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ARTS486
Project 1: As We May Rethink
Functional Specification
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CAMERA OF THE FUTURE

Scope

The goal for this project is to create an original design of a product inspired by only a rough concept outlined by Vannevar Bush in his article 'As We May Think'. The final product design should merge scientific thought with visual creativity and successfuly reflect the goals proposed by Bush himself; of advancing technology for the sake of bettering humanity. In this case, the product being designed is the Camera of the Future, the original concept of which was illustrated essentially as a way to make photographer one with their camera. This product would ideally eliminate the difficulties associated with taking photographs at the time it was thought up, these difficulties being not limited to heavy equipment, manual focusing, and a long processs of photo development. To begin the design of this camera, we must first address each problem indiviudally and draw up solutions that will be cohesive when considering the product as a whole. While it is important to stick with the strategy of form following function, we must also keep in mind that a significant factor in this product is size and one of the major functions the Camera of the Future will serve is to be easily portable and able to comfortably attach to the body of the user.

Solution Overview

One of the most noteable issues involved with traditional camera use is that of portability in relation to size. To address this problem, the Camera of the Future will be able to attach to the head of the user, in a way becoming a second set of eyes that are able to capture anything in the one's field of vision. This will eliminate the need of carrying and positioning heavy equipment. The camera will be connected to a handheld device -that the user will squeeze when they want to capture a photograph- with a cord that runs seamlessly through the sleeze of the user. The user will also wear a pair of auto-focusing glasses which will have a small square in their corner that lines up object to be photographed when the user is facing it. This camera will also differ from those used traditonally in that it will employ the technology of dry rather that wet photo development.

Requirement Specifications

The Camera of the Future will essentially increase speed and efficiency within the photography process. Along with the head-mounted camera itself, the user must also wear a pair of focusing glasses that will automatically frame and focus images. In this way, much of the physical and manual labor that was traditionally required is eliminated and the user is really immersed in the product interface itself. The camera will include an auto-winding spring to reload film, automatic exposure, as well as two lenses, enabling it to produce stereoscopic images. Additionally, it will eliminate the long development process associated with wet photography, as small physical prints will be created instantly for the user's reference.

Use Cases

1. attach camera to head with a fastening band, positions cord to run through sleeve, and hold the shutter device in the hand of their choosing.
2. put on focusing glasses
3. survey surroundings, face head/body in the direction of the object you would like to photograph
4. position head so that the object is framed in the square that is located in the corner of the focusing glasses.
5. allow for camera to auto-focus and to automatically adjust exposure.
6. squeeze handheld device to capture image.
7. allow for camera to output image and store safely.

Non-functional Requirements

One problem that might arise when imagining a head-mounted camera is that of comfort. To address this, the bottom of the camera should be made out of a flexible material, such as rubber, so that it may mold to one's head shape and not cause any pain or discomfort if worn for long periods of time. Additionally the physical design of the handheld shutter device should include ridges molded to the shape of fingers to increase comfort and so that the user does not have to reposition their hands at all in order to take the photo, rather they just squeeze and release, and the image is captured.