Individual Assignment #1

Good Design: Arctic King 5,000 BTU 115V Window Air Conditioner

I consider it is a good design because it is very easy to use. Every function is clear on it.

Conceptual model: This air conditioner is mounted on the window. After power on, users can select the mode through the button to effectively cool the room in a small range. User can select different model such as "auto" or "save energy", change temperature, and adjust fan speed.

Affordances: This air conditioner has a power cord which is used to connect power, a small display for temperature and time, and some buttons for changing mode, temperature, time, and fan speed.

Signifiers: Every button is labeled clearly, for example, "on/off" button means changing the power condition, "+" button means temperature up, and "-" button means temperature down.

Mappings: the air conditioner does really well on natural mappings, since after I push "+" button, the temperature goes higher, and the temperature goes down after I push "-" button.

Feedback: Push power button to turn on the air conditioner. Air conditioner starts to work, and display turns on. The current mode is shown by a little green light beside the name of mode list. After pushing temperature change button, the number on the display will change as well. After pushing mode button, the mode light will move to current mode.

Constraints: Temperature and mode setup only can be done one by one; users cannot jump set the temperature from 60F to 70F.

Bad design: Casio FX115ESPLUS Scientific Calculator

We use scientific calculator to help us compute complex math problems. I consider it is a bad design because it hardly provides a good experience to me.

Conceptual model: The calculator is made out of a collection of physical objects. In the calculator each taken was either a Numeral, an Operator, or a Function. Users can push buttons in a certain order to calculate.

Affordances: The calculator is presented as a simple user interface that includes a small display and many buttons that represent as different numbers, operation symbols, and functions. Sometimes it is even difficult to find the button I want.

Mappings: the calculator does a good job of natural mapping since each button corresponds to a unique number, an operation symbol, or a function.

Feedback: Pressing the buttons that shows numbers below the display yields immediate feedback. However, if users press operation buttons without pressing number buttons first, the display will show nothing. If you press button in an unexpected order, the calculator will show "ERR".

Constrains: the calculator cannot show the process of the calculation, if users press a wrong button and get the wrong answer, he/she will not know the mistake happened in which step. In addition, we cannot make any changes after we press the button, only thing we can do is to clear everything and do it again from the beginning. The calculator strictly follows the standard mathematical operations order rather than the order of daily use, for example, if you push buttons in the order of "3+4*2", you will get the answer 11 while probably you expect the answer 14.

Augmented design: Portable Magnetic Stripe MSR90 Credit Card Reader

The arrow is added on the card slot to facilitate the user to know the direction of swiping the card. Some card readers even add a picture of cards, that makes user know the right side and the right direction of swiping the card.

Conceptual model: The card reader is a simple mode, in which a card with magnetic stripe is brushed to record data. Then, the program currently running on the computer acquires the data and processes it.

Affordances: This card reader has a USB port which is used to connect computer and transfer data. There is magnetic sensitive head on the card reader and a magnetic strip on the card, which need to move mutually to transmit data.

Signifiers: the card reader has a groove to indicate the direction of the card. Direction mark are added to let users know which direction the card should face when inserted.

Feedback: The reader is connected to a display that displays a message indicating success or failure after swiping the card. Users can easily know whether the card has been read successfully or not. Sometimes it also shows the failure type.

Constraints: When swiping, the card must be placed vertically along the long side. Enough space must be reserved for users to swipe their cards.