Lyon 1, Lyon 2, TECFA

Research issues: Interactive Traces for Humain
Awareness Collaborative Annotation
Online tutoring tool

Websites: <http://liris.cnrs.fr/ithaca/>



VISU | Accueil | Utilisateurs | Séances | Salon synchrone | Salon de rétrospection | Langage : Français | Chat | Déconnexion

Fermer la séance | Arrêter la séance

Plan de séance : Les stéréotypes de la bourgeoisie...

Où se trouvent les personnages ?

Qu'ont-ils en commun ?

Trouvez l'intrus/le personnage qui n'est pas pareil qu'eux. Pourquoi ?

Généralement, on qualifie ces gens de bobos. Comment imaginez-vous le monde dans lequel ils vivent ?

Garder en tête que les questions sont là pour expliquer l'expression « bobo » et la devise entre g...

▶ 2. Les nappies : la jeu...

▶ 3. De la cité aux beaux...

▶ 4. Le style bling-bling

matérialiste | les marques | nature et découverte | bio | ethnique | snob | (fumer) un cigare | poussette | tente | faire la manche | chien | bouteille de vin | Sans Domicile Fixe (S.D.F.)

Video : GUICHON

Chat

Mot Clé nature et découverte

Couverture de la bande dessinée "Bienvenue à Boboland"

Généralement, on qualifie ces gens de bobos. Comment imaginez-vous le monde dans lequel ils vivent ?

Va voir....

Qu'ont-ils en commun ?

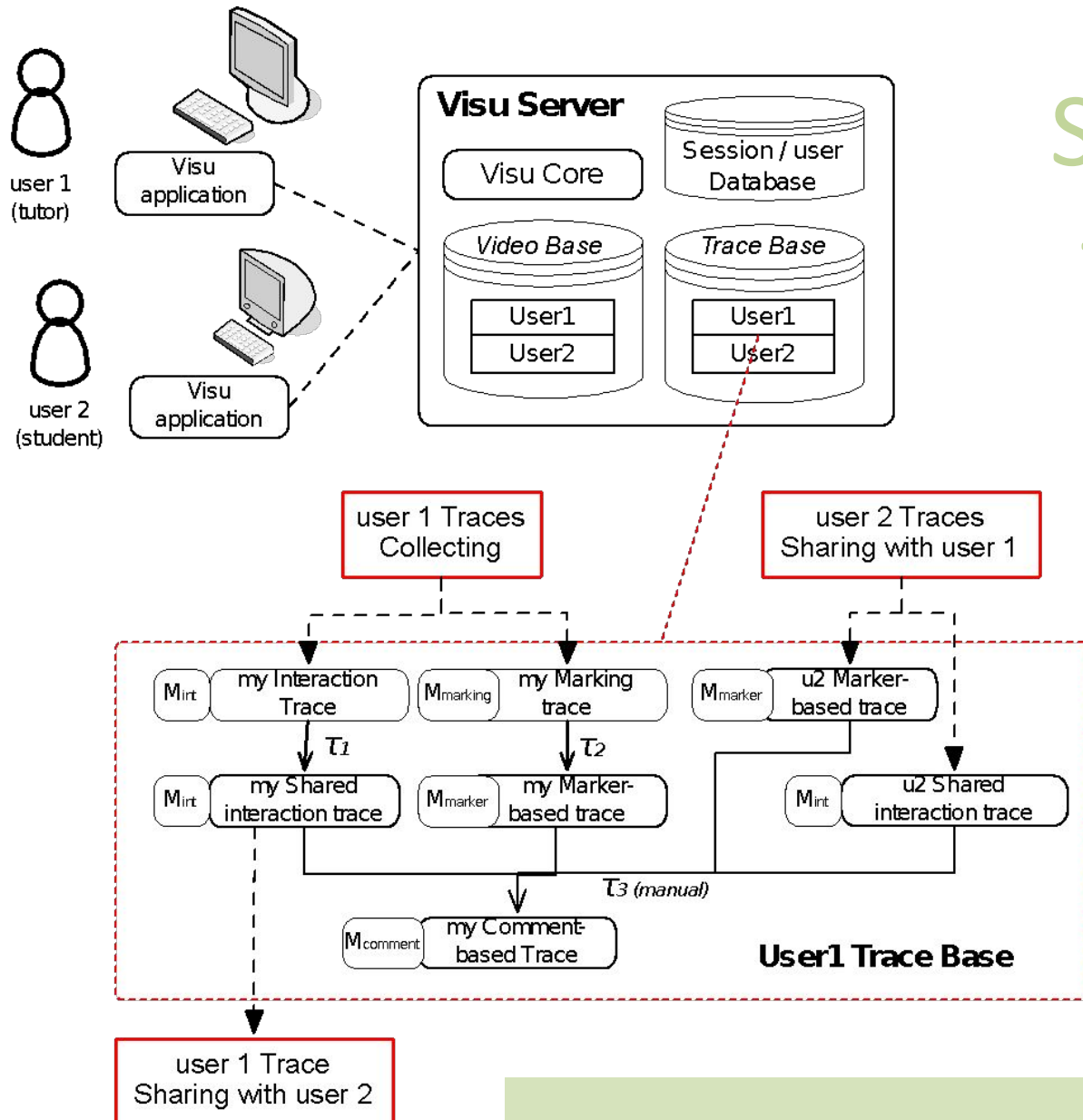
Mot Clé faire la manche

Trouvez l'intrus/le personnage qui n'est pas pareil qu'eux. Pourquoi ?

Résumé de l'activité

	00:52:11	0 min.	8 min.	17 min.	25 min.	33 min.	41 min.
Ma trace							
marker							
instruction							
keyword	Mot Clé		Mot Clé	Mot Clé	Mot Clé		
document							
message							
Pré							

Sharing traces





**What's
Next?**