

ISiS and ScenEdit : an intention-oriented model and tool to design pedagogical scenarios

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Context : ICT integration

- INRP Scenario Project to sustain ICT integration at french secondary school (2005-2010)
 - Who ? teachers at french secondary school
 - Why ? to better integrate digital technologies inside classrooms and/or outside classrooms
 - How ? by re-using, sharing, capitalising formalised practices
- => providing models (ISiS) and tools (ScenEdit) to sustain the design of blended learning scenarios by practitioners

Example : scenario PBL "electrical bike"

Teachers in Sciences and Industrial Techniques

- Electrotechnics, Physical sciences, Languages...
- PBL and Project Pedagogy

Pupils at the end of secondary school:
"Première" and "Terminale" classes
STI Electrotechnics

Pollution in the city can be reduced by using an electrical bike

Problem






« Choice of an electrical bike »

Scenario formalization: ScenEdit

Scenedit Editor : Choice of an electrical bike (Press F11 to full screen)

Scenario	Context	ISiS Components		
		Intentions	Strategies	Situations

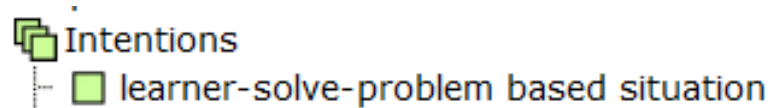
Intentions
 Strategies
 Situations
 Show Images

- Scenario : Choice of an electrical bike
 - Step
 - Intentions
 - learner-solve-problem based situation
 - learner-master-use a collaborative platform
 - Strategy : PBL and Project Pedagogy
 - Problem formulation
 - Identify all the clues of the problem using appropriate terminology
 
 - Formulation & Organisation of hypothesis
 - Brainstorming
 
 - Plan of the study
 - Identifying information
 - Collect of information with internet
 

← Intentions
 ← Strategy
 ← Interactive Situation
 ← phases

Scenario « **electrical bike** »: Intentions

- The principle intention of the scenario is « solve a problem based situation »
- We express this intention with a quadruplet :
(*formulator* : « teacher », *subject* : « pupil », *operation* : « solve », *object* : « a problem based situation »).
- Graphical representation of intention in ScenEdit:



- A second technological intention comes with the previous one: « master the use of a collaborative platform ».



Scenario «**electrical bike**»: Strategy

Sequence of Phases

Distribution of cases

- ◇ Stratégie : Différenciation en 3 niveaux
- ▾ ◇ Niveau 1
- ▴ ◇ Niveau 2
- ▲ ◇ Niveau 3

Reading and problem formulation

Formulation & organisation of hypothesis

Plan of study

Identifying information

Measure, Experience, Observation

Critical analysis of information and problem solving

Argumentative restitution

Oral presentation

Refinement of the concepts

Conclusions



Abstract interaction Situation

Enter an interactional situation

Save Close

Title *
Collect of information using internet

URL
[Test URL](#)

Description
What ?

Knowledge Items
 problem based situation (resolution)
 use a collaborative platform

Who?
Who ?
group3_4persons

Tools
Which tools ?
internet
computer

For Whom?
For whom ?
group3_4persons

Resources In
Resources given ?
document
webpage

Resources Out
Resources produced ?
synthesis

Illustration
What ?

Locations
Where ?
computer_classroom

Situational context

Choisir : ressource

Enregistrer Quitter

Tout sélectionner Tout désélectionner

Eléments définis dans le contexte situationnel

<input type="checkbox"/> document de	<input type="checkbox"/> contributions dans u...	<input type="checkbox"/> synthèse	<input checked="" type="checkbox"/> questionnaire	<input type="checkbox"/> carte conceptuelle	<input type="checkbox"/> quiz
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Plus d'éléments...

secondary_school_upper

audio	course_material	digital_document	document	drawing2D	image	interactive_exercise	interactive_quiz
mindmap	online_text	questionnaire	synthesis	video	webpage		

Personnaliser un icône

Nom :

Enregistrer



Current Work

Formalization of patterns

- With associated teachers in various sciences disciplines (Technical Fields, Biology, Maths, Geography)
- From literature in Educational Fields

Experimentation of ScenEdit Tool : qualitative inquiries

- Group of teachers in Technical Fields in Voiron and Lyon
- Teachers at Secondary school in Lyon, Grenoble, Clermont-Ferrand

Conclusions & Perspectives

How ISiS Model and ScenEdit effectively assists teachers in the design of efficient learning scenarios using ICT (VLE, mobile, AR, SG) ?

How does our work favour effective sharing and re-using practices ?

Need some complementary tools to manage scenarios

- Scenario edition
 - Provide best practices and patterns
 - Favour diversity of design approaches
 - Operationalization on a LMS
- Sharing and mutualization tools
 - Based on communities of practice
 - Lifecycle of scenario: annotations...
 - Using key informations defined by the designers to index scenarios



Recent Publications

Emin V., Pernin J.-P., Aguirre J.-L., ScenEdit: an intention-oriented authoring environment to design learning scenarios, EC-TEL 2010 Proceedings, Barcelone, (6 pages), 2010

Emin V., Pernin J.-P., Guéraud V., *Model and tool to clarify intentions and strategies in learning scenarios design*, EC-TEL 2009 Proceedings, Nice, (15 pages), October 2009

Emin V., Pernin J.P. (2009), *ScenEdit: a goal-oriented tool to design learning scenarios*. In VIDLATEL Workshop, in conjunction with ICALT Conference, Riga, Latvia, July 2009, pages (2 pages), 2009.

Emin, V., Pernin, J.P., Guéraud V.: Goal-oriented authoring approach and design of learning systems, RIGIM Workshop in ER 2008, Barcelone (12 pages), (2008)

Pernin, J.P., Emin, V., Guéraud V.: ISiS: an intention-oriented model to help teachers in learning scenarios design, European Conference on Technology Enhanced Learning 2008, Maastricht (6 pages), (2008)

Emin V.: ScenEdit: an authoring environment for designing learning scenarios, ICALT'08, IEEE International Conference on Advanced Learning Technologies, Santander, (2 pages), (2008)





Questions ???

Thank you for your attention 😊

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Demo ScenEdit

<http://scenedit.imag.fr/demo/>

login : demo_scenedit

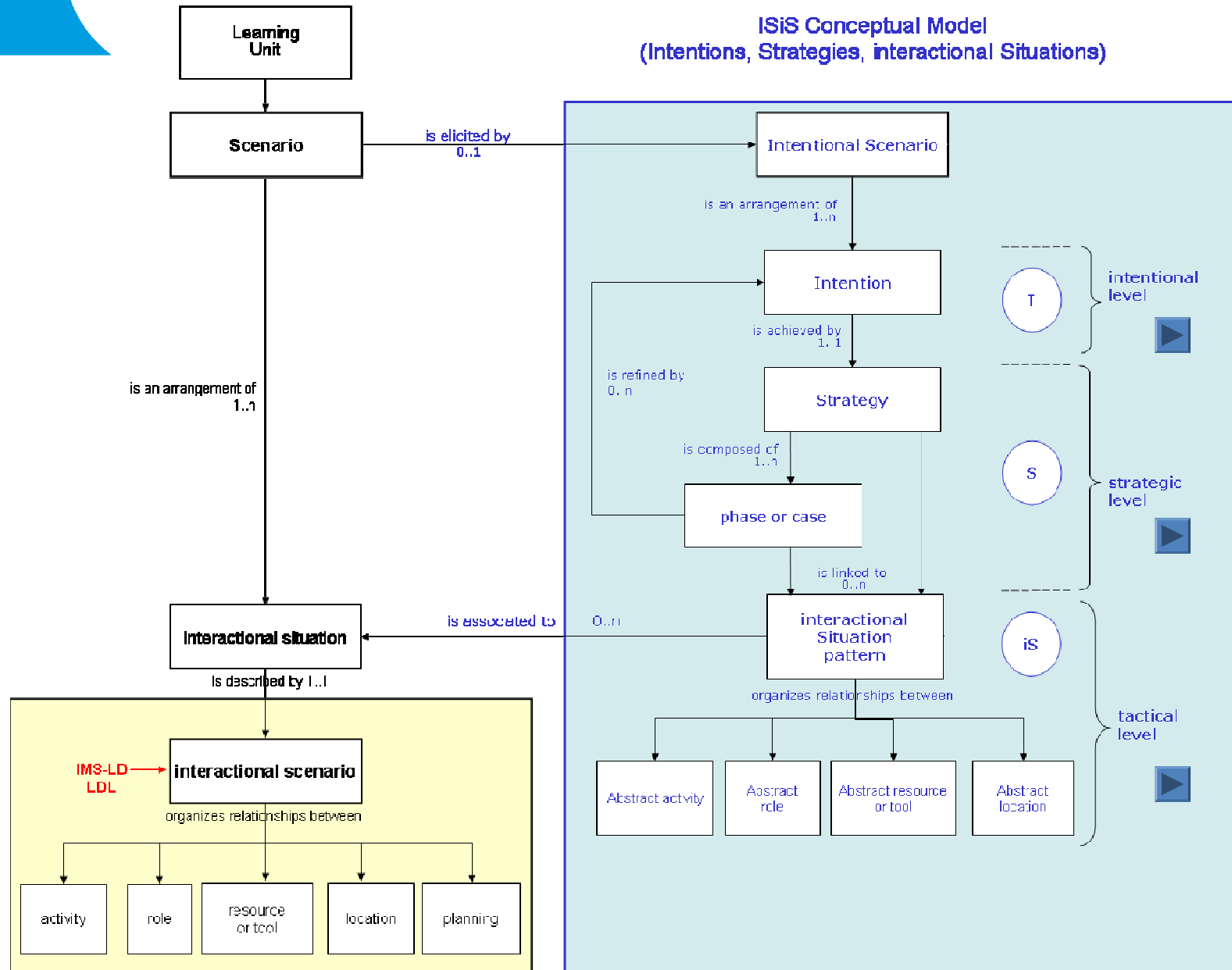
ScenEdit Project

<http://eductice.inrp.fr/EducTice/projets/scenario/scenedit>

Personal Page

<http://www.noie-kaleidoscope.org/people/emin/>

ISiS Model



Scenario Design Process

