Evaluation of a Kodak Single Use Camera
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A.

**Viewfinder**: A clear piece of plastic found in the top of the camera. The functionality of this aspect allows for the camera user to orient the camera in such a way that the image seen through the viewfinder will be the image recorded onto the camera film strip.

**Film transport & counter mechanism**: The film transport is the cylindrical black box that contains the film. Once the user has taken all the pictures available per use the function of the film transport shields the film from sunlight. The counter mechanism found on the top of the camera is part of the gear system which notifies the user how many pictures the film will allow to be recorded at a certain moment in time.

**Electronic Flash**: The flash is a halogen bulb powered by the energy cell. It is in the front of the camera allowing for light to illuminate the view recorded when there are low light conditions. A button on the front exterior of the camera must be held down to activate the flash function.

**Energy cell**: The black small cylinder that is connected to the electronic panel which is charged by the battery. A button on the front exterior of the camera signals the cell to accumulate energy and once the cell is charged it gets activated to release all the energy it had accumulated so it can give the enough energy to the flash to achieve a high brightness.

**Outer Housing shell and internal frame**: The outer and external frame are the three black pieces of plastic that hold everything together in the camera such as the electric system, optical system, and mechanical system.

B.

The mechanical system serves allow the electrical, chemical(film) and optics system to work together within the camera to allow for photos to be taken. First the entire film is outside the container on the right part of the camera. In the other side is the film container. Every time we want to take a pictures we have to move the film with the help of the gear to the correct position of the film; moving the film to the right into the film container for storage. All this happens with the help of the gears which will lock itself in the exact position for the film to be oriented so that a photo may be taken. Once the film is in its position, a button on the top of the camera allows the user to activate the shooting mechanism. The shooting mechanism opens a breach between the film and the lenses, so light can get into the film (a chemical process). The film 'saves' the photons of the light that comes from the view that the user wished to record. Also, when we press the button to take the picture the flash, if it is charged, is expressed.
The electrical mechanism functions to shot light every time we take a picture. This works when we press a button in front of the camera. The button signals the battery to transfer energy to the energy cell where it is accumulated. Once we have all that energy accumulated and we press the button to take the picture, a bridge that the mechanical system creates interconnects the energy cell with the bulb, releasing all the energy that we had accumulated. The energy that is released makes the bulb react creating light to illuminate the view.

Every time we move the gears to take the next picture, the camera is rolling the film into the film container so once the customer has taken all the pictures he can open the camera and take the film for processing to generate the pictures.

C.

The camera is made principally of plastic. The Outer Housing shell and internal frame as well as the lenses, the film container, and the mechanical gears are made of plastic, there are also metal parts such as the springs that make the mechanical system work and the electrical compounds. The bulb is made of both glass and metal. The battery is a mix between acids and metals. The photography film is made of plastic. The way the camera is assembled is not complicated. It is designed so customers are able to take the film out in an easy way once they are done taking pictures with the help of a small flat screwdriver or long nails.

E.

Kodak recycles all they can melting down both plastic and metal parts. The majority of the plastic is recycled into the single use camera manufacturing. The metal is classified and melted down for reuse according to its ability to function both in Kodak goods and third-party utilization. The battery is recycled as well as the lead wrapping paper. Some electronic components, if they work, may be reused as the energy cell in new Kodak single use camera.

F.

The Flash Button

The specific aspect that we sought to redesign is the flash button of the camera. The flash is found in the manufacturing step of the life cycle. It is made by placing a button on the motherboard and is activated by pressing a button that is connected to the housing of the camera; two layers of buttons connected to each other. This flash feature is not recycled or reused as often because the motherboard of the camera isn’t always reused or recycled. The flash button was made this way because it was convenient to place the button directly on the motherboard being easy to access. The flash button can be redesigned to be placed in the back of the housing because it would be much easier for a person to press the flash button right before they take a picture. Having the flash in the front of the camera can be confusing to some possibly resulting in the user having to search for the button since their view will always first be focused on the back exterior of the camera.
Procedure

1) The camera that we have is the Kodak recycled camera with a flash. The only special feature of this camera is that it comes with a flash to help take pictures in low light situations. The approximate cost is about 10 dollars.

2) The packaging contains two cameras in a box and the cameras are wrapped in a silver protective lead wrapping in order to protect the camera from X-ray radiation during transportation from manufacturing in China to the United States. If it were produced inside the U.S. it would not need to have the X-ray protective lead wrapping.

   The instructions given are clear and the camera itself in not difficult to use. There are 2 buttons, one to charge the flash when it is needed and the other one to take the photo. There is also a gear that rotates the film. A gear that shows the number of photos remaining for storage in the film strip exists in the top of the camera as well.

6) The viewfinder has two plastic lenses made out of plastic. The lens is small piece that goes above the other lens. The shutter is then pulled back by a spring and is ready when the trigger is pushed releasing the shutter. Then it hits a piece of metal that is connected to the motherboard that closes the circuit which makes the flash go off. The film is right behind the lens so when the shutter moves light goes through the lens and the image is projected onto the film. Then the gear that moves the film moves and winds the film into the holding container for the next photo.
7) The joining method of the housing is just snap on; there are no screws. This is made this way because it is easy to open the frame. After the film in the camera is used up, the film has to be removed from the camera, so opening the camera has to be easy for the person using the camera. The components are used from polystyrene plastic mostly and the electrical parts are made out of metal.

8) Putting the camera back together was difficult because some of our spring and plastic pieces deformed upon disassembly. Therefore it wasn’t possible for us to put the camera back together in working order.

9) The design of this camera is very simple and not complex like a multiple use camera. This Kodak camera is made from plastic which isn’t as strong as the metal components used to make multiple uses cameras. The Kodak camera was made to be taken apart and recycled unlike regular cameras which are built to last longer and take higher quality pictures.

10) This design of a camera is perfect for reusing and recycling because once the consumer finishes using the camera most of the components can be reused or recycled. The person can easily take the camera apart to access the film and also can be snapped back together as quickly. It iss easy to assemble in the manufacturing process because there aren’t a lot of complex parts to the camera.
Inner Structure and Film Container

Inner Structure