

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 actors, roles
learning times and places**



Diversity of tools and devices

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



Diversity of software and services

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



Diagram Designer



Monitoring



facebook



Wiki
Synthèse

Gr. A

Gr. B

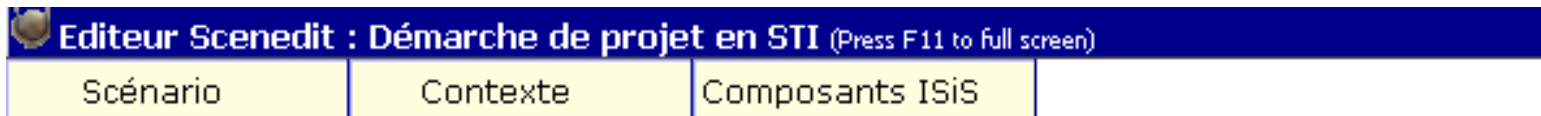
1. —
2. —
3. —
4. —

1. —
2. —
3. —
4. —





1. [Gr. B & n] _____
2. [Gr. A] _____
3. [Gr. B] _____
4. [Gr. ...] _____

- ✓
- ✓
- ✓
- ✓
- ✓
- ✓
- ✓

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

Ajouter une situation d'interaction

Enregistrer Quitter


Intitulé *
Recherche d'informations sur internet



URL
 [Test URL](#)


Description

Liste des Eléments de connaissance

- Identifier les influences des éléments du système technique sur l'objet à concevoir
- Produire un objet
- la capacité à réaliser un travail collaboratif
- Réinvestir ses connaissances dans une démarche de conception

Qui ?
eleve


Outils
internet ordinateur
 

Pour qui ?
eleve



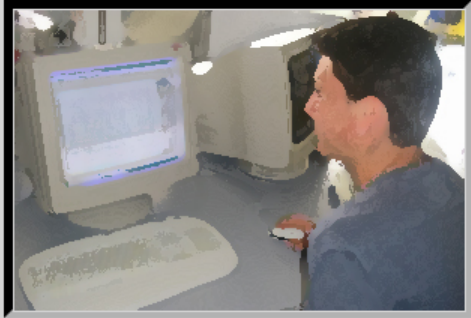


Ressources Fournies
document de présentation


Illustration


Ressources Produites
synthèse


Lieux
salle informatique


Choose a resource-type

Choisir : ressource

Enregistrer Quitter

Tout sélectionner Tout désélectionner

Éléments définis dans le contexte situationnel

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

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		

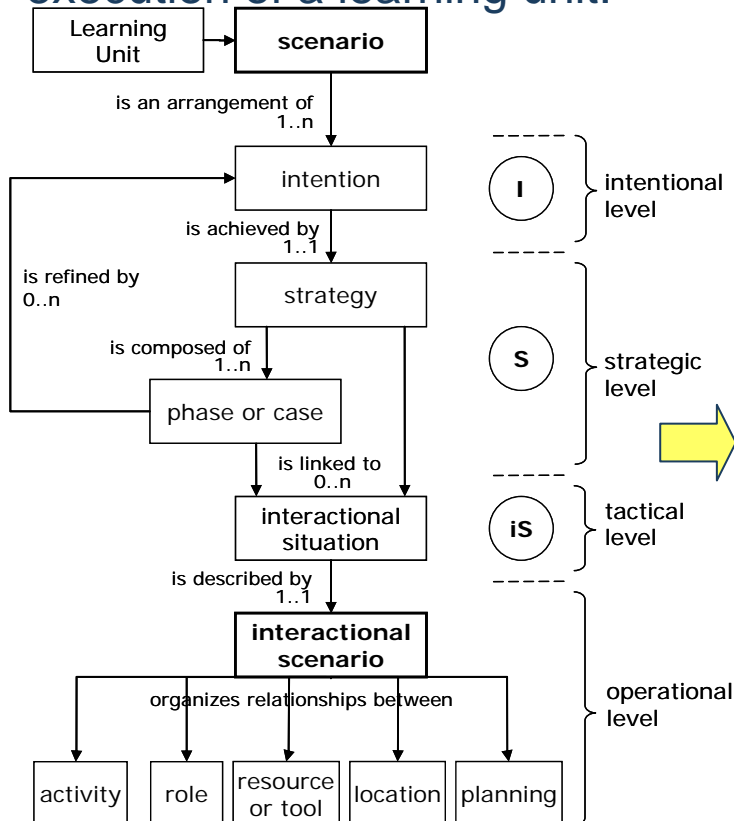
Personnaliser un icône

Nom :

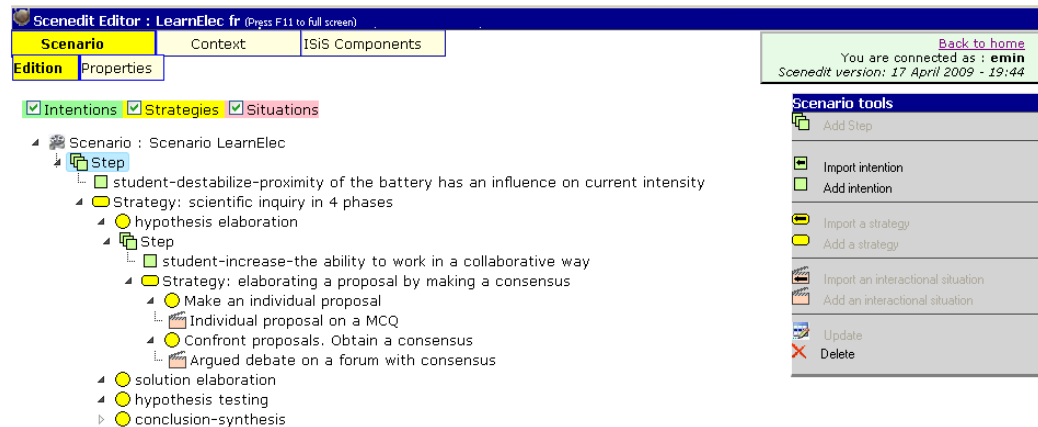
Enregistrer

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

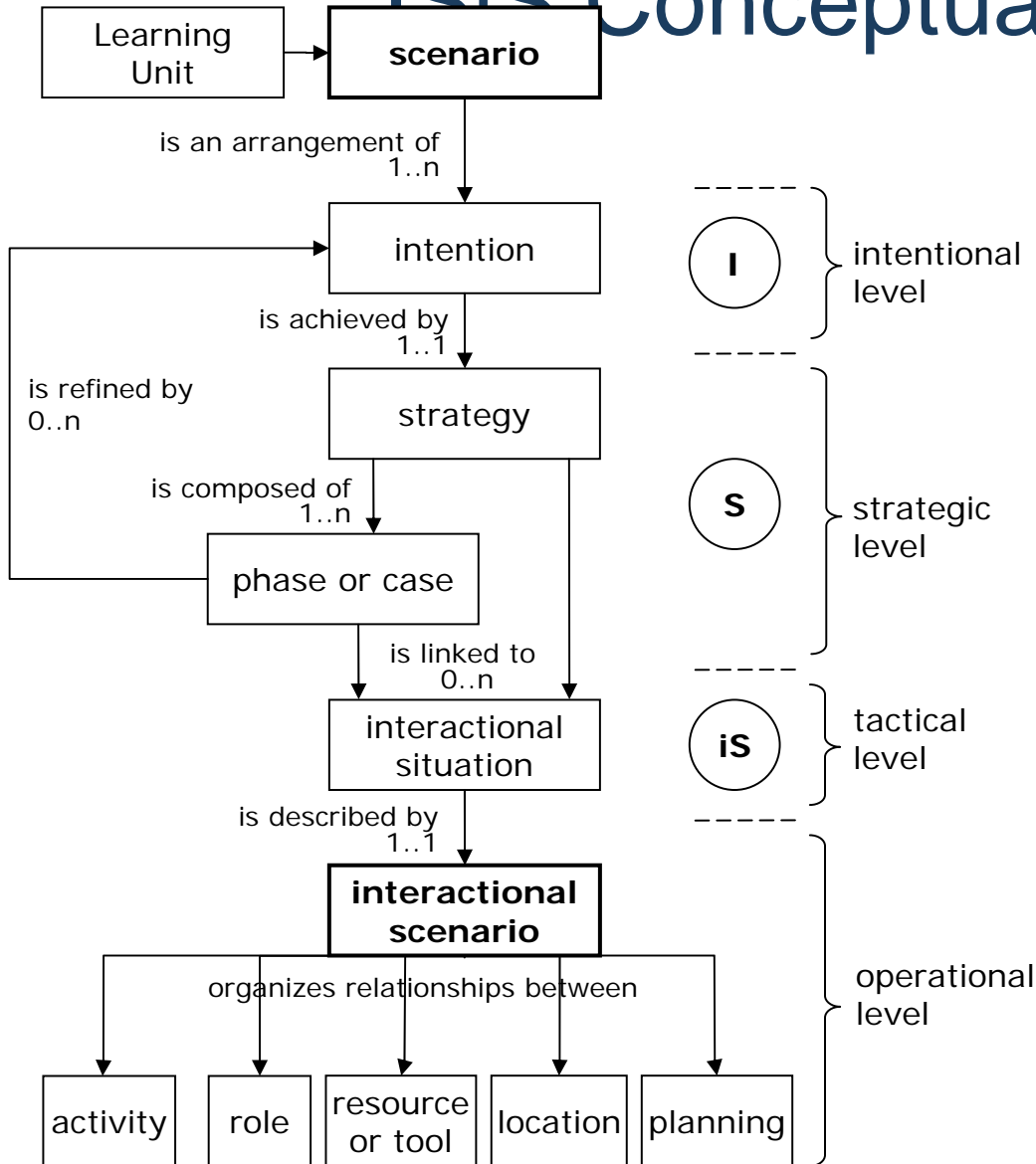
http://www.scenariopedagogique.net/scenedit_demo

login : demo_scenedit

ScenEdit Project

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

ISiS Conceptual Model



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

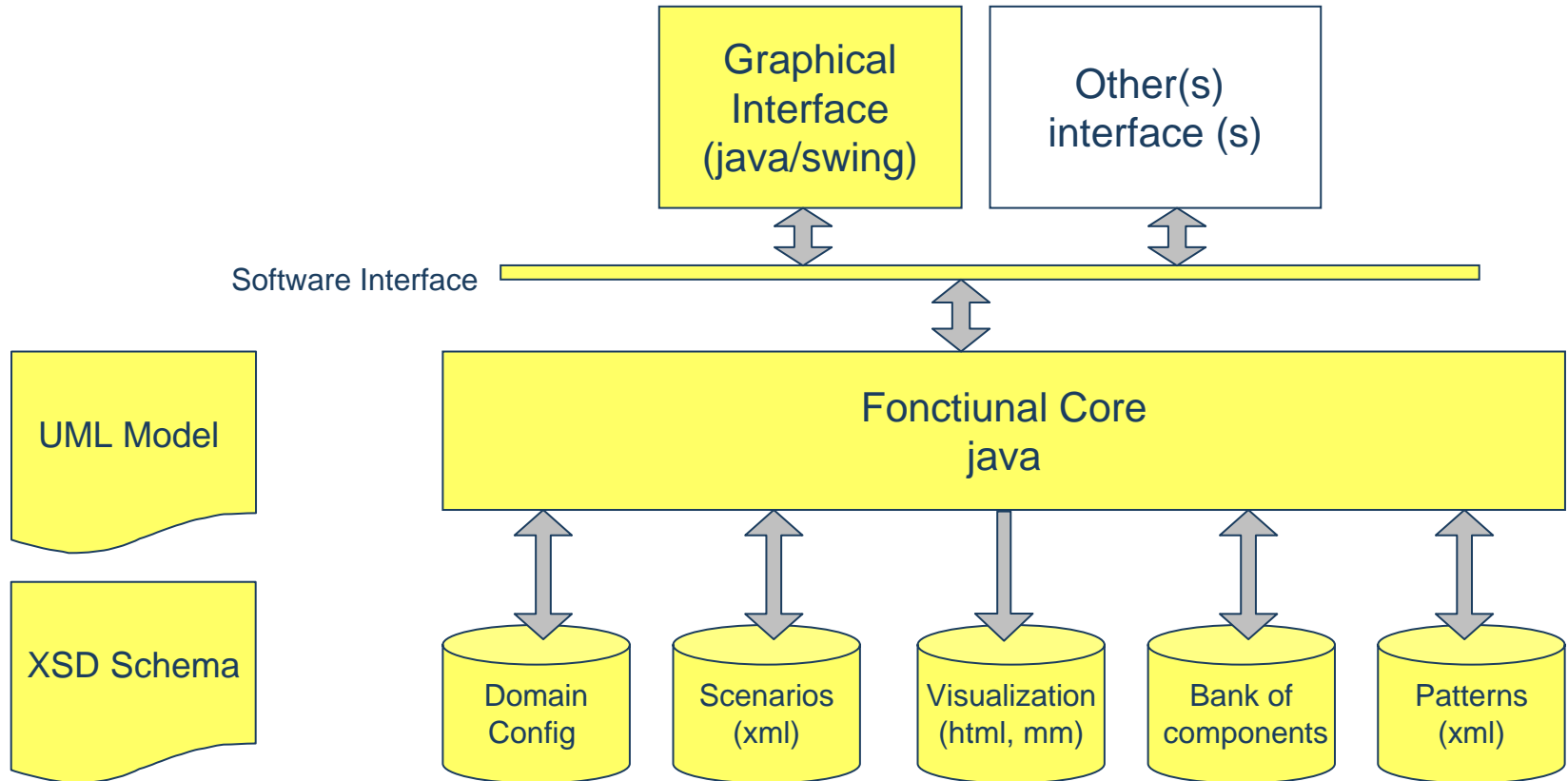


Pedagogical approach, succession of phases
Differentiation : set of cases

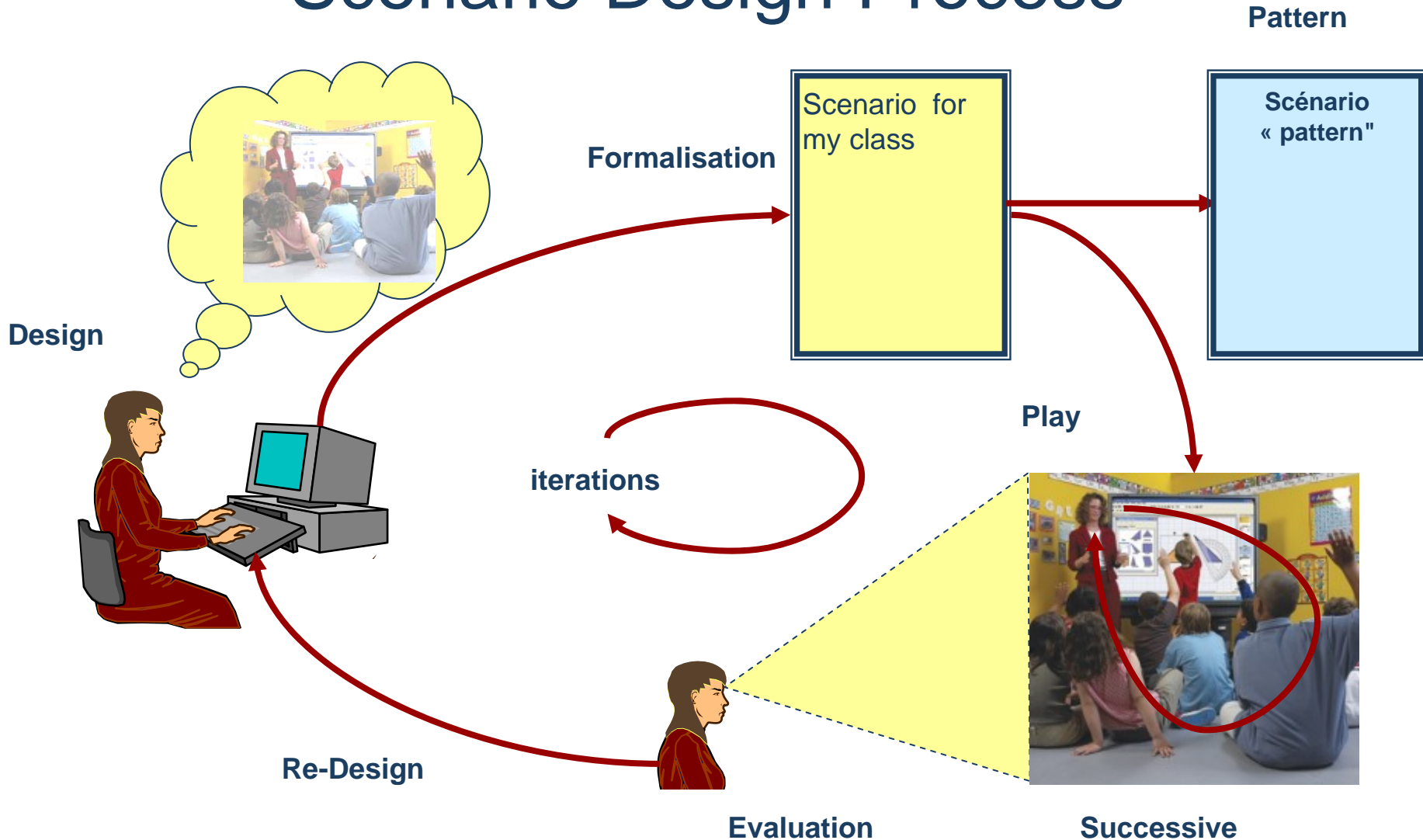


IMS-LD, LDL...

ScenEdit Environment Architecture



Scenario Design Process



Successive adjustments