TUI Final Project Progress Report

Potty Party

A Potty Training Tangible Interface

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Rolling With Our Midterm:

For our final project, we will continue work on our midterm project concept, Potty party, a tangible interface to aid with the potty training process.

For our midterm project we proposed enhancing two artifacts:

a potty training potty

a drinking cup

Interaction Loop Gap:

Based on the midterm feedback we received, we thought that our interaction loop lacked a connection between these two artifacts; as it was, they seemed to stand alone rather than act as an integrated unit. So, one main goal of our final project is to create a tighter link between the cup and the toilet.

Some Ideas:

- What if the child leaves the cup and forgets to go to the potty?
    - Need more encouragement from the cup for the child to go to the potty.
- Have the cup be like a pet, companion, or character
    - Mother goose character?
- The cup can keep track of the child's journey
    - Possibly tie to previous times the child has gone, capture the previous interactions

New Interaction Loop:

The final idea we decided upon was to have the cup act as a toy, in this case a "spaceship" that must be taken to the "docking station" (the potty) in order for the astronaut/ship's captain (the potty training child) to start the mission.

The interaction will go as follows:

Cup:

1. The parent fills the cup with liquid (juice, water, milk, etc.)

2. When the parent hands the cup to the child he/she presses the switch to "turn it on" and an audio file will play:

   "Well hello there, Astronaut! Are you ready to go on an important mission to save the galaxy - and get peepee or poopie IN the potty?!?!?!"

3. The child will drink from the cup. We do not plan on detecting how full the cup is because we don't want to pressure the child to drink all of the liquid or to go to the potty.

4. Instead, we will have a delay in the code so, every once in a while, it randomly generates sound effects, brief music clips, and reminders like:

   "Drink up - we'll need lots of fluids to complete our mission!" or

   "OK, astronaut, it's time to dock the ship at the potty - and for you to take the captain's seat!"

Potty:

5. The child then brings the cup and places it in the "docking station" on the potty and hears:

   "Great job, Astronaut! Now it's time to pull down your pants and take the captain's chair! That means sit down on the potty!"

6. We detect if the child sits using FSR's. Once he does, he hears:

   "Okay, captain - we're ready for our mission! Press the button on the captain's chair to start our adventures..."
   <bleep bleep bloop>

   We will incorporate a switch or FSR into the potty to act as a control button to help keep the child engaged and entertained.

7. As the child sits he will hear stories involving "completing his mission" like the following:

   "A distress signal has been detected near the alpha gamelan quadrant... You are the closest ship, Astronaut, and you need to get some poop or

pee in the potty to help them!!!... press the button to set a course for the distressed space ship..."

"Good job, captain, you've set a course to the alpha gamelan quadrant... we're heading towards them... You can see the distressed ship on you radar... But what's that you see? It's a solar flare headed right toward your ship!!!! We need to put up the shields right now!!! Press the button to put up the shields!!!!"

"Phew, that was a close one, astronaut! We're approaching the distressed space ship... you get radio contact with them..."
voice 2:"Help! Help! Our ship ran out of fuel, we need someone to save us!"
"Press the button, or go pee or poop in the potty, to save them!"

voice 2:"Thank you for rescuing us!"
"You saved them, astronaut! But our most important mission... getting pee or poop in the potty... should not be forgotten... press the button for another adventure..."

"Okay, astronaut, we're off to the planet Zoog to collect scientific specimens. Press the button to set a course for Zoog..."
button pressed:
"Steady there, trooper... we're passing the mergtaxial constellation... What's this?!?! It's an Octobot coming straight toward us!!! Press the button for evasive maneuvers!!!"
<lasers, etc. until the button gets pressed>

"We got away... but barely!!! Any time you feel ready, go pee or poop in the potty to successfully complete this mission..."

8. We will detect if the child goes (whether it be liquid or solid) using a thermistor (measures temperature). Once this happens, LEDs on the potty will start flashing and the child will hear encouragement/positive reinforcement:

"I sense this mission is being completed!!! HOORAY!!!!!! You saved the universe and got your pee IN the potty!!!!!!!!!!"
<horns, whistles, celebratory noises, clanging>

9. An absent parent will then receive a text message informing them of the accomplishment (or maybe an e-mail/some sort of message over the internet if that's more feasible?)

10. The removable potty receptacle will need to be cleaned and the process will loop back to step 1.

Components Needed:

- Potty training potty
- Drinking cup with removable outside casing
- "Docking station" to attach to potty
- A set of external speakers
- 2-3 FSR's (for the base of the potty,and maybe as the potty button)
- 1 Thermistor (heat sensor – to determine if the child has gone)
- 2 Switches (1 for the cup and 1 for the potty maybe?)
- many LEDs
- Tinfoil (so the drinking cup can complete the circuit)
- Cardboard