

Jump and Jolt Game Concept

Aaron Cook – 12/12/2007

Introduction

“Jump and Jolt” is a multiplayer platform game for the Atari 800 that uses new feedback methods to “electrify” gameplay. It’s no longer just your avatar that feels your mistakes – each time you die, the custom made Jump and Jolt gamepads make you pay for your mistakes.

Platform Background

The Atari 800 was released in 1979 and had some revolutionary features, such as its 48k of memory, 4 controller ports and external floppy drives. The Atari 800 was our platform of choice due to these features, and the fact that the Atari 800 was an open platform – games could be developed for it without needing to purchase a development kit. An attachment also provides a serial port, which makes the system much easier to interface with. These features were all missing from newer consoles, like the NES, SNES or Sega Genesis, which are all closed platforms.

Description

Jump and Jolt is loosely based up on the classic PC game Jump ‘n Bump. It is a multiplayer only game, in which players take control of up to 3 bunnies. Your goal is to stomp on the other players head in order to gain points. The first player to score 20 points wins. When an opponent stomps on you, not only does he gain a point, you are penalized with an electric shock through the gamepad. The electric shocks aren’t harmful in any way, but the discomfort they cause will make you think twice before moving in for an attack.

Key Features

- Multiplayer Support – Up to 3 players can play.
- Shocking Feedback – Make your opponents feel their mistakes!
- Random Levels and Spawns – You never know what’s coming, so be prepared.
- Deathmatch style scoring system – The player with the most frags wins!
- Simple Gameplay – Anyone can play, but be careful, it’s hard to master.

Genre

Jump and Jolt is a multiplayer platform fighting game. Players are pitted against one another, and the player with the highest score wins. Gameplay is similar to the versus

modes found in Super Mario Brothers games – players have to jump on each other's heads in order to defeat their opponent.



Jump and Jolt Architecture ER Diagram

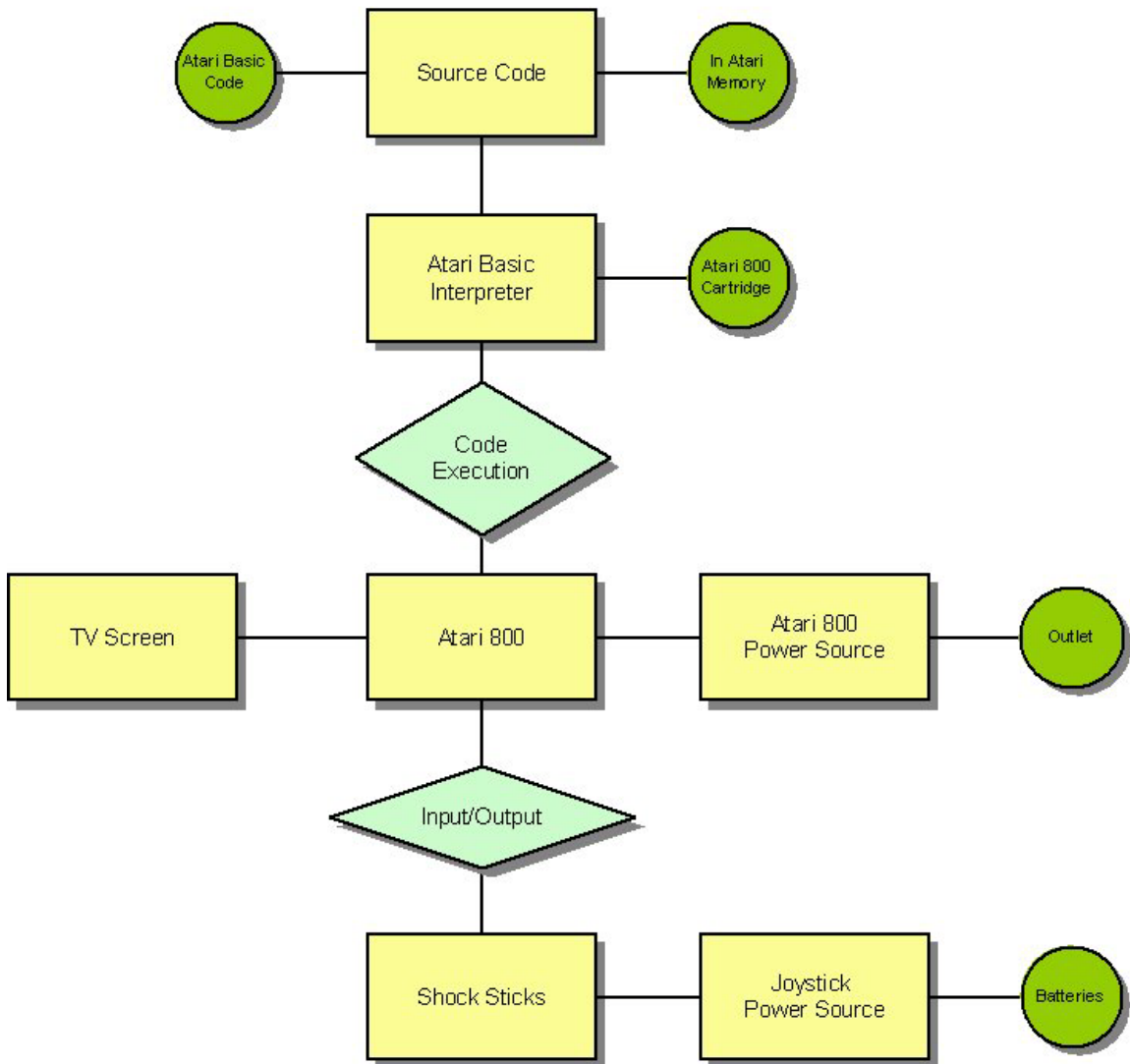


Diagram Key

Source Code – Entity

Jump and Jolt is written in Atari Basic code. The program source code is needed upon each execution of the game, and is stored in the Atari 800's built in memory.

Atari Basic Interpreter – Entity

The Atari Basic Interpreter, loaded off of an Atari Basic cartridge, takes the Jump and Jolt source code line by line and tokenizes it into a token program.

Code Execution – Atari Basic Interpreter + Atari 800 Relationship

Once each line of the source code is tokenized, the token program is executed. A game of Jump and Jolt begins.

Atari 800 – Entity

An unmodified Atari 800 system is be used to run Jump and Jolt. It's 4 controller ports, 1 cartridge slot, and TV out are be utilized.

TV Screen – Entity

A standard TV is used to display the game, in NTSC mode.

Atari 800 Power Source – Entity

The Atari's standard power source is used to power the system and will be connected to a standard wall outlet.

Input/Output – Atari 800 + Shock Sticks Relationship

Via the standard joystick ports and a slightly modified joystick cable, the Atari 800 not only receives input, but also sends output to the joysticks. Input is used for various things, such as player movement and menu navigation. Output is used for initializing a shock to the player.

Shock Sticks – Entity

Shock Sticks are modified Atari joysticks that have a premade shock stick added onto them. They function just like a standard joystick, but with the added functionality of shocking the player.

Joystick Power Source – Entity

Each Shock stick is powered by AA batteries, which is attached to the base of the joystick.

Jump and Jolt Program ER Diagram

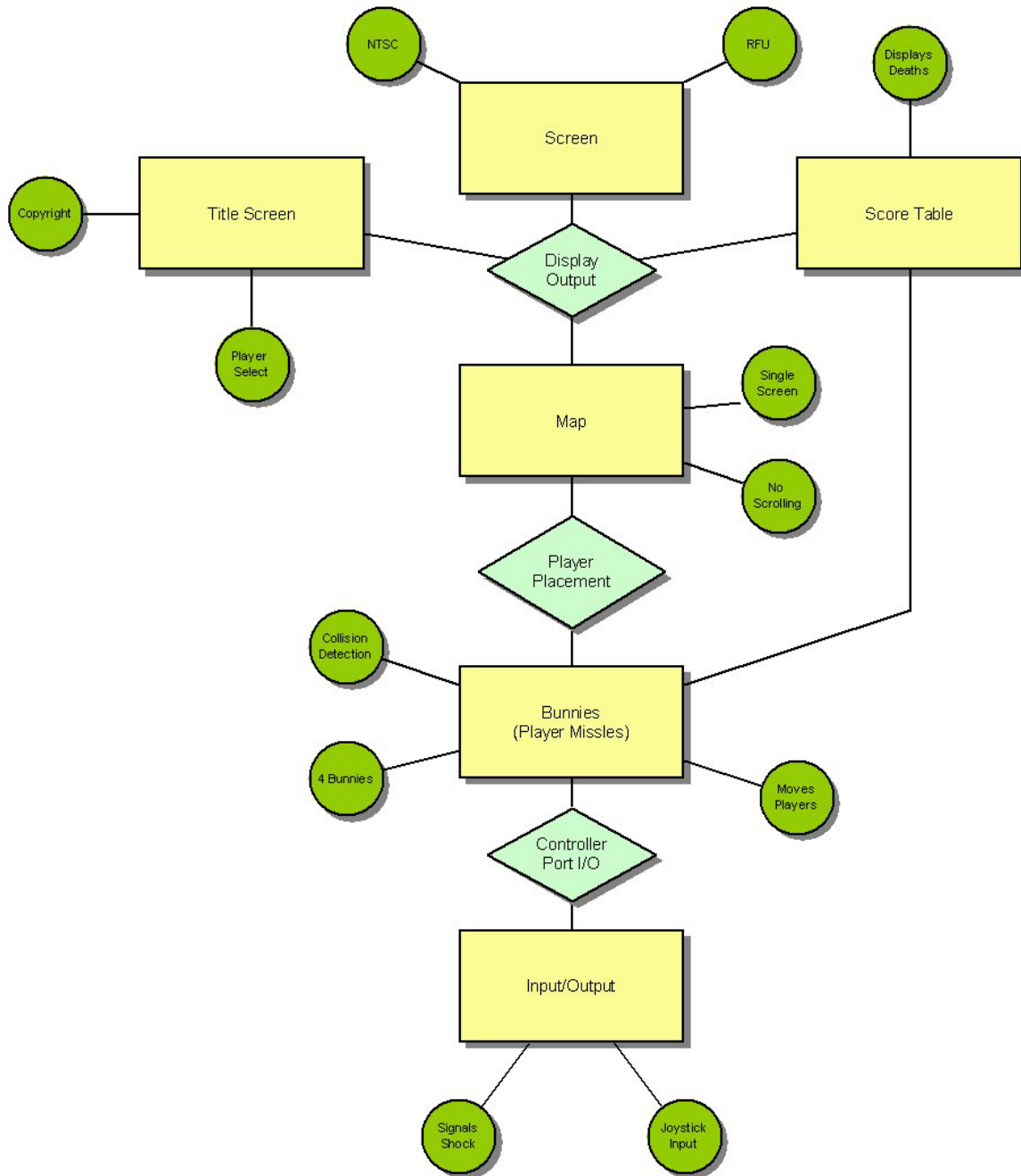


Diagram Key

Title Screen – Entity

Jump and Jolt begins with a title screen. The title screen contains a copyright and a method for choosing how many players will play.

Display Output – Relationship

Output is displayed onto a standard NTSC screen using Atari Basic's built in output functions.

Map - Entity

Jump and Jolt consists of one randomly generated map. This simple map does not feature any animation or screen scrolling. The entire map is displayed on screen at once, and plays a major part in collision detection.

Player Placement – Map + Bunnies Relationship

Players are displayed on screen as bunnies. Bunnies are sprites that take advantage of the Atari's Player Missile Graphic functions (PMG). By combining PMG functions with the map, players are able to move and collide while navigating the terrain.

Bunnies (Player Missiles) – Entity

3 bunnies, controlled by the players will be controlled via Atari's PMG functions. The functions move the players and detect collisions with objects and players.

Controller Port Input/Output – Bunnies + Input/Output Relationship

Via the standard controller port, input and output are transmitted from the joysticks to the PMG functions. A special cord was added for transmitting output from the controller port to initialize the shocking of a player.

Input/Output – Entity

Input and output is sent via Atari Basic's built in functions. These functions shock the player, get input for player movement, and get input for menu navigation.

Score Table – Entity

When a player jumps upon another player's head, information is sent to the Score Table from the PMG functions. The score table is visible at the bottom of the screen at all times and display how many times a player has "killed" another.