

Projet Scénario Action ISiS-ScenEdit

ScenEdit : a graphical tool to design learning scenarios

ScenEdit : un environnement graphique d'aide à la scénarisation pédagogique

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* *INRP - Equipe EducTice*

** *Laboratoire Informatique de Grenoble – Equipe MeTAH*

Diversity of situations and artifacts



Diversity of tools and devices

**Needs
orchestration,
patterns...**
?



Diversity of software and services

Diversity of actors, roles
learning times and places

Outline

- Motivation and Context
 - How to manage complexity and diversity of the learning situations using ICT
 - From Educational Modelling Languages to goal-oriented authoring languages
- Co-design methodology
- Our proposals
 - An intention-oriented conceptual model : ISiS
 - An authoring tool : ScenEdit Environment

Motivation and context

- A precise context : INRP Scenario project
 - 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

Research approach

- Educational Modelling Languages
 - Aim to provide interoperable descriptions of organization and time scheduling of a learning unit
 - Are too complex to be directly manipulated by teachers or designers
- Goal : Provide High level models to sustain design and to favour sharing and re-using practices of scenarios using digital technologies
 - close to teachers' current representations and vocabulary
 - able to be translated towards learning design languages (i.e. IMS LD) or Learning Management System

Research approach

- Hypothesis: using **a shared formalism, patterns** and **elicitation of intentions** to afford a better understanding and context adaptation of learning scenarios within a community of practice.

Research Methodology

- Preliminary phase: definition of targeted audience, state of the art in Learning Design, Learning Scenarios, Requirements Engineering...
- Phase 1: Analyzing current uses of French institutional repositories of learning scenarios
- Phase 2: Co-elaboration of an intention-oriented model
- Phase 3: First experimentation of the model (paper forms)
- Phase 4: Development of a dedicated authoring tool
- Phase 5: Experimentations of the tool with teachers

Example : scenario « **electrical bike** »

■ Teachers in Sciences and Industrial Techniques

Electrotechnics, Physical sciences, Languages...

■ Students in “Première” and “Terminale” classes

STI Electrotechnics

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

Problem



« Choice of an electrical bike »

Pedagogical phases

**Lecture &
Formulation du problème**

**Formulation & Organisation des
hypothèses**

Plan d'étude

Repérage de l'information

Mesure, Expérience, Observation

**Analyse critique de l'information
recueillie et résolution du
problème**

Restitution argumentée

Présentation orale

Approfondissement des notions

Bilan

Reading and problem formulation

**Formulation & organisation of
hypothesis**

Plan of studying

Identifying information

Measure, Experience, Observation

**Critical analysis of information
and problem solving**

Argumentative restitution

Oral presentation

Refinement of the concepts

Conclusions

Web 2.0 & Project pedagogy « Choice of a VAE »



Blog

Personnel

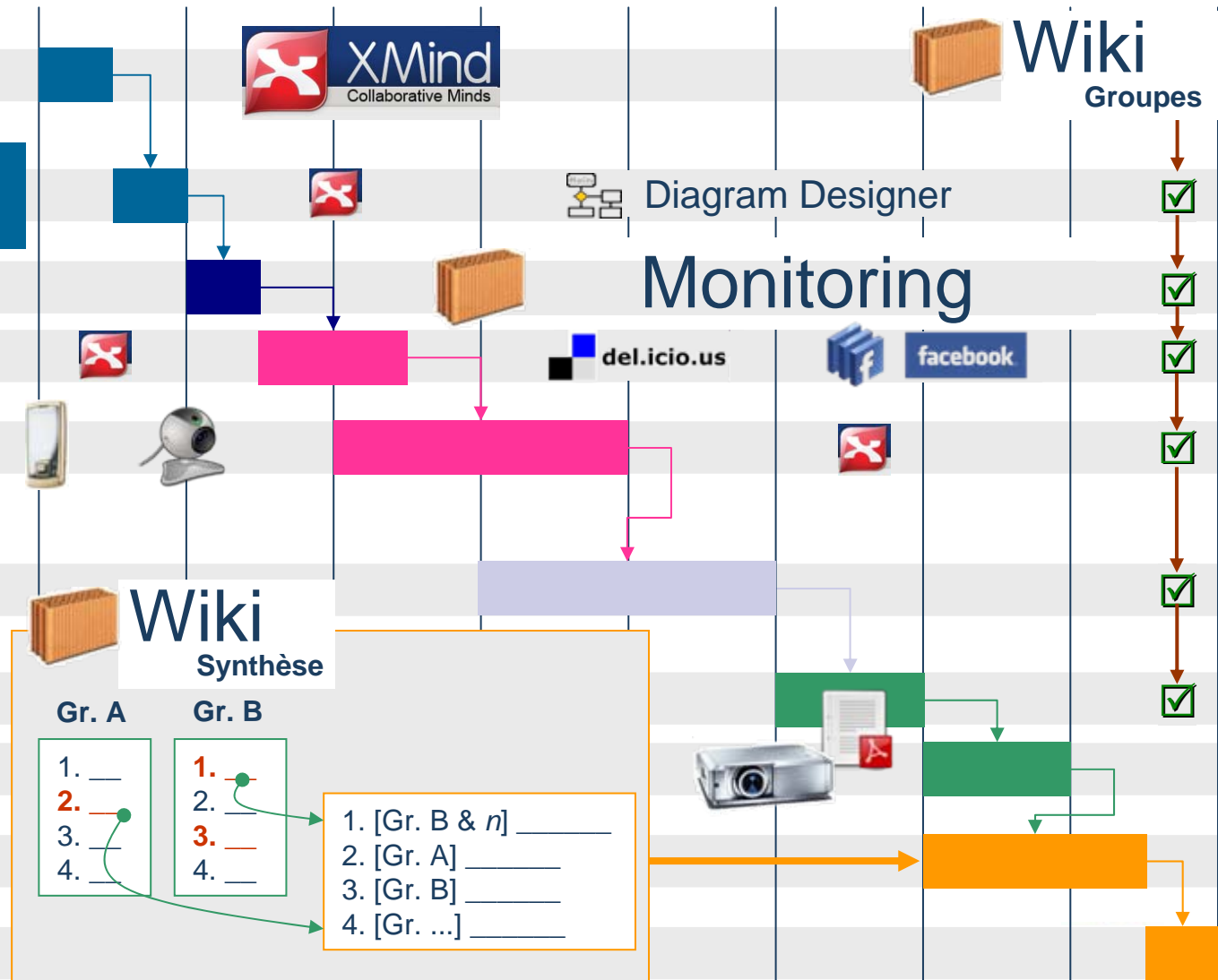
1 2 3 4 5 6 7 8



Wiki

Groupes





- Reading & problem formulation
- Formulation & Organisation of hypothesis
- Plan of studying
- Identifying information
- Measure, Experience, Observation
- Critical analysis of information and problem solving
- Argumentative restitution
- Oral presentation
- Refinements of the concepts
- Conclusions



Formalization with ScenEdit



Intentions Stratégies Situations

- ▲  Scenario : Démarche de projet en STI
 - ▲  Etape
 - ▲  Intentions
 - apprenant-Résoudre- une situation problème
 - apprenant-développer-la capacité à réaliser un travail collaboratif
 - ▲  Stratégie : Situation problème patron
 - ▲ Formulation de la problématique du projet
 - ▲ Formulation et Organisation des hypothèses
 - ▲ Plan d'étude
 - ▲ Repérage de l'information
 - ▲ Analyse critique de l'information recueillie et résolution du projet
 - ▲ Restitution argumentée / Présentation orale
 - ▲ Approfondissement des notions
 - ▲ Bilan par équipe et individuel

Scénario Projet VAE : Situation type

Choisir : ressource

Enregistrer

Quitter

Tout sélectionner

Tout désélectionner

Éléments 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

Ajouter une situation d'interaction

Intitulé *
Recherche d'informations sur internet

URL

Description

Liste des Éléments de connaissance

- Identifier les influences
- Produire un objet
- la capacité à réaliser un
- Réinvestir ses connaissances

Qui ?

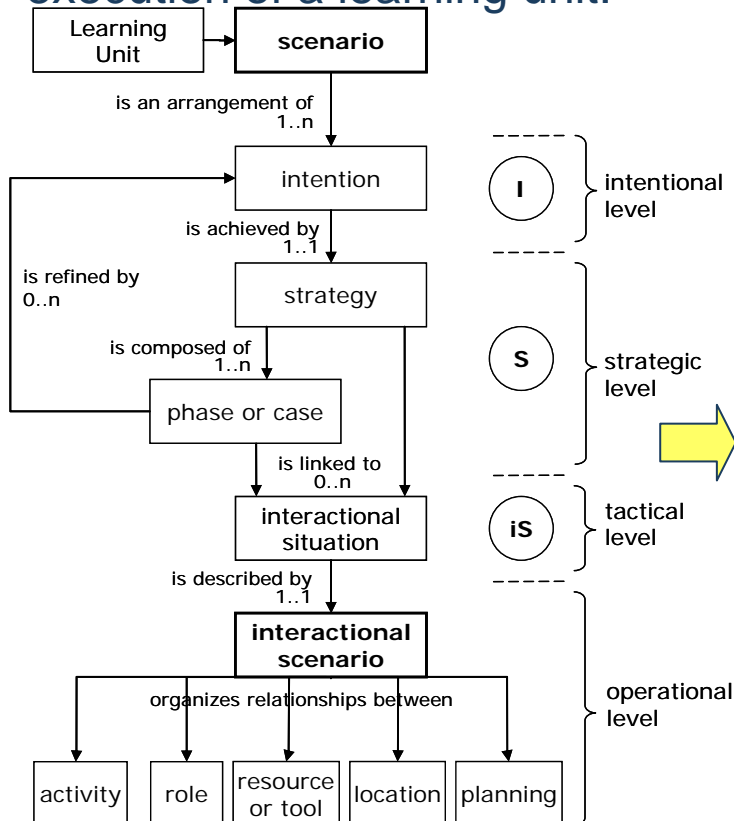


Ressources Fournies

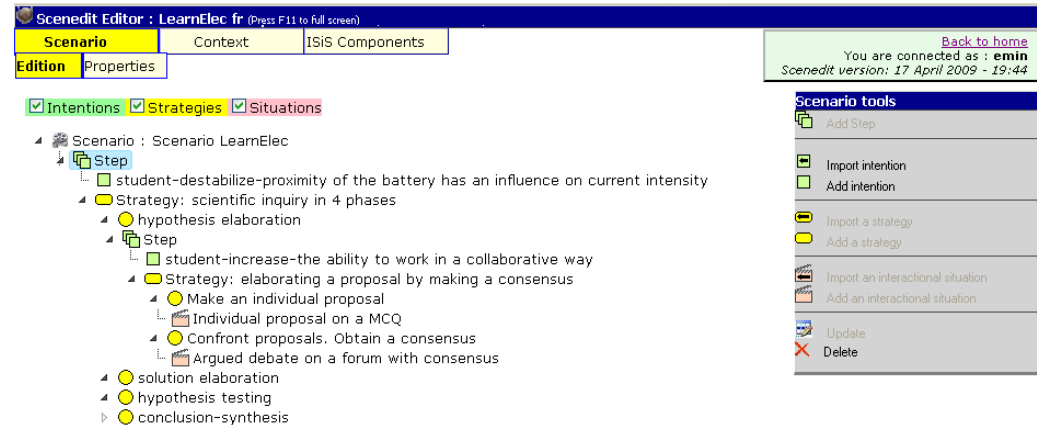


ScenEdit Framework

- ISiS conceptual model :** structures scenario design describing organization and planned execution of a learning unit.



- ScenEdit :** specific authoring environment dedicated to teachers-designers based on ISiS model.



XML Export of ScenEdit Scenario

⚠ Pour vous aider à protéger votre ordinateur, Internet Explorer a restreint l'exécution des scripts ou des contrôles ActiveX de cette page Web qui pourraient accéder à votre ordinateur. Cliquez ici pour afficher plus d'options...

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Ongoing Work

- Formalization of patterns
 - With Associated teachers in various subject matters (English, German, History, Technological Fields)
 - From literature in Educational Fields
- Experimentation of ScenEdit Tool : qualitative inquiry
 - Group of teachers in Technological Fields in Lycée Aristide Briand of St-Nazaire
 - teachers in Secondary school in Grenoble and Montpellier

Conclusions

- How ISiS Model and ScenEdit assists teachers in the design of learning scenarios ?
- How does our work favour sharing and re-using practices.

Perspectives

- Need some complementary tools to manage scenarios
 - Scenarios edition
 - Provide best practices and patterns
 - Favour diversity of design approaches
 - Sharing and mutualization tools
 - Based on communities of practice
 - Using key informations defined by the designers to index scenarios

Publications

- Emin V., Pernin J.-P., Guéraud V. (2009), *Model and tool to clarify intentions and strategies in learning scenarios design*, EC-TEL 2009 Proceedings, October 2009, pages 15, (to be published)
- 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.
- Bénech P., Lageat L., Emin V., Loisy C., (2009), *Pédagogie active basée sur la pédagogie du projet et sur l'utilisation d'Espace Numérique d'Apprentissage*. In *actes en ligne du colloque TICE Méditerranée 2009*, pages (12 pages), Mai 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, pages (2 pages), (2008)

Thank you for your attention 😊

Any questions

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Demo ScenEdit

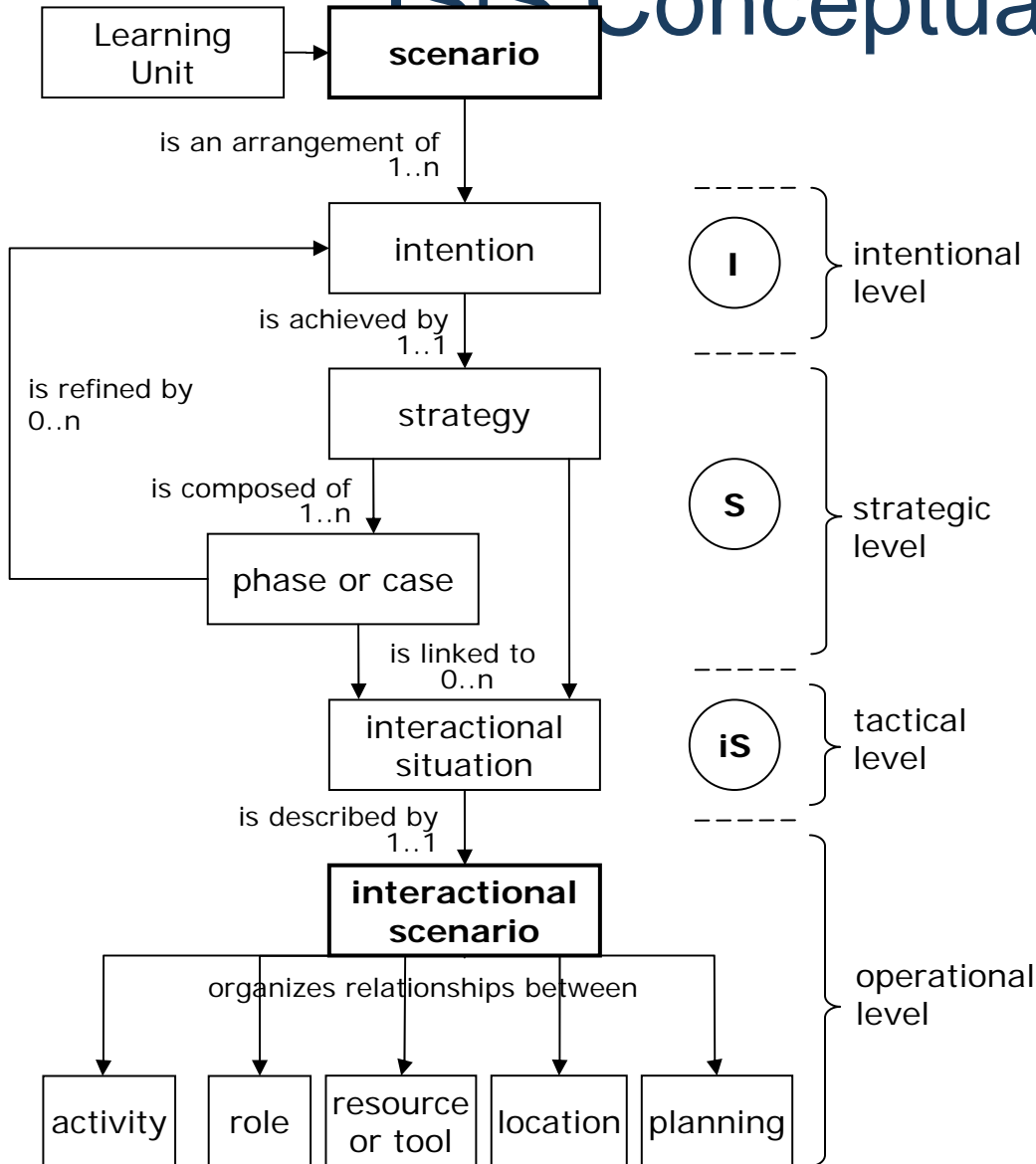
http://www.scenariopedagogique.net/scenedit_demo

login : demo_scenedit

ScenEdit Project

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

ISiS Conceptual Model



Program, Knowledge, competencies, know-how, etc.

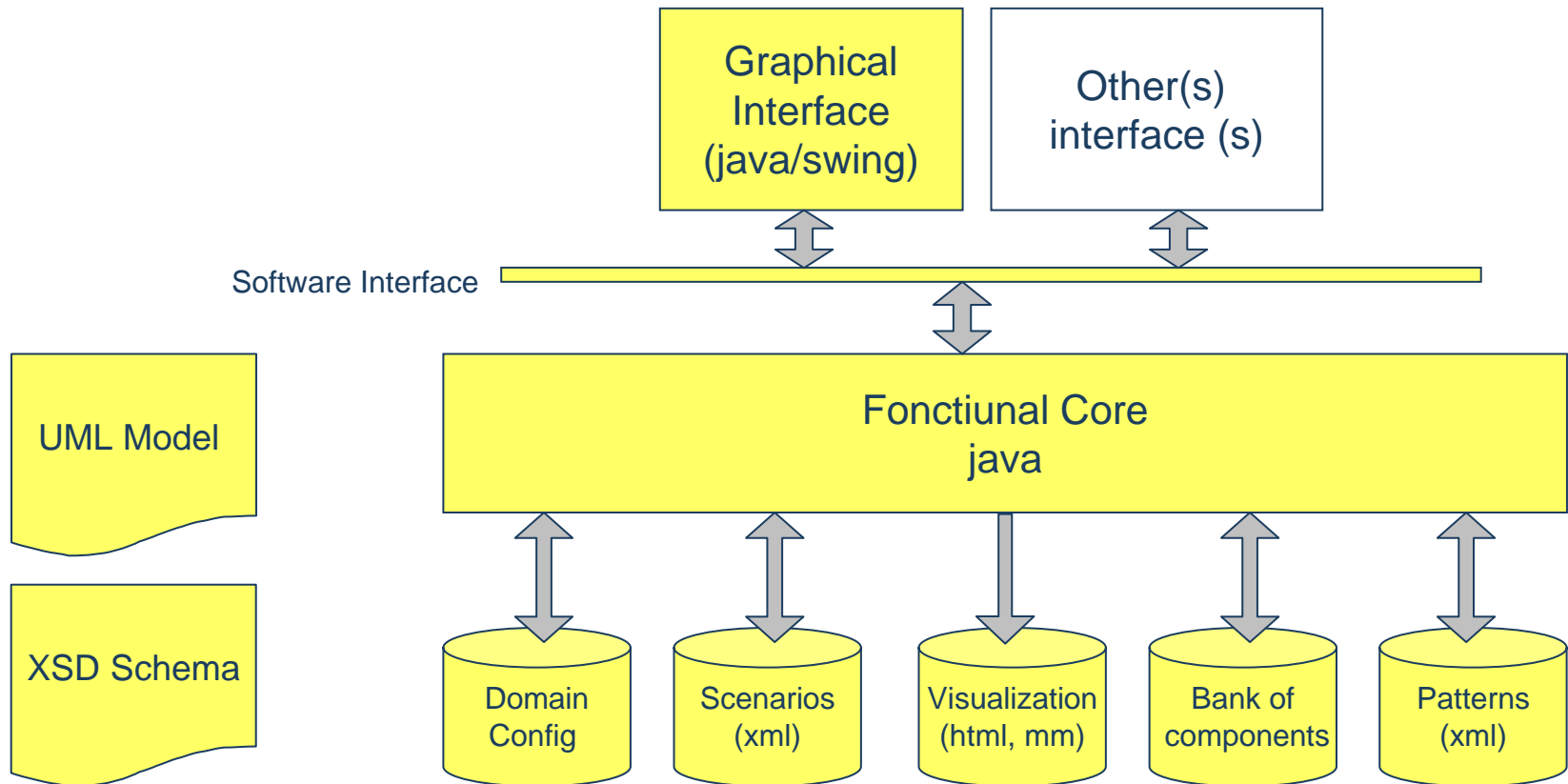


Pedagogical approach, succession of phases
Differentiation :
set of cases

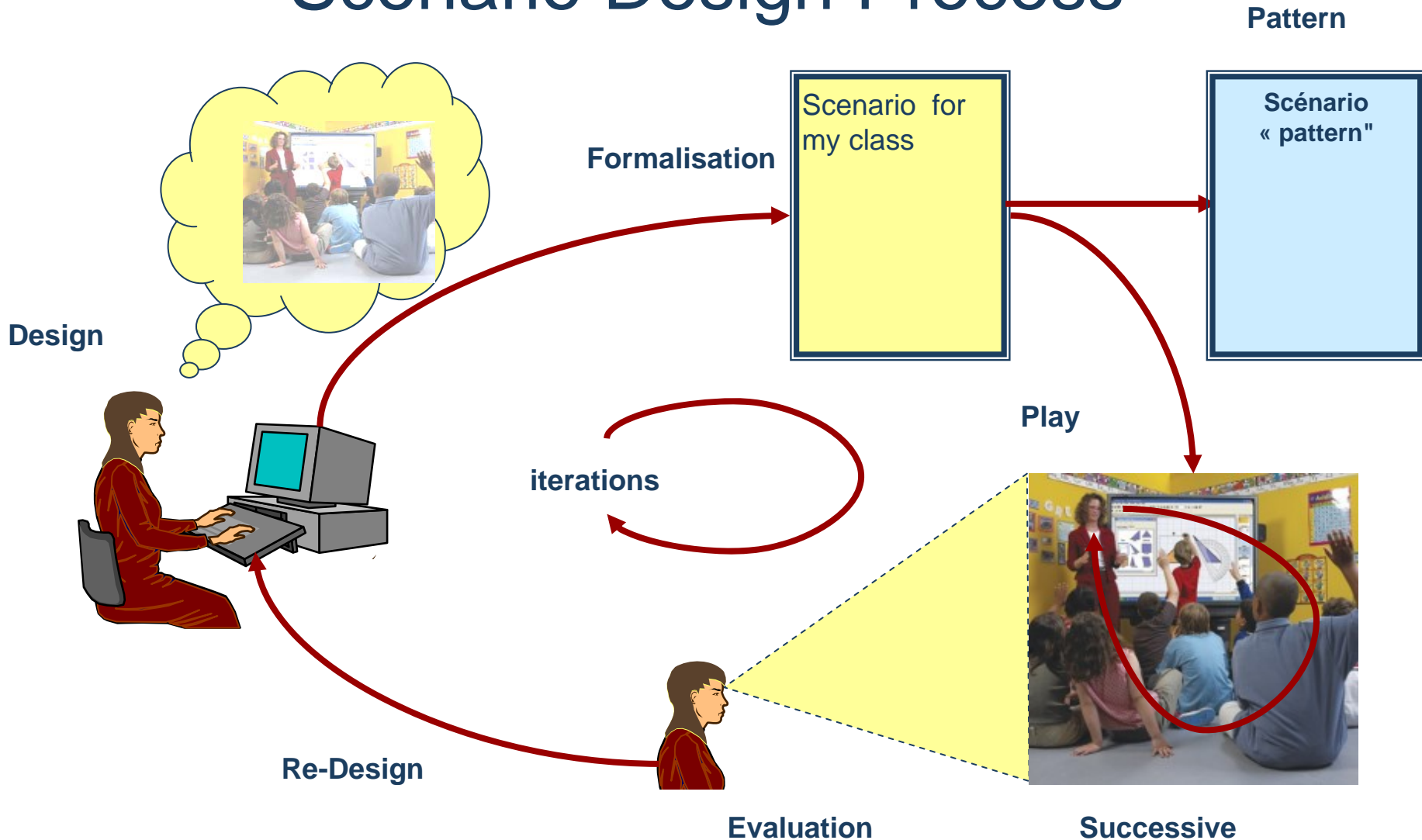


IMS-LD, LDL...

ScenEdit Environment Architecture



Scenario Design Process



Successive adjustments