Concept

My project is about ACI (Animal Computation Interaction) and I'll have a frequent user is my cat Zimba. My two cats have rescued street cats from Cuidad Juarez, MX and they love hanging out by the door frames and window frames and start imitating bird noises. I don't allow my cats to go outside for fear they'll never return plus my neighborhood isn't very cat friendly with neighbors not liking cats on their property. So, my project concept is about providing a fun interaction for cats and for their owners as well that'll contain a tablet either using a separate camera or using the tablet's camera to monitor the cat at a good partial distance. The tablet will display images of either a bird chirping at a tree branch or a fish swimming around in a pool, as the cat moves closer to the tablet it'll go into sneak attack mode and they'll move extra slow towards the tablet; however, if the cat moves a little to fast and the camera detects that fast movement the animation of the bird or fish will freeze momentarily until the cat stays still again and goes on repeat. This concept is to help those owners who have cats that love using their natural instinct of hunting and what better way to do it as safely as possible within the quarters of your own home. I plan on having this project within an app or website, depending on how complicated it'll be to have it using the app and would require preferably a tablet to be placed at a good distance away from your cat and have it running with the screen prompting the video of a bird chirping or fish swimming. In order to ensure that the cat doesn't jump toward the tablet causing damage to the owner's tablet, the recording will promptly stop at a safe distance either when they're a foot away from the tablet to discourage damage to electronics.

Technologies

The technology that'll be used for this project will be a tablet and possibly a separate camera system as beta testing but integrated using the own system's camera motion. I will be relying on using python for the development of the website of this app and using Max software to output the audion whether it be a bird chirping or a fish swimming in a pool. The hardware as specified before will be using a tablet and borrowing a camera system from the CS lab as a backup in case the tablet camera configuration doesn't work properly with the software. I have a tablet available to test out the software; however, if the tablet doesn't seem to work then we'll be using my own computer and taking the necessary measures so that it doesn't damage the laptop or the tablet.

Background Research

I hope my project can be innovative for Animal Computer Interaction (ACI) especially since there aren't many activities for cats to use especially domestic cats. The most entertainment for cats is mostly videos for cat videos on TV where cats just watch and glare and incidents happen when the TV flips over or breaks the TV. My intention is to have a system that interacts with cats and is available for cat lovers to use and help promote fun activities for them while being safe inside their homes. There isn't a system for cats to use just mainly physical toys or cat

videos on YouTube which can cause harm to both the cat itself and the owner's personal belongings, especially on the technology side. Something different I'm doing compared to YouTube videos for cats is that my system will have a set limit on how close the cat can be before they leap toward the screen of the user's computer or tablet. This will help promote safety for both parties and have the option to increase the safe zone for those cats who are more aggressive or less distant for those who wish to get even closer. Since each cat is different and not every cat is the same and has the same behaviors this will have an interaction with the owner and something to consider for my project is to be extra user-friendly with the settings. Especially, include a tutorial for safety precautions.

Timeline/Distribution of Work

For the distribution of work, since this is a solo project of my own, I'll be using outlook calendar to remind myself of the due dates of my project are needed especially when presenting and having something presentable for the professor and the class. I will need to have recordings of using my cat for the testing of my software at the final stages. Throughout spring break, I wish to have a better foundation laid out about the direction of the languages I will be using and be especially familiar with the software of "Max" because this is a completely new software for me to get familiar with and know what is expected to be used and how instrumental it could be with me. By April 1st, I would like to have a code background setup and have something of testing, especially the camera system, and have established the limit the cat can be to be detected and once it gets close to know how to shut the program down before the cat jumps towards the screen of the device. By 4/18, have it embedded either on a website or app being able to test it out with just myself moving closer and away from the camera until I can feel assured it can detect the cat's movement. I will need to find a way to make the sensitivity extra difficult because some cats are extra good at moving at a very very slow pace and can be a hassle in that aspect. By 4/25, have a status update about my project and be able to integrate my code into a website or app that way other people can try it out with their pet cats. Finally, by the end of the semester 5/5 or 5/10, be completely done with the project or at least have a functional prototype for submission.

Sources:

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