

Hi there! We're Ashley Klahm and Katie Palmerio, and this is our final report for our Computer Graphics Project. Our game "Bubble Floaty Mc3D" has been improved upon for this final demonstration, and we will be sharing all the changes and additions with you today.

First off, for the changes to gameplay, here's our brand new flashy title screen for the game! Isn't it cute?

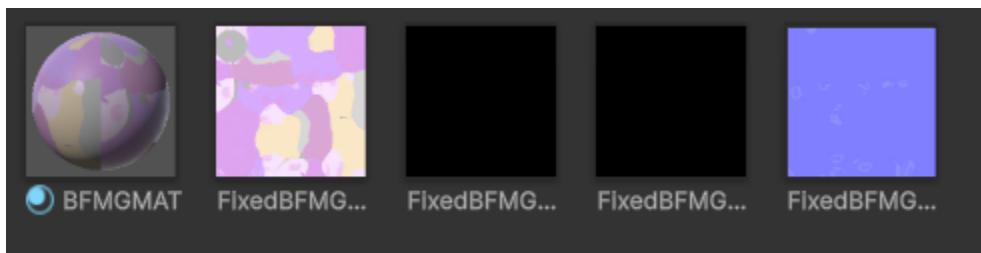


While it's more of an aesthetic choice, we did this to make our game feel more complete. Bubble Floaty McGee had some animation errors with her model, as pictured by her bald scalp being exposed here, so now she's been fixed and has even gotten a model update as well! We've also made changes to the win screen to allow you to exit the game and go back to the main menu, as necessary for any game. We've also fixed the camera so it now rotates properly - we'll show you that when we get to the live demo. Finally, our cute little Bog now has dialogue introducing you to the game! In order to trigger it, collide with him, and he'll give you exposition in the form of some sweet rhymes! We added this as a callback to the original Bubble Floaty McGee, where Bog would speak to you on every level. It also gives the player a bit of tutorialization if they need, as well as enhancing the scene in general.

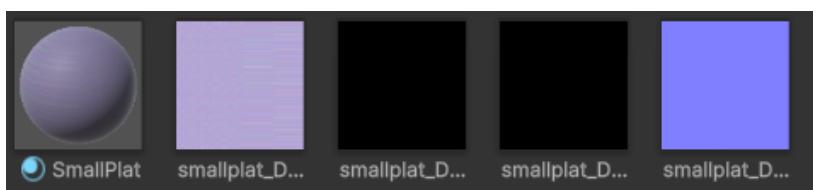
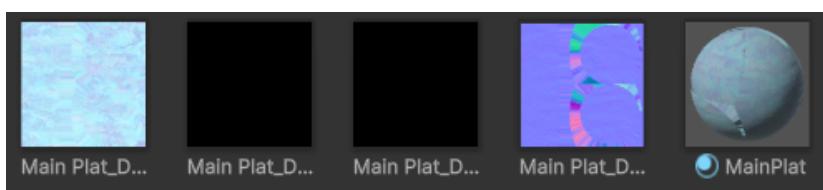
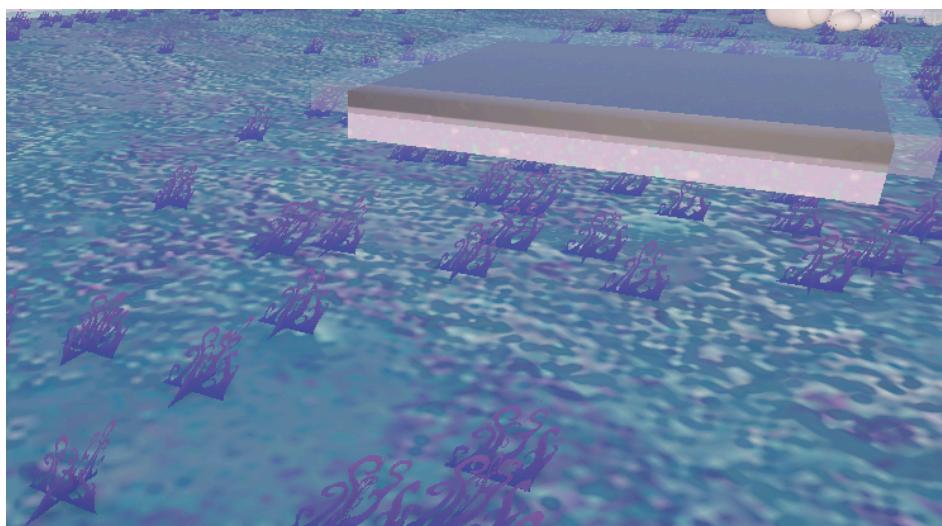


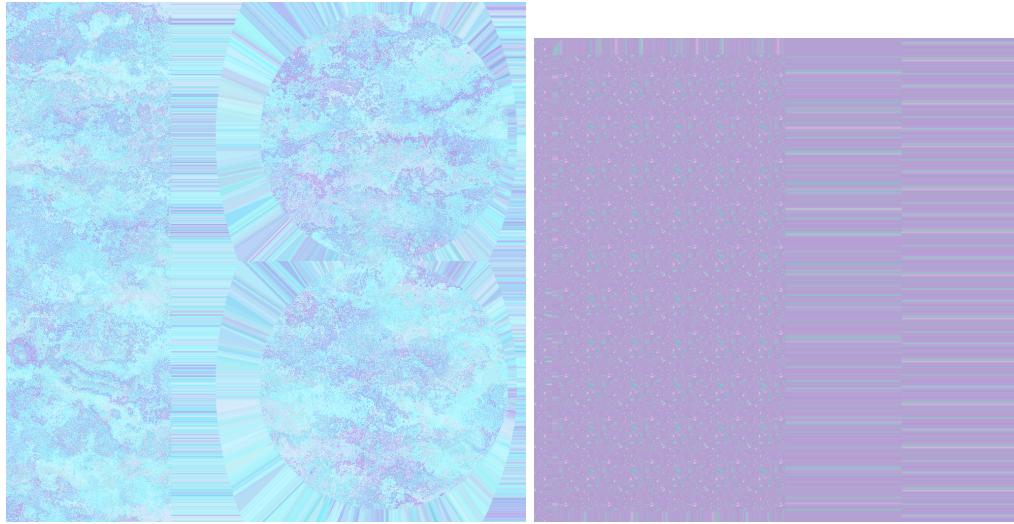
Since we are a group of 2, we were tasked with applying textures to 70% of our scene's objects. As such, we ended up applying textures to every object in our scene except for one, Bog, because we liked his base colours enough to not want to change them. We textured Bubble Floaty McGee and fixed her model to suit the new textures she has. This texturing condenses the materials used to colour her

from multiple into one, becoming more efficient and allowing her to have more details without an excessive amount of materials.

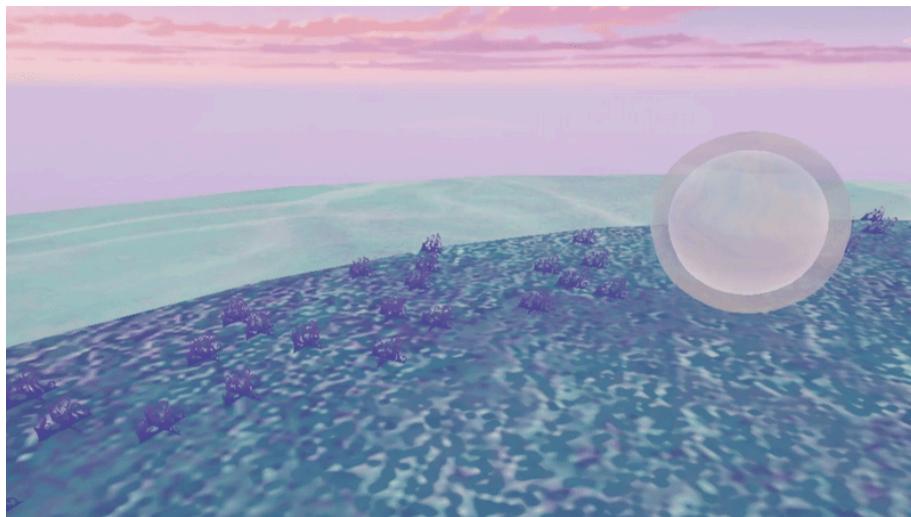
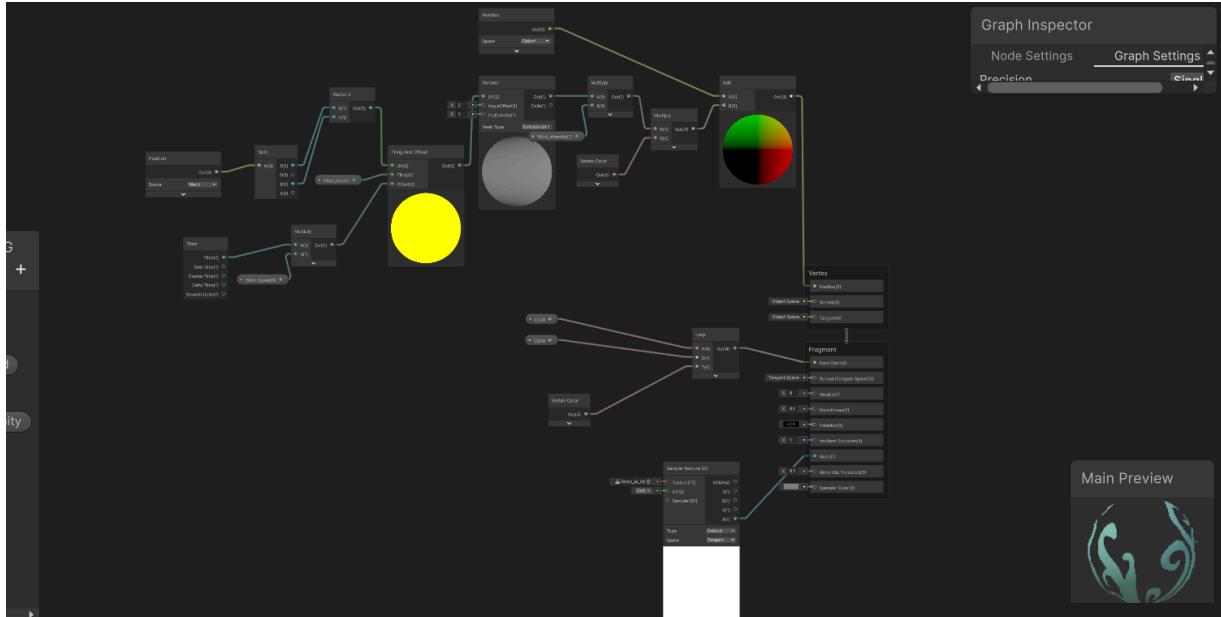


We then retextured the platforms, both the small ones and the large one, to add more uniqueness within the environment using Adobe Substance 3D Painter. The large ground platform was given a clay dirt texture in order to pair it with a grass shader and create a nice looking base for the game. We're using a pastel aesthetic for this game, so the ground texture uses a mix of light blues and purples to fit in with that. Since the game is very fantastical, using unique colours like these on otherwise realistic textures enhances the feeling of it being a fantasy world. The mini platforms are given a terrazzo composite texture in order to achieve a sparkle effect on them, to emphasize once more how the scenery is intended to be that of a fantasy world.



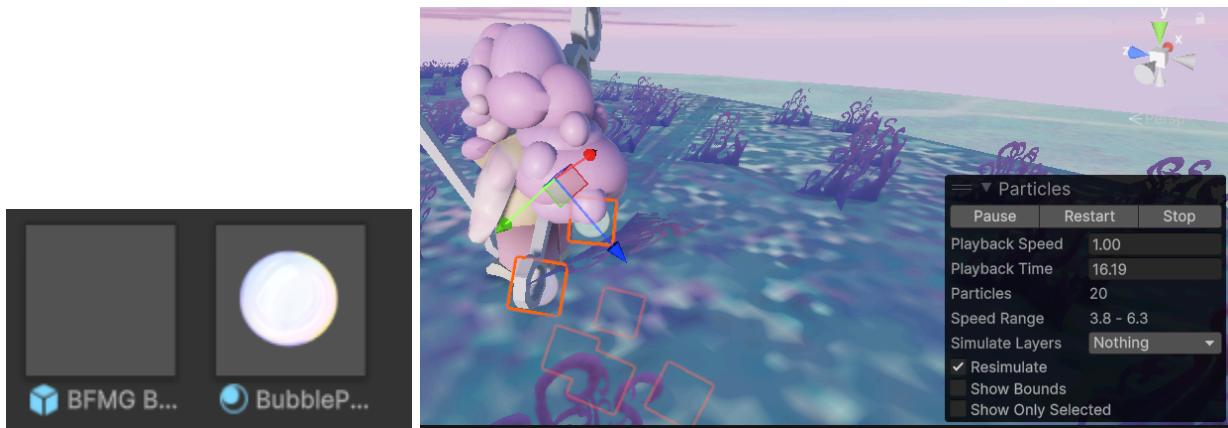
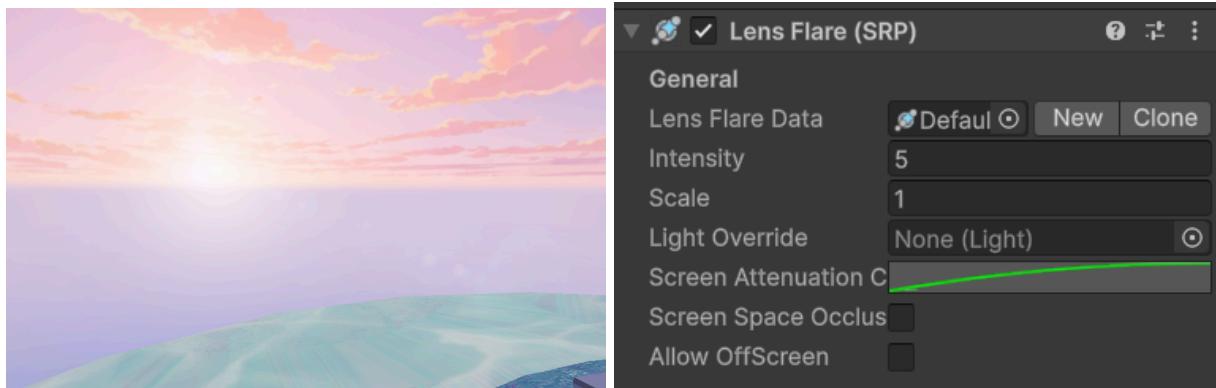


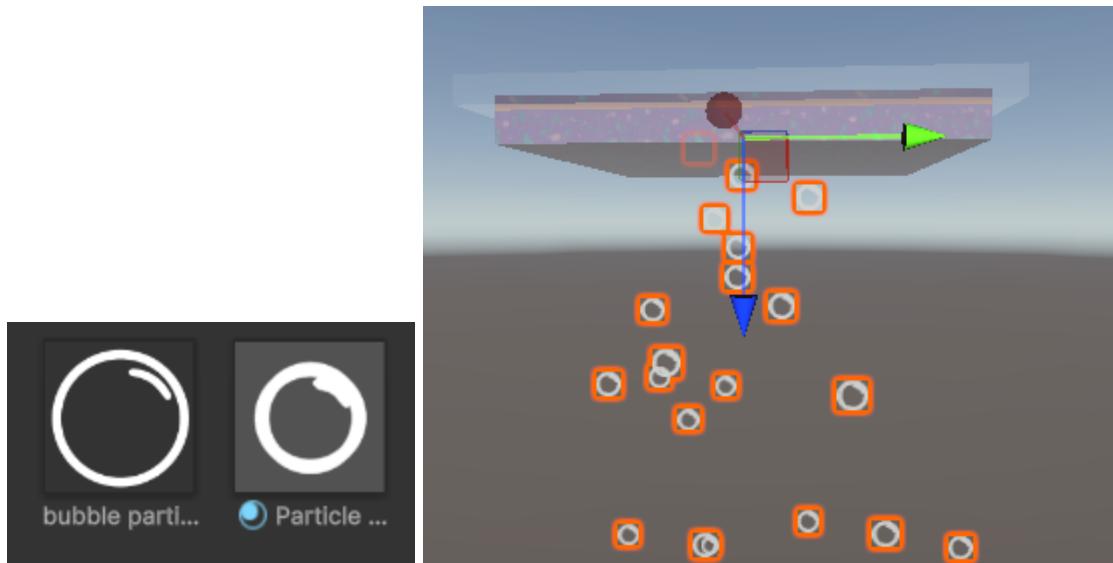
Finally, we added a few visual effects to enhance the scene even more. A scrolling texture shader was implemented in order to add depth to the floating bubbles in the scene as bubbles in real life are iridescent and their movement is much more than just back and forth so we wanted to emphasize movement with shaders instead. We also decided to add a scrolling water texture to the scene in order to enhance the scenery a bit more, and make the island platform the player is on feel a bit less isolated in empty space. We also added a grass shader to the ground to add on top of the dirt texture and create a more natural-looking ground. The grass is drawn swirlly and curly to once again emphasize the fantastical nature of the environment.



We also added a lens flare to the scene to enhance our lighting. The skybox we're using has a pretty sunset that didn't quite match the scene before, so we used a lens flare and lined the two up. This lighting change added a lot to the environment,

as it created a gorgeous soft glow that makes the entire area look dreamy. It really helps bring together the scene. Finally, we added particle effects to the underside of the platforms as well as to Bubble Floaty McGee herself whenever she flies. The platform particle effects help fill out an otherwise empty scene, as well as give a bonus help to the player so they know where platforms in the sky that may be out of their vision are. Bubble Floaty McGee having particles is mostly an aesthetic bonus, but is also another nod to the original game where she had particles coming out of her when flying in the air.





Ashley: Reflecting on my experience in this course I would say that I've come a long way in terms of my shader knowledge. At the very start I found myself relying on shadergraph to understand what was going on in the shader, but over time I have found myself comfortable and able to understand the code. I feel like everything in this course was very valuable and I already find myself using concepts from this class in my other course.

Katie: For me, I went into this course not knowing anything about shaders. They seemed incredibly complicated and hard to understand, and I just didn't know where to start with them. I'm very thankful that I was able to learn about so many different shaders through this course, and that while they may seem intimidating at first glance once you break them down they're not too hard to understand.

Link to Youtube video: <https://www.youtube.com/watch?v=RIXXOEvgYfI>