Semantic Analysis of Learning Traces
Nathalie Guin, Rémi Casado, Pierre-Antoine Champin

To cite this version:
hal-02166851

HAL Id: hal-02166851
https://hal.archives-ouvertes.fr/hal-02166851
Submitted on 27 Jun 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.
LIRIS lab, TWEAK team

liris.cnrs.fr/tweak

The activity of the TWEAK team relates to the fields of AI and Knowledge Engineering, exploring more specifically two dimensions: TELS and the Web. We are particularly interested in the co-evolution of user-machine systems in computer-supported environment, with a knowledge-oriented stance.

Keywords: interaction traces, traces models, traces visualization, indicators, teachers, analysts

kTBS: a kernel for Trace-Based Systems

The TWEAK team defines Trace-Based Systems as systems that tap the knowledge available in users’ interaction traces.

kTBS is an open reference implementation of TBS based on RDF.

- A trace is a set of obsels (observed elements).
- An obsel has:
  - a type
  - 2 timestamps (begin and end)
  - attributes, and relations to other obsels
- A trace is linked to a trace model that describes:
  - the obsel types that the trace can contain
  - their attributes and their relations
- A trace can be computed by a transformation method in order to create other traces.

kTBS4LA: kTBS for Learning Analytics

Objective: enable an analyst to use kTBS in order to interpret learning traces.

Scenario: an analyst wants to understand how learners use a TEL system $T$ and to compute indicators about learners activities or skills.

Using kTBS4LA, he/she can:

- import traces to the platform and define a trace model for $T$
- visualize the traces, each type of obsel being represented differently
- compute new traces (e.g. filter)
- define requests to compute indicators
