Dylan LoPresti, Mohamed Bakr, Ryan Mosenkis, Cole Hausman

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Professor Dancy - 1:50 p.m. section

Ethics & Justice Considerations

Introduction

Our system is a basic video game with the option for a person to play the game themselves, or give the option to play as the computer, which was designed using AI. There were many different ethical and justice problems that we ran into when designing this project. We didn't think too much about the ethics and justice perspective part of our product until about halfway through, when we realized that there were ways that we could improve the product to make it more accessible to a wider variety of people. Some parts of the project made it really difficult to think of ways to improve the product to be ethical and just because our game was so simple that it seemed that there couldn't have possibly been that many aspects that we could change or improve. However, we realized that the simplest of things could be improved, so we had to think a little bit more out of the box to understand what parts of the game could be changed.

Ethical Considerations

One of the things that we took into consideration was people with disabilities that may want to play the game. We know that there are many people in the world who suffer from color-blindness, so our group decided that it may be best if we strictly kept the characters of the game in black and white. People who suffer from color-blindness

will see certain colors, but certain shades may be seen differently. According to [What Do Color Blind People See? – EnChroma](link), the most common color-blindness is red-green, which causes a person to see red and green as very similar colors. Due to this, we did not want our users who suffer from color-blindness to have to deal with this obstacle, so we decided it would be best for our game to consist of just black and white characters.

Since our game was based on the concept of the Google dinosaur game, which only comes up in a Chrome browser when the internet goes down, we figured that the purpose of our game may be similar. When thinking about where the internet is more likely to go down, our group figured that it would be more likely in poorer communities. Our original help instructions were written in English, but we added a set of instructions also in Spanish because there are many communities in America in which Hispanic-Americans live in impoverished communities. We did not want to strictly use an online translator because sometimes there are errors when translating from English to other languages, so we were unable to translate our instructions to other languages. This would allow our game to be played and understood worldwide, and would not be discriminatory against any race or nationality. We realize that only having 2 languages does leave out so many languages, but we rather leave those languages out than include incorrect translations. If we were to do it over again, we would hire a translator for a handful of languages to translate our English instructions to other languages such as Mandarin, French, Italian, Japanese, etc.

The last thing we considered was that we made sure we didn't want to hinder a player's ability to play the game based on their dominant hand. A right-handed player

may prefer to use the up-arrow key to have the character jump, whereas a left-handed player may prefer to use a key such as 'w' to make the character jump. We also added a space-bar option for people who have difficulty reaching certain keys because the space bar is very easy to press. Therefore, we have options for both right-handed and left-handed players, as well as a universal key to make the character jump.

Justice Considerations

One of the earliest things our group thought about when first talking about the project, was allowing the user to select which character they would like to be. In the Google dinosaur game, the user has no other choice but to be a dinosaur. We decided to let our default character be a bison, being students of Bucknell, but we also wanted to select 3 other characters that could appeal to any race or gender. We selected a cat, a dog, and a horse. A cat and dog are friendly animals that many people keep as pets, so we thought there may be many users that would want to be a cat or dog when playing the game. We also chose a horse because the objective of this game is to jump over obstacles, and a horse is very likely to actually be an animal to jump over obstacles. Besides the issue with the language barrier, which we tried to fix to the best of our ability, our project did not have any other issue with race or gender. Overall, our product is pretty just. At times, we had to go back and make sure that we weren't implementing anything that would discriminate against a certain group of people, which we were pretty successful at doing.

Conclusion

      Overall, it was a little more challenging than we would have expected to ensure that our product was both ethical and just. The most challenging part was probably having to go back and adjust some of our issues in the scrum process to account for implementing certain features to adjust for the ethical and justice considerations. These are ideas we did not think of at the very start of the project when the issues were created, so we had to add them as we came across such conflicts. We thought we would really struggle with the ethics and justice portion of our project since we felt our game was so simple and wouldn't run into these problems. However, we realized that sometimes even the smallest of details could be considered an ethical problem, which was very interesting. It shows how difficult creating a product can be because there are so many conditions that should be satisfied to comply with the ACM code of ethics.