

Design of a game creation environment

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Abstract

There are many tools nowadays for videogame development. Generally, this kind of tools have been created for users with programming skills. This restriction, although is useful to programmers, excludes other professionals like graphics artists or designers. For this reason we propose an intuitive and simple environment that let professionals to design videogames without any programming knowledge. Our design allows to develop complex games visually without writing a single line of code, allowing to create game objects (actors) with complex interaction. The work uses a visual approach with diagrams for the specification of rules which are be defined without need of programming.

1. Game creation environment

The new game creation environment we propose has a different approach compared to traditional ones. There are several game development environments in the market, however our software has been built in order to avoid any programming at all. This approach allows users without any programming skills, like artists and designers, to successfully create videogames. In contrast to existing tools the philosophy behind our system is very close to presentation graphics software, such as Prezi, making it very simple and intuitive.

This innovative method uses two components to achieve game creation, scenes and actors. A game is made up of one or several scenes, a scene can be seen as a game stage that contains actors that interact with both the user and other actors. An actor is any element of the game, as for example: the scene background, game texts, game characters or even control objects. Actors are composed by properties, which allow you to specify physics, images, sounds, visibility, transforms and so on; and behavior rules, which make it possible to give behaviors to actors. The amount of conditions and actions in the behavior rules have been reduced to the minimum in order to make it simple and powerful. The system is based on simple “drag-and-drop” of conditions and actions into a decision graph to define your own complex rules (see Figure 1).

Our games are internally stored into XML files and are platform independent, that way it is straightforward to make a cross-platform video-game. We have developed for each platform (IOS, Android, Blackberry, Web, Windows, Mac

OS X and Linux) native applications that are able to read these XML game files allowing for full multi-platform game development. Moreover our game creation environment is completely in the cloud, thus an user can make his own games everywhere without requiring any type of specific software. Native applications just connect to our server and retrieve the games (XML files). This is a powerful solution since a user can develop a game, save it and instantly play in every platform without any kind of intermediate process.

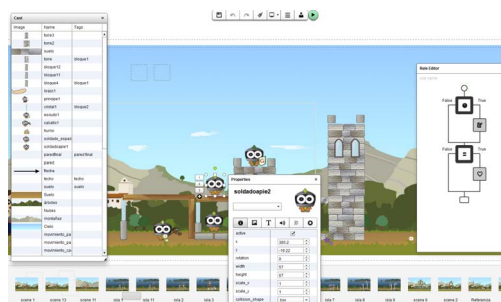


Figure 1: View of the development environment

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