Sprite Guy!

Game Design Document
Chad M. R. Cromwell
February, 2017
Revision 1.0

This game gets its inspiration from Space Invaders by Taito. It is a simple game where the player must avoid falling eggs and stay alive as long as possible. There are various objects that fall that the player can collect, such as potions that either make the player shrink, grow, or become invincible, or hearts that restore the player's health. The eggs continually fall faster and faster until the player ends up dying. The player has three hit points, and once the hit points are all lost, the game is over. The time and hit points are dynamically displayed at the top corners of the screen. There is background music and various sound effects.

User Interface
The user interface of Sprite Guy! is fairly simple.

> Main window - Horizontally across the middle of the screen, is the main window where the game takes place. It is where the user moves around, avoids eggs, and collects collectables.

> Score window - In the top left of the screen, will display the user's score which is the time alive. This will be threaded to run with the health window to increase efficiency.

> Health window - In the top right of the screen, will display the user's current hit points as hearts. This will be threaded to run with the score window to increase efficiency.

> Info window - Horizontally across the bottom of the screen, displays help information when user pressed Ctrl+h.

Score/Time window		Health window
	Main window	
	Info window	
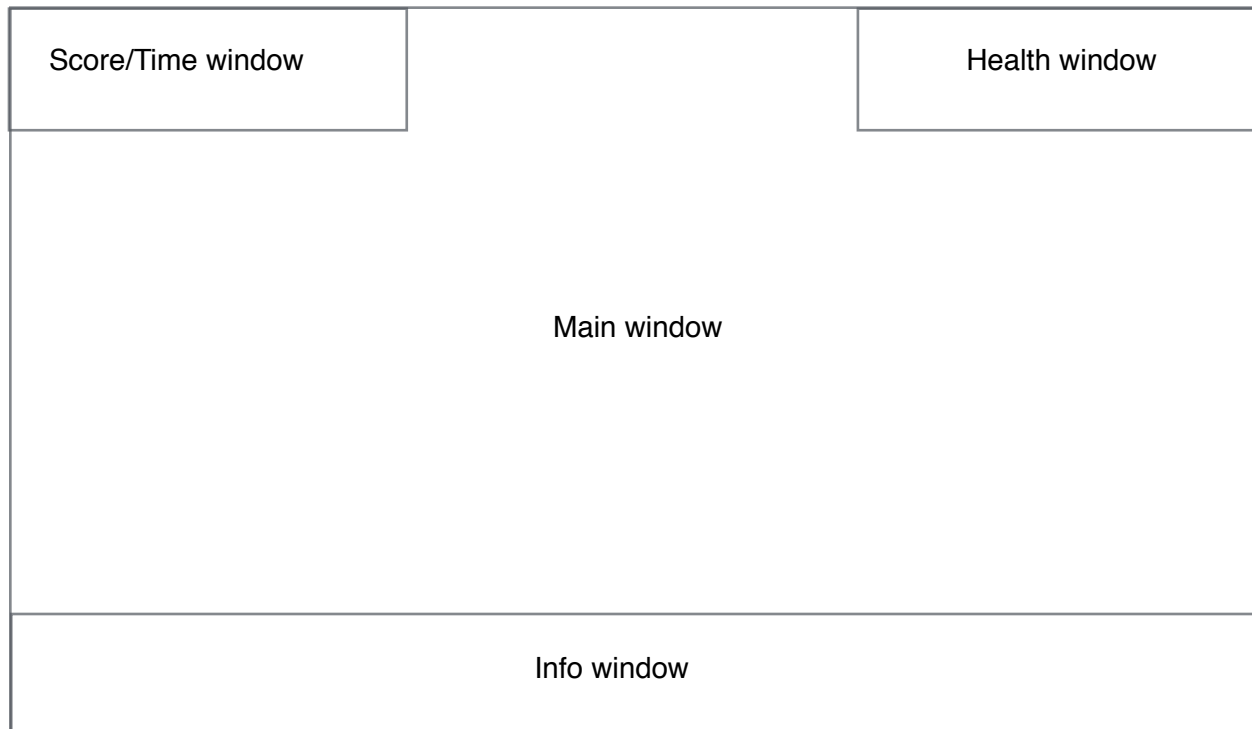
Main window
The main window will be where the users sprite, eggs, and collectables will be displayed and moving. The user will move left to right on the screen, and have the ability to jump. There will be a wrapper so the user can go off the sides of the screen and appear on the other side. Eggs will smash on the user or the ground when they hit. If collectables hit the ground they disappear.

At the end of the game, the main window will display the users total time that they survived.

The Welcome Screen
The user will be greeted with a welcome screen telling them the name of the game, copyright information, and how to play. They can press any key to continue to the game when they are ready to play.

Main Game
When the game starts, the eggs immediately start falling at a slow speed. The user can move around with the arrow keys and jump with the space bar. The eggs will slowly start increasing in speed as time goes on. AI will be used to have an egg always spawn above the head of the player and one egg that always homes in on the player. The potions that fall randomly change the state of the sprite. Sometimes the sprite will grow larger which makes it harder to avoid the eggs. Sometimes the sprite will shrink to half the size which makes it easier to avoid eggs. Other times, the sprite will become invincible and not get hurt by the eggs. Each state lasts 10 seconds. After the player loses all 3 hit points, the game is over.

Time: 1:50   <3 <3 <3
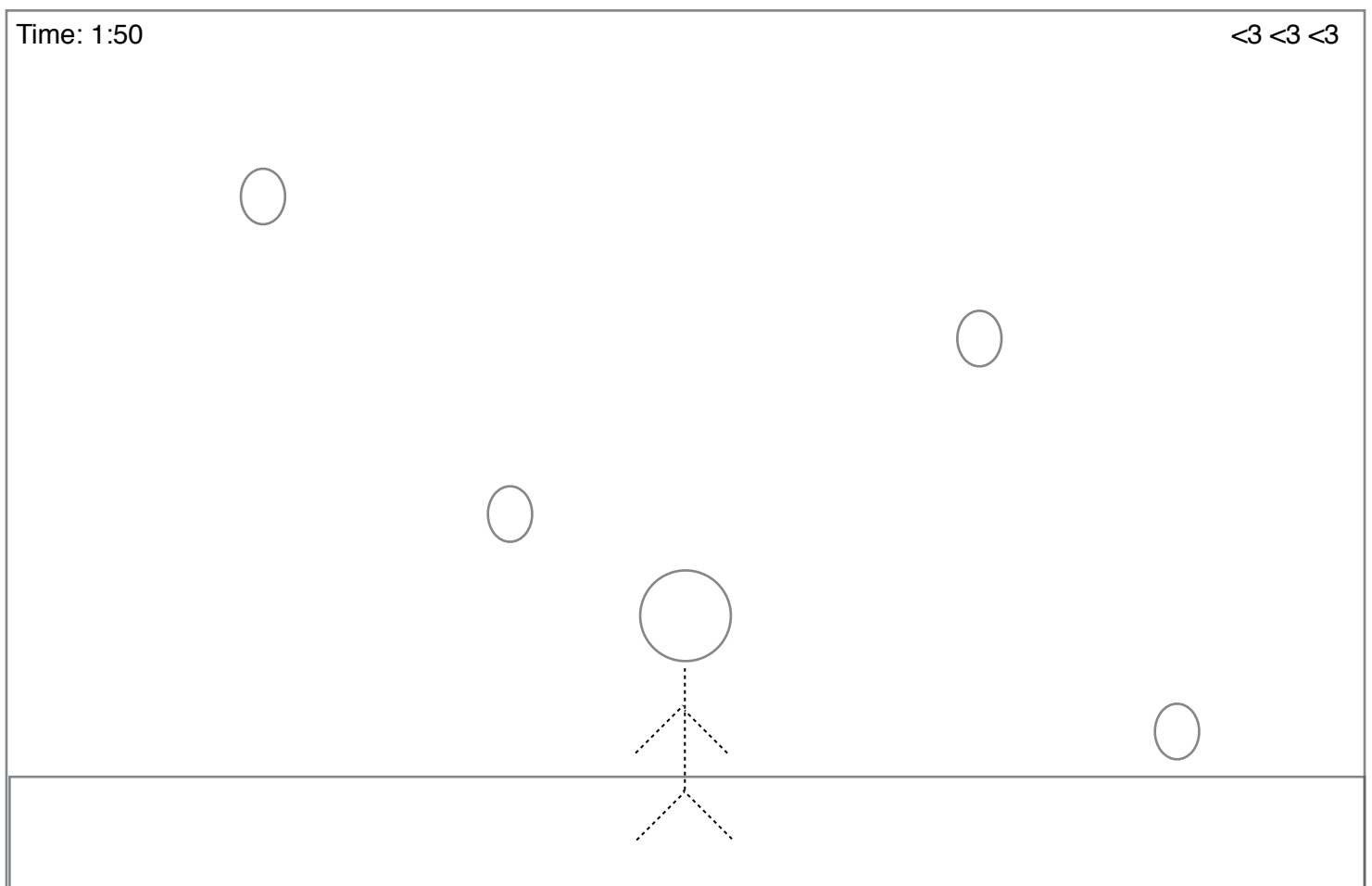
Final Score Screen
The user will be presented with their final score and the game will exit when they press any key.

Scores
The score is the amount of time that they user has survived.

FAQ
Q: What input is used for this game?
A: Keyboard

Q: Is sound required for this game?
A: No, but it is recommended.

Q: What if the game cannot find files, such as audio, font, or graphics?
A: Make sure that the .dat file is located in the same directory as the program itself.