

Grounding Research and Concept Ideation

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MEDIUM

Crayon use is common art tool used by children. The standard crayon is the wax crayon. They are made mostly of Paraffin wax. These crayons do not use the best material because children use them, thus they need to sell cheap. When adding water-colour over top of crayon drawings the wax crayon resists the water paint, leaving your drawing looking untouched. I am sure a lot of people learnt about this in primary school as a way of teaching you to use different materials during art. You can use wax over top of dry paint so the next layer is resisted to get the layered affect.



We were asked to explore creative potential and interaction design challenges associated with producing creative robots. The main challenge is how could I make robots doing crayon drawings creative and interactive?

FOCUS

In order for robot interaction to be user friendly I decided to focus on human instincts. What would you instinctively know how to do? After reading "The Psychological review – The descent of Instinct by Frank A. Beach" my ideas about instincts were confirmed. It is said "man has more instincts than any other mammal" and "much of human behaviour is best understood as an expression of instinctive drives or needs". The childhood interactive game Hopscotch, came to mind. When you see those squares out in front of you, you instinctively know what to do. You want to jump on them. It is suggested that "instinctive behaviour is unlearned and differed from reflexes in that instincts depend on the pattern or organization of the stimulus" (The descent of Instinct). When you see a button in front of you, your instinct tells you to push it. When were we taught to push a button? These behaviours came from instinctive behaviour as children. You have a need to touch things and when something is sticking out you want to push it.

PULLING TOGETHER

I have two ideas I want to propose. Both are playing with the use of crayon and wax as a mark-making practice and both are playing off the idea of natural instincts. I want to work on a large area of interaction that produces a smaller work that can be taken home by the person interacting with the robot.

IDEA 1

INSPIRATION

Painting by Slumbers is a robot that records sleeping patterns and creates art by measuring heat, pressure and sound. The mattress is covered in thin grids and the robot receives the data and plots your movements on the canvas, creating beautiful designs out of your sleep lines.



The simple use of plotting movements in conjunction with heat and sound is an effective way of creating something unique to every user.

a white colour so the lines are not visible. Once the user is finished a brush of watercolour will be applied to the paper. The white crayon will resist the paint and your white lines will be revealed.



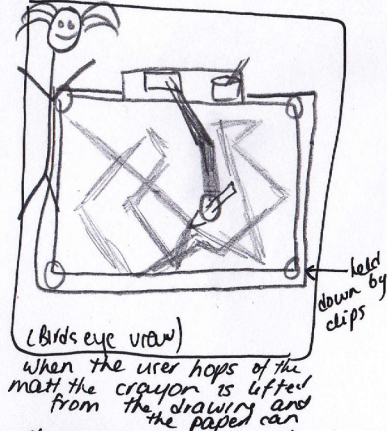
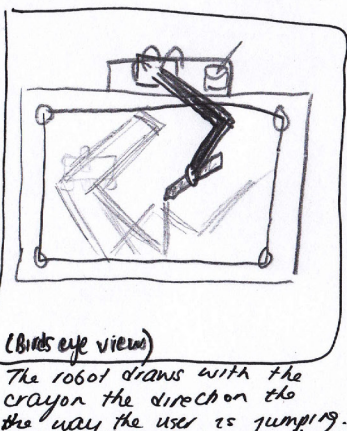
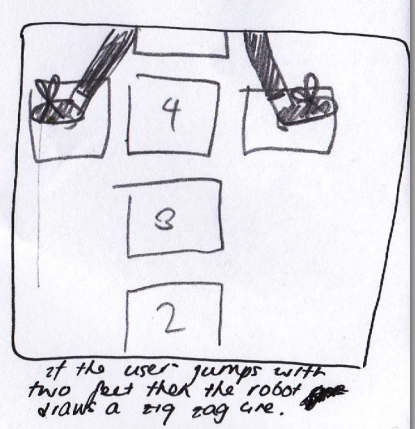
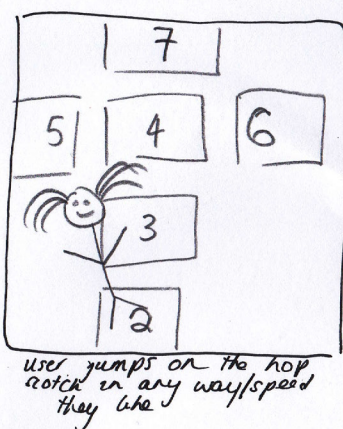
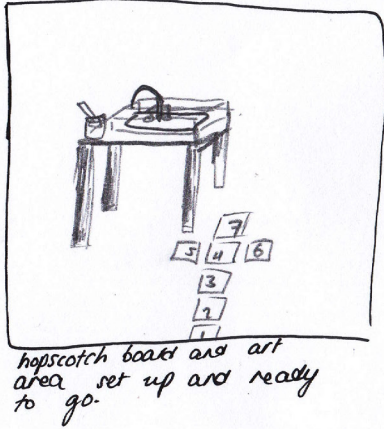
IDEA

My first idea involves the use of a large interactive area in which users instinctively know what they need to do to create their artwork without given instructions. A hopscotch area will be placed on the ground and a crayon attached to a robot will move depending on the pace and direction the user jumps. The longer they spend on a mat the longer the line will be. It will change direction depending on what mat they stand on and in what order. However, there will be an element on surprise for the users, as they will not know what her masterpiece looks like until she has finished. The crayon will be

SCENARIO

A user approaches the area with a prior understanding of how to interact with the design. The user attaches the piece of paper they are going to use to create the artwork. Place the crayon in the area in which they wish to start. The user then walks over to the hopscotch and proceeds to jump in any way they desire, taking as much time as they want too. Once the user is finished they walk across to the artwork and un-attach it from the pins holding it down. At this point the artwork isn't really that visible. The user proceeds to paint with their chosen colour to reveal the art work.

Storyboard 1



IDEA 2

IDEA

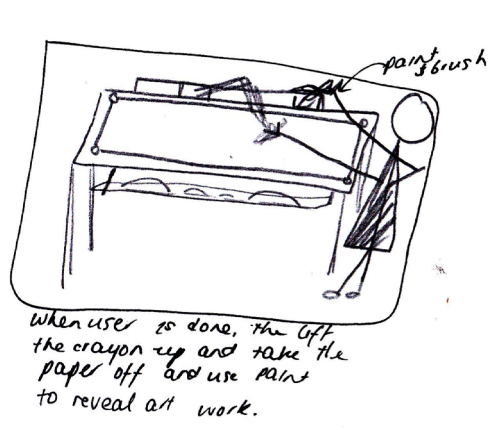
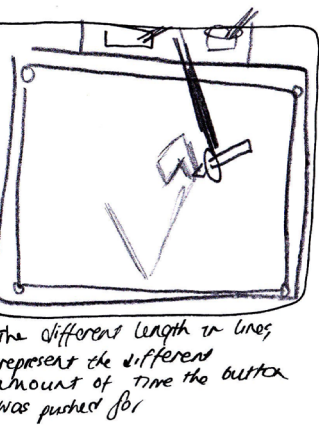
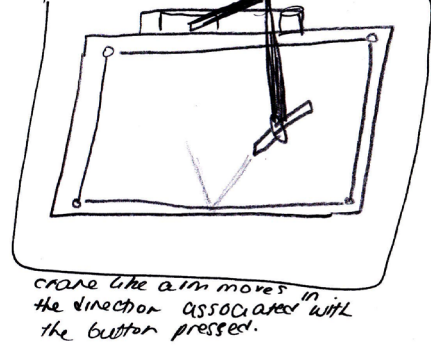
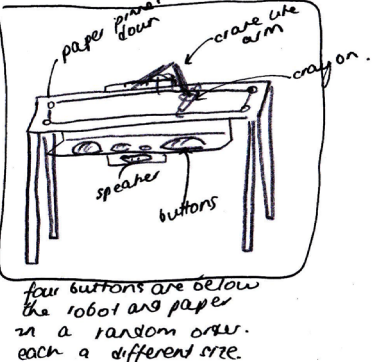
My second concept is a variation of my first one. It still uses the idea of instinct playing with crayon and wax as the medium of choice. However this time I want to focus on the use of buttons. Buttons can come in a range of sizes. If you saw a really big button and a really small button that would suggest that they produce different results when pushed. There will be four different buttons all ranging in sizes, however the different sizes will represent different directions. Instinctively you will know to push the buttons. The longer you hold down a different button the longer the line will be. However, in order for users to know this, each button will play a different noise. The noise will continue playing until the button is released. That way users will want to create tunes with it. Whilst playing with the sounds a piece of art will be produced in the background. Again the artwork will not be visible until a layer of paint is used to reveal the lines.

SCENARIO

The user approaches the set up and clips in the piece of paper they are going to create the artwork on. The user places the crayon where they want to begin the line drawing. The user starts playing with the different buttons in front of the robot and paper. Each button produces a different sound so the user plays around with them. Once she has had enough she unclips the paper from the board. To make the work visible she takes the watercolour paint and paints over it to reveal the line drawing.



Storyboard 2



CONCLUDING COMMENTS

Instincts are an important aspect in creating user-friendly interaction. Through the interactive techniques used, users get a grasp of what to do without having to read instructions or get confused. I wanted to focus on the way users interact with the robot rather than the art that is produced. If the user enjoys the process then they will want to use it again.

ARTICLE REFERENCE

Beach, F. 1955. A Psychological review. The descent of Instinct, Vol 62, No. 6, 401-409.