Generative Arts Assignment 2

(Sorry for lack of images, the document isn't allowing me to add any)

Introduction & Theme

This project consists of a randomly generated Supermarket that utilises the users webcam or submitted images along with a name to texture tailored ads on the supermarket products. The general theme decided among our class was the idea of dystopia/utopia and I decided on the combined ides of surveillance and advertising. This project was inspired by the dystopian nature of a recent "VR Shopping Experience" created by Walmart to demonstrate new technology meant to enhance user experience. This was met with negative reviews due to the dystopian and generally useless nature of the idea along with how poorly implemented the mechanics were. The second theme of this project is surveillance its use in targeted advertising. It's known that companies will use a user's search history to target products towards them and it is even theorised that they make use of household devices like Amazon Alexas to listen in on customers when not permitted to. This project riffs off these themes in combination to create a look into dystopian corporate future and how it would affect daily activities like shopping.

Artistic influences

One of the artistic influences for this project was Rachel Maclean. Rachel creates a variety of digital art pieces/exhibitions that are designed to highlight current socio-political issues. The main piece of hers that I feel aligns with my project is "I'm Terribly Sorry". One notable parallel is the emphasis of British tourism merch in Rachel's work which has overtaken the city. This is similar to my use of the users' images to push advertising directly into their face and personal space. Another work by Rachel

that has a similar theme is “We Want Data”, this piece explored the themes of corporate data management and media consumption. Again, this fits with my theme of advertising and the loss of identity. Another piece linked directly to advertising and its influences is “Germs” which follows the protagonist through a series of advertisement that enhance her fear of germs.

Creation

There are several instances of older P5 projects that help show my progression, I will link these below in the relevant sections

I started the project by researching how to create a randomly generated floorplan. I found that the use of binary division would create the exact effect I was looking for. While I got the general idea from my research source, I did not use any of the code within it. I was all created myself.

https://editor.p5js.org/Georgonzola/sketches/PB4dGY993

The process Is created by splitting the main canvas into two, rotating the direction, then splitting the newly created rooms in the opposite direction to their “parent”. This process continues until one of two conditionals is met: the room’s area is too small, or the maximum number of rooms has been created. This is essentially a form of recursion and each room splits into smaller rooms much like the tree branches from an earlier project.

The next step was making this function 3D so I could add the models, this was done with relative ease as all the calculations had been dome in the previous project. This also features my first use of the movement code which I received from an external source, the link to this is found in the references section. This also taught me about the use of the question mark operator which I continued to use heavily throughout my project.

https://editor.p5js.org/Georgonzola/sketches/5E6qfy2m2

The next step was adding the shelves to the display. This was done by checking which side was the longest, the measuring how many instances of the model could fit in the section by using division. This result in the member variables numRows and numSegments which are used for a lot of other processes. I then attempted to stock the shelved with various 3D models of products, this is done by storing an array of variables on setup which determine what type of model will be drawn, then using this to draw the models with a separate function. In the final version this has been split off into another class file for ease of navigation. This version shows one section with randomly generated size and stock.

https://editor.p5js.org/Georgonzola/sketches/TVmWwdwYd

Another feature it has is the creation of movement boundaries which prevent the player from clipping inside the models. This was difficult to scale up to the main version as I could not use translate due to the incompatibility with the camera coordinates. Instead, each translation done was imitated by adding it to a variable which would set the x and y of a boundary section. The version above also contains the image texturing tool that I used; it asks the user for an ID then applies the data to the texture using the create graphics function in P5Js. This essentially creates another canvas that can be drawn to with the entire canvas able to be drawn to the screen or in this case textured. The version below is the one I used to test the drawing/ positioning of the user data before adding it to the main file.

https://editor.p5js.org/Georgonzola/sketches/hHCKf-wRX

The version below contains the full map with randomly generated sections and models along with the boundaries. At this point I had to move to the desktop version of P5JS as it could no longer run in the browser.

https://editor.p5js.org/Georgonzola/sketches/TZS7MBgCp

From here I moved to the desktop version and it was just a matter of combining all of the features I had previously created. Unfortunately, I did not have enough time to get all ad sections working, only the products on the shelves currently have them. Given more time I would have added them to the fridges, stacks of boxes, box creates, and added ad signs for the fruit sections.

I did not use any other external libraries aside from P5 JS but given more time I likely would have used a facial recognition library to improve the image texturing.

Feedback

One way I responded to feedback was improving the framerate of the project as it was quite slow and jittery. I did unfortunately have to make some cuts in the production for this with the overall map grid containing fewer cells and the randomised objects being split into groups of three to increase rendering time. Another change I had was increasing the variation of the content, originally it was just formed by shelves but now there are different types of section depending on several factors such as edges width and height. I did not receive much else in terms of feedback so I improved the project according to my own wants.

Evaluation

Overall, I am happy with what I have achieved with this project. There were some limitations due to both time and the hardware/software limit as I was unable to process the deeper randomisation and some models/textures were unfinished (this is the cause of the blank sections). Furthermore, I feel that the implementation of the user's Id into the advertisement could have been fleshed out much more given more time. One aspect of this is manipulation of the image; I could have used the facial recognition library to cut down the images to only the users face and then add accessories to the eyes, nose, mouth etc. Unfortunately, I didn't have the time for this so I resorted to using the base rectangular image. Additionally, I could have drawn some more detailed graphical backgrounds for the ads which would make them more realistic. I am particularly happy with the coding aspect of this project as I was able to create almost all of the technical ideas that I had. I learned many new techniques such as camera manipulation and new forms of recursion for generating the sections of the map.

References

Rachel Maclean

Rachel Maclean, RM, (N/A), rachelmaclean.com

http://www.rachelmaclean.com/

Movement Code

Paul Wheeler. (2021, June 3). P5JS camera movement code. StackOverflow.

https://stackoverflow.com/questions/67817980/how-can-i-create-a-3d-game-in-p5-js-camera-positions

Binary Division

Gonzalo Uribe, GU. (2019, June 2). Dungeon generator using Binary Space Trees. Medium.com.

https://medium.com/@guribemontero/dungeon-generation-using-binary-space-trees-47d4a668e2d0