



HAL
open science

A Semantic Approach to Manage Ideas in an Innovation Process

Pedro Chávez Barrios, Davy Monticolo, Sahbi Sidhom

► **To cite this version:**

Pedro Chávez Barrios, Davy Monticolo, Sahbi Sidhom. A Semantic Approach to Manage Ideas in an Innovation Process. SÉMINAIRE DE L'ÉCOLE DOCTORALE RP2E : 13 Février 2018 , Feb 2018, Nancy, France. hal-01699590v1

HAL Id: hal-01699590

<https://inria.hal.science/hal-01699590v1>

Submitted on 2 Feb 2018 (v1), last revised 2 Feb 2018 (v2)

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.



Distributed under a Creative Commons Attribution 4.0 International License

A Semantic Approach to Manage Ideas in an Innovation Process



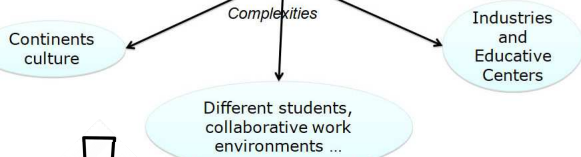
Doctoral Student: Pedro CHÁVEZ BARRIOS
ERPI Laboratory, University of Lorraine
8 rue Bastien Lepage 54000 Nancy France
pedro.chavez-barrios@univ-lorraine.fr

Director: Davy MONTICOLO
ERPI Laboratory, University of Lorraine
8 rue Bastien Lepage 54000 Nancy France
davy.monticolo@univ-lorraine.fr

Supervisor: Sahbi SIDHOM
Loria (Kiwi) Laboratory, University of Lorraine
F-54506 Vandoeuvre lés Nancy France
sahbi.sidhom@univ-lorraine.fr

Research Context

« 48 Hours to generate ideas »
CWS challenge by University of Lorraine



“Organizational creativity depends on the abilities of the individuals within it”
(Acar and Runco 2012)

Example:

Multifunction flying tractor

Équipe: Toulouse-équipe 13

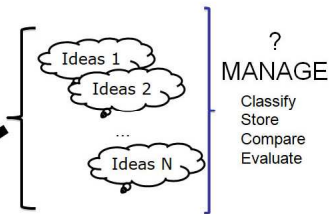
Description détaillée:

propeller based conveyor (or futuristic propulsion) that would move in the air in any direction. It would include: - A cabin for two people (optimized in comfort: seat, radio, simple interface, nice) - Ventral compartment dedicated to the task at hand (fertilizer / pesticide / embedded system for data collection, etc.) - Support tools (GPS, etc.)



IDEA-CARD

Problem



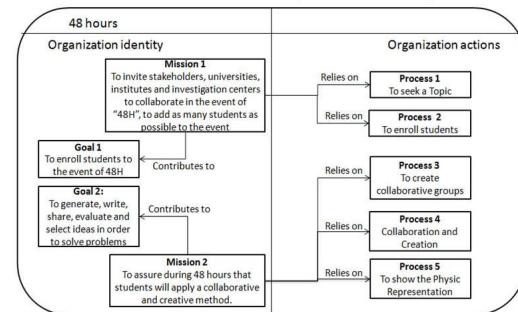
The format of idea-card's fields are heterogeneous as Khemiri idea in (Khemiri et al., n.d.)

Proposition

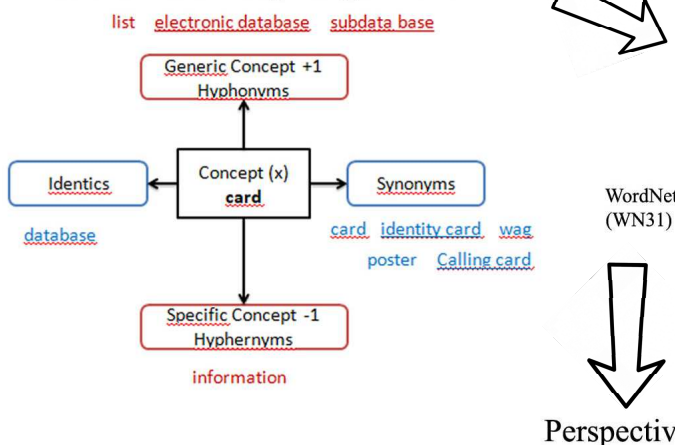
- 1 To Design a Model to Highlight Knowledge
- 2 To Propose a Semantic Approach to annotate Idea Cards
- 3 To implement an Intelligent System for Innovation Management

Organizational Structure

To model the 48H with the meta-model KROM (Girodon et al. 2015a).



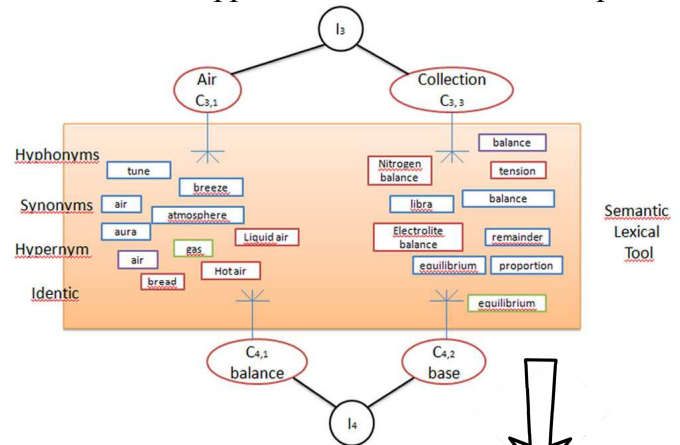
Model of Knowledge Organization



Perspectives



Semantic Approach on Annotation Concepts



Implementation in Progress...

Our perspective is to build three models: Data Model, Annotation Model and Semantic Model and Knowledge Organization to obtain an Intelligent System Architecture for Innovation.

Bibliography

1. Acar, Selcuk, and Mark A. Runco. 2012. "Creative Abilities: Divergent Thinking." In Handbook of Organizational Creativity, 115–39. Athens, GA, USA.
2. Girodon, Julien, Davy Monticolo, Eric Bonjour, and Maggy Perrier. 2015b. "An Organizational Approach to Designing an Intelligent Knowledge-Based System: Application to the Decision-Making Process in Design Projects." Advanced Engineering Informatics 29 (3). Elsevier Ltd: 696–713. doi:10.1016/j.aei.2015.07.001.
3. Khemiri, Nabil, Sahbi Sidhom, Malek Ghenima, and Henda Ben Ghezala. n.d. "Properties and Semantic Relations."
4. P. University, "Princeton University 'About WordNet.' WordNet,," 2010.