



## How to Create a Map in 11 Days



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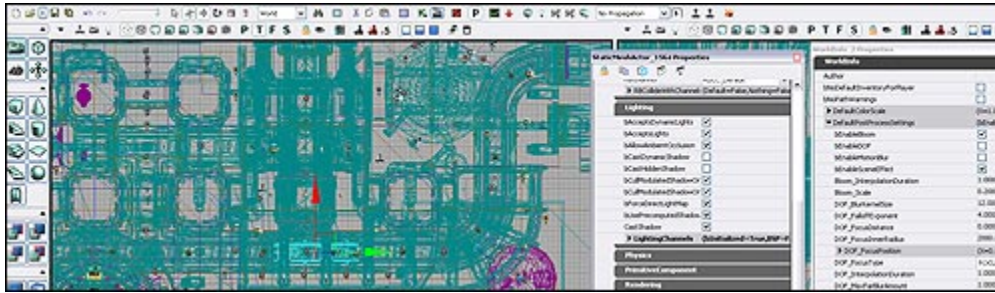
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# INTRODUCTION



## How to Create a Map in 11 Days

Following is a day-by-day guide of how I created a map in 11 days using Unreal 3 engine. What's important here is the workflow, so if you have no desire to map in Unreal 3 engine, that's fine. This workflow can be applied to any game or engine.

In December of 2008 I set up a challenge for myself to complete a full map in 11 days.

Reason I chose 11 days is it was the number of days away from New Year. When I decided to take on this challenge it happened to be December 20. That is why it was named 11-day challenge.

I then decided to let others know of what I was doing. I made my personal challenge public. So I published on the forums and had my website set up to post day-by-day play of my progress.

If I would have told myself I want to do a map in 11 days and didn't keep a public journal then it probably would have been unlikely for me to release this in 11 days.

By making it public I created a deadline. I had to finish it. People were watching and expecting me to release something at the end of 11 days. I had to keep my word.

My main focus was to push my artist and technical skills in learning Unreal 3's terrain and custom model importing. I would either succeed or crash-n-burn trying. Either way I would learn and share my experience. I posted daily and shared what I was going through.

This was such a great experience that I am looking forward to do something similar to this in the future.

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## Prior to Day 1

Planning was huge for me. I always dedicate certain amount of time to properly plan. That plan often changes once I begin working but the initial beginning that I plan out has saved me time, and made me finish.

I planned out on what specific days things had to be done by, mini deadlines. I needed to utilize each and every single day to its most effective level. Each day I need to be moving forward and have significant results to showcase. 11-day mapping was about producing results.

### **Planning, Time Management Breakdown:**

First thing.

Create and set a deadline.

I set a deadline of release at - Jan.1, 2009, beta version.

It's important to set a deadline and know when you expect to be finished. This forces you to work on what are the most essential and important tasks. Planning this out in detail also sets you on the path to success.

Also once you have a plan you have to be flexible. So the plan is not set in stone, but it is a guideline to follow.

If I didn't plan this out like I did and had faith in myself of sticking to the plan I would have not completed the map when I did.

The schedule eliminates a lot of unnecessary behavior what is known as analysis by paralysis.

In my case it would include the search for perfect tutorial. Watch enough videos, find the perfect textures, and find the perfect model to place in my scene. All without actually opening up the editor and just going along and doing these things.

## **This is the basic outline.**

- Idea
- Research
- Reference
- Floor plan
- Game play elements
- Geometry and Modeling
- Texturing
- Lighting
- FX, Sound and Final Touches
- Release Beta for testing

Having this basic outline in written form I took it further and broke it down to day by day. Since I only gave myself 11 days this was pretty straightforward.

### **DETAILED SCHEDULE**

**Dec. 20, 2008 – Saturday**

Intro

#### **DAY 1:**

**Dec. 21, 2008 – Sunday**

Idea, Research, Reference, Floor plan and Gameplay  
Elements.  
Sketches, drawings.

#### **DAY 2:**

**Dec. 22, 2008 – Monday**

Geometry and Modeling

#### **DAY 3:**

**Dec. 23, 2008 – Tuesday**

Geometry and Modeling

#### **DAY 4:**

**Dec. 24, 2008 – Wednesday**

Geometry and Modeling



**DAY 5:**  
**Dec. 25, 2008 – Thursday**  
Texturing

**DAY 6:**  
**Dec. 26, 2008 – Friday**  
Texturing

**DAY 7:**  
**Dec. 27, 2008 – Saturday**  
Lighting

**DAY 8:**  
**Dec. 28, 2008 – Sunday**  
Lighting

**DAY 9:**  
**Dec. 29, 2008 – Monday**  
Lighting, FX, Sound and Final Touches

**Day 10:**  
**Dec. 30, 2008 – Tuesday**  
FX, Sound and Final Touches

**DAY 11:**  
**Dec. 31, 2008 – Wednesday**  
FX, Sound and Final Touches

**Jan. 01, 2009 – Thursday**  
Beta Release

If you are giving yourself more time then you might want to break it down to per week basis. Important thing is you want to have the milestones to hit and know when you need to reach them so you know you are on track.

Being able to do the best you can before moving to the next. It was important for me to stick to the schedule. Since I was only giving myself 11 days the planning and the actual release was more important then making my map beautiful and the best there is.

## DAY 1

### **IDEA. RESEARCH. REFERENCE. FLOOR PLAN & CONCEPT WORK.**

Everything started off on day one. When I began I didn't have any ideas of what I was actually going to make. I wanted to start at a blank slate so others could learn and see the research process that I was going through.

Now you may have an idea or you might use a different approach to generating designs. That is great. Do what works for you. My approach is just one of many out there.

I love learning about other level designers workflows so if you want to share yours, drop me an email.

Having no idea on location or environment I wanted to do I head out to the bookstore. I went to Books-a-Million and ended up spending majority of the time looking at Smithsonian Earth.

Smithsonian Earth is a great resource. I've had the book for over 4 years now and I still look through it every time I have a shortage of ideas on what environment or terrain to do.

There were some guidelines I set for myself. Restrictions.

My map has to be realistically doable in 11 days.

#### **My Restrictions:**

- The map has to be small
- 1 vs. 1 or 2 vs. 2
- Terrain based and 2-3 custom modeled objects imported
- I have to utilize some skills I already know along with learning new things in the editor.

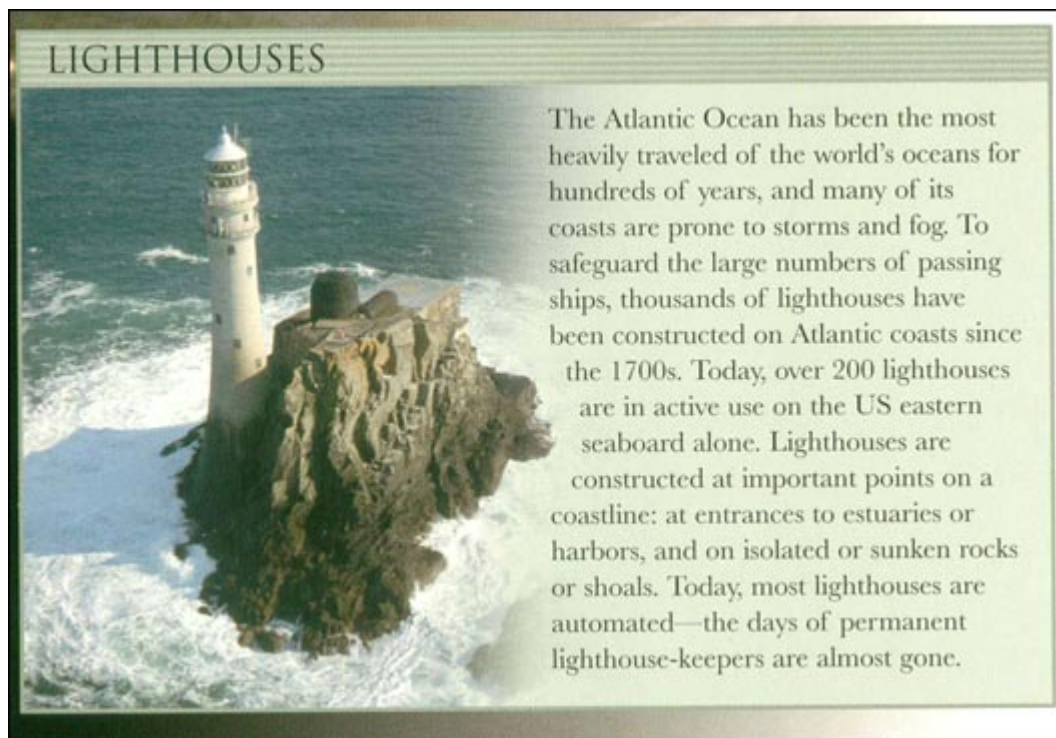
Restrictions and limitations are a good thing. If there were no limitations then nothing would get done. If I

didn't set any deadlines, I might have procrastinated and found a way to work on something else.

I took my own thinking out of the equation and set a very specific deadline for myself.

My advice would be the same for you. When working on any project set a deadline of when you think you will get done.

So, after spending about an hour going through the book I finally had my idea. This single scanned image was my inspiration for an idea.



I started with absolutely no idea what I was going to make and was inspired by a single image. Also having a clear focus on what it is that I want to accomplish with my map was important.

**My idea:** A small cliff island with a lighthouse.

I go through Map Creation Guidelines so my idea is more solid and clear. This is especially important when time is of the essence.

Below is the questionnaire I made for myself. Give it a try on your projects.

## **MAP CREATION GUIDELINES**

### **GAMETYPE**

**Single Player or Multiplayer?**

Multiplayer

**Game Type?**

Death match

**What game is this map for?**

Unreal Tournament 3

### **STORY**

**Story behind the map. Why are the players there?**

**Why is the place/environment there? Write the history of my environment. What happened to the place before the player entered the environment?**

Atlantic coast. Old days of permanent lighthouse keepers are thing of the past. Each lighthouse is now completely automated making each area an isolated cliff arena.

**What is this map about?**

Old lighthouse that was built in late 1800s now stands by itself on an isolated cliff island.

### **GAMEPLAY**

**What is the objective of the map?**

To eliminate the other player while escaping your own death from the deadly cliffs and low visibility.

**Do I have a top down game play sketch?**

Yes

**How would the level play out? Gameplay wise?**

It is a small map with a few z-axis areas. One is inner lighthouse area. You are able to go inside and come out on top. The terrain has a few hills, not a lot but does contain enough cover. I am also thinking of a small house or cabin on the ground but it will not be inner area for this house. The area itself has no barriers so if one has been not careful they will suffer the consequences of falling to their death at the rocks below.

**How would the player to play through your map?****Visualize this. What experiences do I want the player to walk away with from the map?**

I want the player to walk away from playing this map and get a sense of that they have been on the cliff itself, feeling the wind and the moisture of the air. I want to communicate the sense of isolation and despair in the map.

**How big is the map?**

Very small.

1 vs 1. Maybe 2 vs 2. Because of the time limit I am keeping this map small and manageable.

**Who is my audience? Who is the player? What is my Demographic?**

Anyone who plays Unreal 3 and any inspired level designers.

**How will I make the map memorable?**

Atmosphere. I want the player to feel the cold windy day. I want the player to experience the despair and isolation of a lighthouse cliff island.

**Do you have basic top down view and few location concept sketches?**

Yes

## **VISUALS**

**Is the map original? What is everyone else doing? Don't make another "everyone" map. Be original and different. How will I achieve this?**

I did a search and have not found the type of lighthouse cliff map that I am attempting to do. So I believe I have an original and a different idea, especially for Unreal 3 world.

**What is the time of day of the map? Season? Color?**

See Reference.

The color palette is gray blues, greens with a complimentary oranges coming from the light sources on the lighthouse and the house/cabin. It is winter time, cold and windy with a high sense of isolation and despair.

**Feel and Atmosphere. Describe what I want to portray in terms of the feel of the map and atmosphere.**

Foggy and low visibility. Cold. Brink of dawn. Atmosphere will play an important role. Sound will help to set the mood. Sound of seagulls, harbor bell and waves below. Color palette. Despair and isolation. Danger with jagged cliffs.

**How will I direct the player? What methods will I use? Color? Noise and Sound? Guide the player without telling them where to go. Smart design.**

The lighthouse will be the focal point of the map. Possibility of a house on the bottom will balance the composition out. I am thinking of this map as a painting, balancing the visual elements and gameplay elements against each other. Sound will be another way I will direct the player around the environment. Since this will



be a small map, the player will have no trouble navigation around the map.

**What am I going to concentrate on? What do I want to learn when I am finished? What aspect of design, gameplay, fun, crazy, atmosphere?**

Mood and atmosphere. Sound. Terrain and custom models. I want to be able to share what I learn with others on this 11-day challenge.

**What is the visual trademark of your level? How will the players remember your map?**

Lighthouse, atmosphere of coldness and despair.

## Reference:

After going through the Map Creation Guidelines I began to search the web for reference.

I can't stress enough how important reference images are for anything that you do.

These images were collected on the web at

[images.google.com](http://images.google.com)

[Flickr.com](http://Flickr.com)



I tried to keep the following in mind when I am looking for reference images.

Architectural design and detail

Textures

Mood/Atmosphere

Lighting

## Floor Plan and Design Concept Sketches:

I always draw the design on paper. Nothing fancy. Trying to establish an idea and more clear focus on the house and the lighthouse. Top down view shows a figure eight flow to the map.





Other people use google sketch up, photoshop or they block it in using 3ds max or Maya. Whatever you use is up to you.

Doing this preliminary step is very important. The more clear and specific you are of what you want the easier it will be getting there.

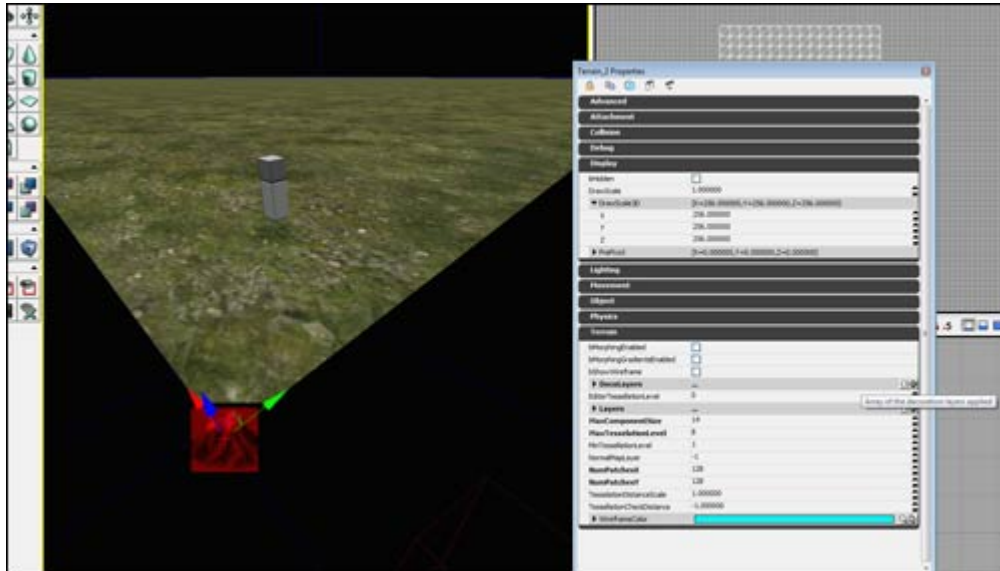
**Textures:** I used majority of my textures from Unreal. I did have to texture the lighthouse.

**Models:** I modeled the lighthouse using Maya and imported it in to Unreal. This was very simple to do and took no time at all. Making me focus on map creation. One of the things I wanted to learn was importing into Unreal from Maya. Every other model came with Unreal.

## DAY 2

### GEOMETRY & MODELING

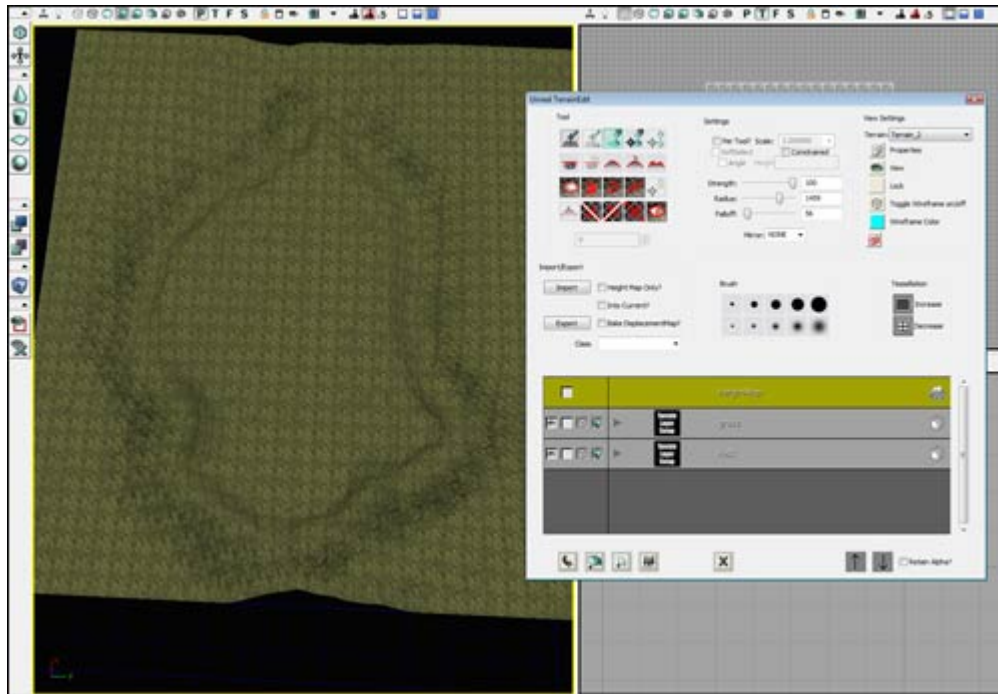
With all the preliminary work done yesterday, I kicked off the day by opening up the editor and hammering out the terrain.



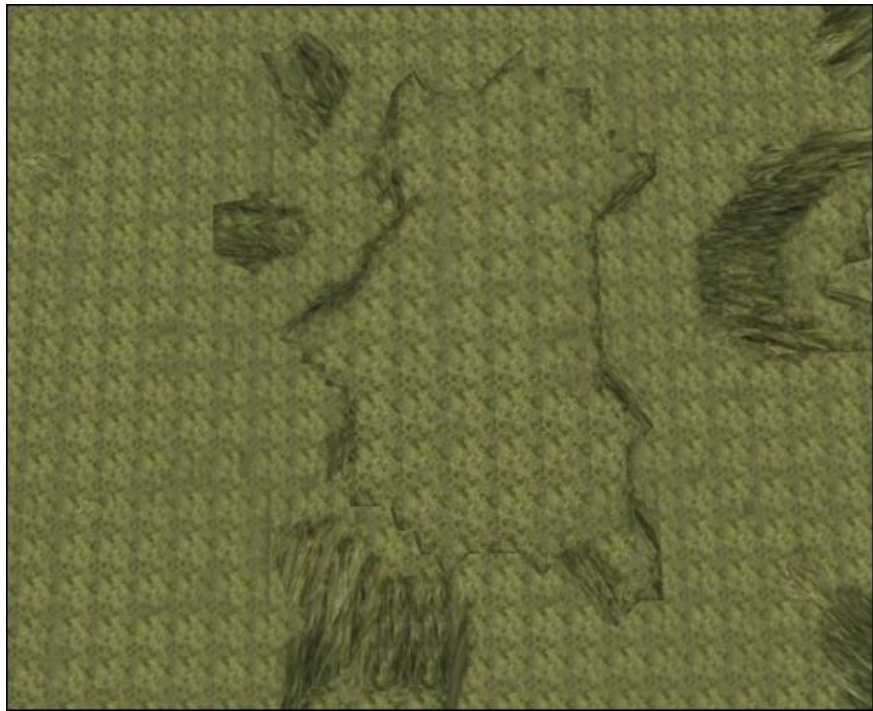
First I set up the terrain. The dimensions were 256x256.

Using the terrain brush tool I started from top-down view and getting the shape to the island based off of my top down sketch. This is why it is so important to have some preliminary work done ahead of time, and it only took me one day, but I know it is going to save me hours worth of work later.





I spend a lot of time getting the shape and the scale of the island just right. First try was too big; I kept making it smaller and smaller.



Important thing to keep in mind here is to be very general. You want to be blocking everything in and checking for scale and playability.

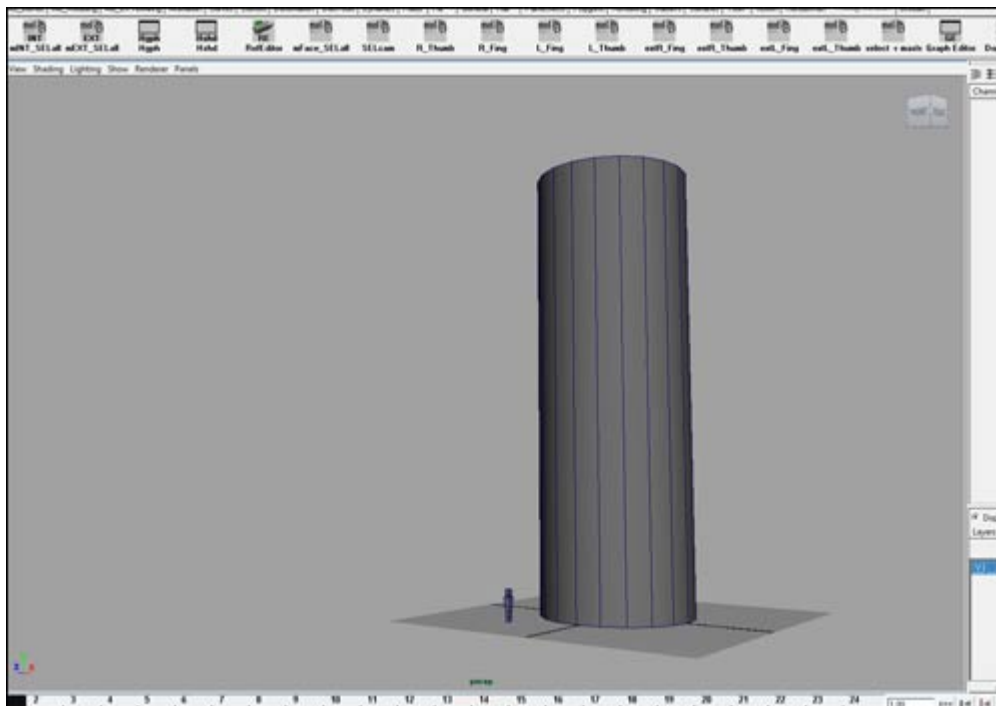
You want to play test your map as soon as possible.

It took me about 5 tries to get the scale and the size of how I wanted.

One thing among many that I love about Unreal 3 engine is you are able to just jump in within one button push and test your map out. If its not working, hit escape, fix it and jump back in.

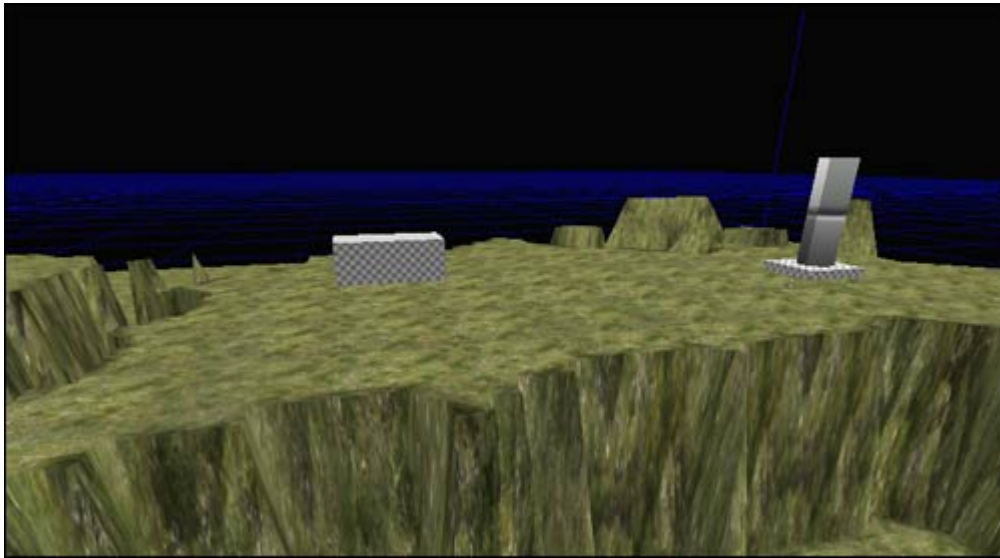
Amazing.

I also really quickly jumped into Maya and modeled a basic shape of the lighthouse and imported it. I just wanted to get that going.



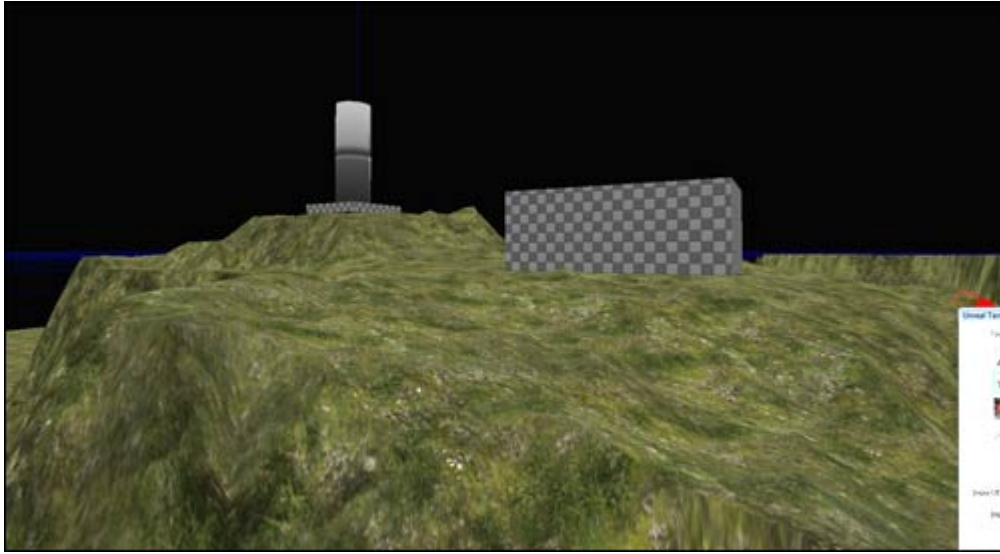
Thing is you want to be working your whole map at the same time. Slowly bringing everything up to speed. At this stage, the block in stage you don't want to focus on any one area for too long.

I imported the mesh and build a bsp brush house. Making sure that the scale was correct. I constantly jumped into the game to see how it looked.



At this stage if something wasn't right it is still easy to change it. You don't want to be refining terrain because gameplay isn't right during later stages.

Think general to specific. Large to small. There will be plenty of time later for detail passes, but not right now.



At the end of the day I was happy with my results. The shape of the terrain is where I liked it. The size and scale was correct. The distance between the lighthouse and the house is where I imagined it and planned it.

It was a good day.



## DAY 3

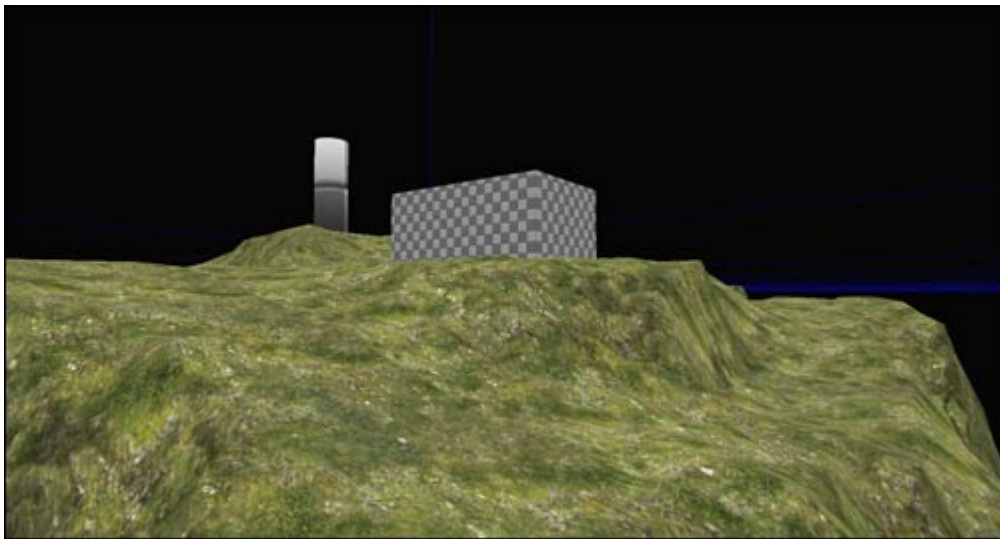
### GEOMETRY & MODELING

Terrain refining.

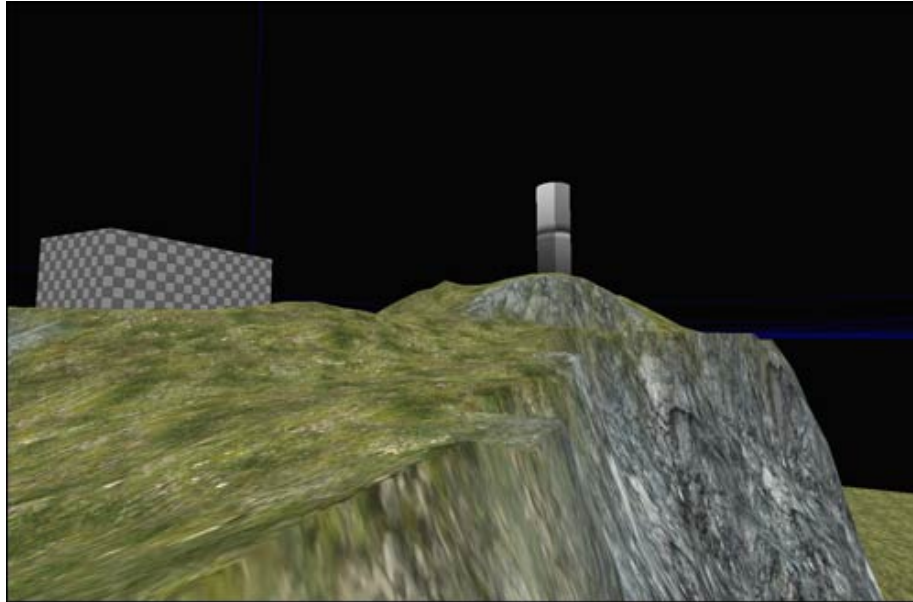
Today I spend the entire day refining terrain, as well as added water.

Yesterday I got the terrain where I like it. One was refining terrain and two adding water.

Basically today was the day where you don't see much of visual progress. Getting terrain down to where there is no gameplay hang ups. To where you can run freely and not get stuck on terrain geometry. I am still finding them here and there and taking care of them.

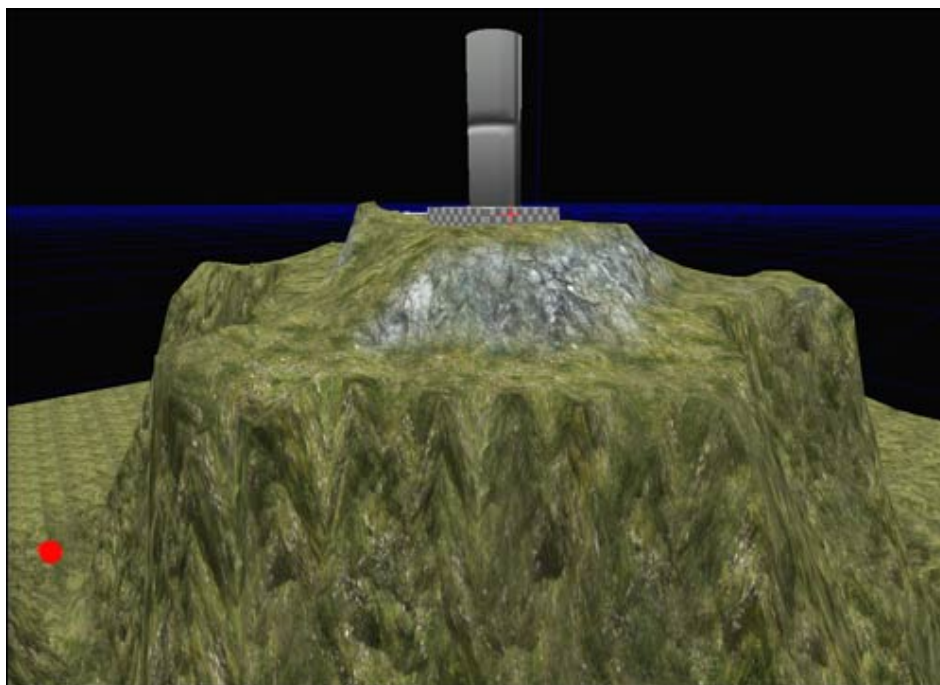


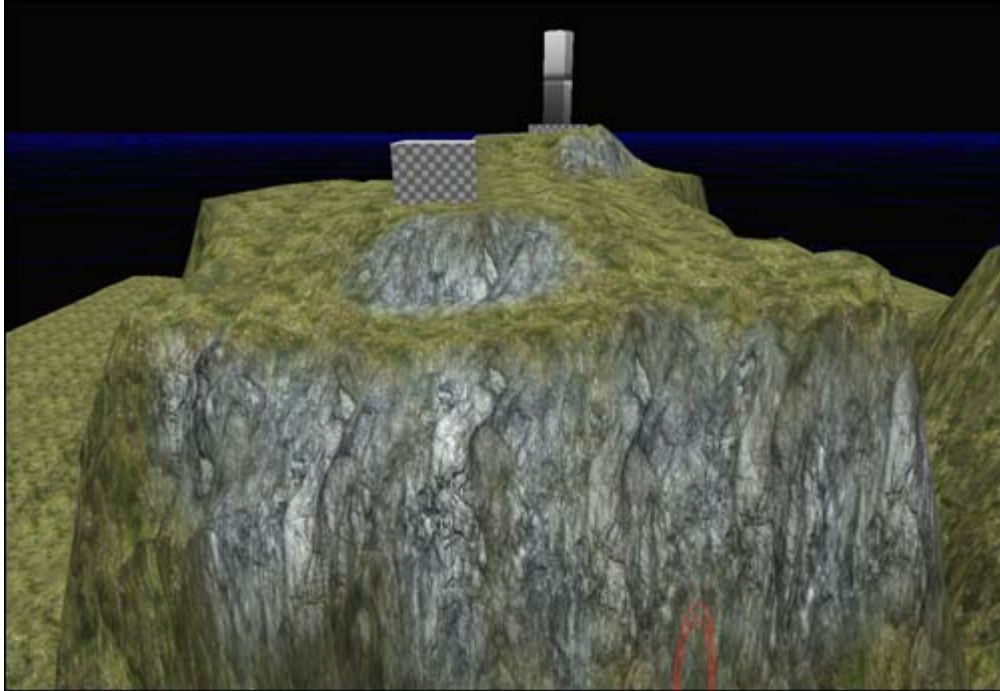




Here I was taking care of sharp edges near the cliff. Using the flatten tool and smooth at the same time. I went around the island and taking care of that.

I also applied rock texture but just to gage where the cliffs are. Day 5 is texture pass. So I stayed away from spending a lot of time on anything texture.

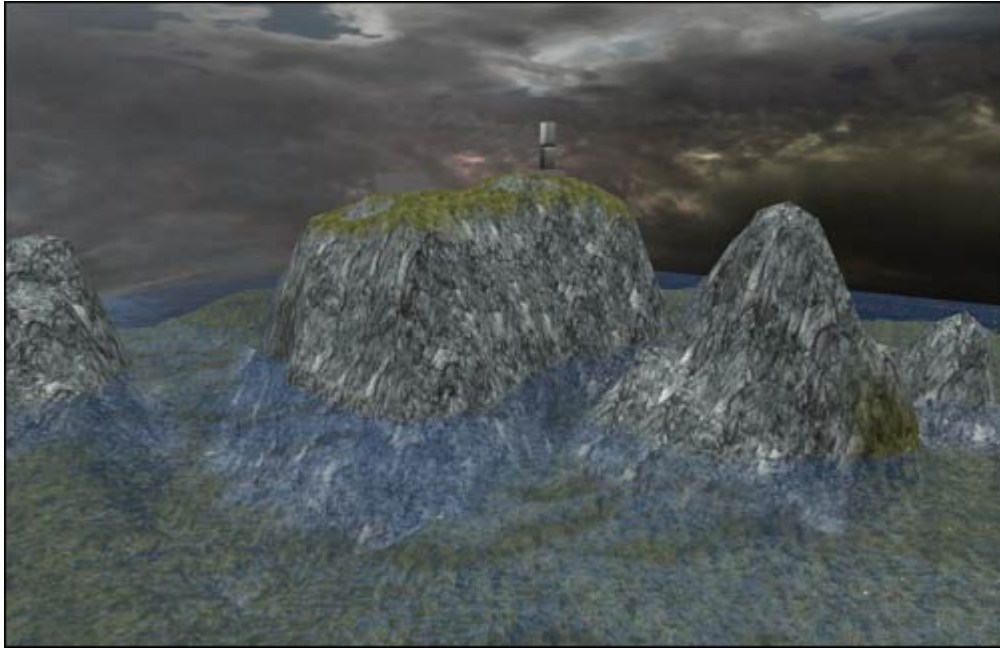




Now adding the water took the longest. Approximately two hours of material connection editor.

If it wasn't for [Hourences tutorial](#) on setting up water, I would have been lost. Huge chunk of time but I am happy its over with. Now it will be refining the water effects.

It's coming together. Still extremely rough, but the key is to move forward everyday.



Note: By the time I released the final of DM-LightHouse I took out the expensive water shader and replaced it with simpler one.

Tomorrow I focused on building the house and modeling the lighthouse. I need to be 90 % done with geometry and modeling. I need to start adding static meshes to the island to make the place come to live.

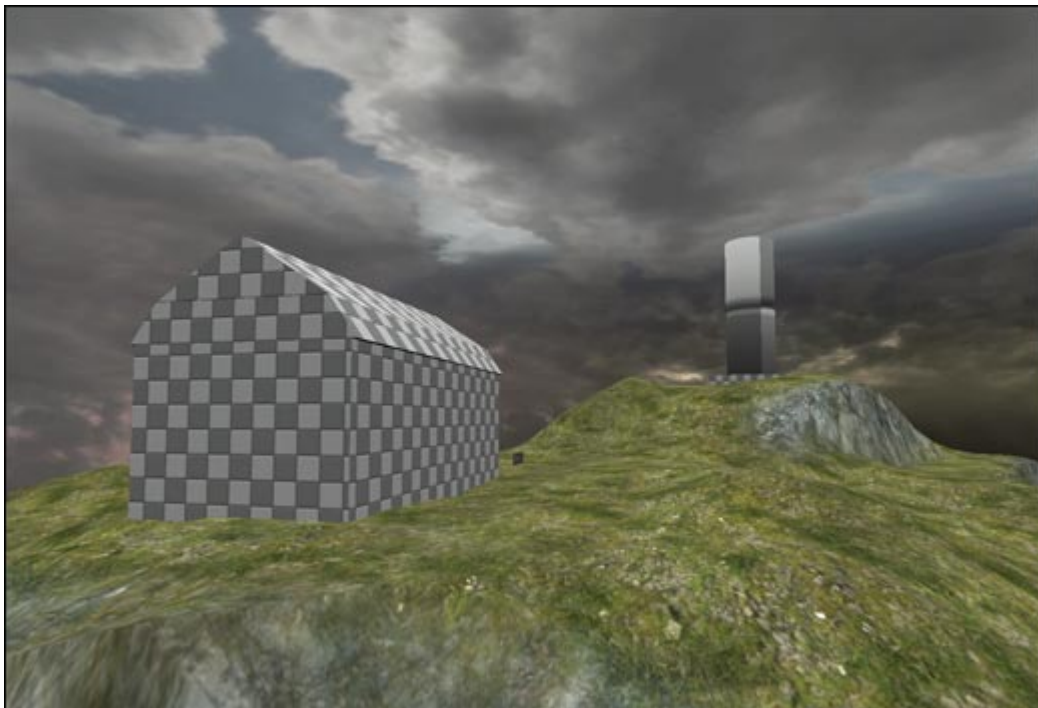
## DAY 4

### GEOMETRY & MODELING

Today was the last day for any geometry and modeling. After today I need to move on and concentrate on texturing, lighting and refining.

Getting into the thick of it. Today was huge productive day. I got up at 6:30 am and went to work.

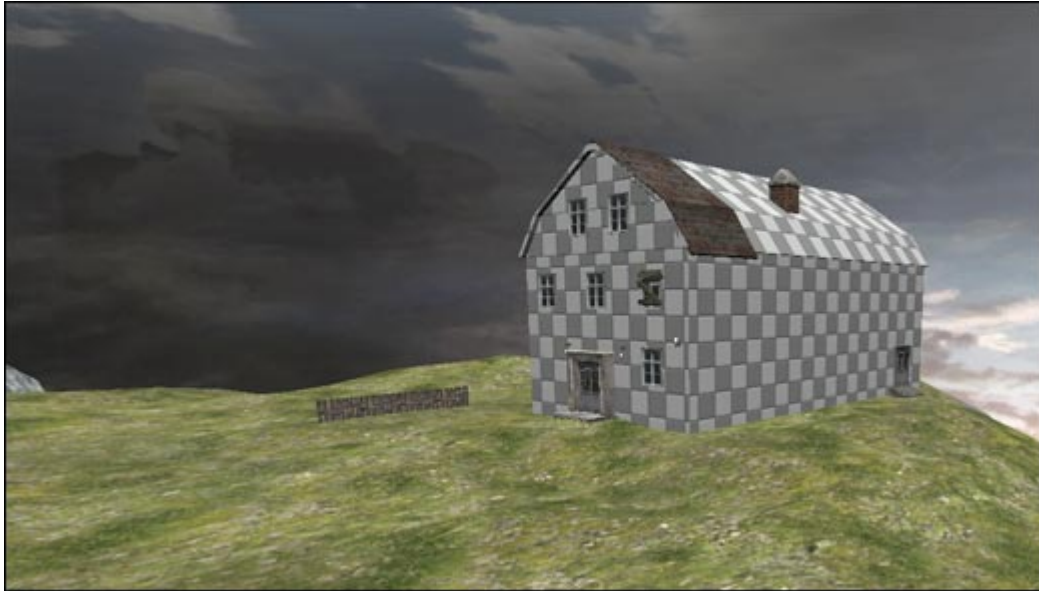
This is where I left off yesterday. Bare, ugly checkered textures, big huge blocks and ugly terrain. My goal was to have majority of the modeling and geometry done.



So first things first I went online and began taking note of what models I need in my map. Instead of building everything and reinventing the wheel I will use what has already been done. So on [this web page](#) there is a huge list of models that have been shipped with Unreal.



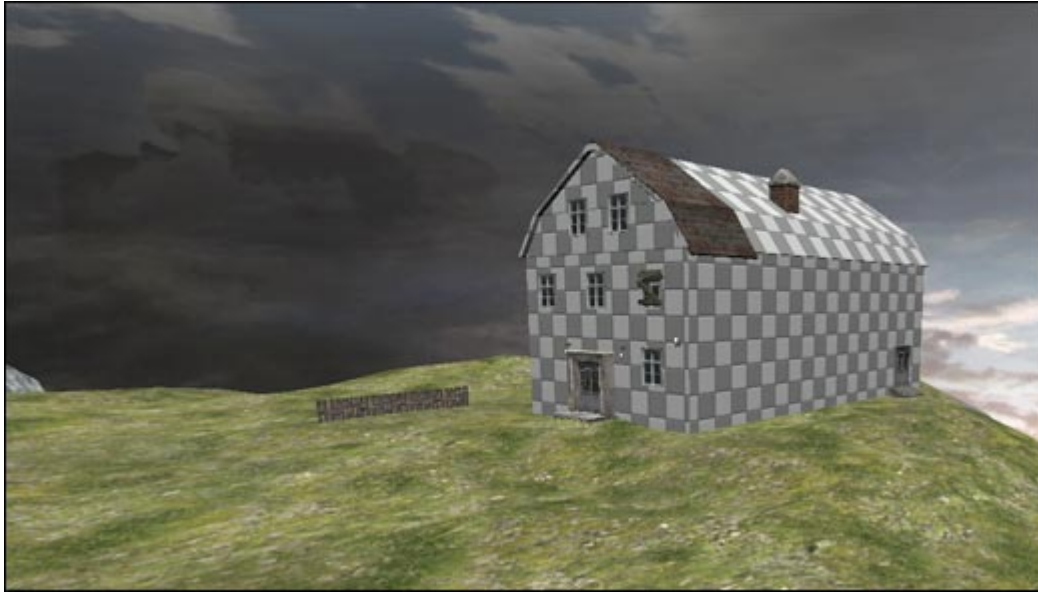
I started adding them to my map and slowly building them up. At this stage I began to narrow down my focus and concentrating one thing at a time.



House.



Adding windows, possible lights, doorway, and fence. All the necessary things to make a house look like a house. Rooftop and chimney.



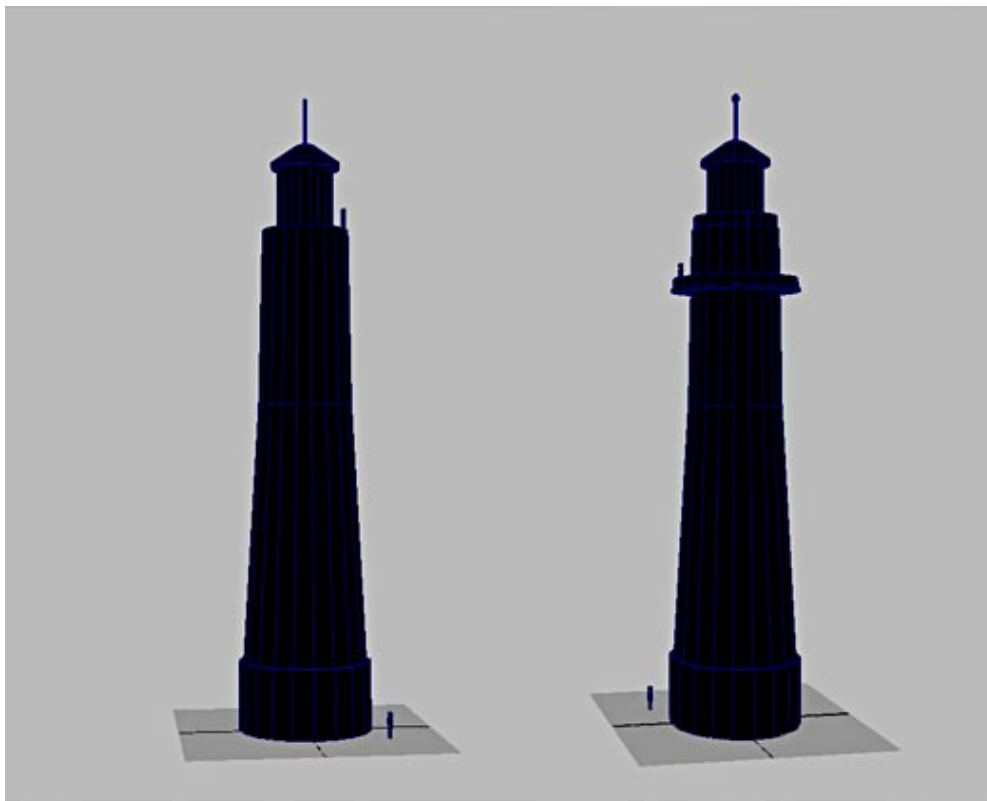
Inside UN-Foliage I found some kick ass models for trees and logs. Perfect for my map.







After a few hours of looking through the model packages I jumped into Maya to model my Lighthouse. When I model I always check the silhouette of the model and how appealing and strong it is. When in Maya and you haven't added any lights, just press 7.



Imported the lighthouse.



At this point I like where my map is going. It is slowly beginning to come together. When we add lighting, which

is when the map begins to stand out. Its hard to say right now in terms of atmosphere because lack of fog and lights. As much as I want to start adding fx and lights, I know not to get a head of myself.



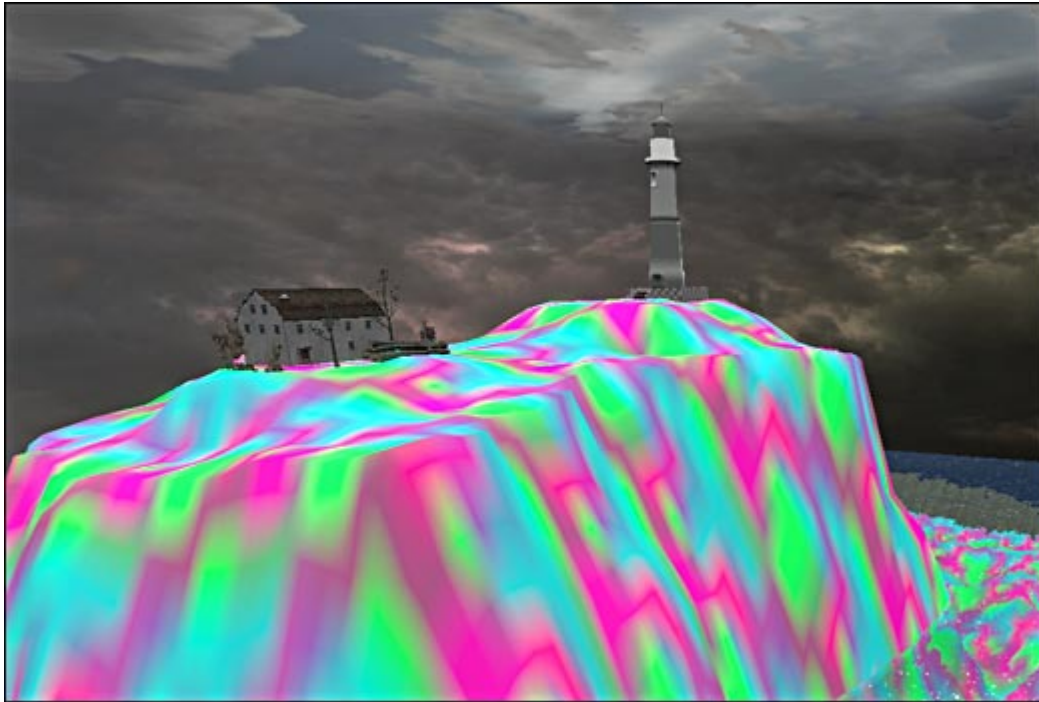
I will still need to tweak a lot of things around the house and lighthouse but at this point, tomorrow, I need to move on to texturing.

## DAY 5

### TEXTURING

I woke up at 6:30am and had to get moving fast. I needed to get my texturing done for the day. So my goal was to get all texturing for terrain done and fix up anything else that I felt like I needed to fix.

Well after adding a few layers in the terrain editor I was greeted with Unreal's Christmas present.



After a bit of searching I found out that the reason you get a rainbow colored terrain is

- I have too many layers and those layers have too much and too complex of instructions going.

So my plan of having 5—7 layers was shot. I didn't have the time to go and fix textures.



I had to keep moving forward so I made some sacrifices. I stuck with the fewer layers.

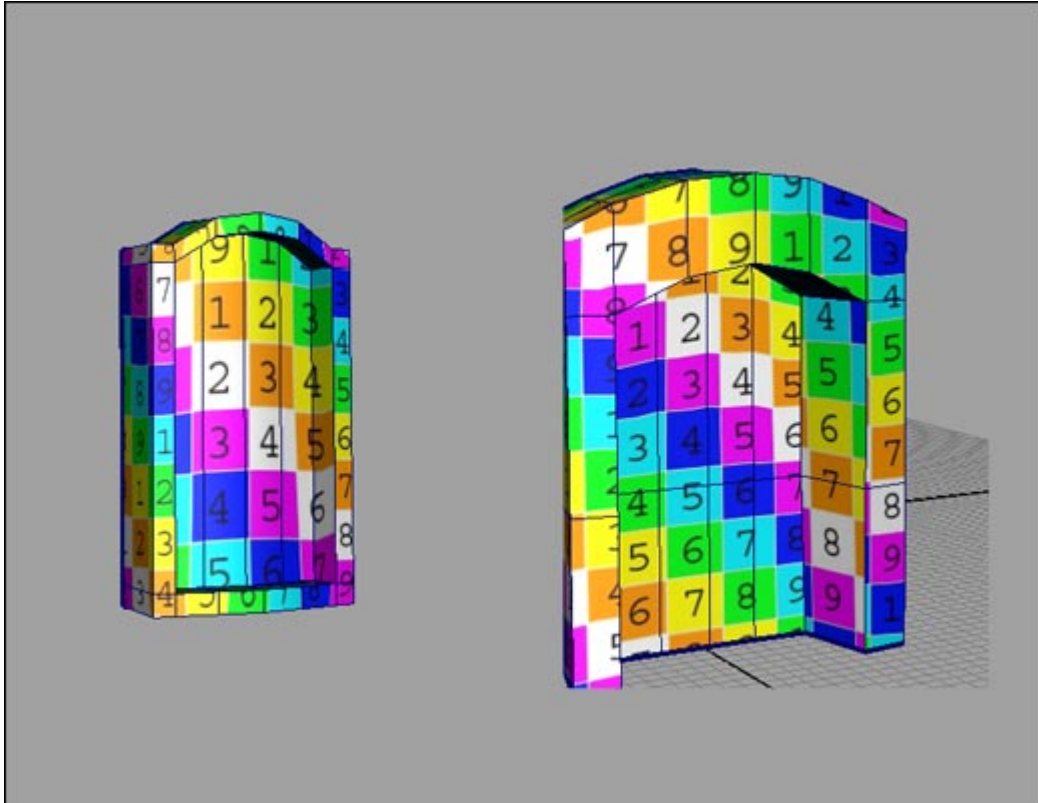
Here is my slow progress on texturing terrain. Making pathways and blending textures. This took me quite a while.







Here is some of my uvs for the lighthouse.





At the end of the day I added 2 height fogs. One for the water and the other for visibility. The texture is very noticeable tiling. But the player will never be this far to see it and right now I am greeted with rainbow terrain if I try to do any texture layer editing.

Beginning adding atmosphere. At this stage I am beginning to really like how this looks.



Things to do for day 6:

Texture the lighthouse and make sure be done with textures. Getting ready for 2 days of lighting.

## DAY 6

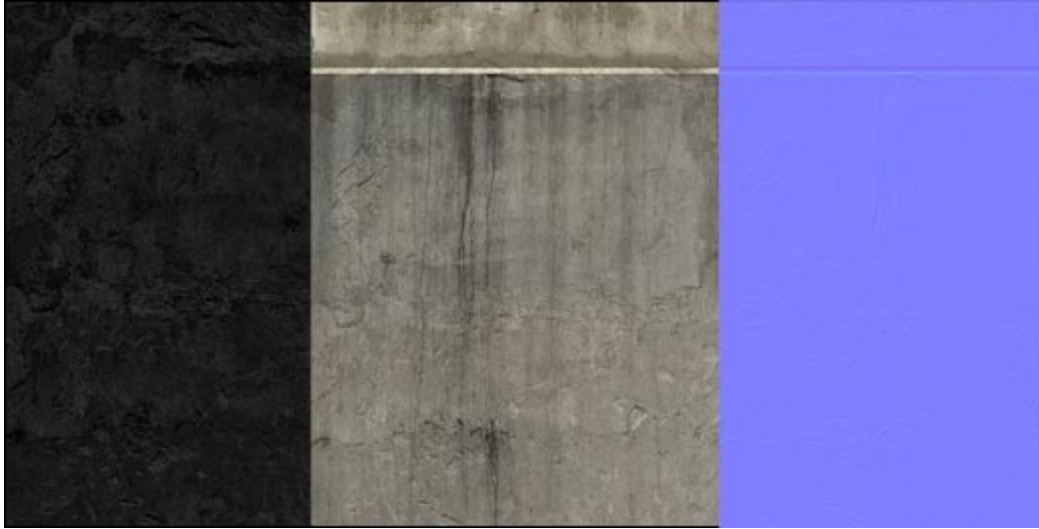
### TEXTURING

Last day for texturing. Goal was to texture the lighthouse and fix up any other minor problems before they get out of hand.

Not much of visual progress but the lighthouse texturing are completed.



Textures, include color/diffuse; specular and normal map.



Textured Lighthouse.



Not sure if I like that sky. I am now thinking setting it in evening, nighttime and have a rotating light coming from the lighthouse.



## DAY 7

### LIGHTING

First day of lighting.

I started with adding the directional light for the main light source of the sun/moon. Then I began adding little area lights around the house. I wanted to use the blues and orange contrast. Complimentary colors.

I actually have two directional lights. One for the main light source, the other is to fill in the shadows but with a lot lower brightness setting.







I didn't like the sunset feeling around the island so I decided to swap it out for nighttime. I like it a lot better.



Testing to see how it all looks without and skylights to fill in the dark gaps.



Here I added the fog to see how it would look with it and if it is coming together.





I added a lighthouse beam, which required setting up a matinee in Unreal. It rotates and loops. Took me a while to set that up. But it works and adds a lot to the map.



## DAY 8

### LIGHTING

I love working on lighting but it does have its frustrations. Currently I am deciding if I want to make the map at night or early morning, dawn. I have included 4 different screenshots at the end testing which lighting example I like the best.



Here I was still working at night scene. Fog is very thick and fog color is dull and gray.

I changed the color of the environment lighting to be purpler and blues. I like this better then previous version.



At this point I needed to make some decisions about lights.

Below are four examples of possible lighting I may go with. Still haven't decided on the one I will choose.

I asked a few people on my website and on the forums and I received a few great responses. Thank you for everyone who contributed to the final look.

Just as a side note, getting feedback from others is highly recommended. That is how you get better.

Below are the light variations I played around with.

1



2



3



4



After receiving feedback this lighting setup was the one I chose to keep in my map.

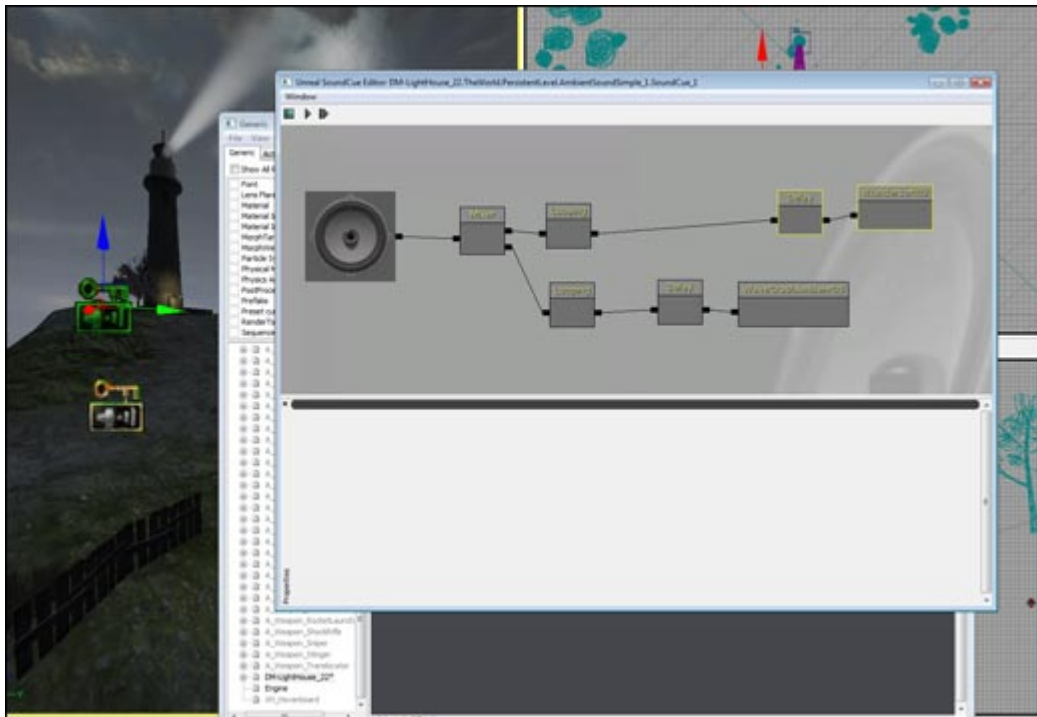


Days 9-12 I will post on day 12, following day 13 as the beta release. It's getting down to the final stretch. Almost finished.

## DAY 9-12

### SOUND, FX, LIGHTING & FINAL TOUCHES

I've spent the last 3 days working on sound fx, adding music, navigation paths for bots and tweaking the hell out of the lighting and testing for errors.



One of the most important steps in releasing a map is getting everything ready to go. Bringing every aspect of the map up to a point where you can let go of it.

Along the way I ran into a few problems, where I had to back track to 2 other previous versions. My worldinfo property wouldn't work and I wasn't able to add that to my map. That set me back a few hours.

The importance of saving cannot be underestimated. I currently ran up to 25 different saves for this small map. So that's about 2 versions per day. Which I could have saved more often and take my own advice.



Below are some of the screenshots I took along the way, which weren't many. During the final stages, there is more tweaking and fixing than any visual differences.







Releasing a beta is very important. It lets others see your map and you get to step away from your creation and let go of the ownership. Important step to stop judging your own work and let the community decide.

At this point I was done.

I was excited to release this finally. I wasn't sure if it was going to come out like it did, but it exceeded my own expectations. I am just happy that I finished a map in 11 days.

Now having 2 maps under my belt for Unreal 3, will allow me to make the next one even better.

## **Things I learned:**

Importing custom content

Matinee

Beginner and Advanced Texture Creation

Normal Maps

Setting Up Sound Cues

Terrain Generation

## BETA RELEASE

I prepared the map for beta release using zip and rar files. I used filefront to upload the map to. Filefront.com is free and extremely easy to use.

Of course you can always use your own web space or upload it to such websites as mapraider if using Unreal.

I recommend Filefront.

My main purpose was to receive feedback and get notes for final release.

I posted the map on 2 websites for my beta.

First was

[www.game-artist.net/forums](http://www.game-artist.net/forums),

and second one was

[gearsofwar.com/forums](http://gearsofwar.com/forums)

On my final release I also posted on [www.mapcore.net](http://www.mapcore.net)

For about 3-5 days I checked the forums and see what people said about it. I took notes.

After few notes I compiled my notes from the feedback.

### **Main concerns were:**

- Added rocks for more cover, added few more trees
- Added more dirt around the lighthouse
- Aligned textures
- Added blocking volumes
- Replaced water shader to eliminate visual glitches
- Improved Lighting
- PS3 version

I then began to fix the issues people were having. At this stage you don't want to be making huge gameplay changes where you would have to change terrain. If the

feedback was strong and it was a huge issue then I would have probably done it.

You also have to ask yourself, did you complete what you sat out to do in the beginning?

Always remember the reason for your map and check back if you are on track or went on to the deepend.

After fixing few issues I went ahead and released a final.

**Download here:**

[Download PC.zip](#)

[Download PS3.zip](#)

**Here are some final screenshots:**











## RECHARGE

So after you release your final version of the map give yourself a few days off to recharge and don't do any designing. Rest and forget about level design.

You want to give your mind and your body a break.

When you come back you'll be fresh and recharged.

## ABOUT ME:

My name is Alex Galuzin. I am 31 years old as of 2011 and with a B.F.A. in Computer Animation from Ringling College of Art and Design.

My other website is [AlexGaluzin.com](http://AlexGaluzin.com) where I started to release some of my maps and tutorials until I decided to dedicated a whole website to it.

Level Design, Environments and World Creation.

I love creating worlds and environments. It is my passion. I am aspired to become the top designer in this field and I hope you become inspired by my website, this e-book and the information to create interactive, fully explorable worlds. If I never get to do it and get paid, I will still be making levels for fun.

I am going to teach, inspire and create environments until there is no more games and Internet.

**Websites:**

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