

Tool # 1: Television Remote**Description of original human tool and task**

TV remote control is a tool that has been designed for use by human beings. The shape of the remote is usually designed as per the hands of human beings. The buttons of the remote are very small in size and closely placed. The task associated with a TV remote control is usually switching through TV channels and operating the television. A human can start the TV, switch channels or change volume or other features of the television using the remote control.

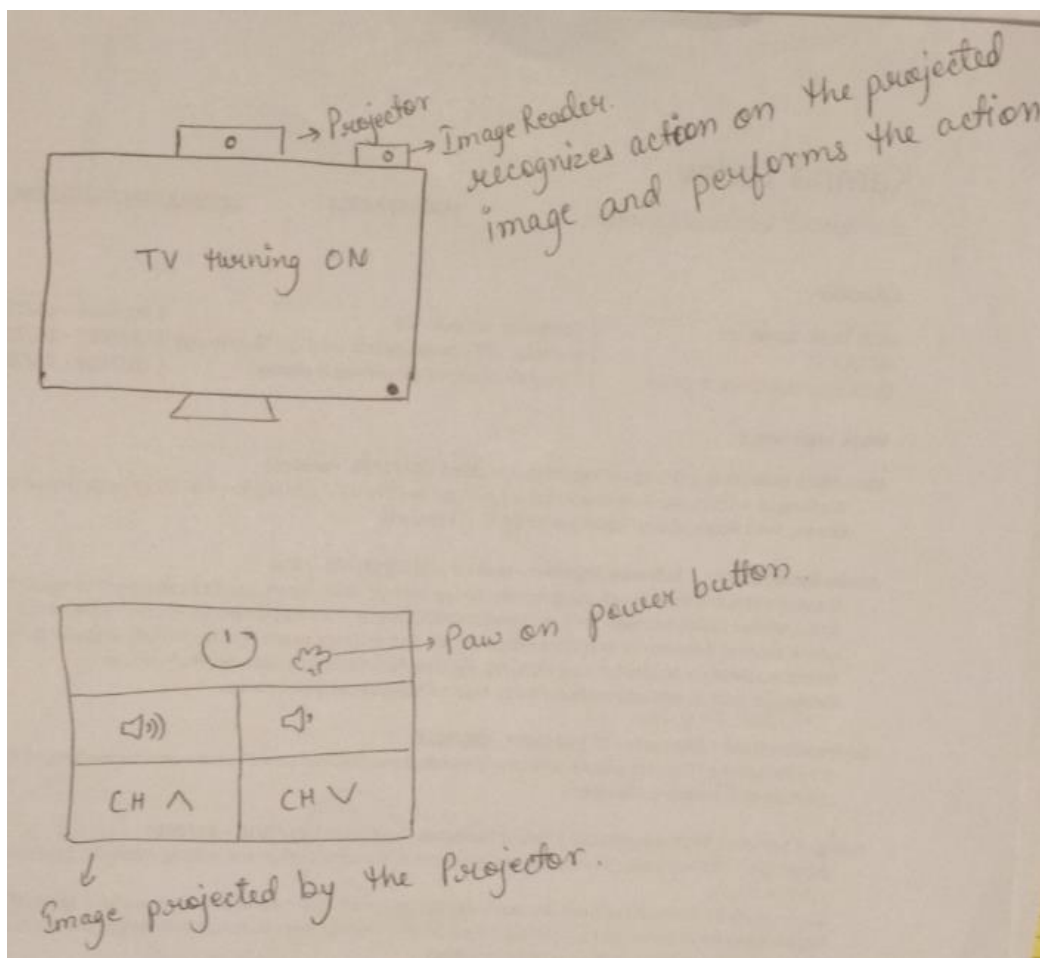
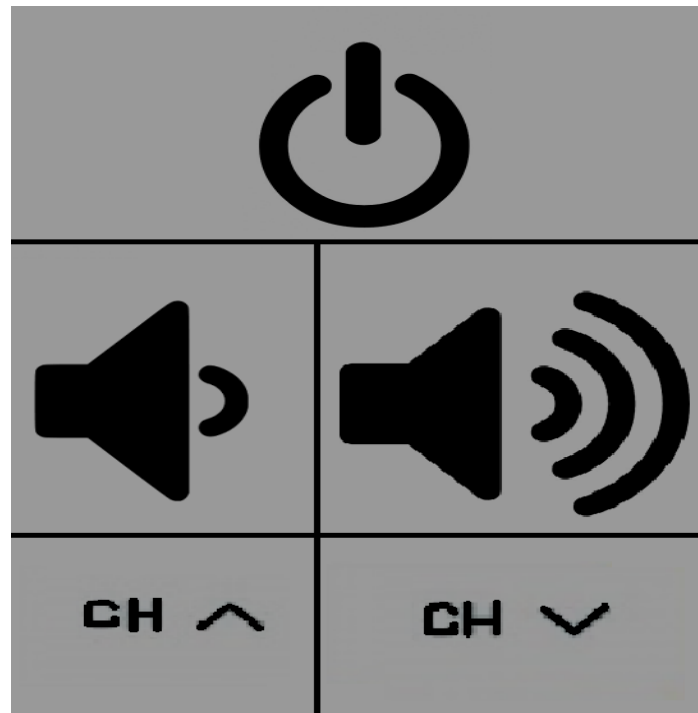
Name of animal & short description

Phoenix is a fun-loving unicorn who loves watching television. He lives with a kind family of four people (one couple and their two kids). His owners had to go out of town for some urgent family reasons. Now, our task is to design a remote control that can be used by Phoenix in the absence of his family.

**New tool to enable animal to perform task**

The new remote will be a big touch screen panel that would be projected from a small projector. It would have separate keys to change channels, turn the television on and off and to change volume.

Image of new tool to enable animal to perform task



This is the pattern that would be projected as the remote image. Whenever the user steps on any of the button image, the specific action would get performed. Since the size of the buttons would be bigger and customizable, the prototype tool would be usable by any animal with any sized paws or feet.

The tool would consist of a projector and an image reader. The projector would project the image of the remote control on the floor or carpet and the image reader/recognizer would recognize the button region being clicked and send the respective signal to the television set.

2nd animal that can use same tool and how



Our second character is Garfield. He is a family cat and is a couch potato. He too loves watching movies but his paws are too big for the remote buttons. He cannot press a single button at a time and ends up pressing multiple buttons. The new prototype can be used by Garfield without any issues, because the size of the new keys is customizable and hence is perfect for him. All he has to do is put his paws on the different projected remote buttons and use it as a regular television remote.

Discussion

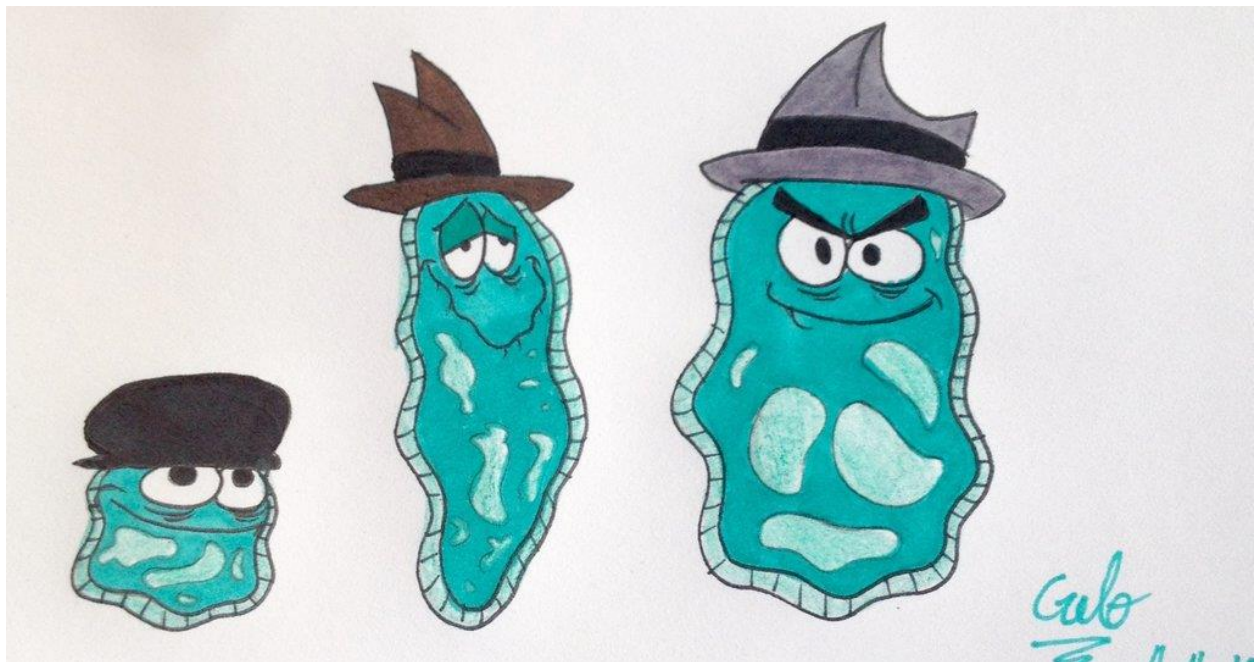
There will be no difference in the features performed by both the original TV remote and the new prototype remote. Both human & animals would be able to perform the various tasks regarding controlling the television in the same way. In the original remote control being used by human beings, the small spacing between the remote control buttons would make it difficult for the two animals to operate them effectively. That is the main reason why we had to design the second prototype, where the size of the buttons is much bigger and customizable by the remote owner. This is how we can make the television remote accessible to anyone with bigger or smaller paws.

Tool # 2: Car driving controls**Description of original human tool and task**

Driving a car requires seamless integration of a lot of tasks like applying brakes or accelerating as well as changing gears and handling the steering wheel at the same time. Human beings can easily manage all this with little practice with the help of opposable thumbs, hands and feet. But for animals that do not have opposable thumbs and are not capable of holding the steering wheel to handle the directions of the car, it's an impossible task considering the existing tools.

Name of animal & short description

The Amoeba boys are three amoeba brothers who love going on adventures and disturbing the Powerpuff girls. Their day-to-day tasks include travelling to different places in order to create chaos and to burden the powerpuff girls. But on some days it's really difficult for the Amoeba brothers to find transportation. They plan to learn how to drive. But the lack of hands and feet is the major roadblock in their way to learn driving.

**New tool to enable animal to perform task**

I intend to design a car that can be controlled using two joy sticks. The first joy stick would basically have the main four functions: forward, reverse, accelerate and brake. The second one would be used for directions. For starting the car there would be a start button and rest of the operations would be possible with the use of the two joysticks. The functions of the joy sticks would be as described below:

Joy stick 1:

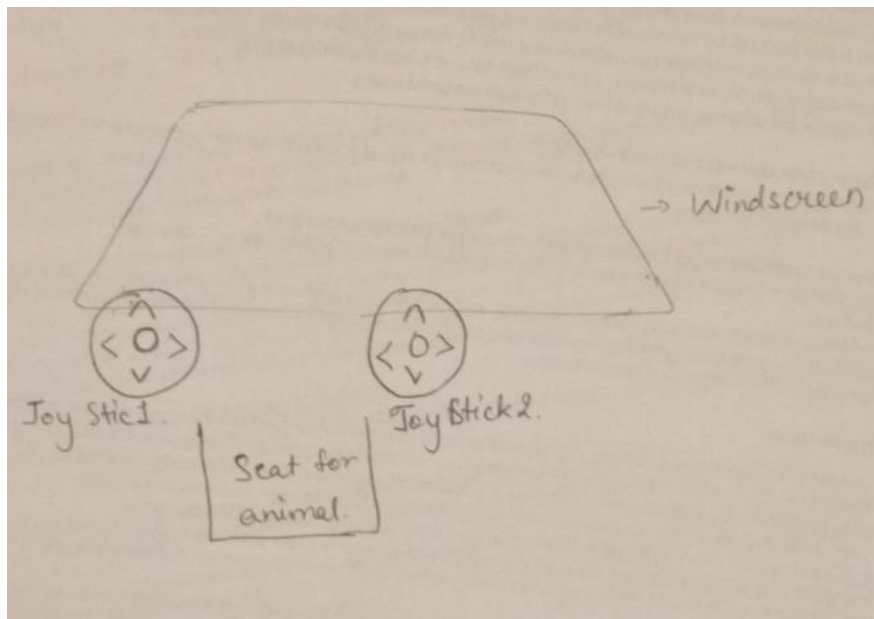
- Left: Accelerate
- Right: Brake

- Upward: Forward movement
- Downward: Backward movement

Joy stick 2:

- Left: Turn west
- Right: Turn east
- Upward: Turn north-east
- Downward: Turn north-west

Image of new tool to enable animal to perform task



The joysticks would not require the users to have thumbs or fingers. They can be pushed in either direction by applying some force and this makes them perfect for use by the Amoeba brothers.

2nd animal that can use same tool and how



Our second character is Snowbell, who's a house cat and has to drive the car to help his friend Stuart in escaping a gang of wild cats. Snowbell has paws and he can apply force and move things but cannot hold them. So, he would not be able to hold the gear or steering wheel but would be able to drive a car using our two joystick version. All he has to do is put his paws on the two joy-sticks and apply pressures in the respective directions to get the car to operate. He also, wouldn't require big legs to reach the brakes and accelerator since he'd be having the features near the dashboard.

Discussion

There will be no difference in the features performed by both the original car controls and the new prototype joystick controls. Both human & animals would be able to perform the various tasks regarding controlling and driving the car in almost similar ways. The original controls being used by human beings have been designed for people having long legs that can reach the brakes and accelerators and also people having hands with fingers to get hold of the steering to direct the car. But not all animals have long legs and most do not have fingers and capability of holding things. That is the main reason why we had to design the prototype joysticks, to make it accessible to everyone.