

Reverse engineering of a pen analysis



**ASSIGN
BUSTER**

Com long and very slim but wide enough to perfectly fit into the coil. 4)

Inside Framework- The inside framework can be called the cap that sticks out of the top of the pen. The part one pushes to click the ballpoint in and out of the pen cylinder. 5) Rubber Grip- The rubber grip is rapped around the outside of the bottom end of the plastic frame. It is used to give the user grip and comfort when writing. In the above picture every part of the pen mentioned in the requirements section is labeled so one could use it as visual guide while reading the acquirement.

Problem Statement Design a cost efficient, light, and comfortable pen that writes smoothly. Plastic is used because it is cheap, light, and easily manufactured. The pen must use a mechanism inside the plastic frame in order for the ballpoint body to easily come in and out Of the frame. The mechanism must include a coil that retracts the ballpoint body back into the frame when the cap is clicked. The inside framework must also have mechanism that locks the ballpoint (out of the frame) and ballpoint body in place when it is being used to write.

Functions) Provide Ink 2) Screw and Unscrew 3) Retract 4) provide comfort 5) Clip Embodiment a) The pen has to always provide ink through the ballpoint in order for it to serve its purpose of writing. 2) Screw and Unscrew a) The top and bottom of the plastic frame or container must screw together and unscrew apart in order for the ballpoint body to be replaced when it runs out of ink. B) The top and bottom of the plastic frame or container must screw together and unscrew apart in case there are any malfunctions on the inside of the container and need to be repaired. Retract a) The ballpoint body must retract back into the body in order for the ink not to spill or dry. B) The

coil mechanism must be used so the tension released by the coil when pushed down by the cap makes the ballpoint body retract back into the plastic container. 4) Provide Comfort a) The rubber grip is placed around the plastic container to provide grip and comfort. 5) Clip a) The clip attached to the outside of the top plastic container is used to clip on to an object so it is held in place when not in use; for example: a shirt pocket.