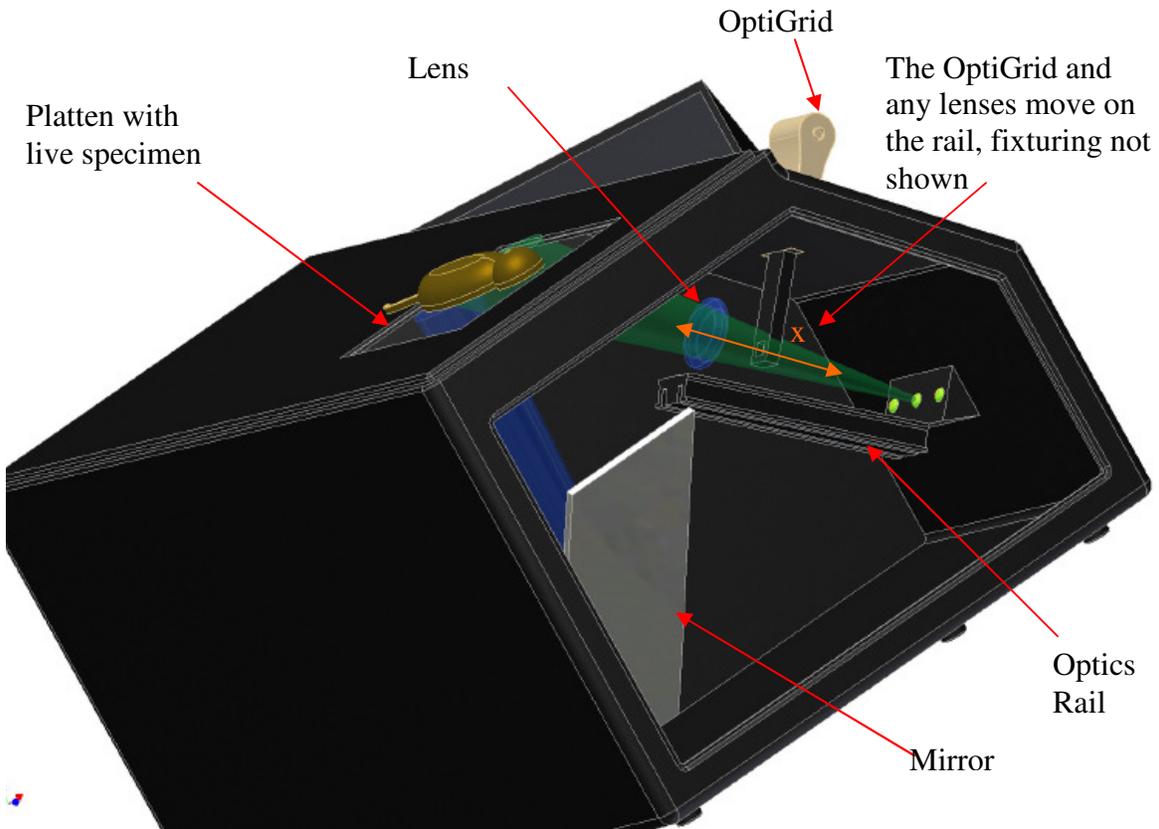


Design Selection

Decision	Reasoning
Single Lamp	If it works with one lamp then others should be easy to add but we don't see any clear advantage to more lights. It complicates things and adds cost so for the scope of this project we will use a single light source.
Indirect Light	We were instructed by our customer to use indirect light so that is the method we are pursuing.
Grid Magnification	The OptiGrid has very nice functionality and algorithms to go with it so we would like to use the grid. Since the OptiGrid is designed for a microscope it is necessary that we magnify it in order to project it only an object the size of a hand.
Old box with new enclosure	The existing box was very well thought out and all the parts are already manufactured by Carestream and their vendors; however, there is not much space for all the equipment we need to fit into the box so we will use the existing architecture with a new enclosure and light source.
Manual Movement & Mechanized Focus	This is designed to be a research test stand so manual motion is acceptable at this point. The OptiGrid has a mechanized focus built in that we hope to implement. With the time constraints for the this project we see it appropriate and a much more reasonable goal to not add any more mechanized parts to the box and focus on functionality instead. Further automation could come in a future project to make a consumer prototype.

Rev 01



Note: Optics are not accurately depicted. If different lenses are used the light source will have to move as well to accommodate different focal lengths.