Aventyr
Design Bums

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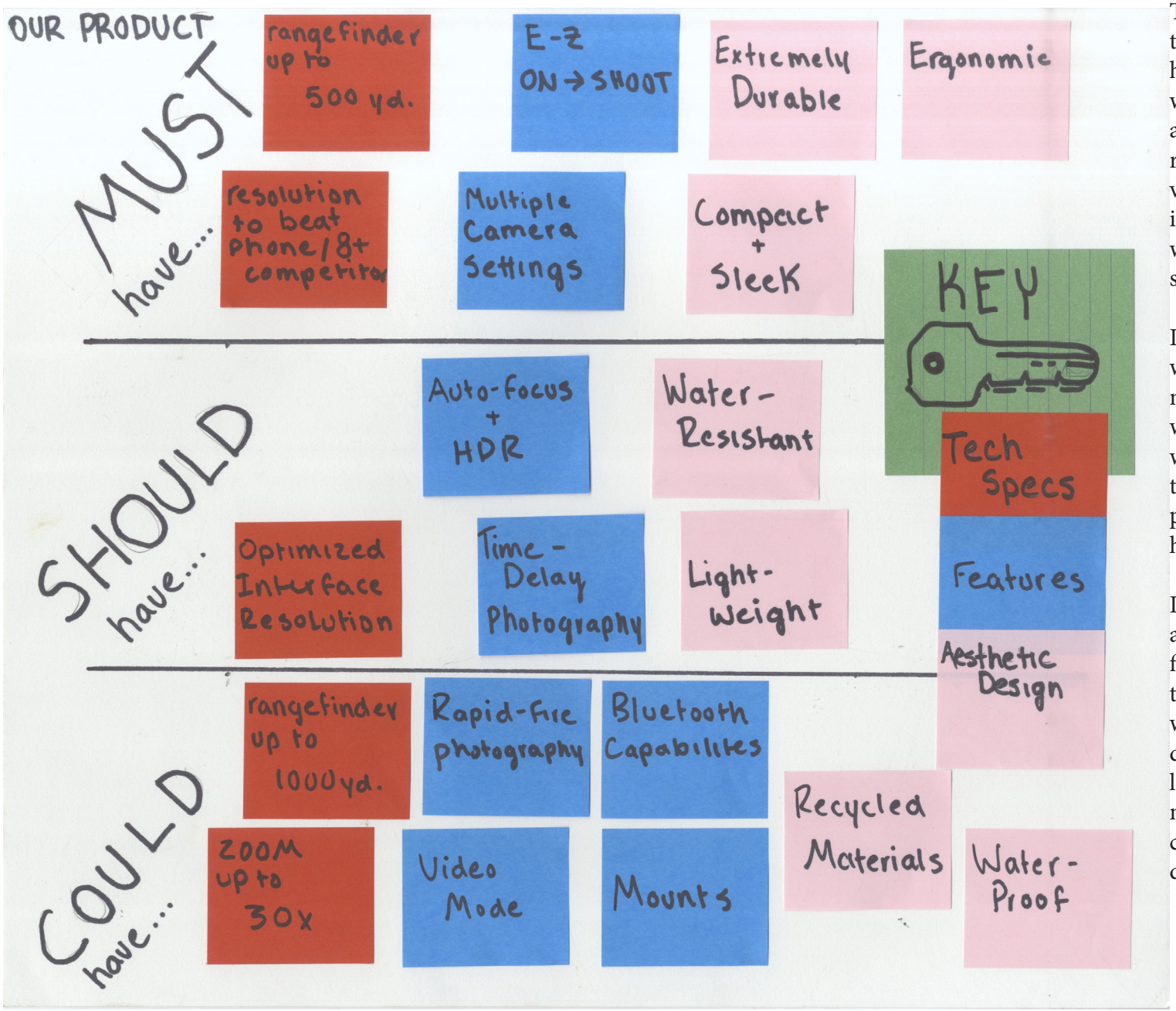
Project Statement

The goal for our project was to create a high intensity outdoor camera that was easy to transport, durable, ergonomic and able to incorporate multiple functions within a single form. The incorporation of a rangefinder and high resolution flash-light eliminates the need to take up more space then is necessary when in the outdoors. The unique selling point of our camera comes from its innovation in outdoor design. The outdoor gear market is shifting towards, light, compact, multi functional tools that can help eliminate space in order to increase function and productivity when in the great outdoors. In our design we incorporated a range finder in order to to be able to navigate more efficiently in the backcountry without taking up unnecessary space. The high resolution flashlight that is integrated in to our camera is combined with the flash to create a duel function and helps eliminate space. We also created a special camera function called Wildlife Mode that would cause the camera to enter silent mode, focus faster and also take multiple pictures within a single click of the shutter.

NOT ONLY WILL OUR CAMERA REFLECT WHERE YOU'VE BEEN, IT WILL HELP YOU GET THERE.

Hierarchy of Objectives



These items are what our group thought our design HAD to have in order to stay true to what we wanted it to be. The ability to change settings while remainings a small items was very important to us. Remaining very durable and easy to use were alsokey ingredients to the success of our design.

In a perfect world our design would have all of these features naturally. Remaining lightweight and water resistant to us were the most important things that it should naturally incoporate in order to fit in to our hard core backcountry mold.

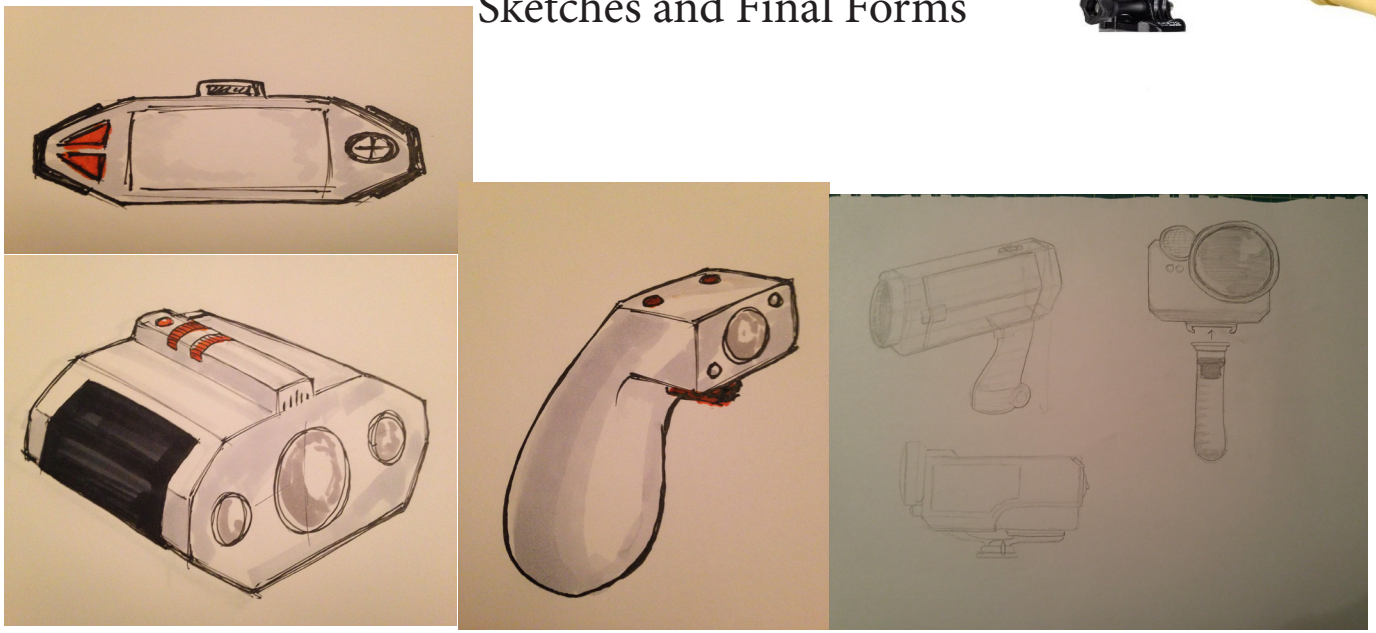
If money were not an issue and more time was available to figure out a way to incorporate these efficiently this is what we would have added to our design. Making it waterproof, long range and out of recycled materials would help shape our camera in to the perfect outdoor enthusiast tool.

Aesthetics and Designs

We decided that we wanted our form to be able to function one handed so that the user could focus more on the experience around them rather than on the object they are using. In order to do this we experimented with many forms that focused on the use of the hands more than anything else.

Form inspirations

Sketches and Final Forms

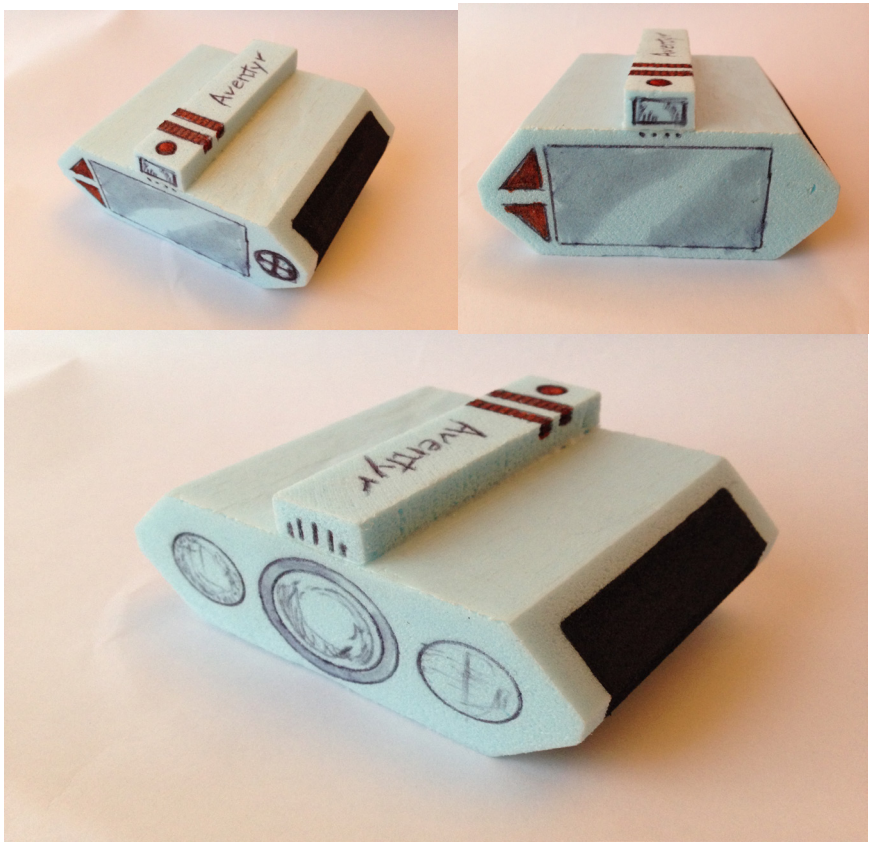


Our design is very compatable with the average hand. It is shaped in the form of a binocular in order for easy one hand use and the necessary camera functions can be accessed with one hand, allowing for multi functionality when using the camera. The zoom and shutter at the top of the camera are placed close together so that the fore finger is able to operate the shutter while the middle finger can operate the zoom. The shape and placement of these buttons allows for one handed function.

Product Specs

Dimensions

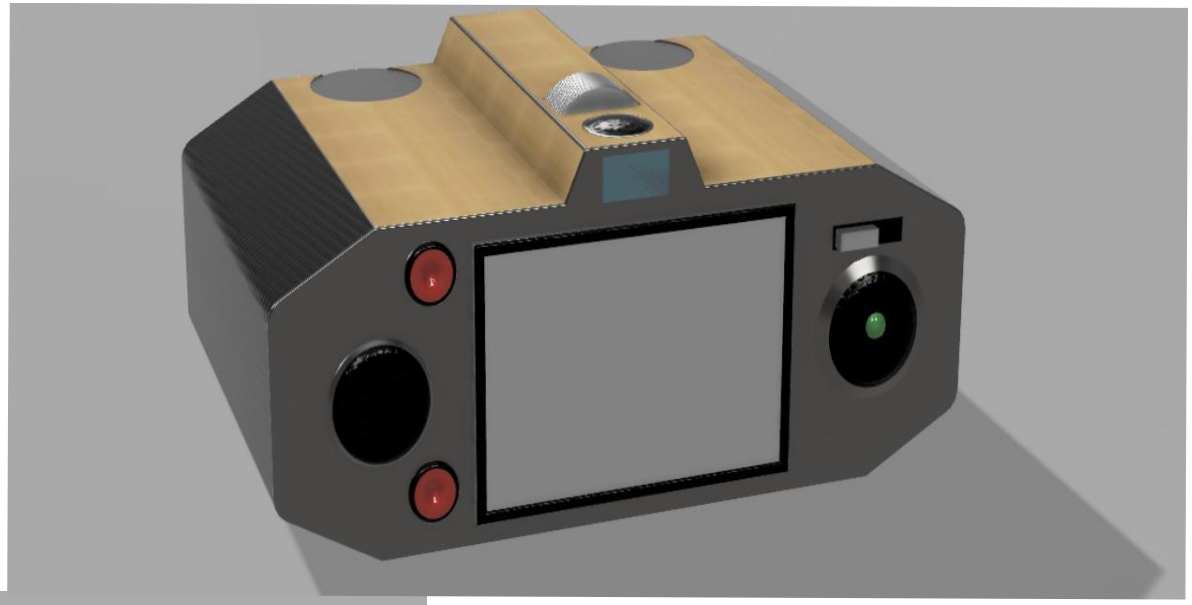
4 inches wide
3 inches long
2 inches tall



Technology Used

Rangefinder
160 lumen flashlight
50 mm lens with optical and digital zoom

Final Form

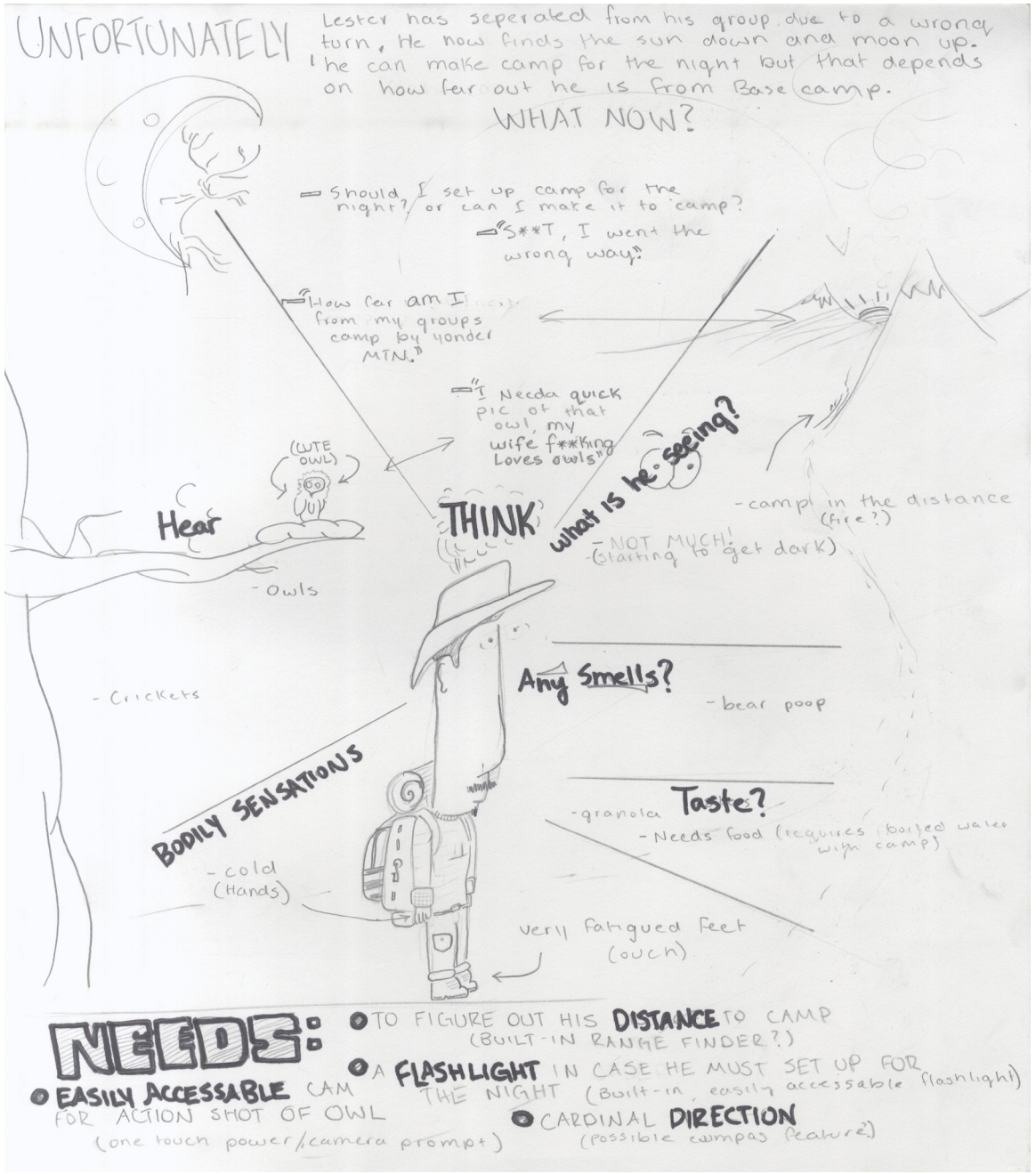


Materials Used

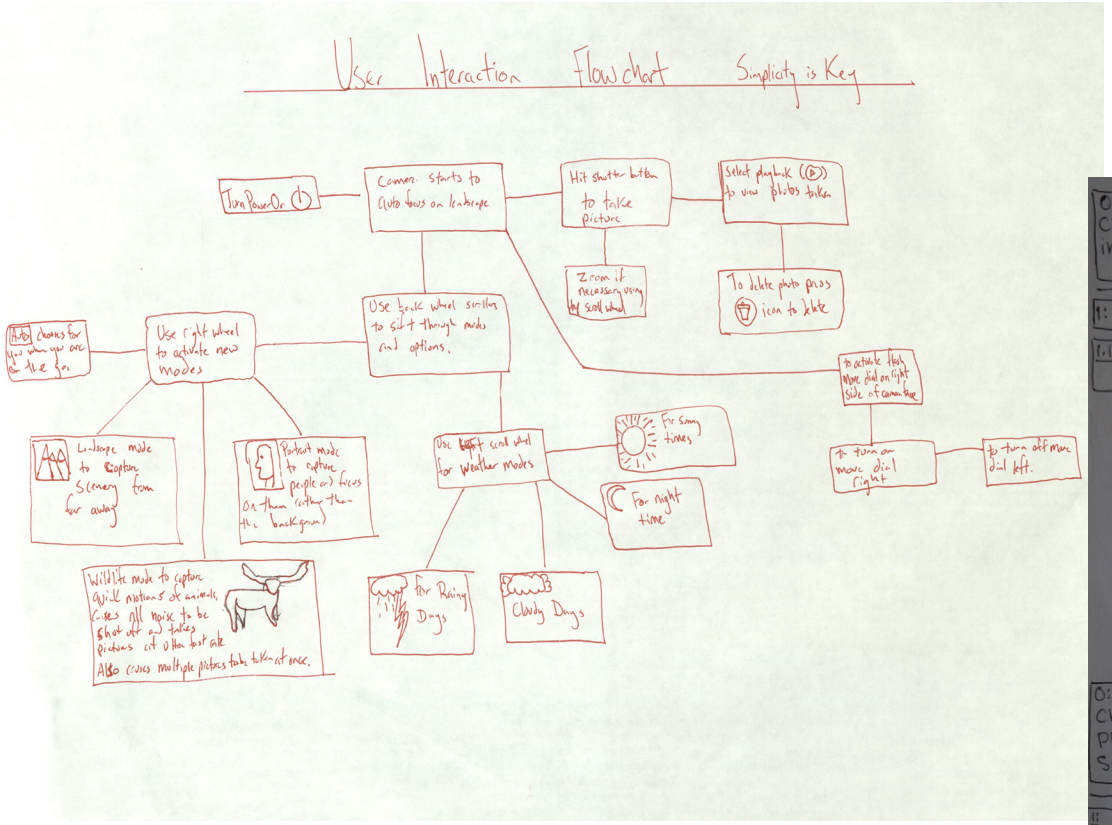
Vulcanized Rubber
Titanium alloy
Bamboo Accents

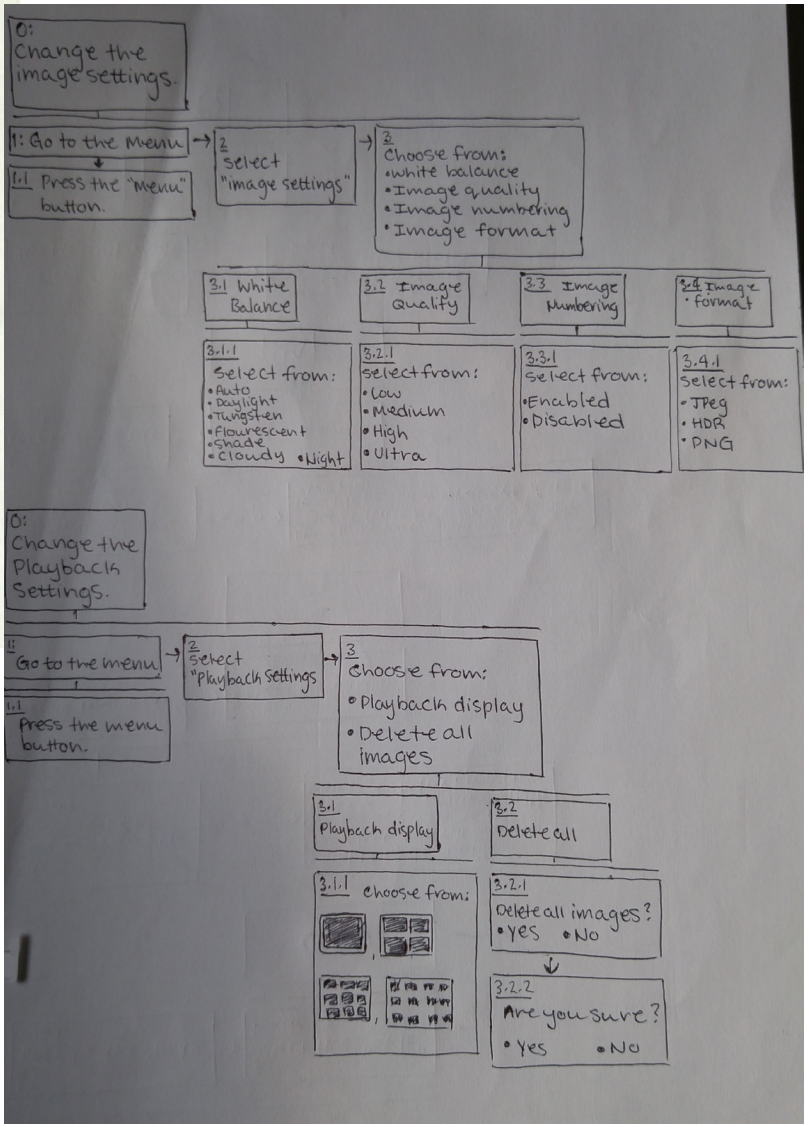
User Scenario

Lester



User Product Interactions





Evaluative Research

For our usabiitity analysis we showed our various designs to four other product design students that we thought could efficiently assess our designs. We took them through 3 different usability evaluations that we determined could help shape our final form and functionality. Our main question that we wanted to solve was what makes a camera ideal for outdoor use? To do this we figured that the form of the camera would take a large part in this because having a compact, durable and ergonomic form while in the back-country is very important in order to be able to be able to concentrate on the things around you rather than the object that you are using.

We found that throughout our tests the buttons were too close together and would not be able to function with gloves on. In order to fix this we tested moving around the buttons and seeing what our users thought of the results.

We experimented with multiple forms but our main forms were that of a hand-gun and binoculars, both common out-door pieces of gear that can be used with one hand. We found that the gun shape was not as convenient when trying to function with the things around you in your environment, nor as comfortable with the one hand because of the bal-ance of the object. On the other hand the shape that replicated the binoculars seemed to be much more convenient for the user and allowed the user more function with their environment, while also matching the aesthetic we were hoping to achieve.

For both of our tests involving the four product designers we had them analyze a model that we handed to them and recorded the results. We had one person specifically pay attention to how the user handled the form while the other group members paid attention to what the user was saying. We found this to be the most affective way to analyze how the user handled the designs that we had come up with.

Further Studies

For our final usability analysis we took one inexperienced user and observed how they interacted with our final form. We gave them a set of tasks to do and listened to their thought process and watched the ways that they handled the form of our design. We found that the form and the button layout was very intuitive for the user and allowed them to become familiar with the camera very quickly. For the most part completing the tasks we set for the user were easy to accomplish in a time efficient manner.

We found that familiarity was one of the most important things when designing a new camera. In our final design we had scroll wheels in abnormal spots so that we could create more room on the actual interface of the camera, but this posed a problem for our users because they were not able to find and use these functions right away, like you would want in the moment. For other buttons, such as the power or the playback, we found that the user could distinguish and use these options right away because of their familiar placement and icons.

Future Improvements

If we could improve our design even further we would expand the form in order to allow it to put the wheel scrolls in a more convient spot and so that the wheels could be bigger and able to use while wearing gloves. We could also include a bigger lens if the overall shape of the design was bigger. While we would be losing out on some of our design goals such as being compact and more durable, we would be gaining more from the other functions.

Pros:

Good layout
Overall form was ergonomic
Wildlife mode
Rangefinder
Spotlight

Cons:

Wheels too close together to use with gloves
No viewfinder
Lens didnt zoom far enough