

# Team 7

## Real-time Tele-Medicine in Ophthalmology

### Project Plan: Metrics

Author	Contribution
Sam McCauley	N/A
Shelby Stocker	202
Cole Terrell	430
Bryce Kushner	N/A

#### 1. Size Estimate

The size estimate for our project will be given using story points, as the number of functions/lines of code required is not well understood at this early stage of our design process. The scale will range from 1-5, with 1 signifying a task that is simple and will require little effort and 5 signifying a task that is complex and will require a great effort.

A.) The most critical function of our product is the transfer of a high-resolution video stream from cameras mounted to an ophthalmologist's slit lamp to a portable viewing device as well as a virtual reality viewing device.

**Story Points:** 3, while this is the most critical function of our product, we already have some code to work from, and we are not as concerned with potential latency issues for the local stream as we are with the remote video stream. Overall, this task is moderately complex and will require a moderate effort to complete.

B.) The next function that our product shall have is the ability to stream the high-resolution video over a network connection to a remote viewer (with VR capabilities also). This stream must have low-to-moderate latency, as the stream may be used for applications such as guiding a resident through a procedure in real-time or acquiring a second opinion from a remote-located physician.

**Story Points:** 5, this function is not as critical as the local stream, but our customers have demonstrated the immense potential that such a function could have to revolutionize remote medicine; thus, it is still of great importance to our team. Minimizing the latency over the network connection will likely be a challenge in addition to the fact that our customers require ultra-high resolution video. Overall, this task

will likely take the majority of our time and effort to complete, and it will almost certainly be the most challenging part of our project.

C.) The last function of our product will be to record and store the video stream that we capture for later use. This function may present storage challenges, as the 4k resolution video will likely be very large. We may need to learn about video compression or invest in large amounts of external storage.

**Story Points:** 2, this function will not be as challenging to implement, as saving the video stream should be quite simple to implement on any of the machines that are receiving the stream. The tricky part will be the efficient storage of the video so that it is portable and scalable, but there are simple solutions in existence already.

## 2. Lines of Code

We currently have not written any code of our own but we have received sample code from our customer. One of the files is 39 lines of code and contains a class with 6 functions, the other file contains 36 lines of code. These two files should guide us as we get our local feed running.

## 3. Complexity

These two files are not extremely complex compared to the work we still need to do. They are intended to create a flask server and connect to the cameras to obtain the video feed.

## 4. Complexity of Overall System

Since we have not yet begun coding on our own, the two files previously mentioned are as much complexity as we have.

## 5. Product Size

Covered in section 1 of this document (size estimate).

## 6. Product Effort

So far, we have each spent approximately four hours on this project. Our customer returns from a trip on Tuesday so we expect this number to increase greatly over the next month.

## 7. Defects

We have not had any defects yet.