

AR1

Environment Project

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Project type: Homework and workshop

Time limit: Seven class periods + Study week

Grading: This project will be graded on a 1-10 point scale. No grade will be awarded if the project is not handed in on time.¹ A grade of 6 or above is a passing grade. Any student receiving a grade below a 6 must make an appointment with his or her mentor to discuss this class.

Overview:

The goal of this project is to create a polygonal stage. It must include a minimum of one architectural element and terrain. Both must be built to the same level of resolution. This means that surface variations, light poles, sewer grates, and all other articles normally found embedded in, or attached to, terrain will be included in the file. All files must be fully prepared to receive *tile sets*. This will require artists to subdivide their models accordingly. Please do not confuse *tile sets* with *tiling*.

The finished model will be low resolution, but will have a high resolution texture treatment. Do not think of this as an architectural model with some land attached. This project is about making both *together* as seamlessly as possible. No matter how well one or the other is built, if one does not match the resolution or quality of the other, your grade will suffer.

A note on terrain: Terrain is very complex, much more so than most students imagine. Even in Holland, even in Breda, it is not flat. If your terrain for this project is flat, it will likely suffer a deduction for it. Before you build your terrain, please go outside and look at all the height differences in the ground around you. No matter where you are, you will find a large amount of variety. This information must be included in your model.

Subject:

The subject may be one of the six projects provided on natschool, or of your own choice. Keep in mind that if you choose to find your own subject, it is more important to build a modest structure well than to build a great deal of detail at a lower level of quality. Any subject should roughly adhere to the following criteria:

1. You must have physical access to the property so that you can take your own reference.
2. The surface area of the terrain must be greater than that of the total surface area of your primary architectural model. This will not be measured exactly, but please try to follow this as a rule of thumb.
3. It must include plants of some kind

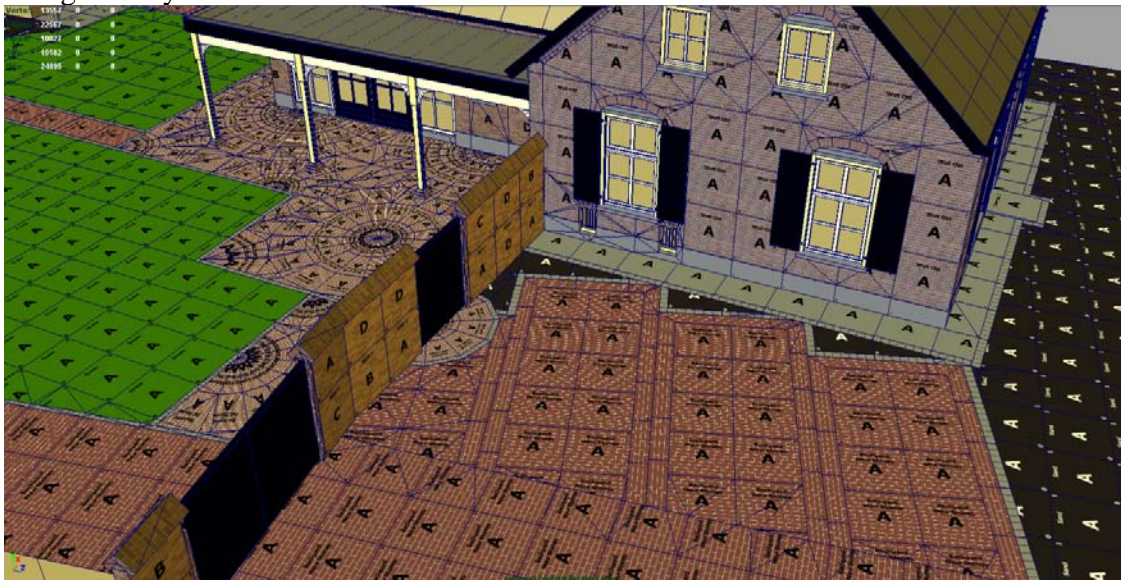
¹ “On-time” means “before the deadline”. There are very few legitimate reasons for acceptance of a late project. They are: Incapacity due to documented physical injury/hospital stay, incapacity due to prolonged documented illness, documented temporary interference with attempt to deliver, documented extraordinary circumstances involving civil insurrection, war, or disaster. The following are *not* valid reasons to accept a late project: documented chronic condition (if it’s chronic, you have to learn to perform, regardless of the condition), non-functioning computer or software. You are responsible for your own computer maintenance. If your computer or software malfunctions, you may use computers in Game Lab. If you are late, the procedure is to submit the project as a retake, with any modifications that may be required.

4. It should include a street, so that you can solve the problem of representing distant objects realistically.
5. It is not unmanageably large. Your instructor will help guide you on this. If it is too large, it may not be possible to finish on time.

Textures

Textures will be important to this assignment because they must be planned for in advance. In the next block, this model will be textured and rendered in AR2. These textures will be used to represent the majority of the detail in your object. Take care to get good texture reference at the same time as you gather structural reference.

Here is a sample of a project that is representative of good tile set subdivisions cut into geometry:



Niels van Haandel/2009

There are some mistakes in this sample image. They are: insufficient variety in tile set maps, insufficient orientation variety in maps, background is not sealed off, and terrain could have more detail. Apart from those things, it is well done. Take note of the detail in the terrain. This is a very important part of this project to get right, please consider it well.



A finished file by Mas Heijn 2011. The terrain should have normal map or bump detail, but is otherwise well done.



Stefan Vink, 2011. The lighting in this file could be better, but is well done regardless.



Stan Verbeek, 2011. This is an excellent job in many ways, with the exception that this student did not show the street these buildings are part of.

Instructions:

1. Assemble reference
2. Break down reference into flat sections
3. Block out your scene using simple geometry, such as cubes and planes
4. Create an animated camera that shows the portion of your environment that you intend to build. Render resolution is HD (1920 x 1080)
5. Use your blocking geometry to determine whether any open space is revealed as your camera moves. If so, fix it.
6. Once the camera is set, begin construction
7. Create texture plan
8. Create reference maps
9. Build terrain
10. Add reference textures
11. Build architectural element
12. Add reference textures
13. Add landscaping
14. Check model for errors against polygon checklist and fix all errors. This is vitally important! Most failing grades are due to such things as wrong-way normals, n-gons, and poor edge patterns.
15. Deliver an archived file (RAR or .zip format) containing the following:
 - a. Two reference images, jpg format, no bigger than 800 x 600 of your subject.
 - i. If reference images of target object and location are not included, all questions of likeness fidelity will be decided against student.
 - b. Maya file containing:
 - i. Model
 - ii. Textures in texture directory

iii. Animated camera

16. Deliver to paqart@igad-va.com

Rules:

1. Finished model is fully polygonal.
2. Alpha maps are optional
 - a. If used, they must be included in final file and may not exceed 512x512 resolution.
3. Scale is 100:1
4. Resolution notes:
 - a. Poly budget for full scene should be appropriate for a high res render. Remember, you will be rendering this later, and it will have to be feasible to execute the render in a reasonable amount of time.
5. Penetration allowed for optimization purposes only
6. For tile sets, each “tile” must completely fill legal UV space, from 0-1.

Expectations:

1. Likeness is mandatory. Failure to achieve this goal will result in a failing grade, regardless of any other factor.
2. No technical errors will be present in this model. Failure to ensure this will be graded harshly. Check your model at least a week before the deadline to check for errors against checklist.
3. If either the terrain or the building are incomplete (untextured, no UVs, not fully modeled, etc) the maximum grade will be a 5.

Rough grading guide*

*Grades may vary, but this should give you an idea what to expect

0 = not turned in

1 = grossly incomplete or error-ridden

2 = Highest grade for grossly incomplete geometry

4 = highest grade for widespread technical errors (“widespread” means multiple errors in each of no less than three error categories)

5 = highest grade for object that is not a good likeness (for instance, has many aspect ratio errors or is missing significant details), or a file that has a finished terrain model but incomplete architecture, or vice versa.

6 = highest grade for object that is a fair likeness and contains multiple errors within the same error category

7 = highest grade for object that is not an excellent likeness, or is missing or has poor UVs

8 = highest grade for object containing any technical errors of any kind

10 = Either has no errors at all and adheres to all requirements, or has some errors that are offset by aesthetic factors such as design of background elements.