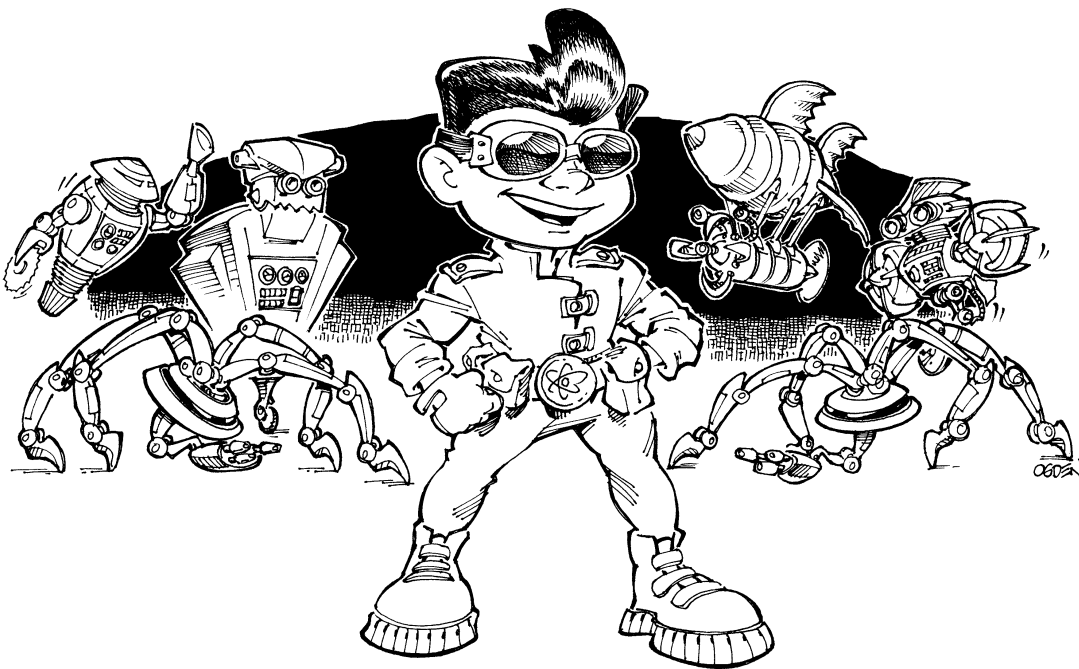


## Appendix

# Sample Design Document: Atomic Sam



The following design document is for a simple console action game called *Atomic Sam*. The game itself is far from revolutionary and, from a design standpoint, part of its appeal is its simple nature. It is part of a project I was previously involved with that was never developed into a finished game. Despite this, the reader can consider the document to be “authentic,” since it is written in the exact style and format I have used in design documents for projects which have been developed.



As a result of its simplicity, the design document for *Atomic Sam* is not very large. I have written documents five times the length of this one for other projects, and even those documents were not as big as others in the industry. Parts of this document were deliberately kept short, since it was not intended to be a complete design document, but rather to give its reader an idea of what *Atomic Sam* would be. In particular, certain sections have deliberately been kept short. For instance, the listing of enemy robots is much smaller than it would be if the document actually described all of the enemies in the game. Similarly, a full version of this design document would include descriptions of more projectiles for Sam to throw, more devices and contraptions for him to manipulate, and more of the characters he would meet in the game-world. The game might even be expanded to include more areas than just the five described here.

In fact, more detail could be used throughout the document. The way this document is written assumes that the author is going to be involved throughout the development process, guiding the design in the correct direction. As I have stated elsewhere in this book, as a game designer I am only interested in being involved with projects that I can see through from beginning to end. If this document were for a project that the author did not expect to be actively working on, it would make sense to add more detail throughout in order to be completely clear about the direction the project should take.

For example, the section about level design could be significantly more detailed. However, if one has a team of level designers who understand the gameplay and can be trusted with the responsibilities of designing a fun level, the descriptions contained in the document could be a sufficient starting point for level design. From this document, the level designers are given a great deal of freedom in terms of how to build their levels, a system that works well if the level designers are up to the challenge. Certainly, if you will be designing many of the levels yourself, you do not need to plan everything out in minute detail in advance. Many successful games have been made this way, including a number of the projects I have worked on. For instance, *Centipede 3D* had only a general notion of the AI, mushroom types, and power-ups designed before the level construction process began, and it was a system that ended up working quite well.

Of course, before writing a design document, the designer should have a good idea of the focus of the gameplay, as I have discussed elsewhere in this book. Here, for example, is the focus statement I had in mind when I started working on the design document for *Atomic Sam*.



### **Atomic Sam: Focus**

*Atomic Sam is a non-violent, fast-paced action game whose gameplay centers on defeating various villainous robots in creative and inventive ways, using a variety of projectiles and environmental devices. The story is one of a young boy separated from his parents for the first time who learns about the world through mentors, friends, and new experiences. Atomic Sam takes place in a unique “retro-future” with whimsical, non-sensical devices providing a unique backdrop to the unfolding of the story and action.*

Armed with the direction provided by the focus, the game design grew organically from there into the design you will read below. As I have stated before, there is no set-in-stone format for design documents. It is the designer’s responsibility to present the design in as much detail as is necessary, in a manner which clearly communicates that design to all the members of the team.



# Atomic Sam

## Design Document

### Version 2.0

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Atomic Sam character designed by Richard Rouse III and Steve Ogden

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## I. Overview

*Atomic Sam* is an action game with a strong storytelling component. In it the player controls Sam, a young boy separated from his parents, who must battle his way through hostile environments and defeat the robots that try to prevent him from finding out what happened to his mother and father. The game is one of quick reactions and clever planning in a whimsical futuristic world, a setting which will appeal not only to children but to game players of all ages who enjoy fast-action gameplay. The game is suitable for any modern console system.

The player's main task in *Atomic Sam* will be to navigate young Sam through the various environments of the game while defeating the robots he encounters. Though the game is centered around this combat, it is a non-violent game from start to finish, with Sam incapacitating but not destroying the robots that try to stop him. Whenever Sam is defeated, he is always stunned or trapped, never actually killed. The whimsical and optimistic nature of *Atomic Sam* requires that the game not play up any sort of gore-factor and that violence be kept to an absolute minimum.

The game will reward the player's creativity by setting up situations where the player can use environmental objects to defeat the robots that come after him. Rube Goldberg-esque contraptions will be everywhere, providing whimsical ways for Sam to incapacitate the many mechanized adversaries he will face. Figuring out what to do in different situations will be just as important as quick reactions and manual dexterity.

*Atomic Sam* is easy to pick up and play with simple, intuitive controls. An in-game tutorial section at the beginning of the game will provide an easy way for new, inexperienced players to learn how to play the game. In each of the middle three sections of the game, Sam will be accompanied by special friends who will help him defeat the enemies he faces. All the while, these friends will tell Sam interesting stories about this world of the future.

The setting of *Atomic Sam* is in the Earth of the future, but not exactly the future as we imagine it now. This is the future as foretold in the first half of the twentieth century, a world where all of the optimistic predictions about how technology would change our lives have come true. Atomic energy has created a pleasant, trouble-free world, with robots answering to humans' every beck and call and mankind the happiest it has ever been. Yet, key advances from the latter half of the twentieth century are notably absent in this world. For instance, jet-propelled airplanes have not been popularized, and as a result citizens travel on giant propeller craft and zeppelins from one mammoth metropolis to another. Similarly, no one has ever heard of a compact disc, microwave, personal computer, or video game.



The game's story starts with Sam returning from school only to find his parents strangely missing. Setting out to find them at their office using the rocket-pack they gave him, Sam finds himself attacked by menacing robots along the way. Finding his parents not at their office either, Sam meets up with the mysterious Electric Priestess. She sends Sam to look for his parents in the underwater city of Benthos, the robot city called Harmony, and all the way to the Moon colony named New Boston. On the way, Sam gathers evidence and discovers that Max Zeffir, one of the world's richest men and also his parents' boss, had them kidnapped when they learned something they shouldn't have. Sam then goes to confront Zeffir in his giant propeller-driven and atomic-powered airship the Ikairus. Finally, Sam defeats him and is happily reunited with his parents.

Because of its whimsical nature and youthful protagonist, the most obvious appeal of *Atomic Sam* might appear to be to a young demographic. Parents will certainly be pleased that the game has the player capturing enemies rather than killing them, and that when the player loses in a particular situation, Sam is always incapacitated in some non-lethal manner. But due to its sharp, frantic gameplay, assortment of unique environments, and inventive adversaries, the game will also appeal to young adults. And with *Atomic Sam*'s retro-futuristic look and emphasis on story line, the game will also appeal to older players, those who may well remember how differently we thought of the future fifty years ago.

## II. Game Mechanics

### Overview

*Atomic Sam* is a third-person, floating camera 3D action game in the tradition of *Super Mario 64* or *Spyro the Dragon*. *Atomic Sam* is different, however, in that the gameplay focuses less on exploration but instead on the player battling his way through the levels, avoiding the robots and other adversaries that try to block his progress. That being the case, the game mechanics are designed in such a way as to allow the player intuitive and extensive control of his game-world character while enabling the player to appreciate the interesting and compelling game-world in which he is placed.





## Camera

In the game, the player will control the character Atomic Sam. At all times, Sam appears in the center of the screen, with a “floating” camera above and behind the character, in an “over the shoulder” type of view. The camera will be at such a distance that the player has a reasonable view of Sam and his current environment. The camera will be “smart” enough to avoid penetrating objects in the world and will always give the player a clear view of Sam. If necessary, in tight situations, the camera will zoom up closer to Sam. If Sam is too large on the screen and prevents the player from viewing the world adequately, Sam will appear translucent to the player, thus giving the player a clear view of the world. This translucency is apparent only to the player, and has no effect on the game-world or how the enemies react to Sam.

The camera will try to stay behind Sam as much as possible while providing a smooth visual experience for the player. If Sam turns around in a hurry, the camera will slowly catch up with his new direction instead of suddenly jerking into the new position. If the player changes Sam’s direction for only a brief period of time before returning to the original position, the camera’s orientation will not change at all. This allows the player to make minor adjustments to Sam’s positions without having the camera swinging around wildly.



## In-Game GUI

The majority of the player's screen will be taken up by a view of the game-world with the player's character, Atomic Sam, near the center of that screen. A few other elements will be overlaid on top of this view in order to provide the player with information about Sam's status and goings on in the game-world.

- **Current Projectile + Count:** In the lower left corner will be displayed an iconic representation of Sam's currently readied projectile. Next to this will be a series of "chits" or "ticks" representing how many of that projectile Sam has in his inventory. More information about the projectiles used in the game can be found in the Projectiles description below and the Game Elements section.
- **Selecting the Current Projectile:** When the player presses and holds the Next Projectile button, the player will see a horizontal display of the projectiles in Sam's inventory along the top of the screen. The player can then scroll through this list and select the object he wants Sam to ready. The weapons will be represented as icons. Once the player releases the Next Projectile button, this display will disappear.
- **Flight Time:** Sam's rocket-pack has a limited amount of flight time. This will be represented by a horizontal bar next to an iconic picture of Sam's rocket-pack in the lower right corner of the screen. The bar will appear full when Sam's rocket-pack is fully charged and will slowly go down the longer Sam stays airborne. For more information about the rocket-pack and its functionality, see the Flying Movement section below.
- **Current Dialog:** Different people will talk to Sam during gameplay; the friends Sam has accompanying him on his adventures, the Electric Priestess via the radio she gave him, and other characters Sam encounters may all say things to Sam. All of this dialog will be prerecorded and played back to the player. In addition, however, in the upper left-hand corner of the screen a 2D cartoon representation of the character will appear with the text appearing next to it. This will be important for players playing with the sound off or who did not manage to hear the dialog as it was spoken. This GUI element will disappear a reasonable period of time after it appears, allowing enough time for the player to read the text. When the game is in a non-interactive cut-scene, however, the dialog will appear at the middle of the bottom of the screen, as it would in a subtitled movie.

## Replaying and Saving

The player has no "lives" in *Atomic Sam*. When Sam is incapacitated by one of the robots or another adversary (always in a relatively non-violent way), the player is able to go back to the last checkpoint and play that section again as many times as



he wants until he passes it. Checkpoints are scattered throughout the levels, and the game automatically and transparently remembers when the player has reached such a checkpoint. The checkpoints will be carefully placed so as to enhance the challenge of the game without making it frustrating for the player.

During the gameplay, the player will be able to save at any time. However, when the saved game is restored, it will only start the player back at the beginning of whatever level the game was saved on, instead of at the exact location (or checkpoint) Sam was at on that particular level. This encourages players to finish a given level before they stop playing the game.

## Control Summary

The player will use a number of different controls to maneuver Atomic Sam and to navigate him through the game-world. These controls are discussed in detail below. First, however, is a summary of the different commands, which will give the reader an overview of Sam's capabilities. The controls are designed with modern console controllers in mind, and can be easily adapted for whichever system *Atomic Sam* is developed.

- **Up, Down, Left, Right (Analog Controller):** The player will use this control to maneuver Sam along the horizontal plane in the game-world. Utilizing its analog nature, if the player presses the control a little bit Sam will move slowly, while if he presses it all the way in a given direction Sam will move quickly in that direction.
- **Fly Up, Fly Down (Left and Right Back Triggers):** The player will use these controls to propel Sam vertically in the game-world.
- **Throw (Right-Pad Down Button):** This throws one of Sam's currently readied projectiles.
- **Next Projectile (Right-Pad Right Button):** The player uses this button to scroll through Sam's inventory of projectiles.
- **Action (Right-Pad Up Button):** The player uses this control to perform miscellaneous actions in the game-world, such as flipping a switch, talking to a character, or picking up a large object.
- **Look (Right-Pad Left Button):** The player uses this button to activate the camera-look functionality.

## General Movement

While Sam is on the ground or in the air, the player can move Sam forward, backward, left, and right in the game-world. The player will control Sam's movement in these directions using the analog controller on the game-pad. Control is always



relative to the camera's view of the world. Therefore, pressing forward or up on the controller will move Sam away from the camera while pressing backward will move Sam toward it. Similarly, pressing left or right will cause Sam to move in the corresponding direction in the game-world relative to the camera.

### **Moving in a Direction**

When Sam starts moving in a direction, he will at first maintain his current facing before turning to move in the new direction. For instance, if Sam is facing away from the camera and the player presses to the left, then Sam will start side-stepping or side-flying in that direction. Only after the player holds that direction for a short period of time (approximately one second) will Sam then turn his whole body to face the new direction of movement. The same applies for moving backward from the current facing: at first Sam moves backward, and then after a second he will spin around 180 degrees and keep moving in this direction. This will allow Sam to reposition in small amounts in any direction without actually changing his facing.

### **Variable Movement Speed**

Use of the console system's analog controller for movement in these directions will allow Sam to move either slowly or quickly in a given direction. If the player pushes the analog controller fully in a given direction, Sam will move in that direction at high speed. If the player presses it only a small amount in that direction, Sam will move much slower. This will give the player precise control over Sam's position in the world.

## **Flying Movement**

Key to Sam's navigation of the game-world is the rocket-pack he wears on his back. The player has Fly Up and Fly Down buttons to control this rocket-pack, which allow Sam to move vertically in the game-world. Once in the air, Sam will hover at a given altitude if neither button is pressed.

### **Moving Up and Down**

Sam will not move up and down at a constant speed. When the player presses up, at first Sam will move quickly, gaining speed the longer the player holds down the Fly Up button. This speed will eventually (after about a second of upward movement) reach a terminal velocity after which Sam will not gain any more speed. The downward movement functions in much the same way.

### **Stopping**

When the player stops flying either up or down or in a given direction, Sam will not stop immediately, but instead will "coast" to a stop. Sam's animation when stopping



will show him quickly shifting his weight to change the direction the rocket-pack faces. This means the player will have to practice flying Sam in order to get him to stop precisely where she wants.

### **Flight Speed**

Sam's pack is not an extremely fast device, providing a maximum speed approximately 1.5 times Sam's speed when he is jogging on the ground. Whenever the player maneuvers Sam to the ground Sam will return to a walking/jogging animation and will move at the slower speed associated with being on the ground.

### **Directional Flying**

Sam can, of course, move forward, backward, left, or right while also moving vertically. The player can accomplish this simply by pressing the analog control in a direction while also pressing the Fly Up or Fly Down buttons. Sam will appear to pitch in the appropriate direction to correspond with his overall movement.

### **Burst Speed**

The Fly Up and Fly Down buttons will both move Sam at the same maximum speed, but tapping either button twice quickly will result in a "burst" of speed in that direction, moving approximately 1.5 faster than the regular maximum speed for a short period. But moving at this high speed will also use up more of the rocket-pack's charge. This can be helpful for quickly dodging enemy attacks.

### **Limited Flight Time**

The rocket-pack has a limited amount of flight time, however, though fortunately it can recharge simply through not being used. The rocket-pack's charge is used up whenever Sam is not standing on the ground, whether he is flying up, flying down, or just hovering. The amount of charge remaining in the rocket-pack will be represented by a small bar drawn on top of the game-world view in the lower right-hand corner of the screen, so the player will always be able to know when Sam's flight time is about to expire. The rocket-pack's charge will be decreased different amounts depending on how Sam is using his pack. The ratios of usage will be approximately as follows:

<b>Usage</b>	<b>Charge Depletion</b>
Flying Up	4
Flying Down	2
Hovering	1
Burst Up	6
Burst Down	6
On Ground	-3



## Landing

Since the rocket-pack's charge is limited, the player must land Sam periodically in order to allow the pack to recharge. The player lands Sam simply by maneuvering him close to the ground or any flat surface he can stand on. Because Sam has a limited flight range, the player will have to plan Sam's movements accordingly in order to get Sam from one location to another. This will allow for puzzle elements in the levels where the player has to figure out how to navigate Sam to an area, given Sam's limited flying abilities. The "as the crow flies" route will often not be the route that Sam must take to reach a far-off platform.

## Falling to the Ground

Having the rocket-pack run out of charge while Sam is in midair will not result in his death. Sam's outfit includes specially made shock-absorbing boots with extra thick soles which will allow Sam to land safely when falling from any height. But when his rocket-pack's charge runs out, Sam will plummet at a great speed, providing a very disorienting experience for the player when Sam falls from a great height.

## Limited Altitude

The rocket-pack will also only be able to attain certain altitudes. If the player tries to fly Sam too high, the rocket-pack will start to sputter, indicating that Sam cannot fly any higher. Because of this limitation, the levels can have open skies without allowing the player to actually fly out of the levels.

## Rocket-Pack Upgrades

Throughout the game, Sam will periodically find rocket-pack upgrades. These will either be attachments Sam can add on to his pack, or Sam may find game characters who will be able to tinker with Sam's pack in order to improve it. These changes will provide a variety of enhancements to Sam's flying ability.

- **Longer Flight Time:** Sam can fly for longer without having to land. This means Sam may have to acquire certain upgrades in order to reach certain locations.
- **Faster Burst Speed:** Sam can fly faster using the pack's "burst" functionality.
- **Faster Overall Speed:** The pack's maximum speed and acceleration are increased, allowing Sam to move vertically faster.
- **Improved Maneuverability:** The pack is better able to "stop on a dime." Instead of coasting to a stop, Sam can now stop as soon as the player lets go of the control stick.



## Surfaces

Generally Sam can walk or land on any flat surface, whether it is the sidewalk or ground or a platform high in the air. Sam will be unable to land on surfaces that are significantly rounded or sloped. If Sam tries to walk up or land on a curved or sloped surface he will instead slide down the surface, stopping only when he reaches flat terrain.

There will be certain substances Sam will not be able to land or walk on. These include water, tar covered areas, or electrically charged floors. If the player navigates Sam onto such a surface while on foot, Sam will start an animation indicating the peril of the surface. For instance, if Sam comes up to an electrically charged floor, he will play an animation of starting to be shocked by the floor. If the player does not shift the direction of the controller to direct Sam out of the surface, Sam will quickly become incapacitated. Similarly, if the player tries to land Sam on such a surface while the rocket-pack still has charge remaining, Sam will start to be shocked, playing an animation early enough to indicate that the surface is perilous and to provide the player a chance to navigate him out of harm's way.

If the player runs out of charge while over such a surface, Sam will fall onto the surface and be incapacitated without any chance for the player to save him. Of course, whenever Sam becomes incapacitated, the player will have to start playing again from the last auto-save checkpoint. In order to succeed in the game, the player will need to avoid navigating Sam onto such surfaces and from letting the rocket-pack's charge run out while Sam is over such surfaces.

## Picking Up Objects

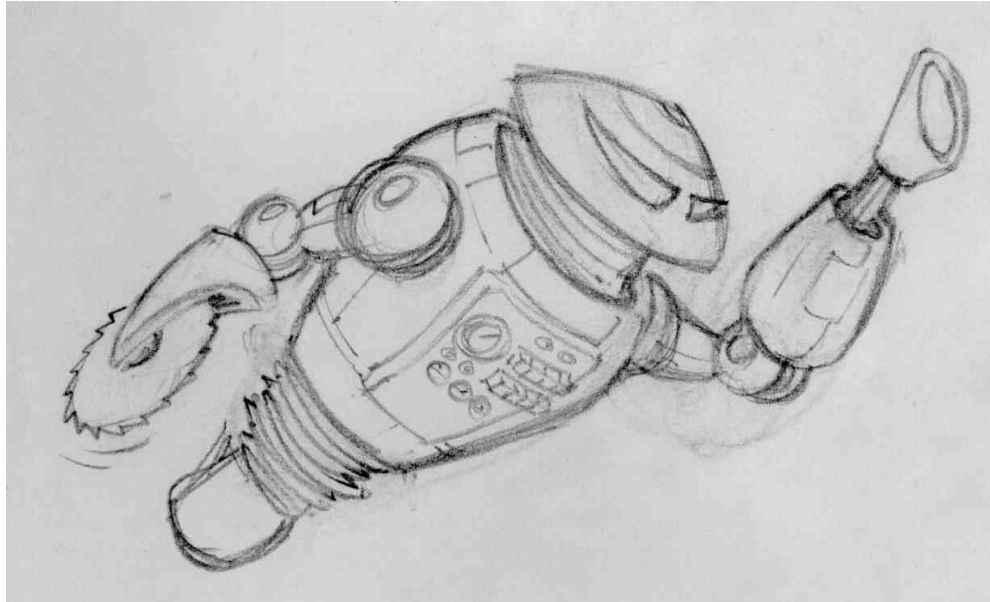
Whenever Sam flies close to an object he can pick up, he will automatically pick it up if there is enough room in his inventory. The objects Sam can pick up include projectiles, rocket-pack enhancements, and the Electric Piranha. Sam will play an animation and a sound will be played to indicate that Sam has picked up the object.

Sam can also pick up certain larger objects but cannot add them to his inventory. Sam may need to move these objects for puzzles or may want to drop them on enemies to incapacitate them. The player can have Sam pick up these objects by pressing and holding the Action key while Sam is near them, and then can drop the object by releasing the Action key.



## Throwing Projectiles

Key to dealing with the robotic adversaries Atomic Sam will face throughout the game are the different objects that Sam can find and throw. Though Sam will never find or use any sort of a gun, he will obtain different objects that can be hurled at enemies in order to incapacitate them.



## Inventory

Sam will have a simple inventory which can hold up to fifty of each type of projectile. This is where projectiles Sam picks up will be automatically stored. The inventory is simple to use since the player cannot make room for another type of projectile by carrying fewer of another type of projectile. Sam cannot remove items from his inventory except by throwing them.

## Picking Up Projectiles

In addition to starting the game with a small number of projectiles, Sam will find more projectiles throughout the game. Usually when Sam finds a projectile, he will find a group of them; for instance, ten Water Balloons or twenty Goo-Balls. Sam will automatically pick up these projectiles by maneuvering close to them. If Sam throws and misses with his projectiles, he may be able to retrieve them by going to where they landed, ideally after that particular encounter with enemies is over. In this way, players who are not very accurate at controlling Sam's throwing will get to retrieve their projectiles so they can try throwing them later.





## Readying Projectiles

When a projectile is readied, the player will see Sam holding whatever his current projectile is, and an icon and counter in the lower right corner of the screen will reveal how many shots are left of that particular projectile. The readied projectile is the projectile that Sam is prepared to throw as soon as the player presses the Throw button.

The player will be able to select the “readied” projectile with the Next Projectile button. If the player quickly presses and releases this button, Sam will switch to the next available projectile in his inventory, if any. If the player presses and holds the Next Projectile button, the player will see a horizontal display of all the types of projectiles currently in Sam’s inventory at the top of the screen, with the currently selected weapon appearing in the center. The player can then use the left and right directional controller to select previous and next projectiles, respectively, with the list of projectiles sliding left or right accordingly. The list will “wrap around” such that the player will be able to get to any projectile by pressing right or left repeatedly. Whatever projectile is in the center of the screen when the player releases the Next Projectile button will be Sam’s new readied projectile.

Once selected, the player will see Sam holding whatever the current projectile is. If the player then does not throw the projectile or select a new readied one, after five seconds Sam will appear to put the projectile away. This is so that, visually, Sam does not appear to travel everywhere ready to throw a projectile. However, even if Sam does not appear to have a projectile ready, hitting the Throw key will instantly throw the readied projectile, just as quickly as if Sam had his arm out ready to throw.

## Throwing the Projectile

The player will be able to throw Sam’s current projectile by using the Throw button. The projectile will travel approximately in the direction the player is facing, though Sam will not have to be “dead on” in order to hit a target; the game will auto-target his shots at the closest adversary within the general direction Sam is facing. The current target will be labeled with a cross-hair so that the player always knows what target Sam will attack. It will be important to balance this auto-aiming so that it does not result in the projectile hitting targets the player did not want to hit, or in making the game too easy.

## Throwing Speed and Distance

Releasing the Throw button will cause Sam to throw a projectile. A simple toss can be accomplished by a simple press and release of the Throw button by the player. However, if the player holds down the Throw button, Sam will be able to throw the projectiles faster and farther. This will be represented by Sam’s arm starting to spin



while the player holds down the Throw button, moving in a motion like a softball pitcher's windup, except continuing in a circle. Eventually, once Sam's projectile is going to leave his hand traveling at the maximum speed, Sam's arm will appear as a cartoon-style blur because it is revolving so fast. Though the auto-targeting will line up the player's shot with an adversary, if the player does not throw the projectile with enough force it may fall short of hitting this target. Part of the game's challenge for the player will be making sure the projectile is thrown hard enough to reach its intended target.

### **Projectile Capabilities**

All of the projectiles in the game will be able to disable different types of enemies. For instance, the Goo-Ball projectile will cause enemies who are walking on the ground or on the walls to stick to the surface they are on, rendering them immobile. The Goo-Ball will be useless against flying adversaries. Another projectile, the Water Balloon, will be best used against non-waterproof robots, causing their wiring to short-circuit. Heavily armored robots or human adversaries will be invulnerable to the Water Balloon. The player will have to pick carefully the correct projectile to use in a given situation. A more detailed description of the capabilities of the projectiles can be found in the Game Elements section.

### **Electric Piranha**

In addition to the projectiles and improved rocket-packs Sam will find in the game-world, the player will also find a special object which works in a passive way to protect the player against attacks. The Electric Piranha is a metallic green fish-shaped mechanism which, when found and picked up by Sam, will float or "swim" around him as if in orbit. This Piranha will be able to block incoming projectile attacks from adversaries by throwing itself in their path and "eating" the projectile. If the enemies attempt melee attacks while Sam has an Electric Piranha around him, the enemies themselves will be incapacitated when the Piranha sinks its teeth into the attacker. A Piranha explodes when it successfully defends Sam from an attack. Sam will be able to collect up to four of these Electric Piranha at any one time, and they will be key for his surviving particularly hairy situations.

### **Actions**

The player will have a special Action button that will cause Sam to perform different actions in the game. The Action key will provide a variety of different actions, and the game will automatically determine what the correct action is for Sam in a given situation, if any.



## Flipping Switches and Pressing Buttons

If Sam is near a button or a switch and the player hits the Action key, that button will be pressed or that lever will be thrown. The switch may do something as simple as opening a door or raising a platform, or it may perform a more complex action such as activating a crane or turning on a steam vent.

## Pushing and Manipulating

Certain objects can be pushed by Sam, and pressing the Action key will allow him to do so. This may include crates, barrels, and balls of various kinds that may need to be pushed for a variety of reasons, including the blocking and unblocking of passageways.

## Picking Up, Carrying, and Dropping

Sam will be able to pick up certain large objects using the Action key. This is different from the projectiles Sam will automatically pick up since he will not add these objects to his inventory, and while Sam holds one of these objects, he will be unable to throw any projectiles until he puts it down. When near such an object, the player can have Sam try to pick it up by pressing and holding the Action key. Once Sam has the object in his hands, he can carry it around with him, only dropping it once the player releases the Action button. While Sam is holding an object, particularly a heavy one, his movement may be slowed significantly. The player will want Sam to carry objects in order to aid in defeating adversaries. For instance, Sam could pick up a large anvil, fly with it up into the air, and then strategically drop it on a troublesome robot.

## Talking

Some of the non-adversarial characters in *Atomic Sam* will be willing to talk to our hero, if only for a sentence or two. If the player wants Sam to talk to a character, he should press the Action key when near that character. These characters can fill in some of the back-story of the world of *Atomic Sam* while making the levels seem inhabited and interesting. Included among these characters will be “information robots,” an invention of Sam’s age which provide helpful advice to humans. Beyond just obtaining information, Sam will also want to talk to the characters who will be able to provide him with rocket-pack upgrades.

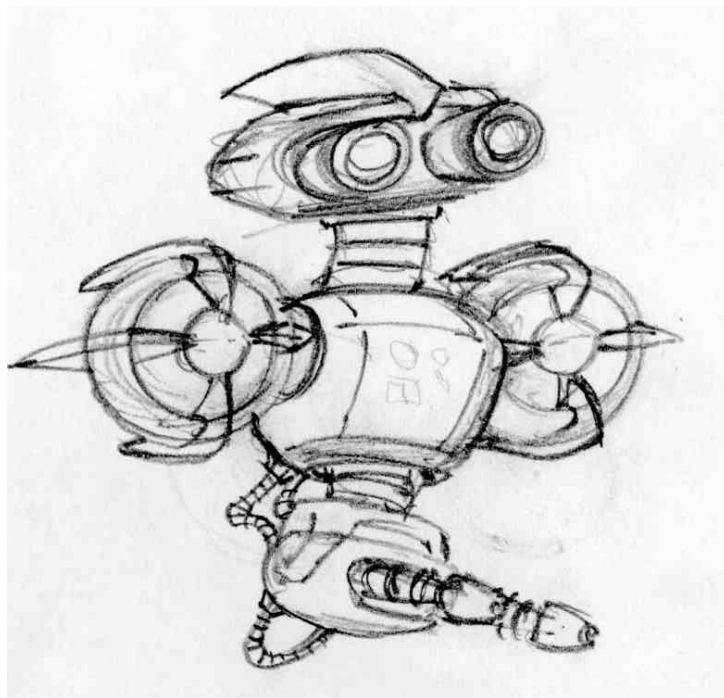
## Reading

The player may see different informational signs or posters displayed on walls. In order to quickly zoom in and read these signs, the player can hit the Action key. These signs may include maps, which will help the player navigate the levels, or “tourist information,” which describes the history of the area that Sam is in.



## Interactive Combat Environments

In addition to throwing his projectiles at his enemies, Sam will also be able to defeat them by using parts of the level against them. The player can use the Action key to activate different events which will help incapacitate the various adversaries Sam is battling. The levels in *Atomic Sam* will be full of these contraptions, some of which may take on a Rube Goldberg-like level of complexity. Spotting and using these different setups correctly will be a major component of defeating the different robotic adversaries throughout the game. Indeed, the player will be unable to defeat certain adversaries without using these devices. In a way, these contraptions are “combat puzzles” in that the player must solve them in real-time in order to figure out the best way to defeat Sam’s enemies.



These contraptions will be designed and set up by the level designer in order to best suit the level in which they are going to be used. Some key devices may be repeated throughout a level, perhaps in different configurations. Some of the devices will be usable only once, while others can be used repeatedly. The use of devices that operate multiple times gives the player a better chance of figuring out how to use the device through trial and error. When creating these contraptions and environments, the level designer will need to set them up in such a way that the player has a fair chance of figuring out what they do and how to use them correctly.



A few examples of potential devices include:

- **Steam Vent:** A switch next to a hot steam vent may cause steam to shoot out, stunning or melting whatever is in its path. If the player waits until the precise moment when an adversary is in the path of the steam jet to flip the switch, the adversary will be disabled by the steam.
- **Fan:** A switch next to a large fan will be able to turn that fan on for a moment. This can be useful since it may blow whatever is in its path in a certain direction. For instance, if a steam vent is in operation across from a fan, a well-timed blast of the fan could force a creature into the steam vent.
- **Oil Drum and Lever:** Sam may come across a board laid across a steel box, creating a simple lever. A large, empty oil drum could then be placed on the lower end of the lever. If the player hits the Action key while Sam is near the higher end of the lever, this will cause Sam to press down on the lever, thereby causing the oil drum to flip through the air and possibly capture an enemy or two in the process.

If any of these devices are used incorrectly, they may backfire and end up hurting Sam. For instance, if Sam hits the steam vent switch when he is in the path of the steam, his rocket-pack may melt in the heat, sending him hurtling to the ground. Of course, a big part of using these contraptions effectively will be getting the enemy in the right place, and luring the robots and other adversaries into these traps will provide an interesting challenge for the player.

## Looking

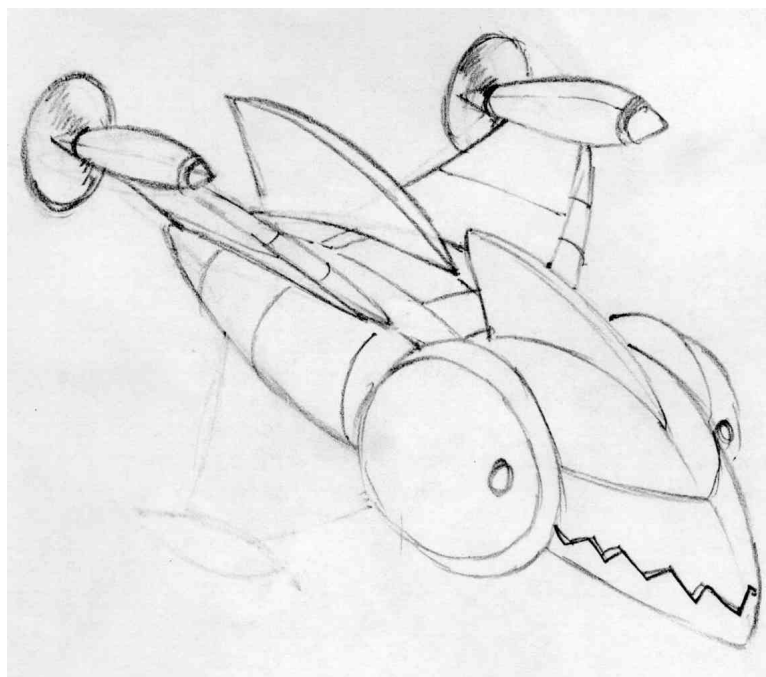
The player will have a Look button he can press. This functions similarly to Look buttons in other games such as *Super Mario 64*. While the player holds down the Look button, the camera will zoom in to be inside of Atomic Sam's head, and the player's forward/up, backward/down, left, and right controls will now pitch and turn the camera in those directions while Sam stays in one place. This will allow the player to get a clear view of Sam's surrounding environment, without Sam getting in the way of the visuals. This will be useful for examining puzzles and combat contraptions. As soon as the player releases the Look button, the camera will return to its normal gameplay mode.

## Friends

Atomic Sam will not have to battle his way through all the game's levels alone. In each of the three intermediary game sections—Benthos, Harmony, and New Boston—Sam will meet game characters who will help him battle the robots and other adversaries he encounters. In Benthos, Sam meets Xeraphina the flying girl, in



Harmony he hooks up with Scrap the robot, and in New Boston he is helped by Dulo the Moonie. (For more information about these particular characters, consult the Game Progression section of this document.)



These friends will not be as good at defeating the robots as Sam, but they will be helpful in taking out some of the enemies, warning Sam about impending attacks, hinting at solutions to puzzles, pointing out items that Sam can pick up, indicating hidden areas, or showing the best direction to go next. The friends will talk to Sam frequently as they make their way through the levels, providing back-story, useful information, and amusing chitchat. These friends will never actually die or become captured during regular gameplay; they will always be able to fend off the enemy attacks directed against themselves. For more information about the AI for these friends, consult the Artificial Intelligence section of this document.

## Speaking

A big part of making *Atomic Sam* an appealing and memorable character for the player will be the lines of dialog he speaks throughout the game. These won't occur just during cut-scenes, but also during actual gameplay. Not controlled by the player but added in order to color the gaming experience, Sam will have a variety of generic utterances he speaks as he defeats various adversaries. These will fit both his age and the optimistic retro-futuristic setting of the game. Some of these slogans



will include: “You can’t stop the future!”, “Atomic is the answer!”, “Infernal machine!”, and “You’re outdated technology!” Sam may provide useful, informative comments when he’s running out of projectiles or his rocket-pack is close to being out of energy. Sam will also have lines of dialog specific to special events in the game, such as when he first walks on the Moon’s surface or when he first encounters a particular boss monster. By keeping Sam talking during the actual gameplay, the player will grow fond of the character and will be even more concerned for his welfare in the game-world.

## Cut-Scenes

Brief cut-scenes will be used in the game to help convey the story line to the player. The game’s 3D engine will be used for these cut-scenes, so there will be a consistent visual appearance between the interactive gameplay and the non-interactive cut-scenes. The cut-scenes will include talking between Sam and different characters such as the Electric Priestess, the different friends Sam has accompanying him, or other characters he finds in the different areas to which he travels. For particularly short conversations consisting of only a few lines, conversations may happen during gameplay without the use of a cut-scene.

Cut-scenes may take place between or during levels. Between levels they will explain upcoming environments and challenges, usually through information provided by the Electric Priestess. Cut-scenes that briefly interrupt the gameplay mid-level will include short, conversational exchanges between Sam and the characters he encounters. These mid-level cut-scenes will be visually seamless with the gameplay environment; their primary difference will be the change in camera angles. When Sam first travels to a new area, the player will see Sam traveling by blimp, auto-gyro, monorail, or other means of transport to the different locations in the game. On the whole, the cut-scenes will be as short as possible in order to get the player back into the gameplay quickly.

## Storytelling

An important part of *Atomic Sam* is the story, and various devices will be used to convey that story. One, of course, is the aforementioned cut-scenes. These will convey all of the key information the player needs to be successful in the game. However, since they are non-interactive, they will be strictly kept to a short length so that the player can quickly get back to the gameplay. In order to convey more story, more sections of the story will be revealed through devices used during the actual gameplay.



## Environments

Of course, the environments (levels) themselves will provide a key storytelling component by conveying a sense of setting. Special care must be taken to make sure the levels fit with the world of *Atomic Sam* and do not conflict with any story components.

## Friends

The friends Sam meets and who accompany him in the various worlds will share the information they have with Sam while they are flying around with him. The characters may explain the history of a particular environment or some interesting data about the world of the future. Sam, after all, is a young child and still has much to learn about life. Of course, these friends will only talk to Sam during non-combat situations, when the player is focusing on exploration instead of defeating threatening robots. All of the speech that the friends speak will appear on the screen via the in-game GUI, as discussed earlier in this document.

## Radio

After they first meet, the Electric Priestess gives Sam a small radio which he can wear clipped to his ear. The player will hear information broadcast to Sam via this radio as he explores the levels. As with the friends, the Priestess may explain to Sam about the culture of the areas he is navigating and the nature of the adversaries he is facing. All of the dialog that the player hears over the radio will appear on the screen via the in-game GUI, as discussed earlier in this document.

## Signs

As discussed earlier in the Actions section, Sam will also find static information displays which he will be able to read. These signs are yet another way to communicate the story of the world of *Atomic Sam*.

## Levels

*Atomic Sam* is different from other console third-person action/adventures in that the gameplay focuses less on exploration and more on Sam's battling his way through the levels, avoiding the robots and other adversaries which try to block his progress. Certainly the levels will be interestingly designed and appealing to look at, but the player's motivation for continuing in a level will be more to confront the next interesting challenge than to merely uncover more of the level. Overall, the gameplay in the levels will be frantic and harried, and the player's split-second decisions and manual dexterity will be key to Sam eventually finding his parents. Sam will generally fight robots in two ways. The first way will be multiple robots at once, with all of the robots being of lesser power. The second way will be fighting a





single, much more powerful or “boss” enemy. Usually the battles with the boss enemies will involve figuring out a particular method necessary to defeat the enemy, and will involve a bit more thinking than the battles with multiple adversaries at once. The method through which the player will maneuver Sam and the ways he will interact with his environment have been discussed earlier in this document.

That said, not all of the game will be frantic and combat-oriented. Between the battles with robots there will be calm, “safe” moments in the levels where the player can rest and regain his bearings. It will be in these calmer sections that the auto-save checkpoints (described later) will be included. This will allow the player to restart her game in a relatively safe area. Some of these “safe” sections may also require simple puzzle solving in order for the player to progress in the game.

### **Critical Path**

All of the levels in *Atomic Sam* will have a definite “critical path” to them, a particular route the player is encouraged to travel in order to complete that level and move on to the next one. Though there may be bonus or secret areas off to the side, the critical path will remain strong throughout the levels. For each of the different sections of the game—Gargantuopolis, Benthos, Harmony, New Boston, and The Ikairus—the player will have to complete the levels within that section in a specified order; this will help to communicate the story line effectively, to build tension appropriately, and to ramp up difficulty over the course of a series of levels.

### **Training Level**

The very beginning of the game will also provide a special “training” opportunity for players who want it. When Sam first returns to his apartment and finds his parents missing, he will decide to don his rocket-pack to go after them. The rocket-pack came with a helpful Instructobot, a pint-sized robot which speaks in robotic tones and instructs Sam how to use his rocket-pack. In fact, the Instructobot will encourage the player to experiment with the rocket-pack to get the hang of controlling it. In the safe environment of his house, the player will be able to experiment with Sam’s different maneuvers before venturing into the more hazardous outside world.

### **The Electric Priestess’ Home**

The most “calm” section of the game is the Electric Priestess’ bubble home. A mini-level where there is no combat, the bubble home acts as a “hub” between the worlds of Benthos, Harmony, and New Boston. In the Electric Priestess’ home, the player will talk to the Electric Priestess and will be able to choose one of the different sections of the game to progress to next without any threat of harm. For more information about the Electric Priestess and the different worlds found in the game, consult the Game Progression section later in this document.

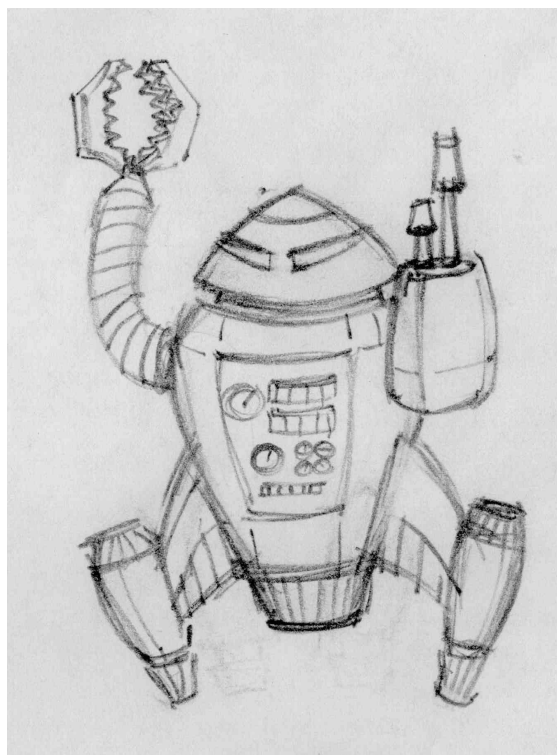


### World Order

The player will get some choice in the order he experiences the game's different main areas or "worlds." After completing the Gargantuopolis levels at the beginning of the game, the Electric Priestess will present Sam with a choice of which area he will travel to next: Benthos, Harmony, or New Boston. Each of these areas will be fairly equivalent in difficulty, though due to the different challenges present in each area, different players may find one of the three harder or easier than the others. As such, the player can choose the one they find easiest first. (In the middle of a given section, the player will have the ability to instantly revert the game to the Electric Priestess' bubble home, from which the player can choose a different section, if the one he was playing proves to be too challenging or he simply grows tired of it.) For more on the flow of the game, consult the Game Progression section of this document.

## III. Artificial Intelligence

Since *Atomic Sam* is based around interesting combat scenarios, the primary function of the game's AI is to support these conflicts, providing the player with a compelling challenge. The AI will also be essential for imbuing the friends Atomic





Sam encounters with some semblance of life, making them seem like more than just automatons.

## Enemy AI

Many of the adversaries Sam faces will be robots. As such, the AI for these adversaries can be quite simple-minded while still being believable. Indeed, the simple-mindedness of some of his opponents will allow Sam to set traps for them using the interactive environments found in the levels. Not all robots will be simpletons, however. As the game progresses and the levels ramp up in difficulty, the robots will become more and more intelligent and thereby more and more challenging. Still later in the game, the player will fight human adversaries such as the Merciless Mercenaries. These human opponents will need to appear as intelligent in their combat decisions as a real-world human might be.

## Player Detection

Different AI agents will have differing abilities to detect and track the player, which will in turn affect how much of a challenge they present to the player. Some robots will only be able to see in a very narrow cone in front of them, while others will have full 360-degree vision. Also, the distance of detection can vary from adversary to adversary; some can only see Sam when he is close to them, others can see him before Sam can see them. Some of the robots may have “super-vision,” which allows them to see through walls and to always find Sam, regardless of how he may be hiding.

Some robots will also have very short memories. If Sam manages to run behind these robots, fully out of their field of vision, they may forget entirely about Sam and will return to an idle state. Other robots, once locked on to Sam’s position, will never lose him. The player will need to figure out how well an adversary can detect Sam and use that to his advantage.

## Motion

All adversaries will move in believable ways, employing a simple physics system to give the appearance that Sam’s world is a realistic one. However, the feel of Sam’s gameplay is one of a console action game, and hence does not need to rely too heavily on truly “authentic” motion systems. Indeed, the retro-future setting of *Atomic Sam* with its fantastic, implausible flying machines suggests a world that does not adhere to the laws of physics too closely.



## Flying

Many of the adversaries Sam fights will be airborne, and it will be important to convey a sense of believable flight for these creatures. The type of flight motion involved will vary significantly depending on what type of flying equipment that enemy uses. An enemy kept aloft by a blimp will only be able to make slow turns and will not be able to move up or down very quickly. A creature with wings and propellers will be able to make turns, but will need to be able to bank to do so. Sam is the only character in the game who will have a rocket-pack, and this pack grants him a significant amount of maneuverability, something which will prove to be a great advantage over many of the adversaries he will face. Again, the flight model used by these creatures does not need to be truly authentic, but must be believable enough that the player gets a sense that the enemies Sam is fighting are truly flying.

## Pathfinding

Detecting Sam is only the first part of the challenge for the robots. Once they have found Sam, the simpler robots may be too stupid to actually reach him. Pathfinding ability will vary significantly from the dumbest robot to the smartest. The dumbest robots will use a “beeline” technique and will be unable to maneuver around objects that get in their way. Somewhat smarter robots will be able to navigate around objects that they run into, but can still get hung up on corners. The smartest robots and the humans will always be able to navigate to the player, including opening doors and pushing obstacles out of the way as necessary. The player will need to exploit the deficiencies in the robots’ pathfinding in order to succeed in the game.

## Taking Damage

Many of the robots and other adversaries Sam faces will be incapacitated by a single hit from one of Sam’s projectiles. Other, larger robots may take multiple hits before they are actually incapacitated. For instance, an electrical robot with heavy shielding may be able to survive three hits from water balloons before finally short-circuiting. Of course, different projectiles will have different effectiveness on different enemies, and some robots or enemies may be completely immune to certain attacks. See the Projectiles section under Game Elements for more information about the projectiles.

## Combat Attacks

The AI agents in *Atomic Sam* will have a variety of attacks they can use to try to incapacitate young Sam. Many of the enemies will have multiple attacks to choose from in a given situation; for instance, an NPC may have a melee, close-range attack and several projectile, long-range attacks. The NPCs will be able to pick



which attack is most effective, or, when several attacks may be equally effective, will pick one at random or will cycle through them in series.

## Evading

The projectiles Sam throws travel at a slow speed, and as a result some of the smarter enemies will be able to dodge out of the way of incoming attacks. Of course, the AI agents will not be so good at dodging that the player never has a chance of hitting them, but just enough to provide an interesting challenge for the player.

## Special Actions

To keep the challenges fresh and interesting to the player, there will be a variety of special behaviors that only the more advanced robots and human adversaries use. These will appear later in the game, and will force the player to adapt to them in order to succeed.

### Taking Hostages

The battles the player fights with his enemies will often take place in inhabited communities, with non-hostile characters walking around to provide color. Some of the smarter AI agents will know to grab up some of these NPCs and hold them as hostages. Sam will now need to avoid hitting these hostages with his projectiles. If the player flies Sam up close to these hostages and presses the Action key, he will be able to snatch them away and fly them to safety.

### Internal Repair Arms

As some of the robots take damage from Sam's projectile attacks, the more sophisticated robots will be able to repair themselves. A common way for this to work is that a special "repair arm" can spring from a compartment on the robot. This arm can then bend around the robot's body to weld broken parts back together. The effect is more cartoonish than realistic, but conveys the sense that the robot is repairing itself. Some robots may first retreat to a relatively safe location, such as around a corner or far from Sam. Others robots will be able to multi-task by having the repair arm work on them while continuing to fight Sam.

### Collaboration

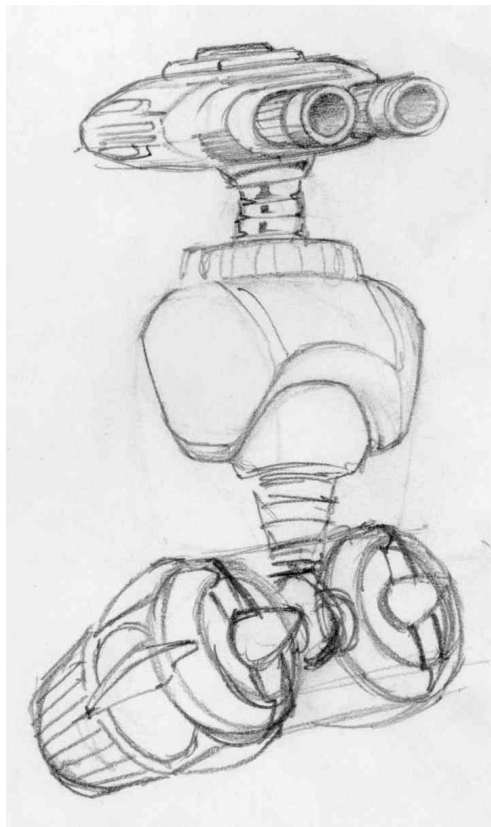
Some of the enemies, in particular the Merciless Mercenaries, will know how to work together. Many of the robots will be singular in their purpose (attack Sam) and will know nothing of the other robots who may simultaneously attack Sam. But the significantly more intelligent Mercenaries will know that working collaboratively will be much more effective in defeating Sam. For instance, while one Mercenary



keeps Sam busy with attacks from the front, others may swing around to the flank and attack Sam from there. Of course, having the enemies work together will allow the enemies to provide a much greater challenge for the player.

## Trash Talking

While Sam fights these adversaries, he will hear them making derogatory comments about him, suggesting he can never win against their superior numbers: “Admit defeat, human!”, “Your success is statistically unlikely,” and “Steel is stronger than flesh, relent!” Not all of the robots are able to speak English, and some may utter beeps and squawks as their means of communication. Others may be so cruel as to taunt Sam that he will never see his parents again.



## Falling into Traps

A big part of the game mechanics in *Atomic Sam* is the player using the environment to his advantage by triggering various traps and contraptions that will help to defeat the robots Sam faces. The AI will actually facilitate the player using the traps effectively, in part through the robots' lack of intelligence. In addition, designers



will be able to set up these adversaries to have a tendency to maneuver into areas where the player will be able to incapacitate them if she is clever. For instance, if there is an empty oil drum set on a lever that the player can activate, the robots will have a tendency to fly by the potential trajectory of that oil drum.

## Non-Combatant Agents

The various areas Sam travels to are places where the people of Sam's world live and work. As such, the areas will not only be inhabited by the enemies sent to capture Sam, but also by normal citizens. These citizens will not be very smart, and their inclusion in the levels is not in order to create the impression of a "real" environment. These citizens are mostly there for color, while also creating targets that Sam must be careful not to accidentally hit with his projectiles.

### Fleeing

Often, at the first sign of trouble, these citizens will run away, trying to find cover away from the battles between Sam and the robots. Of course, the mere existence of flying robots or a boy with a rocket-pack will not be anything too exciting to the jaded people of the future; it is only when the fighting starts that the citizens will realize the dangerous situation they are in. The level designers will be able to set up paths for these citizens to walk along and positions they will try to flee to for safety.

### Talking To and Helping Sam

Of course, certain citizens will be willing to talk to Sam, and may share information about the area Sam is currently navigating. Others may even be willing to give Sam objects, or to make improvements to Sam's rocket-pack. Citizens who will be able to help Sam will have a tendency to wave to Sam as he flies by, differentiating them from the citizens who are merely there to add color and variety to the game environment.

## Friends

One of the most complicated pieces of AI that will be needed for *Atomic Sam* is that which will control the friends he meets throughout the game. These agents need to be able to follow along with Sam and provide him with help in key locations without ever getting lost or stuck. Making a teammate AI that can support the player without seeming stupid or canned will be quite a challenge, but will have a significant payoff in terms of gameplay.

### Invincible

The friends that follow Sam through the levels will not be able to be killed or captured by the robots and other hostile creatures found in the levels. First, the enemy



creatures will have a tendency to attack Sam instead of the friends, since indeed it is Sam that they have been sent to subdue. Second, the friend AI agents will be able to defend against any attack that does happen to come their way. Similarly, if Sam should happen to throw a projectile at a friend, the friend will easily be able to bat it out of the way, saying something to the effect of “You’ve got to be careful with those things!” The logistics in terms of the friend AI being defeated and what this does to the gameplay is simply too complex to deal with. It may be useful, however, for the friends to be temporarily stunned, only to return to full helpfulness within a few seconds.

### **Following Sam**

The most important task these friend AI agents must be able to perform is to follow the player around the levels. This means the friends will have to be able to flawlessly follow the player through the potentially complex 3D environments that make up the *Atomic Sam* game-world. If the player ever turns around to find that a friend got stuck a distance back on some sort of structure, the gaming experience will be ruined.

The NPC will not necessarily be right on top of Sam at all times. Indeed, the flying friends will be able to fly in and out of frame, giving the player the sense that they are always close nearby without actually being on the screen constantly. Sometimes the friends will be just in front of Sam, sometimes just behind him, but always close by.

### **Guarding Sam’s Back**

These friends will play a crucial role in the gameplay by pointing out enemies who may be attacking Sam from a given direction that Sam has not seen: “Watch out, Sam, it’s coming up behind you!” In some cases, the AI agents will be able to use their own attacks or projectiles to help defeat an enemy before it gets too close to Sam, though in any given situation the agents will be far less successful than Sam. It is important that the player will still have to fight robots on his own and will not be able to just sit back and let the friends take care of everything for him.

### **Providing Advice**

Similarly, the friends in *Atomic Sam* will be able to provide the player with advice about different enemies as they arrive: “That one looks like trouble!” or “I don’t think water balloons will work on that one!” In certain situations in the levels, the friends will be able to point out secret areas or show Sam a cache of projectiles he might otherwise have overlooked. The player will be able to navigate Sam close to a given friend and then press the Action key, to which the friend will always provide an answer. Sometimes the answers will not be useful: “I’m glad I met you, Sam” or “You really showed that last robot!” Other times, having Sam talk to the friend will





provoke them to provide a hint: “Take the fork to the left; that will get us there faster” or “The best way to take care of these climbing robots is to throw something sticky at them. Do you have anything like that?”

### Storytelling

In addition to the snippets of advice the friends can provide, they will also be key in communicating elements of the story to the player. When Sam reaches a certain part of a level, a friend may start talking about the history of the area or about their own past. This provides additional story content to the game in a non cut-scene format, since Sam is still navigating the world while hearing about the story. The friends will be smart enough to only talk in “safe” situations when Sam is not actively being threatened by an enemy.

## IV. Game Elements

### Items

#### Sam's Projectiles

As Sam flies through the levels, he will be able to pick up a variety of different projectiles he can use in defeating his enemies. Different projectiles will work better or worse against different specific adversaries in different situations, and as such the player will have to constantly be selecting the most effective projectile for any given moment. The different projectiles are as follows:

- **Goo-Balls:** Greenish balls of a sticky substance which make ground-based or wall-crawling monsters stick to their surface. Depending on the strength of the creature, it may end up stuck there just briefly or forever.
- **Water Balloons:** Able to disable robots with exposed wiring by causing them to short-circuit. Robots with protective coverings may require multiple hits to short-circuit.
- **Magneto-Mass:** A powerful magnet attached to a heavy weight, which will stick to metallic flying robots and drag them down to the ground.
- **Spring-Cage:** A small black cube with six rods sticking out of it. On impact with a target the Spring-Cage will expand to surround the target, entrapping it in a strong cage. Works best against small flying adversaries; larger enemies will be able to smash out of the cage.
- **EM Disrupter:** A small sphere that, when thrown, will fly a distance and then activate, rendering all electrical equipment within a certain radius of the Disrupter immobile. Flying robots will plummet to the ground, robots that cling to the walls will fall off, and ground robots will grind to a halt. The EM



Disrupter does not work on humans or atomic-powered robots. The player will have to be careful when using the EM Disrupter while he has Electric Piranha (as described in the Game Mechanics section), as the device will also cause Sam's Piranha to cease functioning and clatter to the ground below.

- **Bubble Wand:** Similar to the bubble wands/rings used by children to blow bubbles from bottles, this wand produces much stronger bubbles which will envelop a target and prevent it from escaping, at least for a few minutes. One of the more effective of Sam's "throwable" objects in the game, the Bubble Wand won't work on enemies with sharp objects, spikes, or propellers on them.
- **Atomic Bola:** One of the most powerful projectiles in the game, this looks like a traditional bola: two black spheres connected by wire. But these bolas are powered, and when the bola starts to wrap around a target the engines in the bola-balls activate, causing the bola to wrap around the target many times, very tightly. The Atomic Bola will not work on any flying adversaries that have any sort of propellers or rotor blades on them.

### Rocket Enhancements

The player will be able to get various improvements to Sam's rocket-pack throughout the game, either through having an NPC tinker with the pack and make an improvement, or through an add-on that Sam can find and simply install himself. These enhancements provide a range of improvements to Sam's abilities.

- **Burst-Master:** The Burst-Master is a simple modification to the pack that will cause it to have much faster speed when the player uses the pack's speed burst functionality.
- **Speedifier:** The Speedifier will cause the overall speed of the rocket-pack to improve, such that Sam can navigate the world at a higher speed than he could before getting the enhancement.
- **Gyromatic:** The Gyromatic will grant Sam much more stable flight using the rocket-pack, allowing him to stop and start much quicker, instead of having to coast to a stop. The Gyromatic is a simple "snap-on" attachment to the pack that Sam can easily install himself.
- **Atomic Compressor:** A simple box with a dial on it that can attach to the side of the pack, this device will provide Sam with a longer flight time. The device works using a unique method to "compress" the atomic energy the pack constantly generates, thereby allowing the pack to store more of it at any one time.



## Miscellaneous

*Atomic Sam* will also include other miscellaneous devices that Sam is able to pick up. These devices have a variety of functionalities which will improve Sam's abilities to navigate and survive the levels.

- **Electric Piranha:** Throughout the levels Sam will find numerous Electric Piranha, small devices that will “swim” through the air around Sam and deflect attacks for him. The full functionality of the Electric Piranha is described in the Game Mechanics section.
- **The Spidersonic:** The Spidersonic kit allows Sam to stick to any vertical surface as a spider would. Using this kit, Sam can grab onto the side of a building and stop flying, allowing his pack time to recharge before he flies on to the next location.
- **Moon Suit:** Found in New Boston, this handy Moon Suit will allow Sam to travel outside of the Moon colony and survive on the surface of the Moon. Fortunately, Sam's rocket-pack and utility belt can both be placed outside the suit so that Sam will be able to continue to fly and throw projectiles, though both will be affected differently by the Moon's gravity.

## Characters

Sam will encounter a variety of characters in *Atomic Sam*. These include both friends and allies as well as enemies and, eventually, the man who kidnapped his parents.

### Atomic Sam

The player controls Atomic Sam, a ten-year-old with a rocket-pack who uses his wits and dexterity to evade countless robotic and human adversaries throughout the game, not to mention navigating tricky areas, all in order to find his parents. Sam is about three feet tall and wears brown jodhpurs with a red aviator's jacket, the latter with gold trim. He also has a brown leather belt with various pouches on it. The large, clunky, “moon boot” type boots that Sam wears are silver in color. On his back is mounted the atomic-powered rocket-pack he uses to fly. It is a fairly small, compact device that is several inches narrower than the width of his shoulders, and several inches shorter than the distance from his belt to his neck. Sam has short black hair and wears a pair of 1930s-style aviator goggles. Sam's abilities are covered throughout this document. Sam's personality is what would be expected of a ten-year-old boy of the bright future: optimistic and smart. At the same time, Sam is without his parents for the first time in his life, and is somewhat frightened of the world he must now explore on his own.



## Friends

- **Xeraphina:** In Benthos, Sam will meet a twelve-year-old girl by the name of Xeraphina. A daughter of artists, Xeraphina has grown up entirely in Benthos, and has never seen the surface, a place she dearly longs to go. Xeraphina is able to glide around the city using a unique set of wings her parents invented, and will help Sam in his battles against his robotic adversaries. Xeraphina wears a tight-fitting light green outfit, with semi-translucent green shawls flowing around her body as she flies through the air. Her wings are made of a less translucent crystalline substance, are a darker jade green color, and are a good eight feet from tip to tip. Attached at her shoulder blades, they are a rigid construction, but flap slightly when she flies. She has a very friendly smile and wears her long brown hair in a bun behind her head, with a small paintbrush stuck through it to keep it in place.
- **Scrap:** In Harmony, Sam will meet Scrap, a shiny-new, recently constructed robot no more than a few weeks old. Scrap is a very friendly fellow who enjoys using his high-pitched voice to tell jokes whenever he can; puns are his specialty. In many ways, Scrap behaves like a robotic version of a ten-year-old, and dreads the day that he will be sent off to his work assignment, though he does not yet know what it is. Scrap is happy being a robot, but just wishes he



would never have to “grow up,” and dreams of a life traveling the world. Scrap is about Sam’s size and is humanoid in form, except that he has four arms and a particularly small head. Scrap can use his pogo-stick-like legs to jump great distances, helping Sam to defeat his robotic adversaries in whatever way he can.

- **Dulo:** Dulo is Sam’s parents’ assistant. His general appearance as a Torso Moonie is described fully in the Moonie description below. In particular, Dulo wears special purple bracelets that he likes very much, which will help to make him stand out from the other Moonies, who all pretty much look the same, at least within the Torso or Bi-Header groups. Dulo is able to hop around and help Sam in defeating the robotic adversaries; his long tentacles are well suited to grabbing the robots out of the air and smashing them on the Moon’s surface.

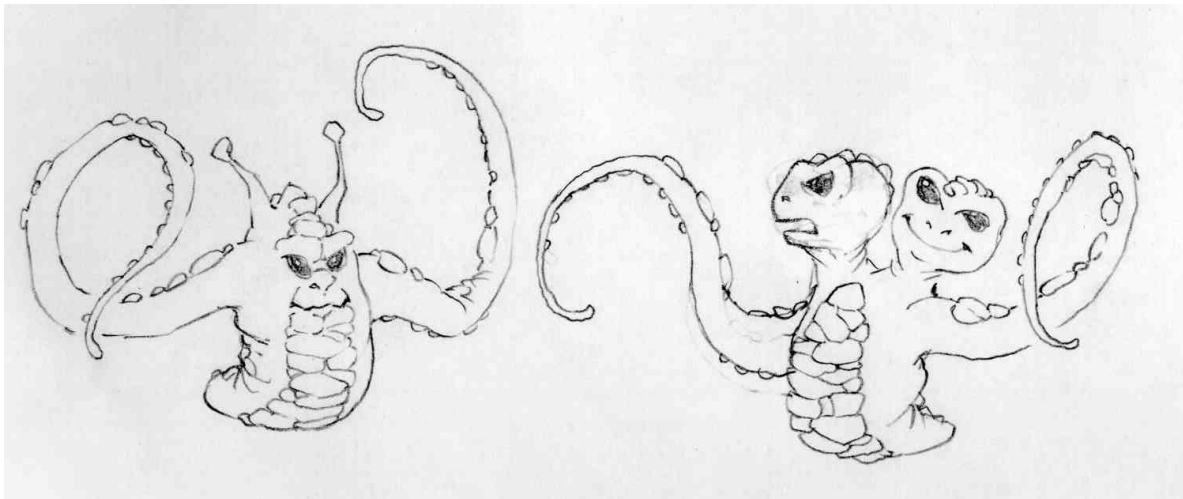
### Other Characters

- **Electric Priestess:** The Electric Priestess is the mysterious woman who helps Sam to find out what happened to his parents and provides him with much useful information about the world. By the end of the story, the player learns that the Priestess is actually Max Zeffir’s sister and was also one of his chief researchers. She lost her leg in a zeppelin accident due to Zeffir’s lax safety standards. The Electric Priestess continues to love her brother, while despising the money-hoarding madman that he has become. The Priestess dresses in a long jade-green dress with a large black hat which partially obscures her face. She has only one leg remaining, the other having been replaced by a clunky, robotic prosthesis.
- **Ike:** In Harmony Sam meets Ike, an old robot assistant his parents had some years ago of whom they grew very fond. Unlike many owners, when Ike got old Sam’s parents released him from his work for them instead of just shutting him off, and allowed him to return to Harmony to live out his time with other robots. Ike is quite smart, though his memory is failing, as is explained in the Game Progression section. Ike does not say much, but once his memory is activated he will speak with great love and respect for Sam’s parents. Ike looks a bit older in design than many of the other robots Sam will find, with a boxy, clunky shape and a larger frame than many newer robots, such as Scrap. He is also quite slow moving because of his age. Ike moves around on tank treads, and was designed with only one arm, a long, five-jointed limb connected to his torso in the middle of his chest.
- **Tool:** Tool is the “robot doctor” whom Sam will need to locate in Harmony in order to save Ike. Tool is a huge robot who looks like he would be very violent and destructive. Instead he is very kind and caring, in a “gentle giant” sort of way. Tool is mute, and speaks only through a text display in the middle of his



chest. Tool floats through the air a short distance above the ground using an anti-gravity unit he wears around his waist. When “operating” on robots, Tool does not use the massive arms and fists that are attached to his upper torso. Instead, a small compartment springs open in his chest from which small, spindly robotic arms pop out to do precision work.

- **Moonies:** “Moonies,” as earthlings call them, average about four feet in height and hop around on the lower half of their bodies (they have no legs). For arms they have two tentacles, one on either side, which are quite long and strong, yet prehensile enough to use a human pen to write. Though the Moonies are asexual, there are two different physical varieties of the creatures; one with two heads that sit atop their bodies as humanoid heads do (which earthlings call “Bi-Headers”), and another that has no head at all, but instead has its eyes and mouth located on its torso (which earthlings call “Torsos”). The Moonies also have white bumps on their bodies which can glow when necessary, allowing them to maneuver through dark areas. This lighting is necessary for them to navigate on the Dark Side of the Moon, where they have lived for all their recorded history.

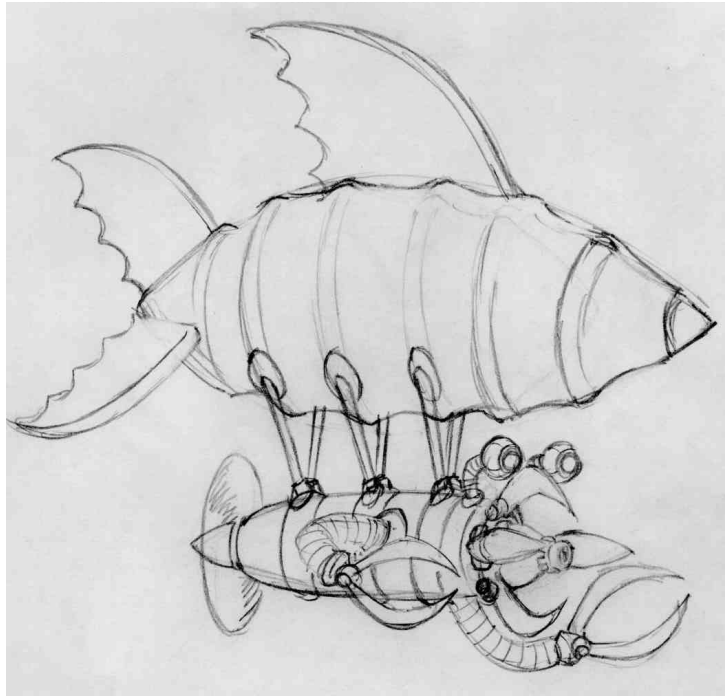


## Enemies

**Arctic Immobilizer Blimp** The Arctic Immobilizer Blimp (AIB) is an easy to middle difficulty robotic adversary that Sam will have to disable or evade. Shaped like a cylinder, made of shiny, silvery metal, and suspended from a miniature zeppelin, the AIB floats through the air at a relatively slow speed, being propelled forward by a small rear propeller. Two metal claws extend from either side of the tube, and the AIB will wiggle these claws menacingly at Sam. The front end of the cylinder has four metal spikes which close over the front opening. The AIB will be



able to move up and down (again, at slow velocity) in order to line up with Sam and attempt to attack him, but its slow speed will prevent the AIB from giving chase if Sam successfully evades it and flies away. Since the AIB flies, if Sam uses the Goo-Balls on it they will have no effect. One of the best projectiles for defeating the AIB will be the Magneto-Mass, which will quickly bring the enemy to the ground.

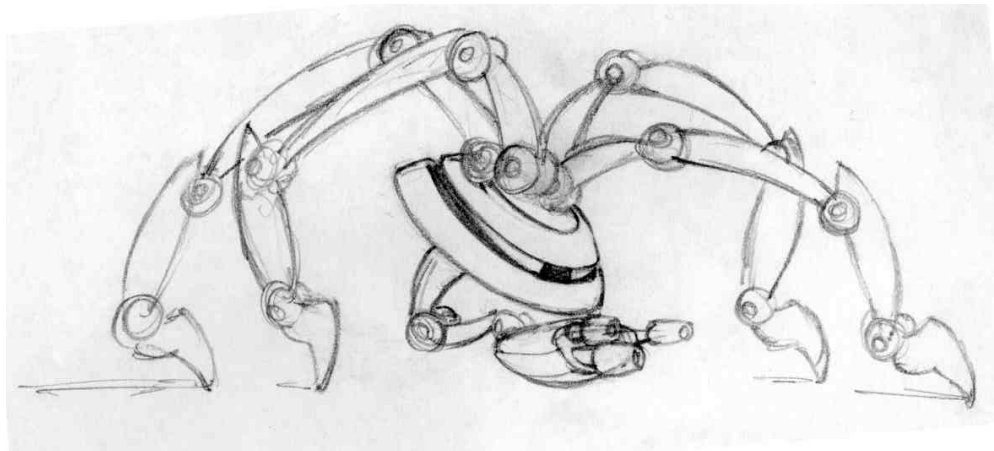


The enemy has two attacks, one a melee attack and the other a mid-range attack.

- **Claw Attack:** If in close range, the AIB will be able to slice at Sam with its two claws, possibly cutting off his rocket-pack. Sam will need to avoid getting in close range of the AIB in order to avoid this fate.
- **Freeze Mist Attack:** For the AIB's second attack, the four metal spikes that cover the front of the tube will fan outward, revealing a small nozzle. From this nozzle will come a liquid spray which will freeze whatever it contacts. The spray generates a cloud of mist in front of the AIB, and if Sam comes in contact with this cloud before it dissipates he will be frozen solid in a block of ice and plummet to the ground.



**Arachnaught** The Arachnaught is a fairly easy robotic enemy. The Arachnaught looks approximately like a four-legged spider, with each leg being a three-jointed appendage with a spiked end. The legs all come together at a fairly small main body, which contains a curved vision-sensor that gives the creature a good range of sight. The Arachnaught cannot fly at all, but instead can climb up the sides of buildings just as easily as walking on the ground. The Arachnaught moves quite quickly, in a scurrying fashion. Since it crawls on surfaces, the Arachnaught will be impervious to Sam's projectiles that work on flying adversaries, while being particularly susceptible to the Goo-Balls projectile.



The Arachnaught has three attacks, one melee, one projectile, and one a short-range “tractor beam” like effect.

- **Claw Attack:** The Arachnaught will be able to attack with its sharp legs, devices that will easily allow it to slice off Sam's rocket-pack, thereby incapacitating him.
- **Sticky Web Balls:** The Arachnaught can shoot large, slow-moving globs of a uniquely sticky substance. If Sam is on the ground when hit by this substance, he will be stuck to the ground and immobilized. If Sam is in the air, he will be temporarily unable to throw any projectiles, as he attempts to struggle out of the sticky substance. If Sam runs into any surfaces with the web ball still on him, he will stick to that surface and become incapacitated.
- **Web Strand:** The Arachnaught's most fiendish weapon may well be its web strand attack. Using this, the Arachnaught can shoot a long strand of webbing towards Sam and, if it hits, can then pull Sam back towards itself. Then, once Sam is close, the Arachnaught can use its claws to rip Sam's pack off, thereby putting him out of commission. Sam will have to fly in the exact opposite direction of the web strand, only breaking free after five seconds of resistance.





**Merciless Mercenary** Though many of Sam's adversaries in the game will be various robotic constructions, Sam will encounter human foes on Max Zeffir's flying fortress, the Ikairus. Dubbed the Merciless Mercenaries (MMs), these humans are highly trained and will be quite difficult for Sam to evade or incapacitate. Dressed in black uniforms with red trim and fierce-looking steel helmets, the MMs are able to fly by an anti-gravity belt fastened around their waist. The belt allows them to float in the air, and in order to actually propel themselves, the MMs need to perform a "swimming" type motion. Many of Sam's projectiles will be useless against the MMs; the only effective weapon will be the Atomic Bola, which will wrap around the MMs' legs and prevent them from "swimming" any farther. The MMs are one of the more mobile adversaries Sam will encounter. For this enemy, running away will be hard since the MMs will be able to track Sam and move almost as fast as he does.

The MMs have a total of three attacks: one melee and two ranged.

- **Tri-Power Trident Melee:** The MMs carry gold-colored, metal tridents called Tri-Power Tridents, which have two functionalities. The first is as a simple melee attack, used if Sam gets too close. The sharp ends of the Tri-Power Trident will easily be able to rip Sam's rocket-pack right off.
- **Tri-Power Trident Ranged Attack:** The second attack of the Tri-Power Trident is to shoot a large, slow-moving mass of light blue, sparking energy into the air. This travels toward Sam, tracking him, but it alone will not hurt him. When it gets close enough to Sam, it stops moving and explodes into six miniature energy balls. These small balls hurtle at great speed in random directions outward from the main ball, and if they come into contact with Sam burst into a perfect energy sphere with Sam trapped inside. Unable to break out of the sphere, Sam is now immobile.
- **ElectroNet:** Finally, the Mercenaries have an ElectroNet which they will throw with their other arm (the one that does not have the Tri-Power Trident in it). This net, similar to Sam's Atomic Bola, has heavy black balls at its ends which propel it in the direction thrown. Of course, if the net manages to wrap around Sam, he is incapacitated.

**Visionary** At the end of Harmony city—the town that is the hub of robot manufacturing—Atomic Sam will face a fierce boss enemy. In appearance the Visionary is a giant eyeball-like mechanism, with two metal structures on each side, both of which have helicopter blades on them. These blades keep the Visionary aloft, giving it great maneuverability. The Visionary can travel up and down at speeds much faster than Atomic Sam can manage with his rocket-pack, though it is a bit slower at turning than Sam.



From the bottom of the eyeball emerge three steel tentacles, each with a different mechanism on its end. Each of these devices is the basis for one of the Visionary's three attacks.

- **Electric Blades:** One tentacle features three rotating blades that all point in the same direction like a claw. These blades continually rotate menacingly. Their real power, however, is to shoot an electric shock wave which can stun Sam into unconsciousness. The blades spin up to a high-speed whirlwind and then unleash the blast from their center. This ranged “beam style” attack will be tricky for the player to avoid; once the player sees the Visionary's blades start spinning at high speed, she must be careful to move Sam out of the path of whichever direction the blades are pointing.
- **Magnet:** One tentacle has a giant, U-shaped magnet on the end of it. By attracting the metal in Sam's rocket-pack, the Visionary can turn on this magnet to suck the player toward the robot. Sam will have to use all his dexterity to avoid getting too close to the enemy, where the robot will be able to rip Sam's rocket-pack off using the tentacle arm with the blade attachment.
- **Smog:** The third tentacle has a giant funnel on the end of it. From this funnel the Visionary can shoot a thick, black cloud of gas which will cause Sam to have an uncontrollable (and game-ending) coughing fit should he be so unfortunate as to fly into it. This smog cloud will hang in the air for some time after the Visionary shoots it, and the player will have to be careful not to fly into that cloud until it dissipates.

As with all the boss monsters in the game, most of Sam's regular projectiles will not be very effective against the Visionary. They may slow down the robot for a short time, but they will not permanently defeat it. The player will need to use the setup of the level itself in order to incapacitate the Visionary. This makes defeating the boss less a matter of dexterity, repetition, and perseverance, but more about understanding the puzzle, which, once figured out, is not that hard to repeat. Since the player is battling the Visionary at the end of the Harmony levels, the battle will take place in a robot factory. The Visionary emerges from a storage crate riveted to the ceiling at the top of the play area where Sam will battle the robot. Scattered about the area are various appropriate pieces of equipment used in a robot factory, as well as four high-powered fans. Sam will be able to turn on these fans by using his “action” ability near them. He will also be able to use his Action button to rotate the fans and change the direction they are blowing. By activating and blowing all of the fans upward beneath the storage crate, Sam can create a windy vortex which will be able to push the Visionary—since it is kept aloft by helicopter blades—back up into the case. Sam will then, by using a switch near the crate, be able to close the crate and trap the robot inside, hence defeating the creature.



**Max Zeffir** Zeffir is the founder and owner of Zeffir Zoom, and is widely considered to be the richest man on the planet. Zeffir started acquiring his fortune with his zipper company, Zeffir Zippers, and then moved on to virtually every other industry he possibly could. His companies include the aircraft manufacturer Zeffir Zeppelins, the clothing line Zeffir Zest, and the Zeffir Zeitgeist news network.

Max Zeffir is also the employer of Sam's parents and, as it turns out, the one who kidnapped them in order to keep them quiet. Sam will finally have a showdown with Zeffir in the end-game, where Zeffir will turn out to be quite a formidable opponent himself.

When the player finally meets Zeffir he will be wearing a 1920s-style "railroad baron" black pinstripe suit with an extra large top hat. Zeffir sports a stringy black mustache and a mischievous grin. Zeffir will battle Sam on his Negativity Platform, so named because it negates the effects of gravity. A circular disk which floats on the air and is much more maneuverable than Sam's rocket-pack, the platform features handrails that come up to Zeffir's waist, which he holds on to while the platform flies around.

Zeffir's combat will consist of two methods of attacking the player:

- **Robots:** Zeffir will battle the player by summoning robots to fight Sam. These will be all manner of robots that Sam has been fighting throughout the game, and they will emerge from various compartments throughout the large, domed room in which Sam and Zeffir battle. Sam will have to defeat these robots as he normally would in the rest of the game. Zeffir will bring out a maximum of three robotic adversaries at a time.
- **Tuning Fork:** Zeffir will also hold a six-foot-long tuning-fork-like device in his hand. When Zeffir strikes this bar on the bars of the Negativity Platform, it creates a sonic blast which he can aim at Sam. If the blast hits Sam, he will be temporarily stunned and have to stop flying and raise up his hands to cover his ears. This will make Sam particularly susceptible to robot attacks, since he will be unable to move or throw projectiles.

The player will be able to defeat Zeffir using a variety of different tactics, which can be used in different combinations.

- **Brute Force:** Once hit with a lot of projectiles of the right sort, Zeffir will finally be defeated. Only some of Sam's projectiles will work, however; the Magneto-Mass and Spring-Cage will be ineffective against Zeffir, while the others will slowly wear him down. It will take a lot of hits, however, and Zeffir will do his best to bring out more robots and to blast Sam with his Tuning Fork at the same time. As a result this is the most difficult of the ways to defeat Zeffir, but it is also the most obvious.



- **Disable Negaposts:** Zeffir's Negativity Platform is actually held aloft by four Negaposts which are on the ground in four opposite corners of the room. As Zeffir moves about on the Platform these posts glow. Sam will be able to take out one of the posts by hitting it with three water balloons. When the post goes out of commission, Zeffir temporarily loses control of his craft, only to regain it quickly. Sam will need to incapacitate all four posts before the Negativity Platform will actually stop working and clatter to the ground of the room, where Zeffir will surrender.
- **Get Zeffir's Ear Protection:** The player will notice that Zeffir is wearing a bulky pair of "ear protectors," large devices that look like headphones but which serve to block out the dangerous sound of the Tuning Fork. If the player is clever enough, he will realize that if he hits the Negativity Platform hard enough the ear protectors will be knocked off of Zeffir. They cannot be knocked off simply by pelting Zeffir with projectiles, however. The player will need to cause Zeffir to steer the Negativity Platform into a larger swinging girder that hangs from the top of the domed room. If Sam is simultaneously pushing the girder while Zeffir is flying toward it, the impact will knock the ear protectors right off. If the player then flies Sam down to where the ear protectors fell, Sam will put them on. Now Sam is immune from Zeffir's blasts and will have a much easier time defeating him, using either brute force or by disabling the Negaposts, as described above.

## V. Story Overview

*Atomic Sam* is the story of a young boy, separated from his parents for the first time, who must rise to the challenge of discovering what has happened to them. Though *Atomic Sam*'s focus is as an action/adventure game, the humorous and touching story sets the game apart from many other console action games.

The setting of *Atomic Sam* is the Earth of the future, but not exactly the future as we imagine it now. This is the future as foretold in the first half of the twentieth century by magazines like *Popular Science* and *The Electrical Experimenter*, as well as by futurists like Norman Bel Geddes and Buckminster Fuller. Certain innovations that we see as obvious today never came to pass, such as jet airplane travel; instead, people still travel aboard giant propeller craft and zeppelins. Similarly, the personal computer and certainly the Internet are unheard of, while super-intelligent and always helpful robots are ubiquitous. Man has even colonized the Moon and found the extraterrestrial life which lives there, the "Moonies." It is in this whimsical and fun future that the story of *Atomic Sam* takes place.

One day, young Sam returns from school to his parents' apartment only to discover them mysteriously missing. Sam's parents are both scientists at Zeffir Zoom,



a transportation company, but they always make it a point to be home when Sam returns from school. Distraught, Sam decides to go looking for his parents. He dons a red jacket and puts on the atomic rocket-pack they gave him for his birthday, and renames himself Atomic Sam, gaining courage through his new alter ego.

Sam travels through the city of Gargantuopolis towards his parents' office, but along the way is attacked by robots who try to block his progress. Sam finally reaches their office, only to find them missing from there as well, with only a mysterious note remaining. A friendly robot soon arrives, however, and escorts Sam to a towering building right next door. Sam travels up to the top floor and meets a strange woman who calls herself the Electric Priestess. She tells Sam that, though she does not know what has happened to his parents, she will help him find them. She offers Sam transportation to three locations where Sam may try to discover their fate.

Sam will travel to Benthos, the city beneath the sea. There he will meet Xeraphina, the flying girl, who will help Sam locate his parents' private office. Next is Harmony, the robot city, where Sam will try to look for Ike, the robot who was his parents' loyal assistant for years. Along the way Sam meets Scrap, a plucky young robot who strangely doesn't want to "grow up" and go to work. Finally, Sam travels to New Boston, the Moon colony, searching for another friend of his parents, Dulo the Moonie. At each of these locations, Sam is attacked by merciless robots out to defeat him and stop his inquiries. After having fully explored each of these areas, Sam finds a piece of a wax cylinder which, when all of its pieces are assembled, can be played back to reveal what happened to his parents.

The cylinder contains a warning message from Sam's parents: they think they have stumbled on a safety problem with the monorail system being developed by Max Zeffir, their employer. Unfortunately, Zeffir does not want to fix the problem because of its prohibitive cost and, as a result, has kidnapped Sam's parents to keep them quiet. The Electric Priestess will now be able to lend Sam an auto-gyro to take him to the Ikairus, Zeffir's massive airship. There Sam will battle still more robots before confronting and defeating Max Zeffir. Then, finally, Sam is reunited with his parents.



## VI. Game Progression

### Setting

*Atomic Sam* takes place on an Earth of the future, at an indefinite time, perhaps in the twenty-first century. This is not the future as our culture of the year 2000 envisions it now, but instead as people optimistically foresaw it in 1920s, 1930s, and 1940s America. Instead of jet planes transporting passengers across continents, the world of *Atomic Sam* is filled with zeppelins and “giant wing” propeller craft. In *Atomic Sam*, nuclear energy has not turned out to be a disappointment as it has in the second half of the twentieth century. Instead, it has fulfilled its tremendous promise of cheap, clean energy, and has been refined to the point where it can be used safely in a child’s toy or in zeppelins.

This is a future that has conquered poverty through technology, a future in which the skyscrapers stretch to unprecedented heights, and there is enough room for all to live happily. Private planes and auto-gyros (a plane/helicopter hybrid) are not uncommon, and many land on the roofs of the towering skyscrapers. Rail travel is a very important part of this future, and high-speed monorails provide quicker travel between cities than slower zeppelins.

Intelligent robots are everywhere, and people can purchase robots either to be workers in their factories or butlers in their homes. Instead of running people out of work, however, these robots have increased everyone’s leisure time, while in turn enhancing everyone’s prosperity. This is not the bleak, troubling future found in so much science fiction of the last two decades, but an optimistic world where technology has set the human race free to be happy.

The advance in robots did create some interesting problems, however. Robots are now basically as smart as the smartest humans, with intelligences so developed that they have emotions and desires of their own. Certainly many robots are more physically strong and resilient than humans. Yet the robots have not risen up to conquer the humans, as many science fiction works might foresee. (All of the aggressive robots that Sam faces in the game are following the orders of a villainous human.) Instead, these robots are still obligated to follow the laws humans make, for reasons that are never fully explained. Indeed, robots have no rights and are treated very much as property by the humans, not unlike African slaves were treated in the first hundred years of United States history. For instance, if part of a robot breaks, it may be cheaper to replace the whole robot than to fix it. If this is the case, it is the prerogative of the owner of the robot to permanently shut it off if he so chooses, and few humans would question that decision as being the right one. *Atomic Sam* does include some hints of a robot “underground” which tends to the old robots in the most humane ways possible, as is explored in the Harmony section of the game.



In this future earthlings have managed to reach the Moon and have set up a Moon colony there called New Boston. This colony consists of a number of domed structures which provide a breathable atmosphere and Earth-like gravity. Moon walks are allowed for the residents, using space suits, of course, with many Moon residents finding such excursions to be a fun way to take a break from dome life.

When humans did finally reach the Moon, they were surprised to find a race of extraterrestrials there. These creatures had lived unnoticed on the Dark Side of the Moon for many centuries, only in the last thirty years revealing themselves to humans as the Moon colony was built. In addition to their generally strange appearance, the Moonies come in two varieties: the “Bi-Headers” and the “Torsos.” The Bi-Headers have two heads on top of their bodies, while the Torsos have none, instead having a mouth and eyes on the front of their torsos. The Moonies do not breathe and are much denser creatures than humans, and as a result can survive in either Earth or Moon atmosphere. The Moonies, though not technologically advanced, are just as intelligent as humans, and on making contact with earthlings were quick to learn English. The Moonies and humans now live cooperatively on the Moon, helping each other in many different ways.

On first contact, the reaction of humans to the Moonies was one of shock and disbelief. Over time, however, humans came to realize that Moonies did not pose a threat and became quite friendly with them, in particular with the Bi-Headers. It seems that, since the Bi-Headers looked a bit more humanoid than the Torsos, that humans found them more acceptable. As a result, only the Bi-Headers are allowed in New Boston, while the Torsos must stay outside on the Moon surface. Humans found the Moonies to be great collaborators on scientific projects, using their unique way of thought to help advance technology. However, though both sets of Moonies are equally intelligent, only the Bi-Headers are allowed to work with humans in an academic capacity.

Though we now see many of the technological advances described above as either impossible, impractical, or undesirable, this is the world of *Atomic Sam*, where the illogical nature of the environment is part of its charm. On the other hand, while this future contains many advances we see as impossible today, it also doesn’t include a lot of the advances we take for granted today. For example, in this future people have no idea what a personal computer is, and in turn, computer games surely don’t exist. Though television exists, it is still on a tiny television screen and is vastly inferior to a movie theater experience. While in some ways the world of the twenty-first century in *Atomic Sam* is more technologically advanced than 1990s America, in other key ways it is certainly less advanced, giving it a unique “primitive future” look.



## Introduction

The player controls the game's namesake, Atomic Sam. A normal though precocious boy ten years of age, Sam returns from school one day to find his apartment home ransacked and his parents mysteriously missing. Donning the atomic-powered rocket-pack given to him by his parents for his birthday, Sam renames himself Atomic Sam and vows to venture through Gargantuopolis to find his parents.

## Gargantuopolis

Following this brief introductory cut-scene, the player gains control of Sam inside his parents' apartment. Here the player will be able to follow the instructions given to him by the Instructobot that came with his rocket-pack. These instructions will teach the player how to effectively control Sam. The player will also be able to skip by that section and proceed out into the city, trying to get to his parents' office deep in the city.

Gargantuopolis is a mammoth city of the future, with towering buildings creating something of a sense of claustrophobia, and Sam's rocket-pack is unable to fly him over their tops. Traveling through the city, Sam is attacked by a great variety of robots that try to prevent him from discovering what has happened to his parents. Where these robots came from and why they are trying to subdue Sam remains a mystery at this point in the game.

Sam's parents are atomic scientists at Zeffir Zoom—a company that works at harnessing atomic energy for increasingly fast modes of transportation. Upon reaching his parents' office at Zeffir Zoom's main research complex, a cut-scene will take over showing Sam finding a hastily written note left by his parents proclaiming, "Someone has to check on Sam!" Along with the note is a fragment of a wax cylinder used for voice recording. Since the cylinder is incomplete, Sam is unable to play it back at this point.

## The Electric Priestess' Bubble Home

Distraught at having failed to find anything out about his parents' disappearance, Sam is suddenly approached by a friendly robot who quickly leads him to a nearby building. Here Sam takes the elevator to the top floor, where he meets a mysterious woman who calls herself the Electric Priestess. Quite a mysterious figure, the Electric Priestess lives alone in a sphere-like "bubble home" dwelling atop a high skyscraper. The ceiling of this bubble home is entirely glass, providing a breathtaking view of the surrounding city. In the home are numerous large steel doors which lead to various forms of transportation at the Priestess' disposal.

The Priestess explains to Sam that she knows of his parents' disappearance, and offers to help him. At this point in the story, why the Electric Priestess is helping





Sam is still unclear, but she seems quite concerned for his well-being. On hearing of Sam's concern about his parents she offers to help by guiding him to the other fragments of the wax cylinder. She offers Sam transportation to three different locations where she believes he may find more information about his parents and other fragments of the cylinder. She also gives Sam a miniature radio which he can hook on to his ear and which will allow him to stay in contact with her.

The player will now regain control and have a choice of navigating Sam through any of three doors that will lead to transportation to the middle three sections of the game: Benthos, Harmony, and New Boston. The player can play these areas in whichever order she chooses, though she must complete all of them before proceeding to the final area, the Ikairus. The Priestess will be happy to provide Sam with some background information about any of the areas before he goes there. Once the player selects one of the doorways, a brief cut-scene of Sam being transported there will follow, and then the player will regain control in the new area.

## Benthos

First is Benthos, the city beneath the sea. The Electric Priestess sends Sam on her private, robot-operated auto-gyro to the undersea monorail which leads to Benthos. Benthos' population is made up primarily of two classes of people: undersea researchers and visual artists. The latter group mostly relocated to Benthos because of the solitary, remote lifestyle it provides. Benthos is a domed city, into which oxygen is pumped via ducts which float on the ocean's surface many miles above. Because of the low height of the dome, Benthos consists of smaller buildings than the mega-skyscrapers found in the surface cities. Scattered throughout the city are many sculptures that have been created by the artists who live there; the work is of amorphous, abstract, yet streamlined forms, many resembling "space age" versions of Picasso's sculpture work.

The Priestess informed Sam that his parents kept a private lab in Benthos, and Sam will set out across the city to look for it. As in Gargantuopolis, Sam will be waylaid by numerous mechanized adversaries who try to prevent him from reaching his parents' lab. Combat in Benthos will have less to do with flying to great heights as it did in Gargantuopolis, since the dome prevents anyone from flying too high. Flight will still be the key to fast maneuvering and effectively battling the robotic creatures Sam must defeat at every turn. In Benthos, Sam soon meets the flying girl Xeraphina, who will help him find his parents and tells him about Benthos.

Finally, Sam will make it to his parents' lab, a small office full of his parents' equipment and with a number of pictures of Sam on the walls. Once Sam reaches the office a cut-scene takes over to show Sam discovering another fragment of the important wax cylinder his parents made before they disappeared. With it in hand,



Sam will get back on the monorail and make his way back to the Electric Priestess' home, where he can proceed to the next area.

## Harmony

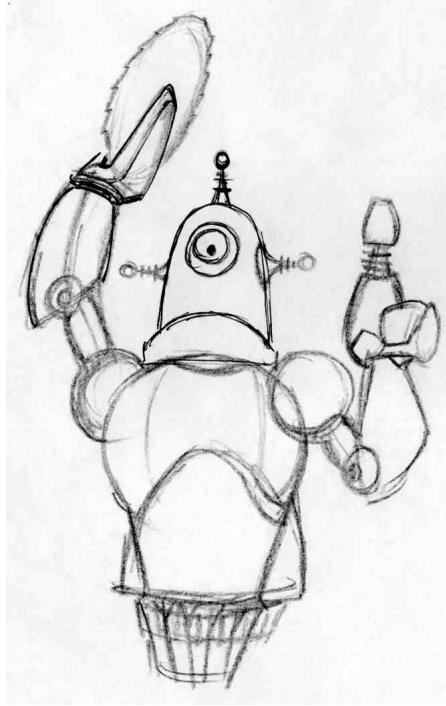
From the Priestess' home, one of the doors will lead Sam to her private zeppelin that will take the player to Harmony. A good distance from Gargantuopolis, Harmony is a special "planned" community that includes both large green parks and industrial, metropolitan areas. Harmony is the city where most of the country's robots are built, and here the number of robot inhabitants greatly outnumber the humans. In Harmony, Sam will need to learn to differentiate between friendly robot natives and the more vicious adversaries who continue to try to stop his quest for his parents.

In Harmony, Sam will meet Scrap, a super-friendly robot who befriends Sam and helps him battle the robots who would block his process. Sam also hopes to find Ike, the old robot assistant of his parents. The Electric Priestess explains that Ike went to Harmony to retire among his own kind, and Scrap helps lead Sam to the senior robot.

However, on finding Ike, it turns out that the aged robot's memory has been damaged, leaving him with only two state-sanctioned options: be turned off forever or have a new head attached. Opting for the latter, Ike is soon to have a replacement head put on, a common procedure. But Scrap is afraid Ike will lose his memory of Sam's parents, since memories are often lost in the head-replacement procedures. Scrap suggests they try to find an "underground robot doctor," a fellow robot who works in secret to repair old robots, thereby saving their minds and memories from the junk pile.

Sam and Scrap will need to travel across more of Harmony to locate this robot doctor, and then lead him back to Ike. They eventually find one who is willing, a massive robot named Tool who agrees to do the necessary work. Of course, while traveling through Harmony, the player will still have to face ill-intentioned robots at every turn.

Once Tool is brought to Ike, a cut-scene takes over as Tool performs the procedure to restore the old robot's memory. Tool is successful, and Ike now remembers the wax cylinder fragment Sam's parents sent to him and will pass it on to Sam. With another piece of the puzzle in hand, Sam can board the Priestess' zeppelin and return to her bubble home.



## New Boston

Finally Sam will be able to travel to New Boston, the Moon colony. Sent there on the Electric Priestess' private rocket, Sam will encounter the friendly extraterrestrials known by earthlings as "Moonies."

On some of their research projects, Sam's parents had worked with one of the Torso Moonies, a fellow by the name of Dulo. It is this Moonie Sam must find, since the Electric Priestess suspects that he has another piece of the wax cylinder. New Boston itself is another domed city—like Benthos—and its inhabitants are able to live much as they do on Earth. Earth-like gravity is maintained inside the dome, and a device called an Atmospherator generates breathable air for all the inhabitants. Some Bi-Header Moonies live inside New Boston, assisting with research projects.

When Sam inquires about Dulo, he will be told that Dulo, as a Torso Moonie, is not allowed inside the Moon colony, so Sam will have to acquire a space suit and go out onto the Moon's surface to find him. Shortly after going out on to the surface, Sam will meet Dulo. Dulo explains that, as a Torso Moonie, he was not able to work with humans. Sam's parents, however, noticed that Dulo had some special talents in their field of research, and as a result were willing to leave New Boston and travel to Dulo's home on the Moon's surface.



Dulo says that, yes, he too has a piece of the wax cylinder, but has stored it in his home, a good distance from the dome. Sam will go with Dulo to get the cylinder. Of course, throughout New Boston as well as on the surface of the Moon, more robotic adversaries will try to stop Atomic Sam from achieving his goals. Like Xeraphina and Scrap, Dulo will work with Sam in defeating the adversaries they encounter on the surface, helping to incapacitate the robotic nuisances. Once Sam reaches Dulo's home he will be able to get the fragment of the wax cylinder from him. Sam must then fight his way back to New Boston and return to Earth from there.

### **The Electric Priestess' Bubble Home**

After Sam has completed each of the three areas, he will have collected all of the fragments of the cylinder he thinks he needs and will return to the Electric Priestess' bubble home. In a cut-scene, the Electric Priestess says that she is most impressed with Sam's work in recovering all the fragments of the cylinder. Unfortunately, when Sam tries to put it together, he finds that one piece is still missing. The Priestess then reveals that she has the final piece, with which Sam can fully assemble the complete cylinder.

Fortunately, the Priestess has a machine with which to play back the cylinder. On the cylinder Sam's parents explain the work they had been researching, and how it led them into conflict with Max Zeffir, the owner of their company, Zeffir Zoom, and the man who has abducted them. Sam hears his parents explaining that in their work for Zeffir Zoom they discovered a dangerous flaw in one of Zeffir's new monorail systems, something that would mean huge losses for the company in order to successfully redesign. Unfortunately, they relate, Max Zeffir himself became aware of the problem but refused to have it fixed, and needed to silence them so the monorail system could go ahead without delay.

With the cylinder's playback complete, the Electric Priestess reveals that, in fact, she is Zeffir's sister. She was the original head scientist for Zeffir Zeppelins, and lost her leg many years ago in a zeppelin accident which she blames on Zeffir's cost-cutting. She suspected all along that Zeffir was behind Sam's parents' disappearance, but felt she must have proof before she could reveal her suspicions to Sam. In fact, she explains, she has been a friend of Sam's parents for some time, and when they started to fear that they would be caught by Max Zeffir, they broke up the evidence, in the form of the wax cylinder, and scattered the pieces, putting one in their apartment, one in their office in Benthos, and mailing the remaining pieces to Ike, Dulo, and the Electric Priestess herself. The Priestess now concludes with certainty that it has been Zeffir sending robot minions to try to stop Sam from discovering the truth about his parents.



## The Ikairus

His parents, the Electric Priestess reveals, are most likely being held captive aboard Zeffir's atomic-powered flying fortress the Ikairus. A constantly airborne, mammoth craft—its atomic power allowing it to fly indefinitely—the flying fortress is Zeffir's pride and joy, and is also where he resides. Kept aloft by some eighty propeller engines, the craft looks like a gigantic flying wing, and is large enough for other aircraft to land on.

The Priestess again lends Sam her private auto-gyro, which flies him to the Ikairus. On board the flying fortress Sam will have to battle still more robots in addition to the very challenging Merciless Mercenaries. The battles on the Ikairus take place in much more small and confined spaces, representing the corridors of the ship, and the player will need to adjust his fighting style accordingly. Finally, Sam will be able to confront the quite insane Zeffir. Zeffir not only has Sam's parents held captive, but he has also captured Xeraphina, Scrap, and Dulo. While Sam and Zeffir battle, Zeffir brags of what he will do to Sam's friends once he has defeated Sam. Finally managing to subdue Zeffir, Sam will at last be reunited with his parents, who are quite glad they gave him the atomic rocket-pack for his birthday.

## VII. Bibliography

The following books were key points of inspiration for the setting and world of *Atomic Sam*. Those working on the game will find researching these books to be quite useful in getting a feel for what a “retro-futuristic” setting is all about.

Corn, Joseph J. and Brian Horrigan. *Yesterday's Tomorrows*. Baltimore: The Johns Hopkins University Press, 1984.

A great historical treatment of the various visions of future from the past century, including many invaluable photos and documents.

Moore, Alan and Chris Sprouse. *Tom Strong*. La Jolla, CA: America's Best Comics, 1999.

Moore and Sprouse's brilliant comic book *Tom Strong* is set in the “clean and friendly” world of the twenty-first century, following the adventures of “science hero” Tom Strong.

Motter, Dean and Michael Lark. *Terminal City*. New York: DC Comics, 1996.

Motter and Lark's future as seen in *Terminal City* is a bit bleaker and darker than *Tom Strong*, but with the same sort of retarded technological development. Both *Tom Strong* and *Terminal City* include brilliant visual design and amazing environments, perfect for a video game such as *Atomic Sam*.