IAT 336 Final Assignment
October 27th 2008

Background:

Electric lighting has become so integral to the fabric of everyday life that we often don't think much about flicking a switch to illuminate a dark room. Ironically, electric light has only been around for about 125 years. In that relatively short period of time, engineers, designers and architects have gone to remarkable lengths to extend the functional and aesthetic abilities of the electric light. With this evolution of the electric light has also come an endless array of unique design solutions from table lamps, to wall sconces and sculptural hanging lights or chandeliers. *(Fiell, 1000 Lights, Taschen, 2007)*

Task:

In this assignment, your team will be assigned with designing a LED-based lamp by picking **one** of the following categories: **(1) Hanging (e.g. wall sconce) (2) Sitting (e.g. table lamp, mood lamp) (3) Suspended (e.g. ceiling lamp)**

Context:

The context is up to you, but your lamp should be able to stand out in an indoor space/room with minimal ambient light (e.g. no windows).

Considerations:

Your design must designed considering the following:

1. Innovation - Your design should be new.
2. Quality of Experience - Fun, Pleasure, Soothing, Comfort, etc.
3. Aesthetics
4. Material Experiment using 3D printing, Laser Cutter, Power tools, or Sewing Machine.

(1) Aesthetic/Functional

-Intensity of light (how bright?)
-Adjustable (e.g. light housing swivels)
-Honesty of materials
-At least one major part built on 3d printer or laser cutter

(2) Technical

-Use LEDs - Super Bright LEDs, High Powered LEDs, LED bulbs, LED strips, etc.
-Use Batteries or Power adapter (If you use batteries, you have to design a b

battery box for changing it)
-Use 9V or 12V
-It's okay to use existing lighting hardware (e.g. LED array from IKEA)
-You can adapt existing switch-gear
-You will be graded on how clean your circuit is. Avoid electrical tape and use solder .
-Wiring should be hidden unless it is for aesthetic purposes.

(3) Options
-Programmable microcontroller if it enhances design
-Sensors for input (e.g. on/off/intensity)

Deliverables:

Week 10:

1. Sketch or Illustrate your Design in the following ways **(Due: Week10)**
   - **How it looks**
     - Use illustrator, Photoshop or other graphic program in order to illustrate its look.
     - Include different view such as front, side, top view in order to illustrate a concept sketch
   - **How it is used**
     - Illustrate how it is used
     - Input (how a button works)
     - Output (how a light turns on and stays on)
   - **How it works** - Illustrate its Functionality
   - **What is its story** - Create a short story or scenario for your concept and illustrate it in storyboard form
     - Users
     - Environment
     - Time

Week 11: Mid-Critique:
-Low-fidelity prototype (e.g. foam core)
-Work timeline: when you will need Solid Space
-Specified electronic components for switch and light (bring samples)

Week 11-14: You must schedule time for your team in Solid Space

Final Deliverables: (Week 14)

(1) Final Poster with SolidWorks rendering and description
(2) Functional model (it has to work!)

Grading Breakdown:

Research Poster: **5 marks**

Mid-critique: **5 marks**

Final Project: **Worth 20 marks**
-Poster 5
-Model 15

Percentage: 30% of grade or 30 marks