Edith

Animation Team
Requirement Specifications

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1 *Executive Summary*

One of the components of the "Edith" system, a 2D web-based computer science teaching tool, is the Animation System module, a sub-system of Edith. The Animation System module is important because it includes the core animation frameworks and specifications of how the animations and audio will be produced. In a visually-based programming environment, this module is clearly important because it provides animations without requiring the user to have any knowledge of a scripting language or computer graphics concepts. There is only one use case for this module: provide animations and play sounds. The animations are specified by a different sub-system which delivers the instructions to the Animation System module. The Animation System processes the instructions (assuming the instructions were delivered correctly) and delivers the animations and audio to another sub-system to be displayed on the screen as desired.

2 *Introduction*

2.1 Edith

Edith is a 2D, web-based system to help students learn to program and get excited about computer science. The system will allow students to program relationships among objects in a virtual world, in order to create animations. It will offer several useful capabilities: users will be able to create objects for their story using a graphical, drag and drop interface; specify animated behaviors for these objects using a visual programming language; add user interactions to create game-like experiences; and share their creations with others.

2.2 Module

The Animation Module accepts a properly formatted instruction set to construct an animated scene. An animated scene consists of a canvas that can include pre-defined image sprites and pre-defined audio files provided by the Object Creator Module. The scene is installed in the final UI by the Story Creator Module.

2.3 Purpose

The Animation Module allows the user to render animations without knowledge of a scripting language. This is possible by applying pre-defined animation sets to image sprites. The module also allows the user to include audio with their animations. The module is intended to interpret animation instructions and render an animation sequence.

3 Functional Requirements

3.1 "Use Case 1: Providing Animations and Playing Sounds"

1. Actor

   (a) "Drawer": The system providing us with sprites to animate and sounds to play.

   (b) "Taker": The system that takes and displays our canvas.

   (c) Animation System: The system we are creating that handles back-end animation and final.

2. Preconditions/Assumptions

   (a) Preconditions: The user has already defined which sprites will be animated and which sounds will be played.

   (b) Assumptions: The web browser supports HTML5 and JavaScript.

3. Flow of Events

   (a) "Drawer" provides drawing instructions to the Animation System.

   (b) The Animation System processes the instructions.

   (c) The Animation System creates animations and plays sounds.

   (d) The Animation System provides the animations to the "Taker."

4. Alternatives

   (a) The "Drawer" provides faulty drawing instructions.

   (b) The Animation System attempts and fails to process instructions.

   (c) The Animation System passes the error to the "Taker."

3.2 UML
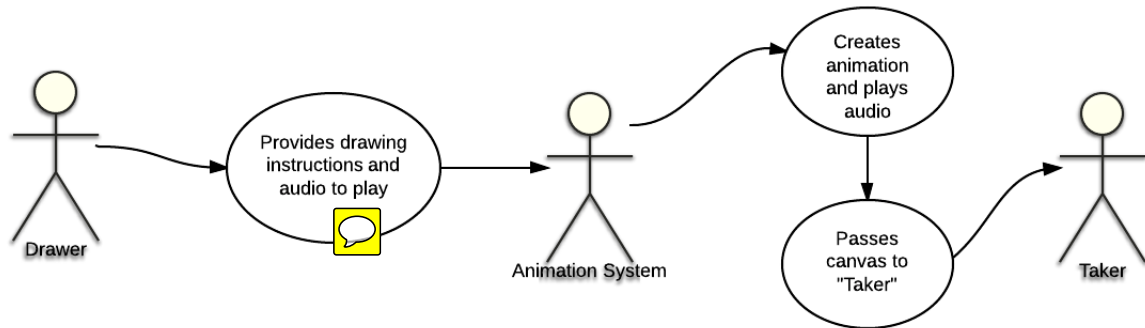
UML Diagram of Animation System Flow of Events

4 *Nonfunctional Requirements*

- Ease-of-Use: Specific documentation of options for animation provided to the "Drawer" on animations that we can provide.

- Documentation: Specific documentation of instructions provided to the "Taker" on how to receive the dynamic picture frame (the canvas).

5 *Glossary/References*

Glossary:

- Canvas: The JavaScript and HTML5 "dynamic picture frame" to give to the "Taker."

- Sprite: a computer graphic that may be moved on-screen and otherwise manipulated as a single entity

References:

- LaTeX WikiBook http://en.wikibooks.org/wiki/LaTeX

- Edith Project Description http://cs.pugetsound.edu/ jross/courses/cs240/project/edith/

- New Oxford American Dictionary (American English)