



1990s South-Asian Bedroom

Games Development Project

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Goals, Research, and Inspiration

The goal of this project was to produce a historically accurate, recreation of a South-Asian bedroom set in the 1990's. This interior environment would include various hero props that showcase a culturally rooted story. In combination with warm lighting and a vibrant colour palette, the scene would aim to evoke a sense of nostalgia.

80s Bengal Room – Richik Bhattacharjee



Childhood Memories – Carl Shedd



The Last of Us – Jacob Claussen



90s Teenager Bedroom – Mihai Adrian Dragan



Goals, Research, and Inspiration

Before the project went into production, these are the initial goals that were set:

- ❖ At least 20 Assets including Furniture and Hero Props
- ❖ Optimised for modern day game engines
- ❖ Semi-realistic Art Style
- ❖ Visual Storytelling elements
- ❖ Emphasis on Composition and Warm Lighting
- ❖ Visible attempt to evoke nostalgia
- ❖ Historical and Cultural Accuracy

Primary Research was conducted by playing and analysing games with similar environments. This helped establish a bar for the materials, lighting and compositional layout of assets for the scene. Understanding how to direct the viewers eye to key focal points was an essential stepping stone going into this project.

Life is Strange (2015)



Unpacking (2021)



Gone Home (2013)



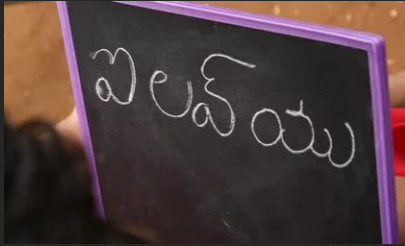
Goals, Research, and Inspiration

The key learning outcomes for this project were to gain a better understanding of industry standard workflows, asset optimisation, improved lighting/composition, and visual storytelling. Thorough research was conducted into each of these areas including specific techniques to improve texel density and tri counts. Research into visual semiotics also helped better inform the project and it's intentional storytelling going forward.



Cultural Nuance

Research was conducted to help add cultural nuance to the scene and help authentically portray the life of an Asian-British Teenager in the 90s. Here are the main talking points:



- ❖ A chalk board on the wall with text that suggests they're trying to learn their mother tongue.
- ❖ It's common that kids in diaspora families pick up on their home language later in life so the inclusion of this asset should help provide that detail.

- ❖ Cricket is shown an endless amount of enthusiasm from a wide array of people in the South Asian community.
- ❖ A signed cricket bat could be a focal point within the scene to indicate an interest in the sport and a particular player.



- ❖ A set of tabla showcasing an interest/talent in playing classical music.
- ❖ These will be placed out in the open next to a stool to help indicate that it's a regularly practiced hobby.

Cultural Nuance



- ❖ A collection of classic film, music, and sports posters to further highlight hobbies, interests, and the 90s time-period.
- ❖ The calendar is a well-known time piece that is usually gifted to each other in the South Asian community.
- ❖ These assets will be arranged on the walls above the bed and desk.

- ❖ The furniture assets in the bedroom will take inspiration from more vintage designs as this earthy and rustic design style is more representative of South Asian culture over furniture that's more minimalistic and contemporary



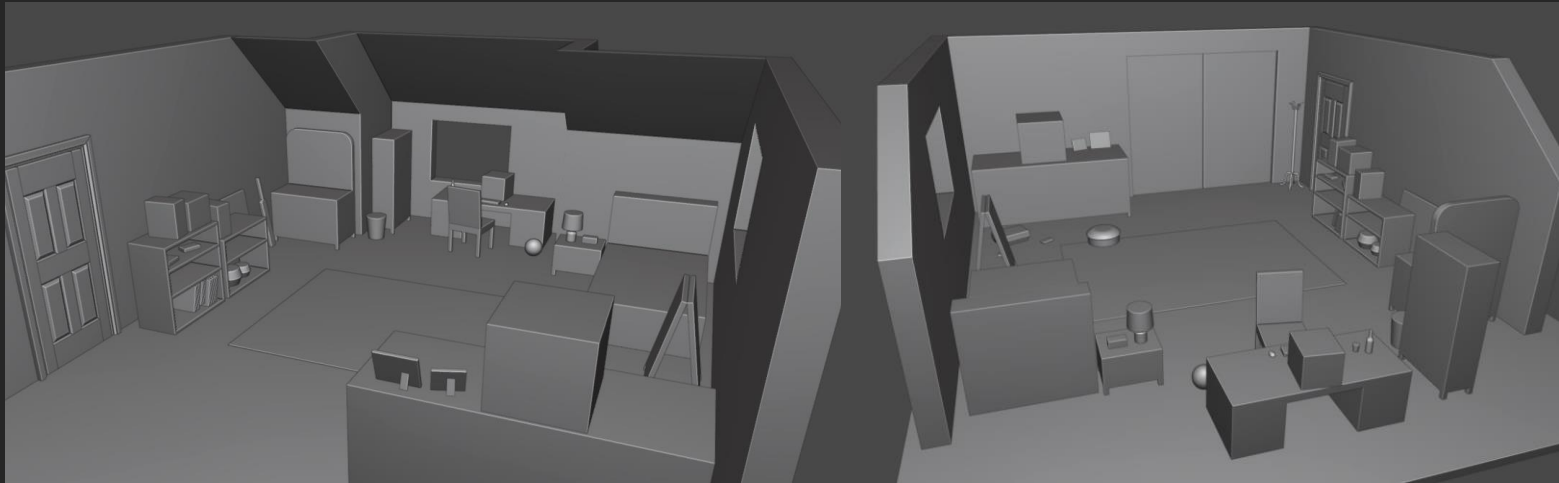
- ❖ This one's a popular cosy respite in South Asian homes.
- ❖ The placement of this asset will be the opposite end of room from the desk and computer.
- ❖ Placing this next to a bookshelf should help to emphasize that it's the go to place to curl up and unwind.

Initial Blockout

Different compositional layouts and choice in assets were experimented with at this stage. The aim was to add clutter around focal points and provide a balance between positive and negative space.

This arrangement wasn't developed any further due to some glaring issues:

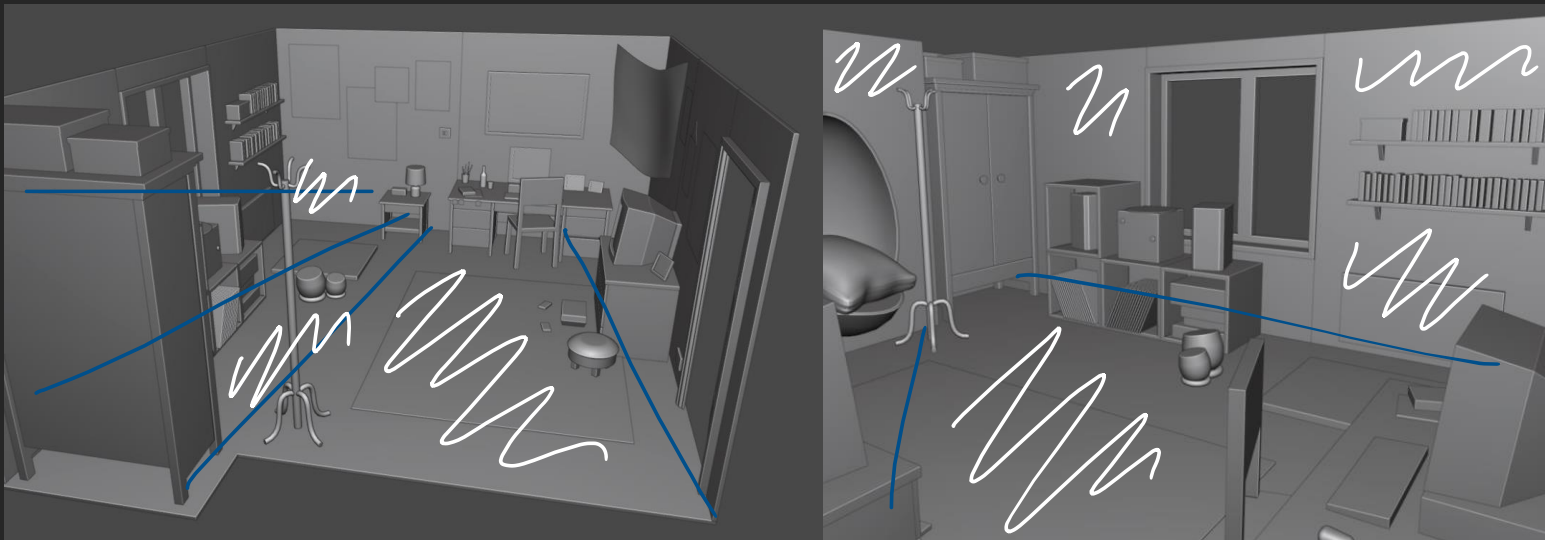
- ❖ The scale of was completely off, assets were either too big or too small, and the room itself was too spaced out which didn't tell an interesting story.
- ❖ With the arrangement of assets, there was a lack of interesting camera angles and compositions to choose from.
- ❖ The number of assets required to make this space feel lived in would have been out of scope for this project.



Blockout Iteration

This blockout paid closer attention to leading lines and directing the viewers eye to specific focal points. While specific assets weren't chosen to be focal points at this stage it was important that the room was arranged in a way that highlights different areas of the scene. There's also an improved balance between positive and negative space with contributes the making the scene feel lived in while not overwhelming the viewer. The UE5 mannequin was used to help with scale and real-world measurements were used for each asset. Foreground, midground and background elements add layers to the scene and need to be divided by colour and contrast as I mover forward with production.

There will be expected iterations in later stages of production however the primary layout will remain consistent.



Asset List

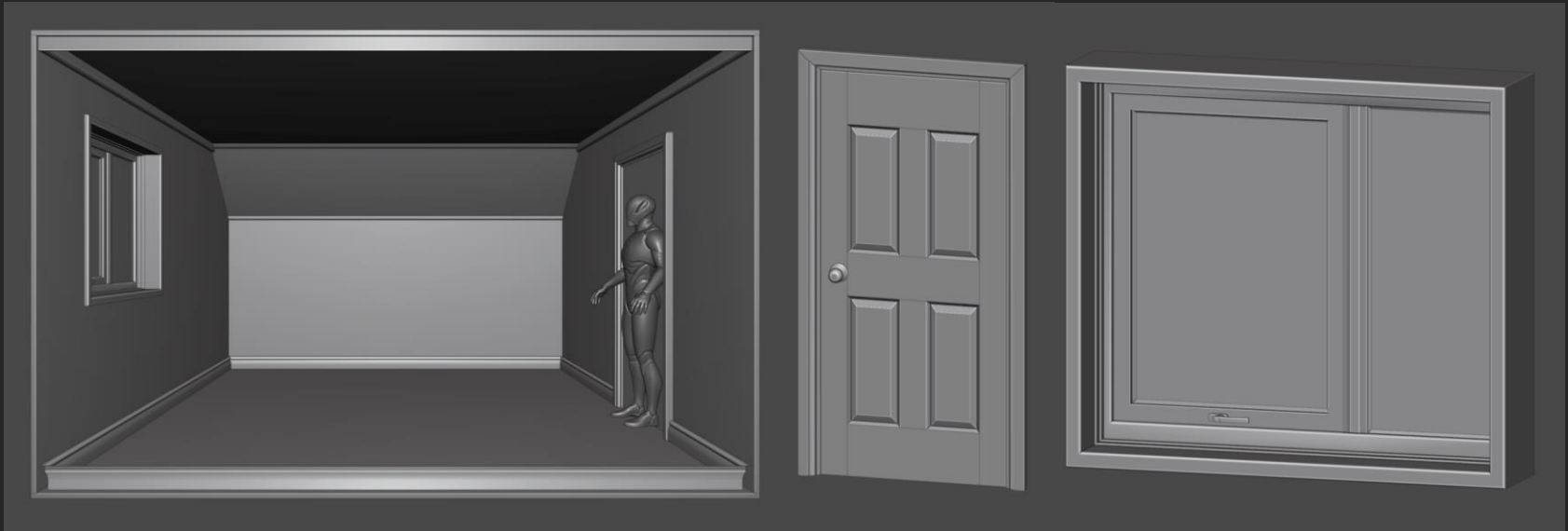
Once the blockout was finalised, a core asset list was created in order of priority to track progress across the project. Background assets that don't convey the time-period or culture have been marked as low priority whereas, furniture and hero assets have been labelled as high priority. Based on changes in the scene and changes in project scope, some of these assets would be scrapped and new ones would be added.

Asset Name	Blockout	HighPoly	Materials	Type	Priority	Chair	Done	Done	In progress	Prop	High
LightSwitches	Done	Done	In progress	Modular	Low	Chalkboard	Done	Done	In progress	Prop	High
Radiator	Done	In Progress	Not started	Prop	Low	Computer	Done	In Progress	Not started	Prop	High
Sockets	Done	Done	In progress	Modular	Low	CricketBat	Done	Done	Done	Prop	High
Stool	Done	Scrapped ...	Scrapped...	Prop	Low	Cupboard	Done	Done	In progress	Prop	High
Curtains	Done	Done	Not started	Prop	Medium	Desk	Done	Done	In progress	Prop	High
Trims	Done	Done	Done	Modular Trimsheet	Medium	Door	Done	Done	Not started	Modular	High
Lamps	Done	In Progress	Not started	Prop	Medium	Floor	Done	Done	Not started	Modular Tiling	High
RecordPlayer	Done	Scrapped ...	Scrapped...	Prop	Medium	Swing	Done	Done	In progress	Prop	High
Shelves	Done	In Progress	Not started	Modular	Medium	PhotoFrames	Done	In Progress	In progress	Prop	High
Books	Done	Done	Not started	Prop	Medium	Posters	Done	In Progress	In progress	Prop	High
CeilingTrim	Done	Done	Done	Modular Trimsheet	Medium	Rug	Done	Done	Done	Prop	High
Bed <input type="checkbox"/> OPEN	Done	Done	In progress	Prop	High	Tabla	Done	Done	In progress	Prop	High
BedsideTable	Done	Done	Not started	Prop	High	Tapestry	Done	In Progress	Not started	Prop	High
Calendar	Done	Done	Not started	Prop	High	Walls	Done	Done	Done	Modular Trimsheet	High
CarromBoard	Done	In Progress	Not started	Prop	High	Window	Done	Done	In progress	Modular	High

Scene Production

While making small iterations to the blockout, the base of the environment was developed paying close attention to scale and real-world measurements. The UE5 Mannequin was imported to Blender so the scale of each asset could be compared. One of the walls would be made of wood panels and now had a slanted edge since this helped with composition in one of the chosen shots.

Separating the door into individual components helped create natural seams where the wood panels would fit together. The same principle was applied to the window and various assets going forward.



Scene Production

The glass material on the window was developed with reflection, refraction, and translucency in mind. After changing the blend mode to translucent, the normal, metallic, and roughness channels were disabled. This was fixed by changing the lighting mode to surface translucency volume.



Scene Production

Due to a couple delays in the timeline, there was a shortened time remaining to implement textures that favoured a photo-realistic art style. To mitigate this problem, various stylised options were investigated, and this painterly art style fit the existing assets as well. This style also harkened back to games like Life is Strange.

The blue and white colour palette was chosen to contrast the warmer hues created by the wood textures.

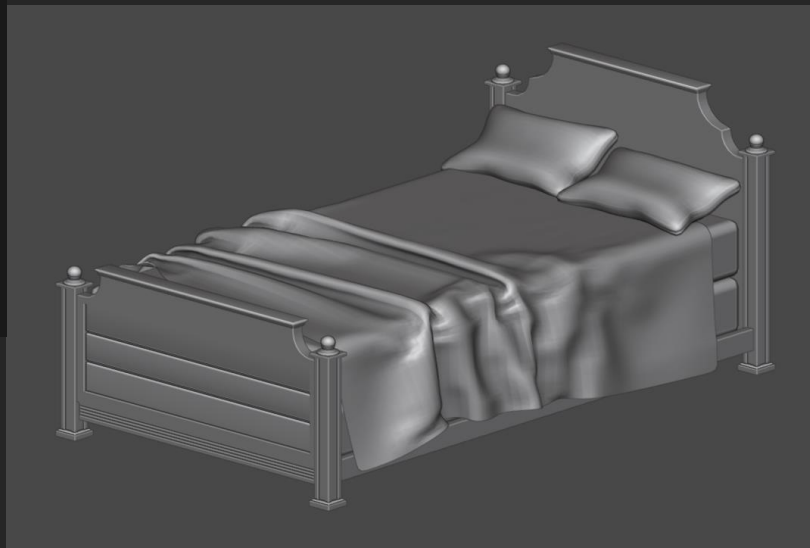
The walls, floor, and ceiling textures span a large part of the scene, so they used a standard 2048×2048 texture set. The trims on the other hand use a tailable 1024×1024 texture set.



Furniture Production

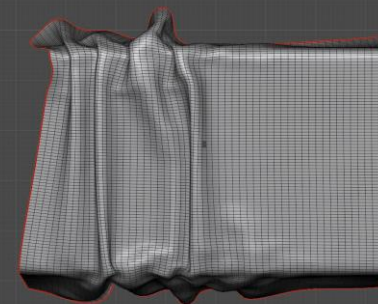
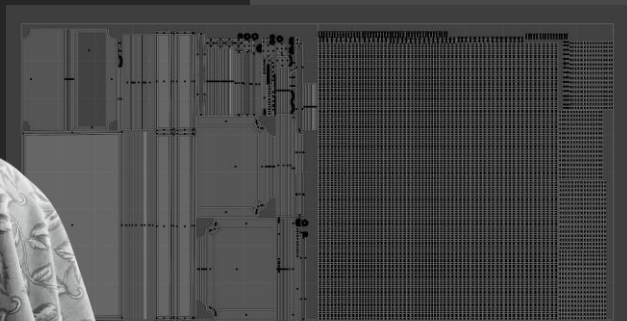


Cloth simulation in Blender was a learning point and was utilised to produce this bed model. The pillows and blanket were then enhanced with sculpted details and retopologised to reduce the poly count.



Two 1024×1024 texture sets were used for this model; this was done to allow for easier experimentation in the materials used for the mattress and bedsheets.

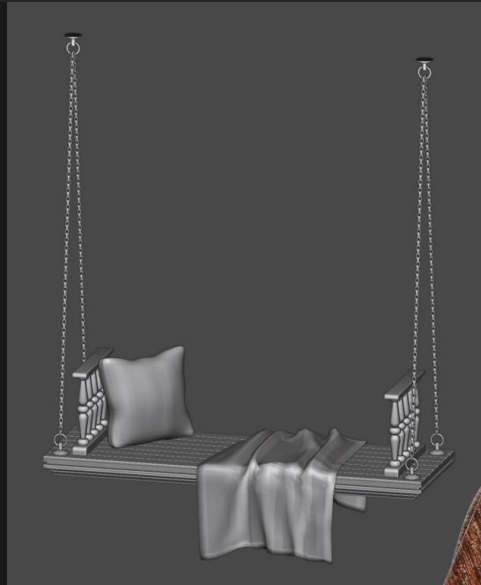
These two desaturated patterns were used to contrast the more vibrant colours in the scene.



Furniture Production



The original design for the indoor swing was initially blocked out however, after some minor changes in the layout of the scene, a larger bench-like design was landed on. This iteration also benefited framing and meant that artwork could be displayed around it in a more interesting composition. Regarding production, the chains were developed using an array modifier attached to a curve and cloth simulation was utilised again for the pillow and blanket.



The scene was starting to starting to suffer from an imbalance in colours. Therefore, a colour wheel was consulted to find complimentary and contrasting colours that helped balance the scene. A red pattern was chosen for the swing as it compliments the wood tones on the bench and contrasts with the blue walls.



Furniture Production



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Furniture Production

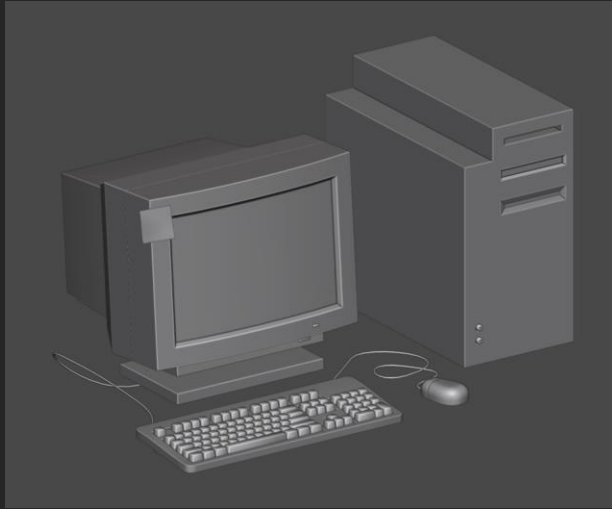


Since the rest of the furniture had a more vintage feel to them, the desk and chair were iterated to have more rounded and sleek designs reflecting the popularity of more modern designs in the late 90s.

Stickers were added to the desk for this model however, they were lacking detail due to a low texel density. Going forward, sticker and posters would be implemented in Unreal as this produced better results in terms of image quality.



Hero Props Production



This model was developed later into production after the pivot to a more stylised art style. While inconsistencies in art style have been acknowledged across this project, the goal with this computer model and its textures was to lean into the painterly presentation and hand paint finer details for the colour variation. The model itself has more simplistic shapes to compliment this style. Also, each hero prop for this scene will have a single 2K texture set.

Decals were added in UE5 for narrative detail.



Candie's

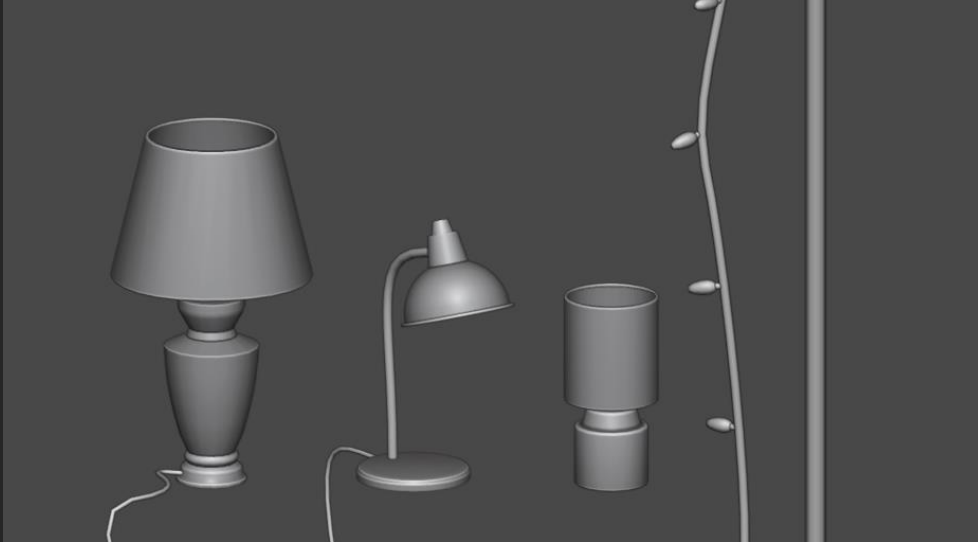
10
I hate
about
you



Hero Props Production



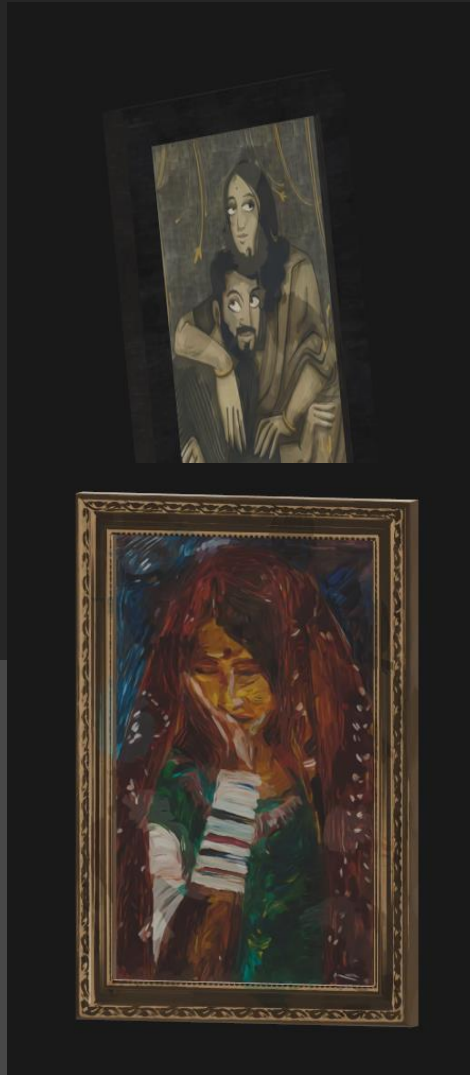
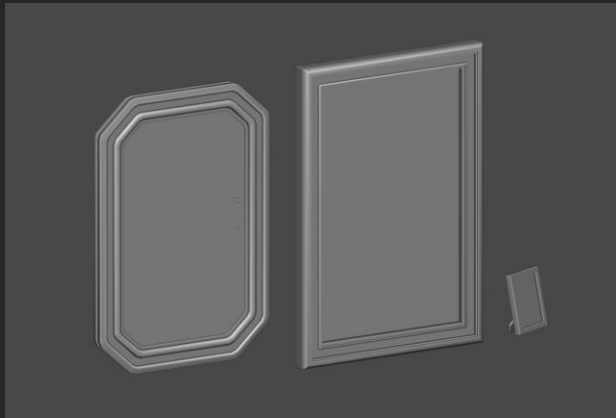
Hero Props Production



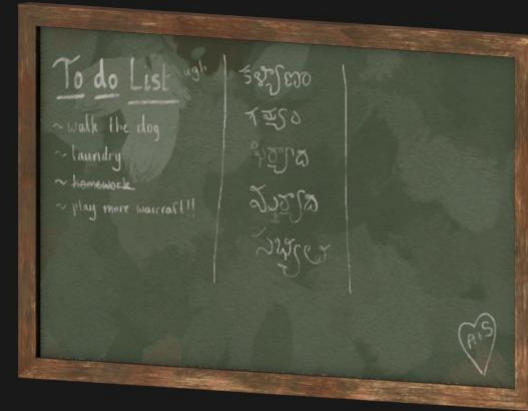
Hero Props Production

The walls were looking empty so several hero props including photo frames and a mirror went into production next.

Creating the mirror proved troublesome as the reflection was initially noisy. There were several Lumen related issues as the assets and textures I was developing were conflicting with how Unreal calculates Lumen reflections. After some research, using planar reflections ended up being the best solution.



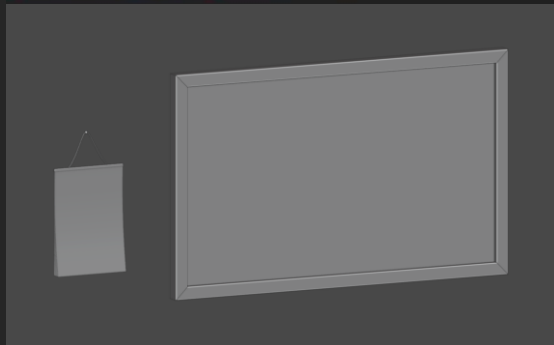
Hero Props Production



SUBSTANCE PAINTER: POST APOCALYPTIC CLASSROOM (PART 9)

zerobio · 755 views

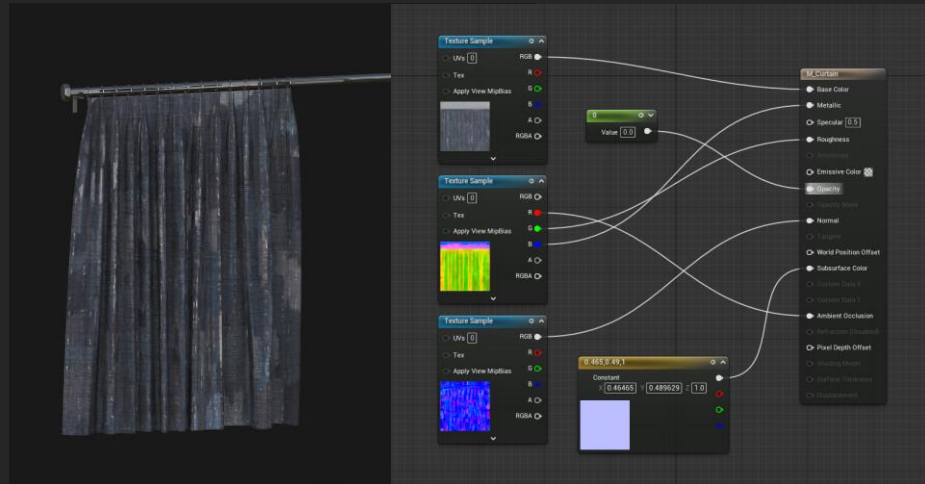
In this video, I texture the floor and chalkboard for the Post Apocalyptic Classroom scene and the image of the scene with all the textures created so far as well as some dispersal...



The chalkboard and Calendar were more simple models, so more time was spent fine-tuning the textures. The calendar texture was created in Photoshop while the writing on the Chalkboard was hand painted. There was more intention put into visual storytelling with these assets through the use of text and design language. There was issues getting the calk material to look accurate, so a tutorial was consulted to achieve a better result.

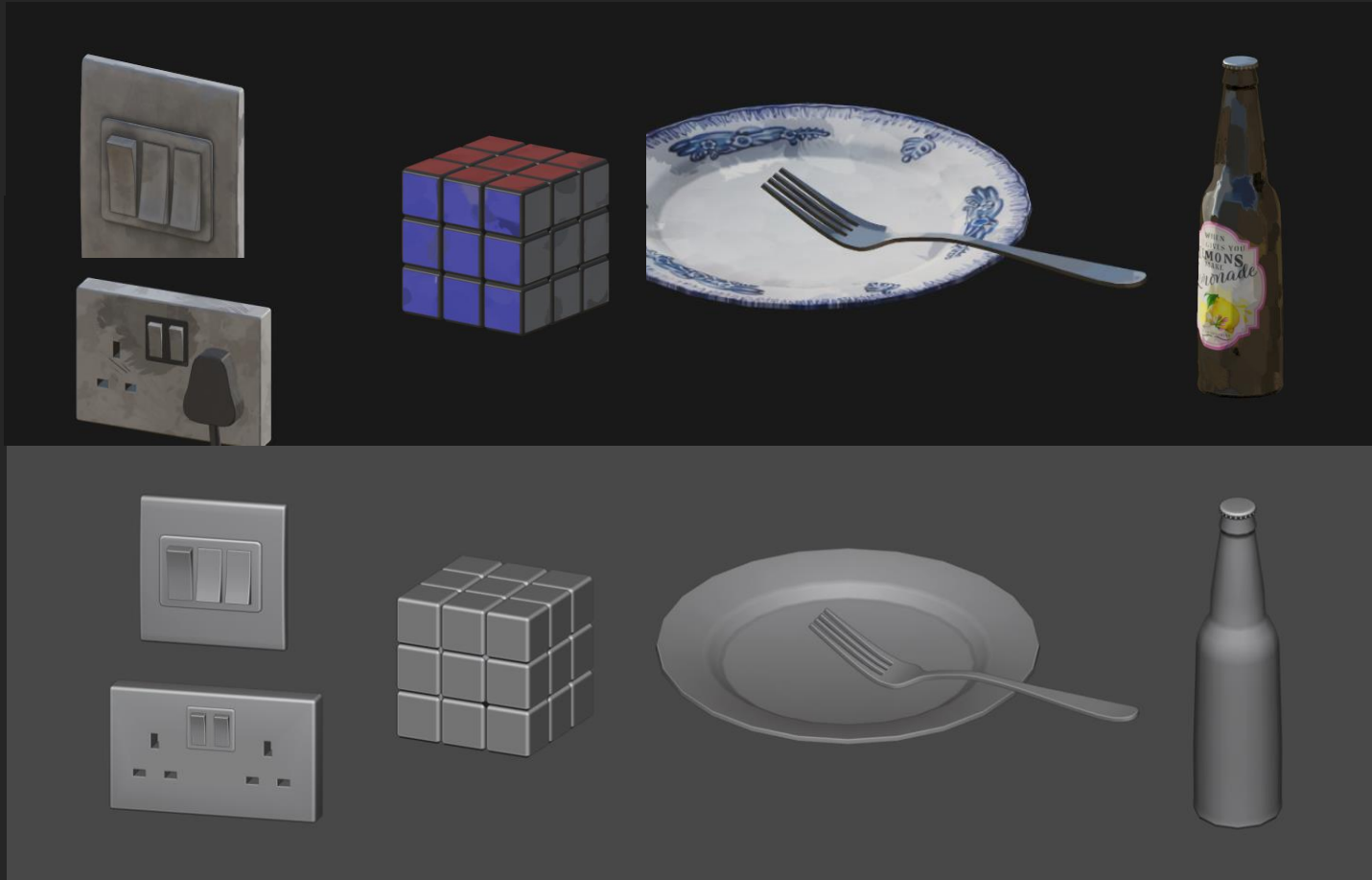
Background Props Production

Now that each hero prop on the asset list had been completed, some additional assets went into development to help fill out the scene. One of these included a curtain for the window which required subsurface scattering. When enabling this in UE5, the textures were being washed out but this was being caused by the opacity, which was turned all the way up. Once the issue was fixed the light from the HDRI was passing through realistically without altering the colours.



Background Props Production

Further background props were produced following the same standard pipeline.



Render Passes

Final Render



Value



Detail Lighting Only



Base Colour



Render Passes

Final Render



Value



Detail Lighting Only



Base Colour



Render Passes

Final Render



Value



Detail Lighting Only



Base Colour



Asset Zoo



Feedback

Feedback was received during the polish stages of development regarding the lighting and overall mood of the scene. One of the original goals for this project was to effectively evoke a sense of nostalgia in the viewer and that's an element that hadn't quite translated in these renders.

The advice was to accentuate the orange and purple hues created by the sunlight in a Photoshop paint over. Another issue was that there were no god rays which needed to be added in UE5 or in a post-processing setup. Lastly, the final problems included an inaccurate scale for the bin model and missing ambient occlusion and shadows for the Rubik's cube.



1. If possible change the colour of those curtains, they are drowning the room in dark grey in a very moody way - try a lighter colour, maybe a purple to fit your room
2. add some god rays in the window - we keep seeing it in our research
3. Bin is TINY!! re-size it using chair for scale.
4. Rubik cube is missing ambient occlusion? Looking like it' floating in air without shadow



If you have photoshop and are familiar with it, let me know, and I can suggest some post-processing edits that will really lift it. I also recommend using warm sunset-like lighting - again that kind of thing is really prevalent in our research. I will imagine that "sunset lighting" and "nostalgia" go hand-in-hand with something that is semiotically dream-like, and marks the end of an era

Lighting Revamp

The subsurface scattering on the curtain wasn't working as intended due to an incorrect node connection. Once that issue was resolved, the colour of the curtain was lifted to compliment the rest of the scene.

Since this project was going for a Life is Strange Esque stylised art style, feedback included exaggerating the colours and lighting. A paint over was completed in Photoshop using warm orange hues for the sunlight and purple for the shadows. Overall, the adjustments made to the lighting and colours helped boost the visual quality of the scene.

Original



Paint Over



Lighting Revamp

Original



Paint Over



Original



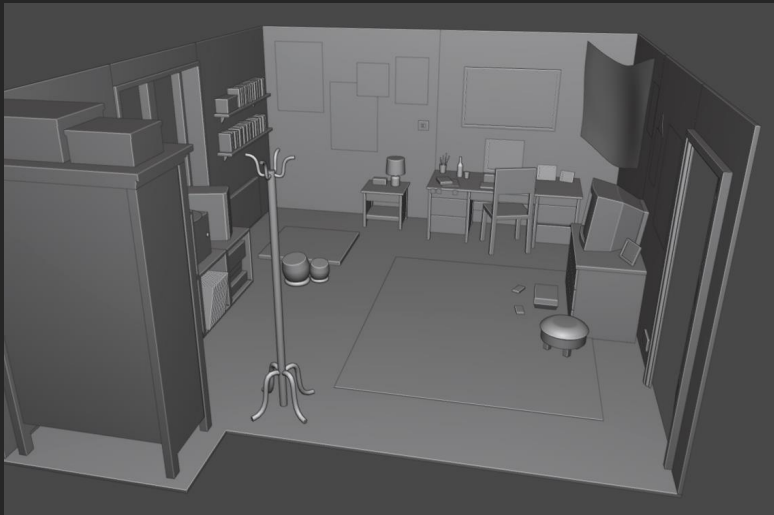
Paint Over



Critical Analysis

Overall, the project met most of the goals that were set at the beginning. Research was thorough and helped inform several decisions throughout the project. A large-scale environment like this was the perfect stepping stone in understanding asset workflows and production timelines in video game studios. The several techniques utilised during this project to improve efficiency can be used for various 3D projects going forward.

While the project outcome succeeded in most ways, there were issues regarding planning and time management. Over scoping is partly to blame however delays were caused by the production of a subpar block out. As seen below, the final layout had been iterated and largely changed. These sort of changes are time consuming and are to be avoided in large scale projects such as this. A good block out accurately defines scale, shapes, and composition. Refining these elements early on would have allowed for more time during later stages of production.



Critical Analysis

The pivot to a stylised art style meant a lot of time was saved during the texturing stage. Relying on procedurally generated filter for the textures is however, the biggest critique for this project. There's a lack of detail within the textures and dirt, or baked lighting/reflections haven't been fine tuned to the standard that was set at the beginning of this project. Some assets have more refined textures as more time was spent developing them whilst others have a plainer uninspired look to them. Overhauling the textures with hand painted details and major adjustments to wear and tear, reflections, and ambient occlusion would help the project reach a higher bar of quality.



Critical Analysis

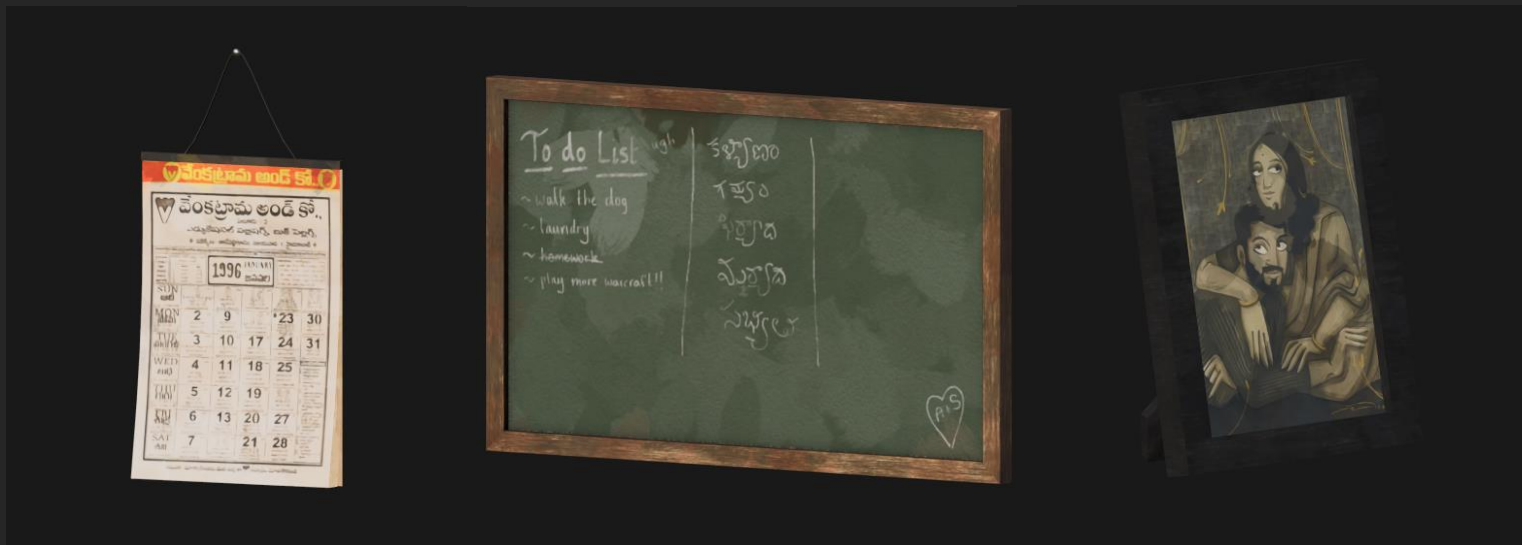
Another key goal that was set included the development of at least 20 assets, including modular environment pieces, hero props, and background props. While I achieved this goal and developed an asset zoo of around 27 assets, the scene is still unrealistically empty. Many smaller props should have been developed to add clutter and density to environment.

Unorganised assets such as clothes, crumpled paper, shoes, toys, books, games consoles, and a TV might've helped fill out the space and create a more lived in environment. There's also a distinct lack of variation in the wood textures used for the furniture assets. Utilising different tones would've helped separate the assets from each other and enhance the overall composition.



Critical Analysis

The area I largely succeeded in was producing culturally and historically accurate assets that conveyed a narrative. Assets such as the chalkboard showcase someone is trying to learn how to write in their mother tongue and the photo frame on the bedside table has a photo of a young diaspora couple. However, there are many improvements to made. The storytelling remains disconnected and there's a lack of connective tissue between each asset. Telling a more detailed story with additional props is the natural continuation of this project. For the moment, it's a good start and the project reflects the extensive research done during the pre-production phase.



Critical Analysis



The final goal for this project was exploring the different techniques artists use to evoke nostalgia in the viewer. To be effective in this regard, the viewer must be transported to a time period/place they may or may not have experienced.

This was accomplished through the use of warm colour tones and lighting. The contrasting orange and purple hues of the bedroom evoke a sense of safety and familiarity. This could be improved further by adding additional assets that pertain to the time period and fine tuning the lighting and shadows to produce a more realistic result.

Overall, this project managed to reach all its goals and while delays in the timeline meant many stretch goals were removed, the project lays a solid foundation to be improved and refined down the line. Many industry standard practices were learnt and will be applied for any future projects of this scale. The final result conveys a narrative rooted in cultural identity with room to grow and be expanded upon going forward.

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