Design for Interaction – Lab 8: Device Design

Today's lecture looked at examples of device design based on the needs of specific user groups and analysis of the tasks the device would be used for. In this exercise, you are going to go through a similar process to develop a concept design for a specialised form of interactive device.

Robots are becoming ever more popular as toys for children, and are now being marketed at quite young age groups. Some of these are self-guided, and when activated will move around a room, automatically avoiding walls and other obstacles. Others can be remote controlled, and can be made to move in a specified direction as well as possibly carrying out further actions.

Your task today is to design a controller for such a robot toy. Your target market is pre-school children – age 3-4 years. They are likely to be playing with the toy under the supervision of a parent, at least initially. Your controller should allow a child user to supply the robot with basic movement commands (the exact set of commands is up to you), make the robot speak one or more phrases, and switch it on and off.

Your design solution needs to consider the following aspects:

- The overall shape and form of the controller
- Visual design aspects (colour, branding, etc.)
- The number and layout of buttons and other interface elements on the controller, their size, shape and general appearance
- The physical and cognitive capabilities of your target market.

This last issue is undoubtedly the most important. There is more to designing for a young audience than giving the device a garish colour. You will need to bear in mind:

- The target audience will have small and relatively weak hands and fingers
- Their reading skills may be extremely limited
- They will not be able to resolve logically any confusing elements in the interface

Using Word, Flash, or any other drawing tool – or even a 3D modeling package – create a mock-up of your controller design. You don't need to create a photorealistic representation, but it should at least be clear what controls are present, what arrangement they are in, and how they are labeled for the user. You should add notes and comments on the design where appropriate to indicate the thinking behind it and the purpose of the various features. Include information about the physical size and weight of the object, as well as the materials it is made of. These will be important considerations for ensuring that the device is suitable for the intended audience.

Show the design to your lab demonstrator who will give you some feedback on it. You should retain your design for future reference. If you wish to use this exercise in your assessed portfolio, you should turn your design notes into a short discussion document explaining and justifying the various design features you have included.