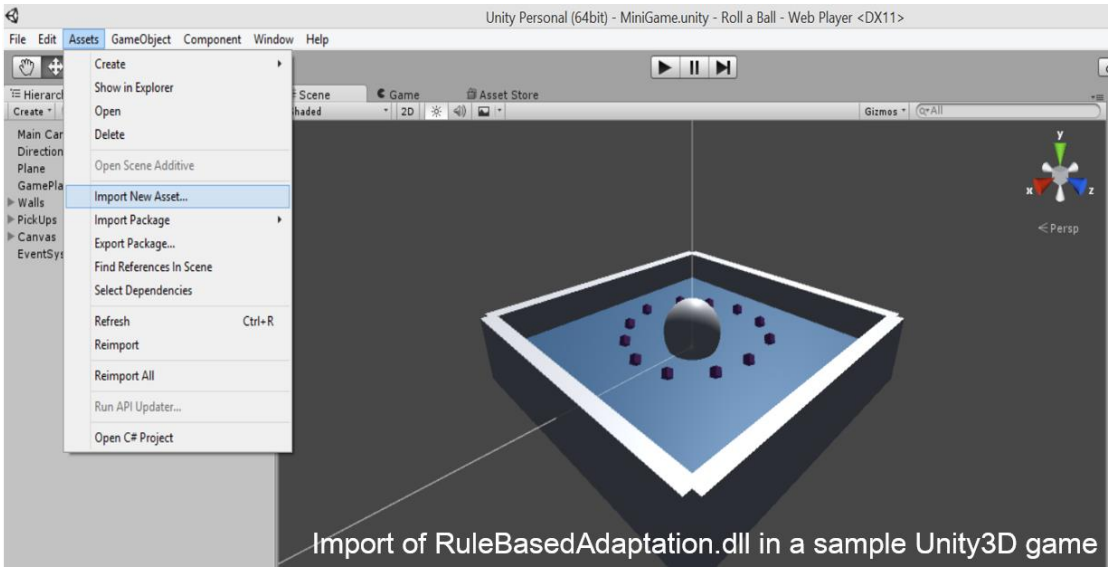
Rule & Pattern-Based Control Component



What can the Rule & Pattern-Based Control Component do?

The component checks for occurrence of rules and/or patterns defined for registered player-centric metrics or their features. Player-centric metrics are registered as time sequences, while rules and patterns of change of these metrics within a desired time window or their features (such as mean, deviation and moving average) are to be registered during playtime by simple formal definitions. In case of an occurrence of specific rule or pattern of metric´s change, the component executes rule/pattern event handler, which can be customised by the game developer in order to realise control or adaptation of some game features according to that change.

When should be used the Rule & Pattern-Based Control Component?

Game developers can use Rule & Pattern-Based Control Component in their games to support adaptive or controlled gameplay based on detection of occurrence of specific rule or pattern of change of given metric. In this way, they can control adaptation of player-driven game tasks and/or game assistance, dynamic adjustment of task difficulty, or adjustment of properties of audio-visual content and effects. On other hand, education specialists can track specific changes of learners' metrics in order to assess and optimise learning outcomes from a digital game.

Component functionality

The component requires registration of player-centric metrics and their features for being monitored. Next, one or more rules or patterns of change of already defined metric or its feature are to be specified by using a simple but yet powerful syntax allowing absolute or relative values of both metric´s feature and time moments/intervals of monitoring. For each rule or pattern, a custom event handler is to be programmed for realisation of game control when the desired change takes place.

What will the Rule & Pattern-Based Control Component be compatible with?

This component will be available in C# as a dynamic-link library (RuleBasedAdaptation.dll) and will allow easy integration in various game engines, e.g. Unity3D. As well, the component can be used together with the Arousal Detection

Component in order to detect specific patterns of change in player´s electro-dermal activity.

When can I start using the Rule & Pattern-Based Control Component?

The alpha version of this component will be available in May 2016. For more information, please contact Dessislava Vassileva at the Sofia University, Bulgaria: ddessy@gmail.com.