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**Final Paper |** Project B |

**Product|**

The product is a light-up toy gun with a microphone that can record a kid’s voice when he/she presses a button. The sound effect can also be altered using a pitch distortion knob. Included are three prerecorded sound effects that are available at the push of a button.

Imagine the possibilities. A child hears a gun sound from their favorite movie, and can speak it into the gun and imagine they are the hero as they pull the trigger. Also, children don't have to record gun sound effects; they can record other sounds as well. They can make fart sounds into the gun and suddenly, you have a fart gun.

**Process|**

***Empathize***

Children were more interested in activities that give them the ability to show their talents especially their ability to write and to draw. They were eager to be given the chance to do things by themselves and not tutored. Their abilities differ, though, when it comes to their cognitive and thinking talents.

Kids have different goals and behavior patterns at this early age. Some have constructive desires and others like to the idea of destroying things. While Ben was so constructive and leaned toward thinking and constructive concepts, Peyton was so keen in smashing and destroying objects (in our case play-dough). In fact, Peyton was concerned whether it was evil to destroy things.

From observing the children during the Firemen truck event (10/12/2010): (Some) children ask questions immediately. They are hard to keep focused. About 1/3 was focused and the rest lost interest after the few initial words were spoken. What kept them engaged were questions and things to show. Children kept looking back at us, observers, who stood behind them. All kids were engaged once cool stuff was being shown. They require specific actions that are requested and communicated to them to keep them engaged.

Children like to be asked questions and also to explain things to us. They like to show that they know something (like counting). If an activity is being done that they are not good at and someone else around is good at, they get uncomfortable and want to do something different.

***Define***

From our observations and grouping of common themes, we developed the following character profile for our product:

**Billy Thompson**

1. Age 6
2. Loves toy trucks
3. Likes making own sound effects
4. Likes doing everything his dad does
5. Helps his dad fix his car aka messes up his dad’s tools
6. Always likes to be the hero when he’s playing make believe
7. Has lots of energy: always running/wrestling, etc.
8. Anything can be a weapon aka a hanger could be a gun
9. Likes building forts
10. He likes playing with bugs
11. He likes to build stuff just to destroy it again
12. He likes to tackle his friends
13. Likes climbing things
14. He’s always making messes
15. Wants to be taller. Loves it when his mom measures how much he has grown.
16. He’s always getting into things he shouldn’t
17. He doesn’t want to be the bad kid. He wants to be good but doesn’t really understand what that means.

*We determined the following needs:*

1. Want to be adult like and do everything that adults do

2. He wants to do things by himself to prove that he is an adult

*From the character profile desires we formulated the following actionable problem statements:*

1. How might we enable him to do things by himself
2. How might we enable him to feel like an adult without giving him all the responsibility.
3. How might we allow him to use his imagine in his everyday play with a toy.
4. How might we make him feel like the hero.

***Test and Prototype***

*Questions we were trying to answer:*

1. If the kids are made to feel like adults.

2. If the kids feel like heroes.

3. Will the kids be able to use the product (is it user friendly and are the buttons placed where their small little hands can reach them).

4. How to implement the sound portion of the product.

*The insight user testing provided:*

-The kids loved using the sound portion of the gun and could fairly easily figure it out.

-The product needs to be a little smaller so the kids can more easily use it with their small hands.

-The kids liked the multi-colored prototype. The colors made it seem more like a toy and less real and gave them a sense of safeness.

-The buttons on the sound-making toy were too close together, so there was confusion about which button to press to record.

-The toy beeps once as you press and hold the record button, and beeps twice when you let go to communicate that the recording has ended. The auditory feedback of the toy wasn’t enough to communicate when the recording started and ended. There was a light on the toy that lights up when you record, but it isn’t visible when talking into the device. These problems are alleviated in our design, because the button to record and the trigger for playback aren’t right next to each other, and the whole gun will light up when the record button is depressed.

-One of the kids liked bazooka type guns that you hold with both hands and allows you to look down a sight.

-One kid started talking about toys that he owned that fight each other by spinning into each other. This was interesting because he seemed very excited about the motion aspects of those toys. He also mentioned how there were no sharp metal pieces on those toys, and that made him feel safer.

*What our next step will be:*

-How to put the sound portion into the actual prototype.

-If there is someway we can have the product have motion as well as light up.

-Redesign the gun to fit smaller hands

**Attributes|**

-Three standard sound effects prerecorded

-Ability to record own sound effects through the microphone

-Ability to distort the pitch of your own sound effects with the distortion knobs

-Lights light up as you pull the trigger