

Toward Meta-Design to Enable Teachers Adapt Serious Games

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Interactions, Corpus, Apprentissages, Représentations

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CogCINEL Team @ ICAR Lab

CogCINEL: Cognition, Collaboration, INteractions En Ligne (Cognition, collaboration, online interactions)

The team research focuses on: verbal production and gesture, co-development of knowledge emerging in interactions, dynamics between emotions and argumentative interactions, as well as the establishment of an inter-in trade situations.

<http://icar.univ-lyon2.fr/pages/equipe12.htm>

Keywords

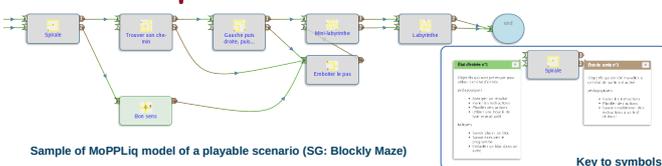
- Meta-design
- Serious Games (SGs)
- Authoring Tools
- Scenario
- Adaptation
- Design patterns
- Model cheking



Meta-Design for Serious Games

The adoption of SGs remains scarce. Our investigations show that one of the reasons may be the reservations of teachers against SGs that cannot be adapted to a specific context or pedagogical needs. To enable teachers to co-design SGs during the use stage, we harness the approach of meta-design. Hence, we propose a model and an authoring tool that help teachers to adapt SGs to their specific teaching contexts.

MoPPLiq a Model for SG Scenarios



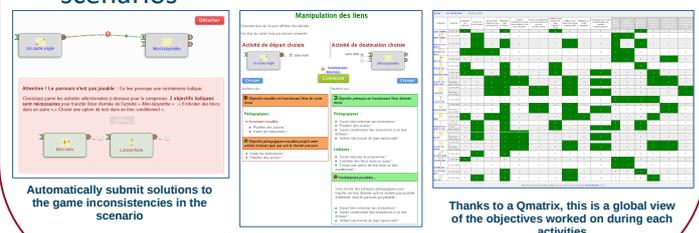
MoPPLiq (Modelisation des Parcours Pédago-Ludiques) it is an explicit, visual and formal model meant to depict adaptable SG scenarios. It describes scenarios as a flow of activities (i.e. stages, levels, exercises) and relies on 3 main features:

- **output states** of activities that model choices and performances of the serious-players
- **input states** of activities that model activity behavior specific to the learner achievements
- **objectives** that label input and output states with prerequisites and achievements

APPLiq an Authoring Tool to (re)Design Scenarios

APPLiq (Adaptation des Parcours Pédago-Ludiques) is an authoring tool based on MoPPLiq. It enables teachers to (re)design SG scenarios. APPLiq has 3 main class of features:

- Tools to **visualize** and (re)design MoPPLiq scenarios
- Tools to **assist** and **check** during the design stage
- Tools to **share** and **collaborate** with the scenarios



Samples of assistance screens of APPLiq

Blockly Maze

Blockly Maze, designed by Google, is an SG meant to learn to code. We forked it to run MoPPLiq scenarios.



<http://seriousgames.lip6.fr/blockly/apps/maze/>

Try APPLiq at Home



<http://seriousgames.lip6.fr/appliq/>

Future Work

We are currently working on new APPLiq features to enable:

- Assistance with the flow of complexity
- Modelisation of SGs events
- Redesign the GUI