Working With Volatile Data
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Introduction

- SimSYS is a collection of tools which is used to create content agnostic games that automatically adjust to a user’s skill level.
- One of the tools is the “Preview Tool”. It allows content experts to preview games made by a generator, revise content, and make adjustments to customize a game.

Problem Definition

- Needs to be able to withstand unknown changes in the underlying structure of a game, also known as the schema.
- Those unknown changes will also occur during the development of the tool.

Solution

- The Preview tool uses a Naked Objects Architecture. Each game element is responsible for representing itself. All business logic and rendering code is handled by the element.
- Translators provide initial conversion from the schema to the Preview Tool’s architecture. This allows the tool obtain only the data it needs from the schema.
- Mediators keep the Preview Tool architecture in sync with the schema. When an object moves or is resized, it contacts a mediator to make the change to both the schema and itself.
- This combination of Translators, Mediators, and Naked Objects Architecture yields a tool that is decoupled from the schema.

Future Work

- Different types of challenges should be supported. Currently only multiple choice is supported. More dynamic gameplay should be available.
- Generate traceability reports which prove to educators that all learning objectives are sufficiently taught.
- Content should be swapped intelligently to maintain narrative structure.

References

Towards a Lightweight Approach for Modding Serious Educational Games: Assisting Novice Designers