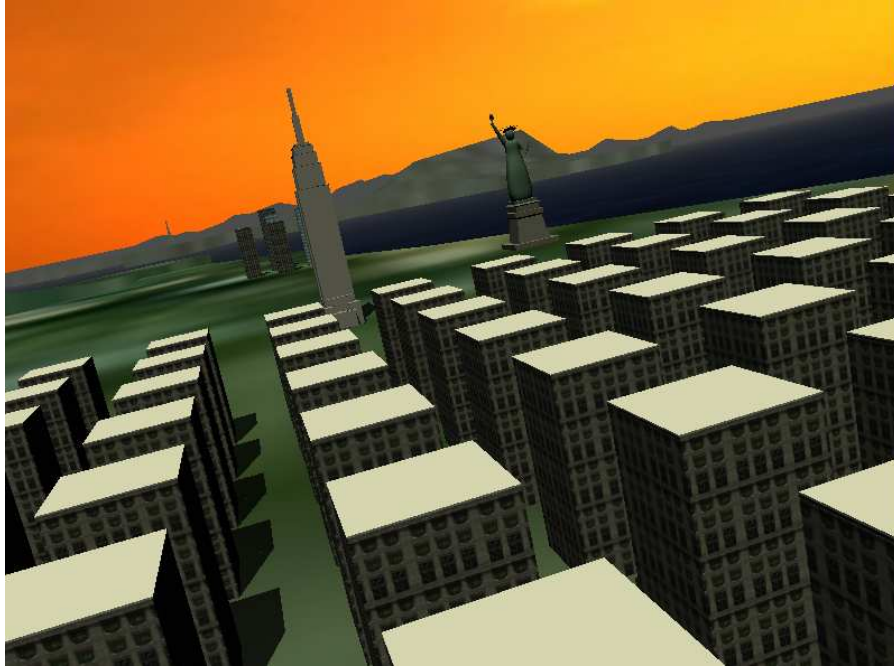


Above the Clouds

Kevin Schildhorn (schilk@rpi.edu) – 3D artist
Lauren Sacks (sacks1@rpi.edu) – writer/2D artist
Jiayi Kong (kongj2@rpi.edu) – 3D artist
Thomas Smith (smitht@rpi.edu) – programmer



I. Artist Statement

Although game developers have begun to try to reach beyond the current types of genres of video games, few have succeeded in creating something that challenges video game stereotypes and involves a form of gameplay that no one has seen before nor can classify. Not only is the point of the class *Experimental Game Design* to create a game that is “experimental”; it is to break the boundaries created by publishers, developers, technology, and even the players of video games. In addition, we believe that the idea of “video game” needs to break from simply being a “game” and instead try new ways of creating human-computer interactions. For these reasons, our team has decided to create *Above the Clouds*, in which there are no rules, no points, and no way to win or lose. The player only experiences the freeing sensation of flying and exploring a world that he or she has never seen.

II. Predecessors

There are very few entirely exploration based games on the market today. However, one very recent game for the Nintendo Wii was a very large influence on our creative decisions regarding *Above the Clouds* known as *Endless Ocean*. In *Endless Ocean*, the player takes the role of a scuba diver in a fictional ocean seeking fish and sunken treasure. However, there are no actual dangers and the missions only involve exploring the ocean more.

Another game that heavily influenced *Above the Clouds* was *Microsoft Flight Simulator X*, which utilized stunning graphics to make flying around the world in near-perfectly modeled planes an extremely immersive experience. However, the game focuses much more on simulating the flight of an aircraft and simulating aircrafts, airports and cities, in addition to occasionally making use of missions and other forms of more typical gameplay. Our game will instead focus on the player's experience and feeling of freedom to explore by trying to include immersive environments from a first person perspective. We also will not have the time nor an engine powerful enough to handle such detailed graphics as found in *Microsoft Flight Simulator*.

III. Target Audience

One of our goals in making *Above the Clouds* is having a game that anyone can play by utilizing easy, natural feeling controls and removing the fear of dying that drives some away from video games. No one can yell at a player about how much of a "noob" they are because the game isn't about skill, creating a safe, relaxing environment that anyone can enjoy. The only group that this game might not appeal to is the more hardcore gamers that play games solely for the sake of being challenged, experiencing fearful situations, and playing to gain boasting rights. Such a market will probably have little interest in a game intended to be calming and without rules. Ultimately, we hope that this would appeal to adults looking for a way to relax and schools attempting to get students interested in geography.

IV. Introduction and Story

In order to move the player's focus to the exploration aspects of the game, almost no story is revealed to them except what they can see from the air. From their perspective, it appears as though humans were simply abruptly removed from the world, leaving only massive buildings and monuments.

V. Immediate and Long Term Projected Socio/Cultural Project Impact

As there are currently very few open-ended exploration games available on the market, we believe that *Above the Clouds* will help people redefine how they think of games in addition to inspiring other developers to go beyond the typical connotation of how a video game should be made. Much like a painter with a blank canvas, people will probably initially find the amount of freedom in the game strange; however we believe that they will inevitably fall into the rhythm of the game by simply relaxing and exploring their surroundings. In the long run, there will probably be more games made with the intention of creating a relaxing, peaceful, and enjoyable environment as developers and publishers learn to expand beyond the current genres of video games.

In addition, by attempting to make the game as geographically realistic as possible, the player will gain a better sense of how the world is arranged, even if only simplistic landmarks are included. This will require careful construction of bodies of water and land, but should be more feasible than making whole cities.

VI. *Delivery System and Requirements*

We have decided to replicate the feeling of hang gliding as much as possible in *Above the Clouds* and hence have decided to utilize the Wiimote with an attached bar similar to the bar a hang glider would hold on to. We will create low-poly models in Maya and then import them into Ogre3D. Although Ogre3D doesn't have much documentation, it is very powerful and ideal for showcasing ongoing landscapes as will be featured in our game.

The game also requires a form of hang glider for the player to lie in to create the sensation that the player is actually flying. The "seat" of sorts will not hold a person in the traditional hang glider fashion, in which the person lies at 180 degrees and looks down at the world around them, but instead at around 135 degrees so that they are looking at a screen straight in front of them. The player is suspended in the air via a swing set constructed of two A-frames. The designs for the actual seat are still in debate. The game can also theoretically be played with use of the hang glider simulation device and simply with a Wiimote.

VII. *The World Layout/Level Design*

One of our primary goals in the making of *Above the Clouds* is to make the most realistic virtual world that we can muster in a semester using standard 3D modeling techniques in Maya. We would like to encourage exploration by including areas that the player is familiar with and may want to travel to, along with some places that the player has never heard of before. We are currently focusing on New York City, Paris, and The Great Wall of China in addition to land and oceans in between. If we had enough time, we would like to essentially create a digital version of Earth in its current state by including other cities, monuments, and geographic landmarks, such as: San Francisco, Paris, the Amazon Rainforest, Tokyo, Easter Island, Machu Picchu, and even RPI. In this sense, our game will have some educational value by showing the player parts of the world that he or she has never seen before and may never get to travel to. If we had more time on the game, we would like to develop an extremely realistic and detailed version of the world, however we will probably only be able to create landmarks and one or two cities.

We are also considering incorporating solely the landmarks of major cities (the golden gate bridge, the needle, etc.) in order to keep the amount of time we have to spend modeling cities down but maintain a wide variety of things to see in the world. The time constraint has had a large impact on how much of the world we will be able to tackle, so this may be a reasonable way to maintain a large number of things for the player to see.

VIII. *Music/Sound Design*

There will not be any sound effects in our game aside from some music. Music is something that we believe will strongly help our game, much as it seemed to really complete and unify the player's experience in *Katamari Damacy* and *We Heart Katamari*. The joyful, invigorating music that was present and entertaining, yet not too distracting from the game, is what we are aiming to create for *Above the Clouds*. The

music will be an additional element to draw the player into the game and help him or her relax. We will have a student outside of the *Experimental Game Design* class assisting us with the music for the game, as we feel an adequate soundtrack will help the player's experience.

As this is a prototype with very limited amounts of time, we probably would have introduced small sounds when the player is flying closer to the ground, like birds, waves, etc. We have also decided to use music by the band Tortoise.

IX. *Rules and Gameplay*

As our game is an open ended exploration game, there is no core set of rules or scoring. The player can even engage in an autopilot that allows them to simply keep going forward as they view the world around them. We also do not wish to have any kind of invisible walls in our game, as it would probably ruin the player experience as an immersive exploration game.

Our only current question regarding gameplay is what we want to occur when the player crashes into a building or the ground. We've narrowed it down to a couple of options and potential goals. In one situation, the player would simply be able to either return to the menu to choose where they wanted to go or return to 100 m above where they crashed. Another option would be not even allowing the player to crash by having the hang glider just "bump" off of buildings (this may be the easiest method since we have only a small amount of time).

In addition, in order to make for easy navigation, the names of nearby places or cities will be viewable to the player in the upper part of the sky. This will give the player a constant sense of where they are in the world so that the vast amount of space that they are free to travel in won't make them feel lost in any way. The menu screen (accessible by hitting A or B on the Wiimote) will also let the player know where they are and where they're facing along with giving them the option to quickly travel to somewhere else. We would also like to include the option for the player to see how long they have been flying among other details that would make for a better play experience.

X. *Program Structure*

This project is primarily based on Ogre 3D, a popular C++ based, open-source 3D engine. It is not a game engine by default; it covers only the loading and display of models and effects. Landscapes loaded from height and texture maps are driven by configuration files, making worlds easy to build and change. Currently models from Maya, including buildings and monuments, are hard-coded, but this could be altered easily due to the small size of the code base. Flight mechanics like smooth banking, slow climbing, rapid diving, and feather-in-the-wind gravity are implemented with simple algorithms at a rate independent of computer performance. In general, the code base is separated into functions and unified with #define statements wherever possible. This makes it easy to test parts of functions and change behaviors. Distant portions of the sizable map are hidden in simple fog and automatically clipped, saving rendering of far-off models and details without having to explicitly mark or alter them. In addition, shadowing is implemented, but has not been used extensively for *Above the Clouds*.

Player collision with the environment is treated as a temporary inconvenience, resulting in the player skimming along the ground and being "jumped" up away from buildings. Wiimote controls are implemented in a separate program called GlovePIE. GlovePIE is an input converter and joystick emulator. Through the use of .pie scripts, it can emulate the input needed to control almost any game or program.

Thanks:

To Zach Barth for the extra help

And to Nicholas Thompson for the construction of the hang glider.

Above the Clouds© is owned by Team Hang Gliding and created in Experimental Game Design Class in spring 2008.