



RAGE

Realising an Applied Gaming Eco-System

Cognitive Intervention Asset

T3.4F

Created by TUGraz

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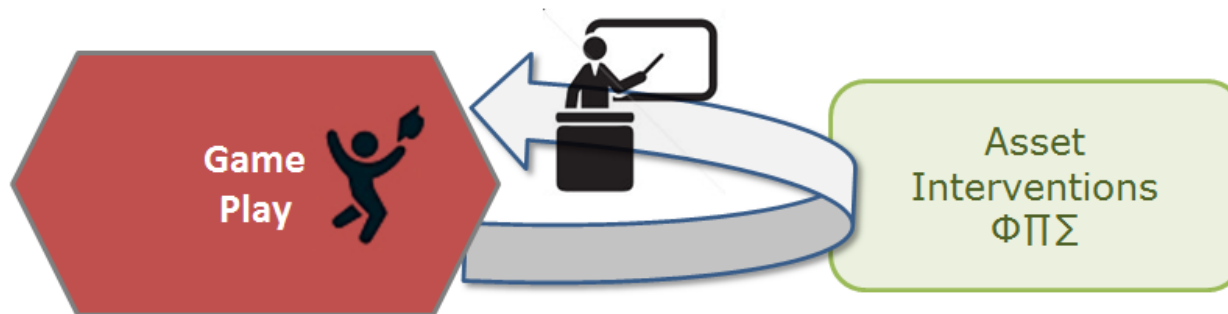


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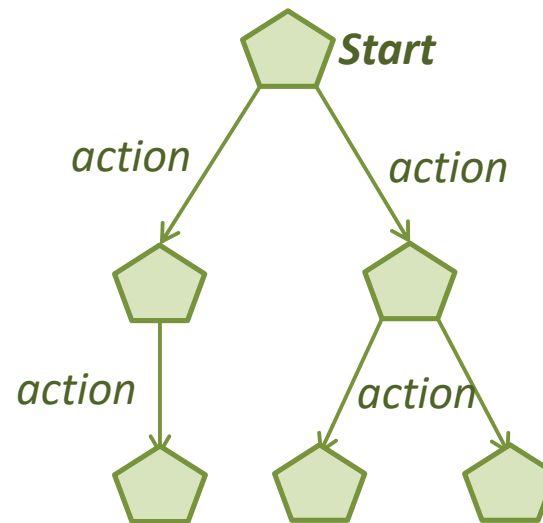
Idea and Pedagogical Value

- Adaptation to an individual player through personalised interventions
 - Providing learning support during game tasks
- Pedagogical value
 - Modelling and responding to typical problems and misconceptions
 - Fostering reflection and meta-cognition



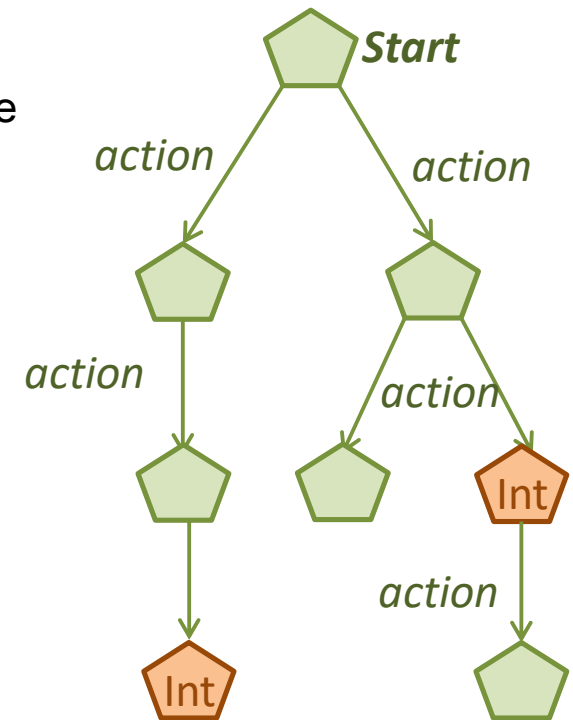
Asset Concept

- Modelling player actions and related interventions as a basis for triggering interventions
 - Wanted behaviour to accomplish a game task
 - Unwanted behaviour representing typical misconceptions or problems
 - Represented as paths of actions



Asset Concept

- Cognitive interventions
 - Pedagogically meaningful intervention types and instances
 - Aligned with self-regulated learning process, e.g.
 - Support self-monitoring on task performance
 - Convey information for progressing on a task
 - Stimulate reflection on unsuccessful performance
 - Intervention rules as nodes in action model



Infrastructure / Context

- Implemented as Client-side Asset
- Reads underlying data from local file
- Data file is created via supplied authoring tool
- When intervention is triggered, user specified procedure is started

Needed/Optional Bridges	Needed/Optional Assets
ILog - optional	-
IDataStorage – needed	-

Integration – Setup

- Set the ID of the data source file:

```
CognitiveInterventionAsset cia= CognitiveInterventionAsset.Instance;  
CognitiveInterventionAssetSettings cias = new CognitiveInterventionAssetSettings();  
cias.XMLFileLocation = "cognitiveInterventionXML.xml";  
cia.Settings = cias;
```

- Specify intervention behaviour:

```
CognitiveInterventionDelegate ciDelegate = (interventionType, interventionInstance) =>  
    Console.WriteLine(interventionType + ", " + interventionInstance);  
cia.setInterventionDelegate(ciDelegate);
```

Integration – Usage

- Send traces to the Asset:

```
cia.sendTrace("pick up mouse");
```

Added Value

Why should a game developer use the Cognitive Intervention Assets?

The asset provides an easy and meaningful handling of interventions within a game

- Pedagogical model of tailored interventions
 - Responding to problems
 - Enhancing game progress and learning progress
- Explicit modelling of successful action paths and misconceptions
- The asset is generic and can be used by any game
- Authoring tool allows to tailor model of player actions and interventions to individual games

Contact and More Information

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- More information on these assets:
 - <http://css-kti.tugraz.at/projects/rage/assets/>
- Video Demo
 - <http://css-kti.tugraz.at/projects/rage/assets/videos/Demonstration-CognitiveInterventionAsset.mp4>