**Slide & Catch Lab pt. 1**

**Game Design Document**

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**Overview:**

The user will control an avatar using the *W,A,S, and D* keys to move around the screen. The avatar appears in the middle of the gameplay screen with a background image of an ocean meeting lava pouring into it. Axes will randomly fall from the sky at random locations and a random speed. The object of the game is to avoid the axes falling from the sky. If the users avatar gets hit by an axe, play a hit sound and the user loses a life (lives start at 5). If an axe reaches the bottom of the screen it gets reset at the top and drops again. When the user hits 0 lives, the game ends. The user gains a point for every second they are alive.

**Game Design Diagram:**

This is the gameplay scene. It will be subclassed from simpleGE.Scene

**A diagram of a computer game

Description automatically generated**



Sprite assets:

* **avatar** – an instance of the Avatar class (see **asset plan** below)
* **axe** – a list of instances of the Axe class (see **asset plan** below)
* **lblLives** – coming in part 2
* **lblTime** – coming in part 2
* **lblScore** – coming in part 2

Non-Sprite assets:

* **timer** – coming in part 2
* **score** – coming in part 2
* **lives** – coming in part 2
* **sndAxe** – coming in part 2

**Gameplay Pseudocode:**

**Game** class will be a subclass of simpleGE.Scene

Init:

Set background image

Create instance of avatar

Create instances of axe

Add avatar and axe to list of sprites

Lives get 5

Process:

for each axe in axes

if axe collides with avatar

play axe.wave

take a life away

reset axe to top of screen

**Axe** class will be a subclass of simpleGE.Sprite

Init:

Set image to axeDouble.png

Set image size

Call reset method

Reset:

Set axe position y to top of screen

Set axe postion x to random between 0 and screen width

Set axe movement in y to random speed between 3-10

checkBounds:

if axe y is greater than screen height

call reset

**Avatar** class will be a subclass of simpleGE.Sprite

Init:

Set image to avatar.png

Set image size

Set default position

Set move speed for x & y

Process:

If W is pressed

move -y speed

if A is pressed

move -x speed

if S is pressed

move y speed

if D is pressed

move x speed

**Asset Plan:**

***lavaOcean.jpg***

Lava flowing lava into the ocean

Description automatically generated

Creative Commons:

<https://www.flickr.com/photos/18548283@N00/4186711821>

***axeDoube2.png***

A cartoon of a battle axe

Description automatically generated

Creative Commons:

<https://opengameart.org/content/fantasy-icon-pack-by-ravenmore-0>



***avatar.png***



Creative Commons:

<https://opengameart.org/content/small-static-character-sprite>

***axe.wav***

Creative Commons:

<https://opengameart.org/content/202-more-sound-effects>