Assignment 23 Due Monday, 25-Nov-2013

Project: Design a One-Piece Housing of An Interface Used to Control A Robotic Camera System

The following items will be included inside the housing

Qty	Description	Info
1	433 MHz RF Transceiver	http://parallax.com/product/27982
2	2-Axis Joystick	http://parallax.com/product/27800
1	3.2" LCD Touch Screen Display	http://parallax.com/product/28083
1	Surface Mount 2 Position Slide Switch	LINK
1	P8X32A Propeller QuickStart	http://parallax.com/product/40000
1	850mah 3S 25~40C Lipo Battery Pack	LINK

The housing will contain all of these items listed above. Your housing should be very similar to the examples demonstrated in class and the two projects you created earlier (dental floss enclosure & KK2-to-SPT100 Mount).

The goal is to create a single part file representing a 2-piece housing that will accommodate all of the items listed. The steps involved in creating the part file may involve the following:

- Define body of housing
  - Create a shape that provides high-degree of functionality
  - Placing emphasis on aesthetic value is worthwhile, however, ergonomics and similar design considerations are critical to the success of this project
- Use the shell feature to make the housing hollow (required - use a 1.5 mm wall thickness)
- Remove areas enabling unconstrained visibility/use of components
  - LCD panel, joysticks, transceiver antenna, and 2 position slide switch
- Split the single part into two pieces and define joining features to insure a secure fit when the housing parts are assembled (normally, this is what would occur next - we will not perform this step during the intro class but I want you to understand this process often used "in real life")

During normal use, the operator will use both hands to hold the device, activating the joysticks using each thumb. The LCD panel must be visible when using the device in normal operation. You should provide enough interior room so all items fit inside including cables & wiring. At this point, your early concept model will not consider many additional details such as battery access, adding a port for recharging the battery, mounting/securing the components inside the housing, and so forth.

You will present your project to the class on Monday, 25-Nov-2013 (this will count as your Quiz 4 grade - no make up available). You will also be submitting this single part file and a drawing of the project (include the same content as other drawings submitted: include 3 orthographic views, 1 isometric view, necessary dimensions, and a note indicating a suitable material for these injection molded parts --> LINK) Although not required, you may have an interest in creating photo-realistic renderings of your design - if so, please include these when submitting your project via D2L.