

## Leading Web Usability Evaluations to WAUTER

<http://ausweb.scu.edu.au/aw05/papers/refereed/balbo/index.html>

Sandrine Balbo  
Steve Goschnick  
Derek Tong

Cécile Paris

<http://wauter.weeweb.com.au/>

*Research funded by a University of Melbourne - CSIRO  
collaborative research program grant*

## Goal

- Automation of the usability process!
- ...at least to identify just those areas of a site that may need a conventional in-depth study

# Motivation for Automation

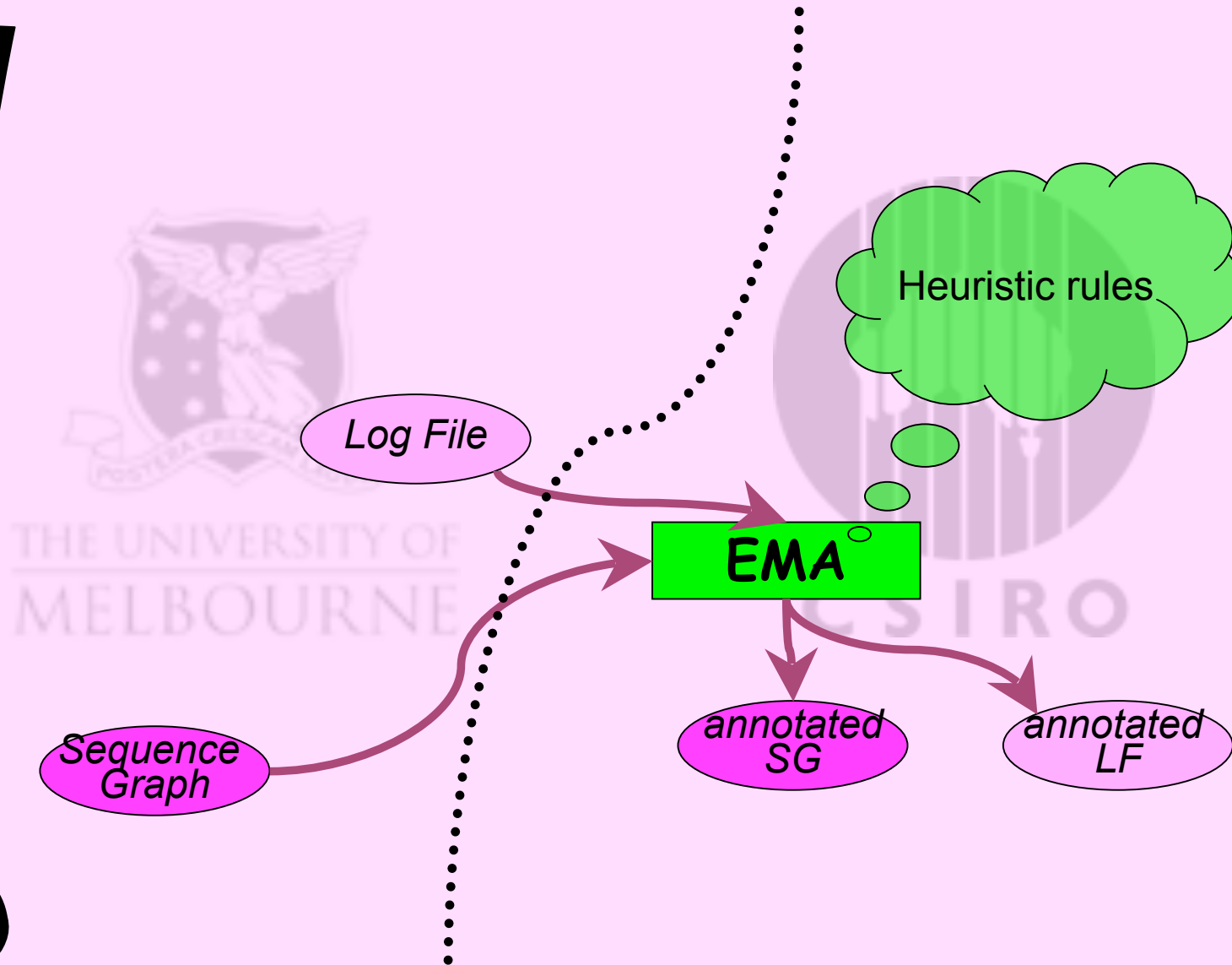
- Reduce *time* consuming viewing of usability studies
- A mine of information generated by a *multitude* of users
- Relate user actions to *probable goals*
- *Evaluate* user tasks against those goals
- Support the usability expert with timely and cost effective *metrics*, drawn from significant data

# Basic Elements of Wauter

- A. Develop model of *intended use*, (the **designer's intention**) expressed as a Task Model (*automated*)
- B. The capture of *actual use* (**user's tasks**), expressed as a log file (*automated*)
- C. An *automatic comparison* of the two (A vs B), using a set of *heuristics*

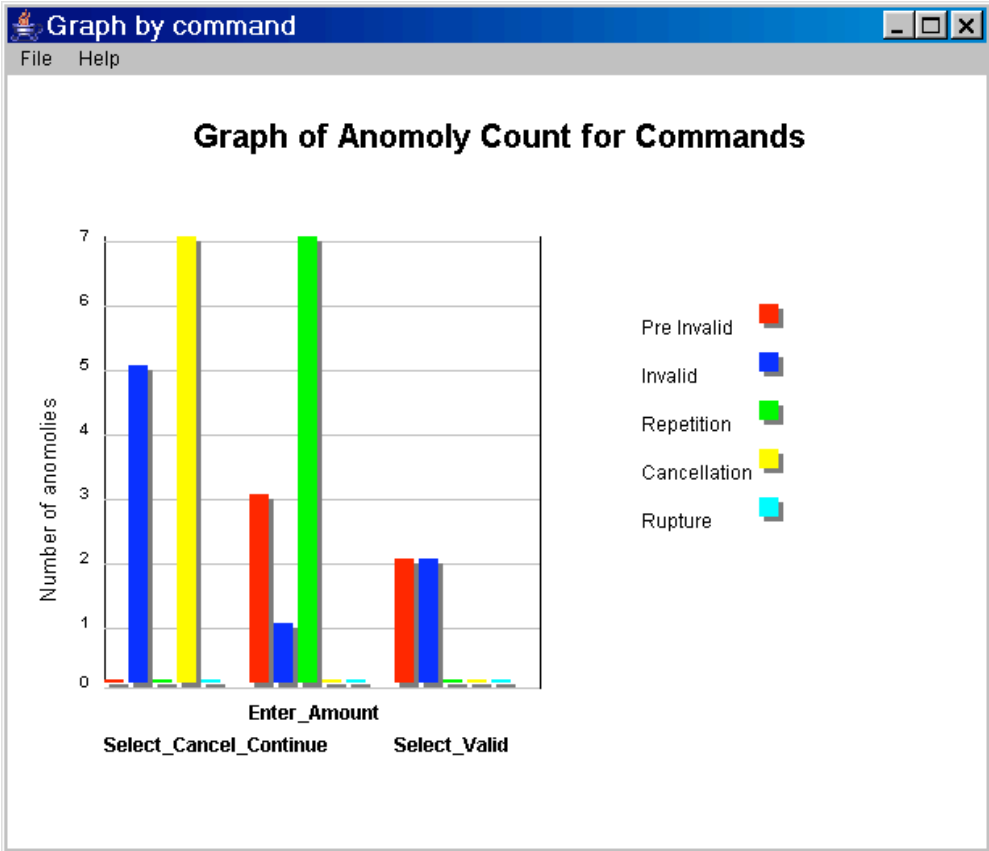
# CAPTURE

# ANALYSIS



# Automatic Usability Testing Environment

## basics and Navigator



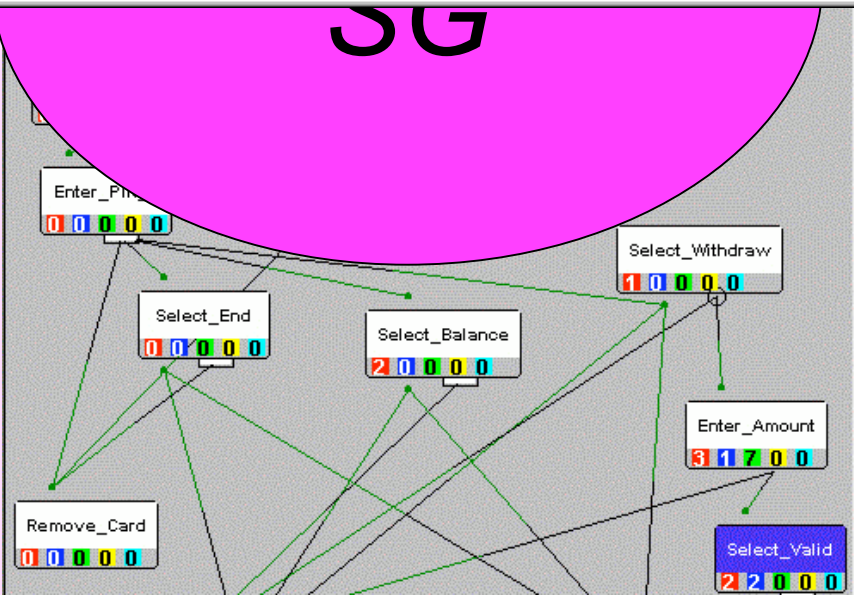
```

Fri Dec 12 10:50:12 EST 1997 ENTER_AMOUNT
Fri Dec 12 10:50:14 EST 1997 ENTER_AMOUNT
Repetition
Fri Dec 12 10:50:15 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:20 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:25 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:27 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:30 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:32 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:34 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:36 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:38 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:40 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:42 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:44 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:46 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:48 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:50 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:52 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:54 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:56 EST 1997 BKGND_BUTTON_NAME
Invalid
Fri Dec 12 10:50:58 EST 1997 SELECT_CANCEL_CONTINUE
Cancellation
Fri Dec 12 10:51:02 EST 1997 SELECT_WITHDRAW
Fri Dec 12 10:51:04 EST 1997 ENTER_AMOUNT
Fri Dec 12 10:51:15 EST 1997 ENTER_AMOUNT

```










*annotated LF*

SG



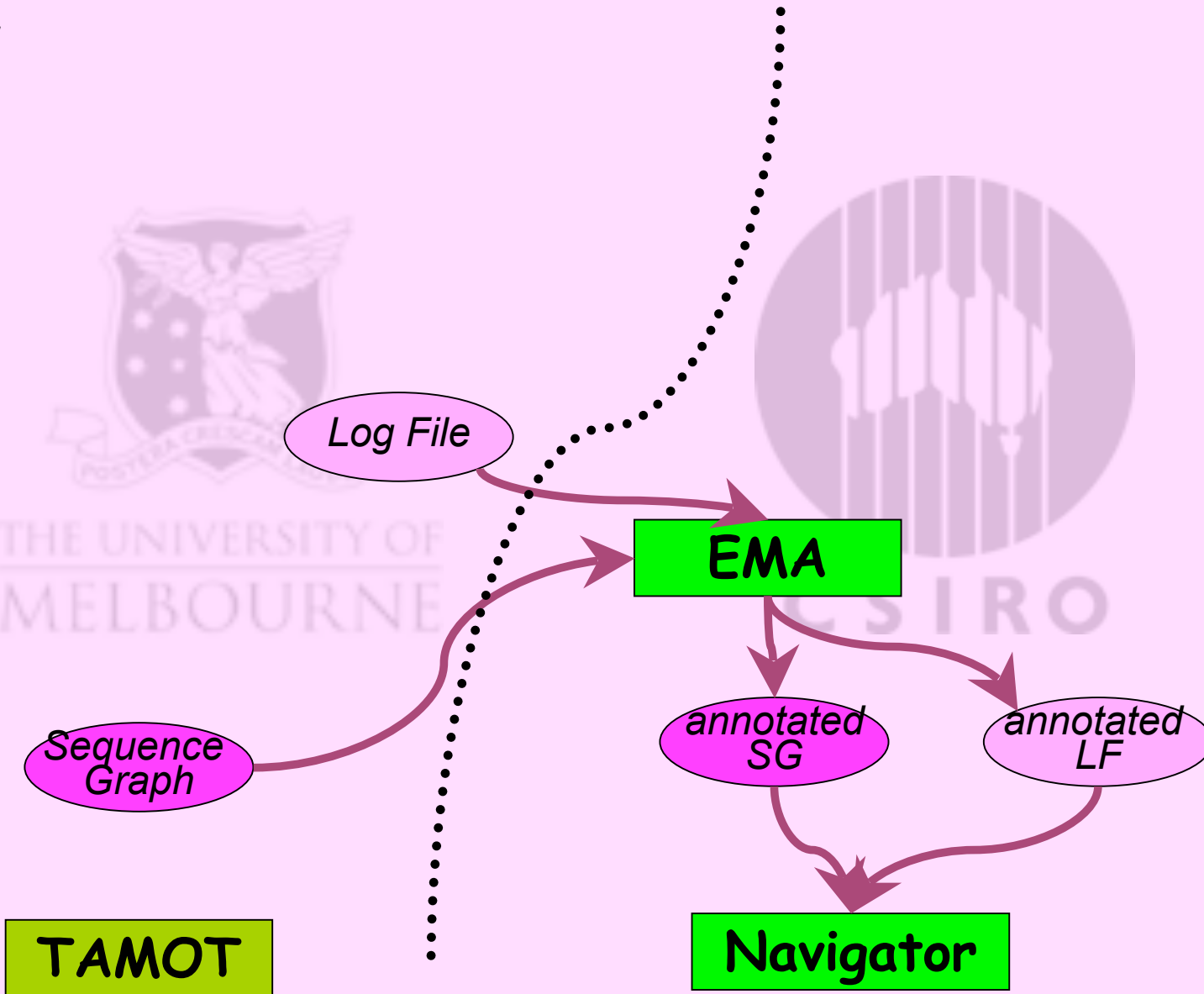
# EMA's Heuristic rules

- 1 *Direction shift*
- 2 Irrelevant action
- 3 Immediate undo (cancel)
- 4 Re-occurring action

<b>Bastien&amp;Scapin ergonomic principles</b> <b>Heuristics</b>	Guidance	Work Load	Error mgt	Consistency	Significance of codes	Compatibility
Shift						
Immediate undo						
Repetition						
Irrelevant action						

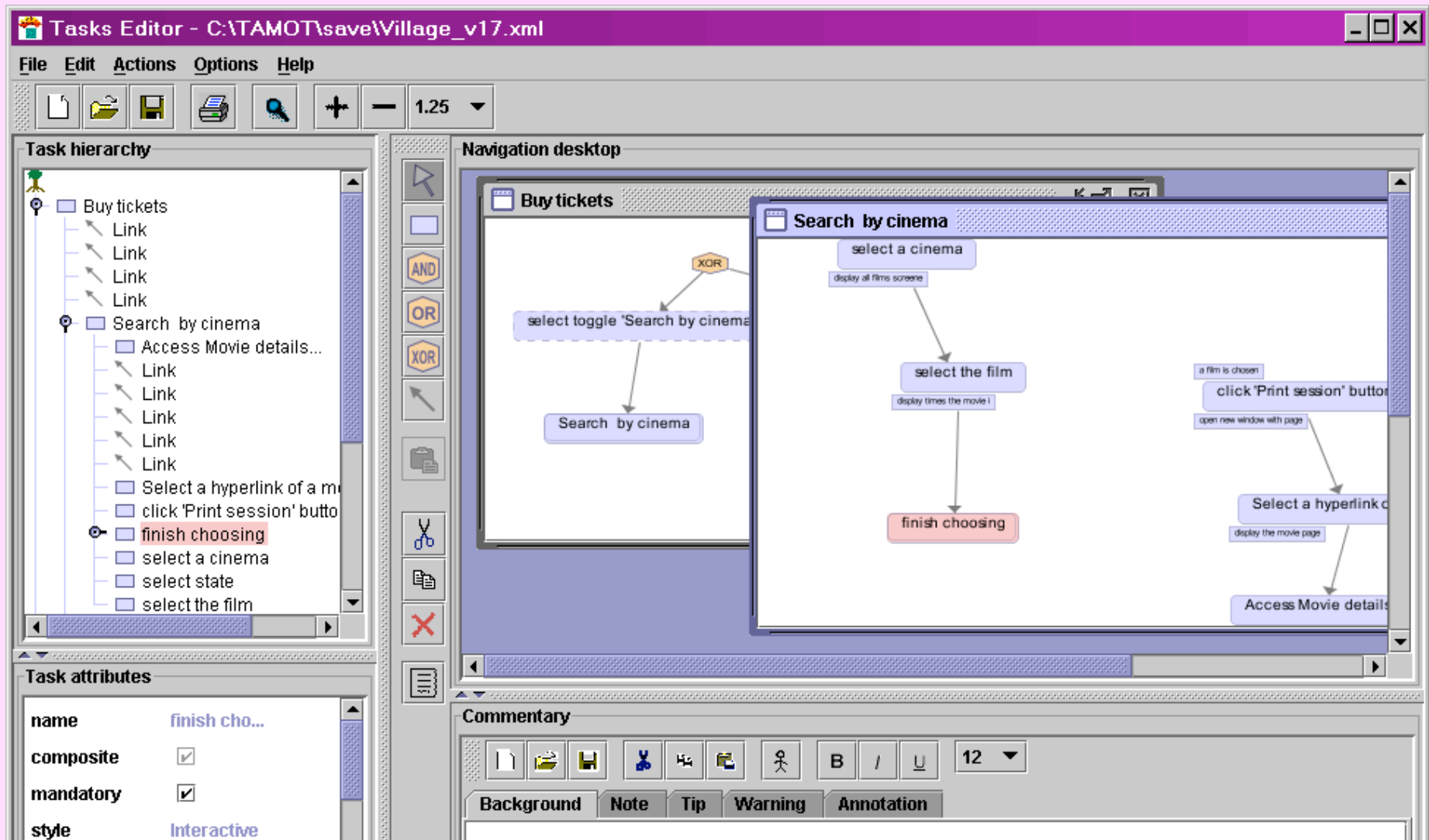


# CAPTURE



# ANALYSIS

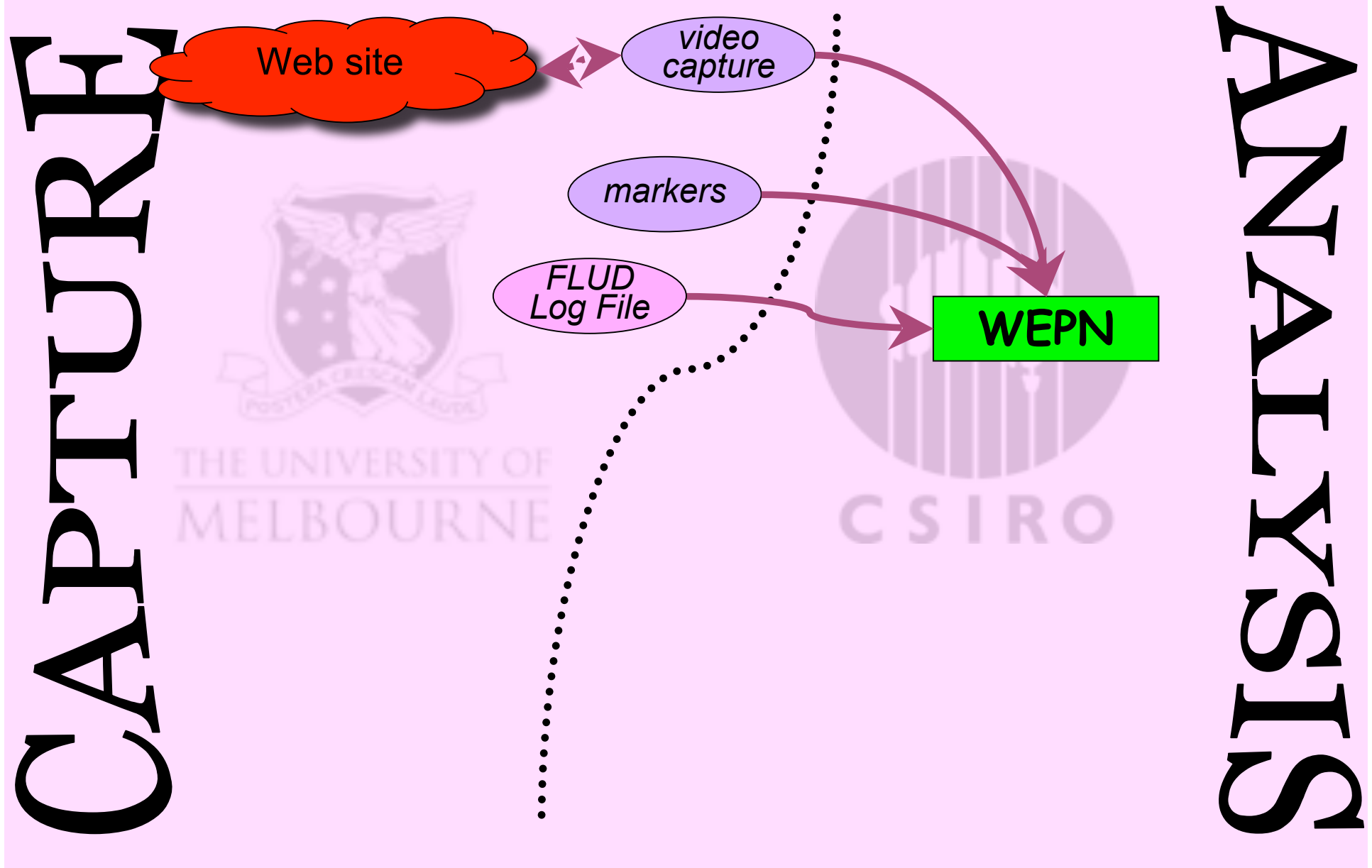
# Task Models, TAMOT and Isolde



The screenshot shows the 'Tasks Editor' application window with the following components:

- Task hierarchy:** A tree view on the left showing a hierarchy of tasks. The 'finish choosing' task is highlighted in red.
- Navigation desktop:** A central workspace containing two task models:
  - Buy tickets:** A simple flowchart starting with 'select toggle "Search by cinema"', leading to 'Search by cinema'.
  - Search by cinema:** A more complex flowchart starting with 'select a cinema', followed by 'display all films screens', 'select the film', and 'display times the movie'. It then branches into two paths: one leading to 'finish choosing' and another leading to 'click "Print session" button', 'open new window with page', 'Select a hyperlink c', 'display the movie page', and 'Access Movie details'.
- Task attributes:** A panel at the bottom left showing attributes for the selected task:
 

name	finish cho...
composite	<input checked="" type="checkbox"/>
mandatory	<input checked="" type="checkbox"/>
style	Interactive
- Commentary:** A panel at the bottom right with a toolbar and buttons for 'Background', 'Note', 'Tip', 'Warning', and 'Annotation'.

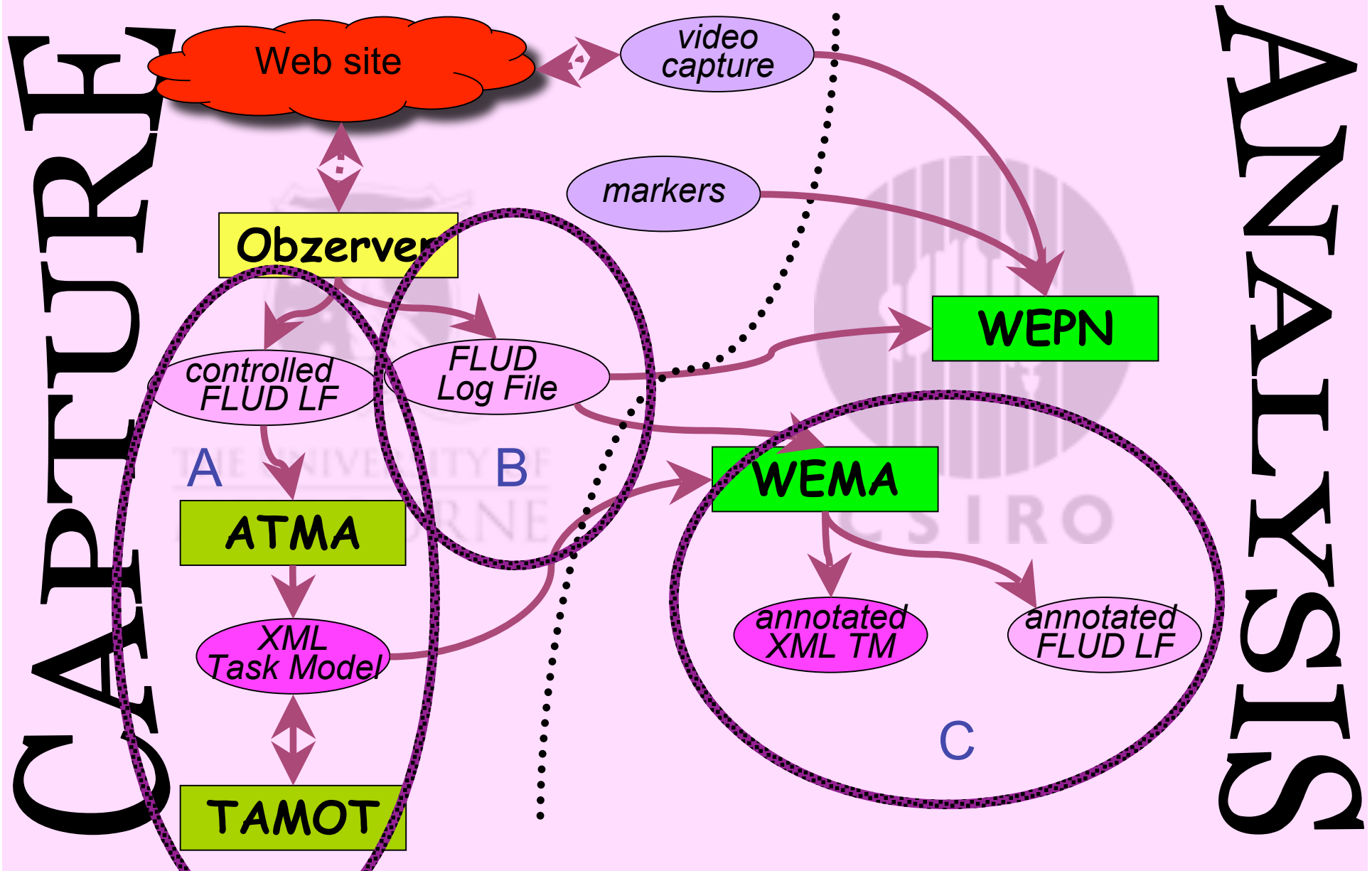


The screenshot displays the WEPN Analysis System interface, which is divided into several functional areas:

- Top Bar:** Contains the title "WEPN Analysis System" and standard window controls (minimize, maximize, close). Below the title is a menu bar with options: **S**ession, **T**ask, **M**ovie, **M**arker, **H**elp.
- Site Map:** A network diagram showing the structure of a website. Nodes include "341\_structur design", "340projects2", "tp", "monitorcode", "assess.dis.u" (highlighted with a red border), "gform", "feedback", "codeinspecti", and "/news" (highlighted with a blue border). Lines connect these nodes, representing the site's navigation structure.
- QuickTime Movies:** A section for video analysis. It contains two video thumbnails: one showing a person's hands using a computer mouse and keyboard, and another showing two people in a meeting. Below the thumbnails is a video player interface with a progress bar, navigation buttons (play, stop, previous, next), and a timestamp of "00:00:30.30".
- Annotation and Task:** A section for marking and describing video events. It includes a "Marker Type" dropdown menu set to "All Markers" and a "Task" dropdown menu set to "Find the assess system". Below this is an "Annotation" area with icons for editing (cut, copy, paste) and text formatting (bold, italic, underline). A text input field is present, and the author's name "sandrine" is displayed at the bottom.
- Algorithms:** A section in the bottom left corner with a "Recalculate" button and a dropdown menu currently set to "Star".

# Basic Elements of Wauter

- A. Develop model of *intended use* expressed as a Task Model (*automated*)
- B. The capture of *actual use*, expressed as a log file (*automated*)
- C. An *automatic comparison* of the two (A vs B), using a set of heuristics



## WEMA...Heuristic rules

1

*Direction shift*

2

*Irrelevant action*

3

*Immediate undo*

4

*Re-occurring action*

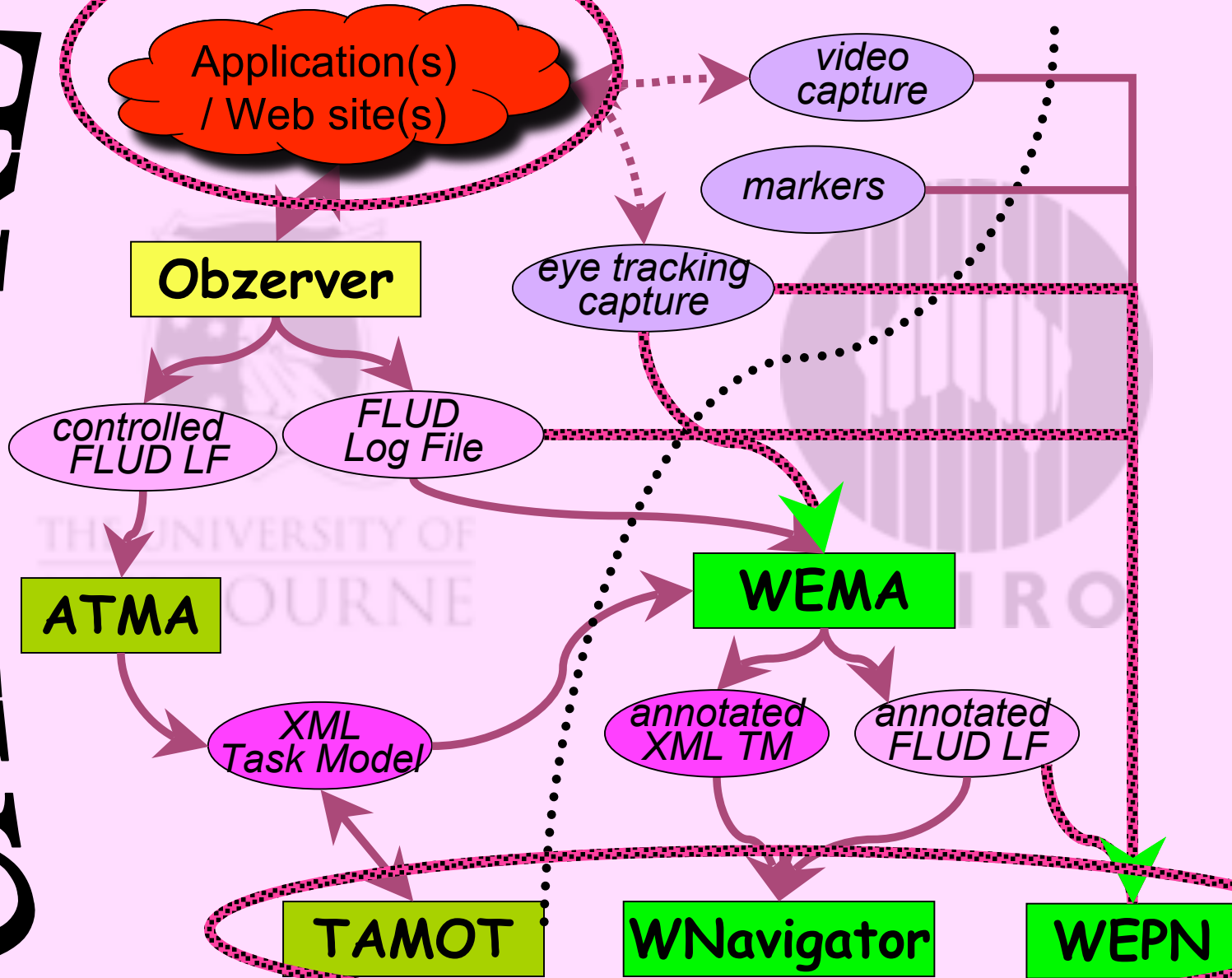
5

*Timing*

*-Eg. May indicate cognitive overload*

# CAPTURE

# ANALYSIS





# The missing WNavigator

Tasks Editor - C:\TAMOT\saveVillage\_v17.xml

File Edit Actions Options Help

1.25

Navigation desktop

Buy tickets

Search by cinema

select a cinema

display all films screens

select the film

display times the movie

finish choosing

a film is chosen

click 'Print session' button

open new window with page

Select a hyperlink c

display the movie page

Access Movie details

Commentary

Background Note Tip Warning Annotation

12

Fri Dec 12 10:50:12 EST 1997 ENTER\_AMOUNT  
 Fri Dec 12 10:50:14 EST 1997 ENTER\_AMOUNT  
 Repetition  
 Fri Dec 12 10:50:15 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:20 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:25 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:25 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:27 EST 1997 SELECT\_VALID  
 Fri Dec 12 10:50:34 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:36 EST 1997 SELECT\_CANCEL\_CONTINUE  
 Cancellation  
 Fri Dec 12 10:50:39 EST 1997 SELECT\_WITHDRAW  
 Fri Dec 12 10:50:46 EST 1997 ENTER\_AMOUNT  
 Fri Dec 12 10:50:47 EST 1997 ENTER\_AMOUNT  
 Repetition  
 Fri Dec 12 10:50:50 EST 1997 SELECT\_VALID  
 Fri Dec 12 10:50:53 EST 1997 BKGND\_BUTTON\_NAME  
 Invalid  
 Fri Dec 12 10:50:58 EST 1997 SELECT\_CANCEL\_CONTINUE  
 Cancellation

## Goal

- Automation of the usability process!
- ...at least to identify just those areas of a site that may need a conventional in-depth study
- the 'designer intention' vs the 'user task' model

## Acknowledgments

- UoM students
  - All members of the WEPN team
  - Emile Verdurand
  - Matt Dart
- CSIRO staff
  - Shijian Lu
  - Nadine Ozkan
- Many other students
  - Jérôme Carrère
  - Richard Kinder
  - Laurent Chrétienneau
  - Valéry Anciaux
  - Christophe Plier

# wauter

SANDRINE@UNIMELB.EDU.AU

Web Automatic Usability Testing EnviRonment



**Thanks!**