

Following our first round of user testing and feedback from our TAs, professor, and peers, we ultimately decided on enhancing our prototype in multiple ways based on the comments we received. For our second round of user testing, we attempted to recruit children at the Georgia Tech Horizons Daycare. However, rules and regulations about testing with children prevented us from proceeding, so we had to test with college students instead. We asked college students to answer questions as they would if they were 5 - 7 years old.

One of the main comments that we received was that children aged 5-7 may struggle to read and understand the game, given that most of these children are pre-literate. To tackle this, we added audio to every frame in our figma, meaning that every frame will be read out. Anywhere text is present, it will immediately be read out to the user. Each of the characters have a different voice and speak at a speed that the child can easily interpret what they are saying. This way, a child does not need to have the ability to read or necessarily have an adult present to play the game.

Another change we made to address difficulty users may have in understanding the game was to add another avenue of affirming/refuting feedback. Many test users questioned that children may just click through a story without developing knowledge of the underlying concepts. In our initial design, the only form of feedback was the pet speaking to the user about why their choice was positive or negative. This was done in the form of dialogue, so children who are pre-literate wouldn't be able to read this commentary. We refined our prototype by adding check/x marks and red/green design to indicate right and wrong choice selections. The use of symbols and colors make it easier for children who are pre-literate to differentiate between positive and negative actions. By adding more forms of feedback, we are able to cater to a wider audience of users and further work towards our learning objectives.

Additional feedback we received was changing the facial expressions of the user to better match the scenarios. Our prototype was reactive for other characters, but the user's character was static. During testing, multiple users commented on this design choice feeling insincere and actively working against our goal of teaching children social skills. The character maintained a happy smile throughout the entire story, even when the other characters were experiencing negative emotions. This can convey the wrong message to children, so we changed the emotions to happy, sad, neutral, and mad to better mimic real-world scenarios.

We also received multiple comments about increasing the reflection aspect of our prototype. The initial prototype highlighted how the user decisions would impact the other characters. Children were able to see how their choice of action changed the other characters' emotions, but there were no elements to our game that asked the user to reflect on their own emotions. Although our learning objectives included teaching children how to understand others' emotions, we also aimed to teach healthy communication of one's own feelings. We addressed this feedback and improved our design by adding a reflection portion to the end of each storyline. Here, users were prompted to consider two perspectives of the choices they made. Users first consider how their decisions made other characters feel and then reflect on how they themselves feel. We maintained flexibility with this feature by allowing those with sufficient literacy to type their responses and those without sufficient literacy to talk through the prompts with a parent/guardian. An open-ended assessment urges users to stop and think about their gameplay, rather than just clicking through stories aimlessly. This feature reinforces empathy by having users consider things from other people's point of view and improves communication by having children explain their own feelings.

For future work, we would like to add more accessibility features to support those who may be physically impaired, use more realistic voices, add more languages, and add more culturally diverse

situations. Right now, the pet's feedback is sometimes forceful and may not make sense to all children. There is more than one way to explain social skills, so maybe including more broad explanations that can apply to many children using language that is easy to understand would be beneficial.