

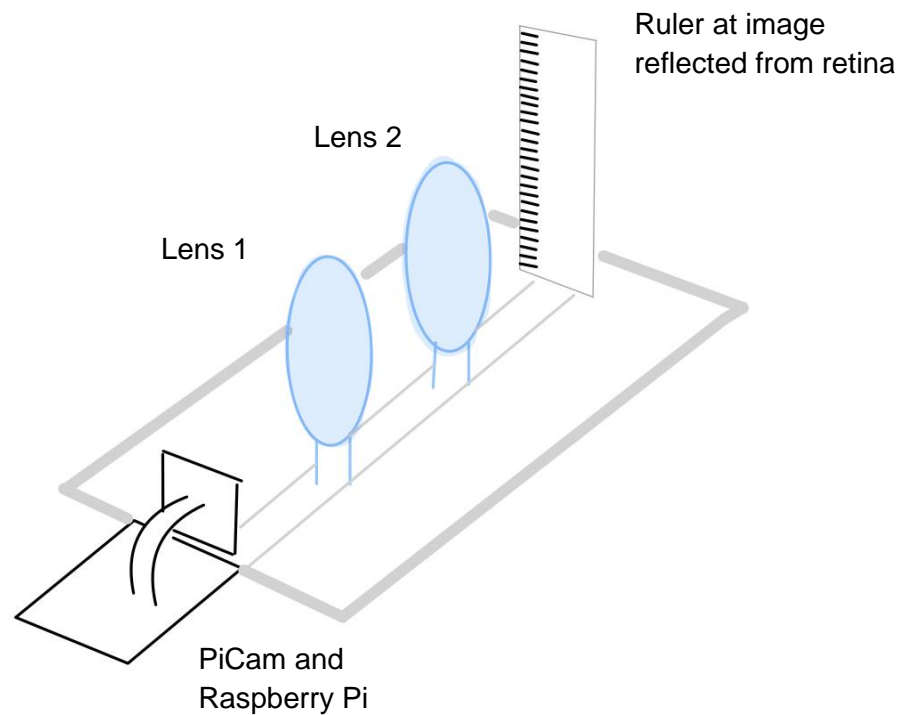
Testing Lens Setup

By Kitty Goodridge and Wesley Barett






Intro:

- As we cannot test the lens design on a human retina our solution is to test it on an image that would be in the same place as the reflected image from the retina would be in front of the eye.
- We decided to use a ruler as we knew the image we were trying to obtain at this point was of the size of 21mm therefore depending on the images received of the ruler we could tell whether the magnification and whether the focus was correct.

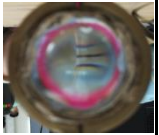

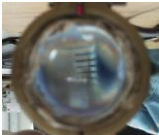

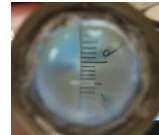
Picture of Setup:



Results:**1. Initial Design Setup**

Distance of Lens 1 from camera	243mm	196mm	141mm	104mm	168mm
Lens Image					
Notes	No focussed image	No focussed image	No focussed image	No focussed image	Focussed at M=1

2. Final Design Setup

Distance of Lens 1 from camera	80mm	100mm	125mm	135mm	140mm
Lens Image					
Notes	Focussed 4mm visible	unfocussed	unfocussed	unfocussed	Focussed 10mm visible

Conclusions:

From our final setup the results were able to tell us that a maximum range of 80mm was necessary to obtain a clear image of any persons retina independent of the size or strength of their eye. These results were taken by using lens 2 as a magnifying lens and lens 1 as a focussing lens (as recommended by optometrists).