## Option B – Visualize

Solidworks Visualize is a project based rendering program designed to take any 3D model, and produce photo-realistic images of it. This is possible through a combination of realistic appearances applied to the model, lighting information from a scene around the model, and taking multiple passes over the image to render the final image.The standard interface of Visualize is make up of four sections: the viewport, the main toolbar, the palette, and the heads-up display.

The viewport acts both as the lens for the final render and how you interact with the model. If you go to the tools drop down, and in the option dialog box, switch to the 3D viewport option. From here you can change the viewport’s maximum resolution, display options, and various viewport rendering options. The render device will have the biggest impact on performance and speed of rendering by determining which part of the computer is used to render the viewport. To get the best performance, it is best to leave the render device set to automatic and use a dedicated graphics card to get the best performance.

The main toolbar, has an option called renderer selection, this relates directly to the viewport, and is how you control its render level. Preview mode doesn’t render at all and allows for the most responsive control at the cost of visual fidelity. In fast mode, the viewport starts to perform render passes. While fast mode will only render the first one hundred passes and takes some shortcuts to process the render quicker, it is a good way to preview the render while you’re working on it. Finally, accurate mode renders the viewport without taking any shortcuts and doesn’t have a pass count limit, meaning it’ll create the highest fidelity image possible. Additionally, when you’re working with rendering on, you can choose between Steady, Blended, or downscaled to determine how the viewport renders interaction. Steady won’t use any tricks to improve interaction, while blended will display as preview at low pass counts and then render over the top, and downscaled will reduce the viewport size to increase interactivity. The selection and object manipulation tools determine ig you can interact with whole models, parts, or groups, in the viewport, as well as what you can do to the selection. After that is the camera manipulation tools which let you change what the viewport is looking at. The final option on the toolbar is the output tools. Clicking it brings up the output tools dialog box used to produce an image based on the viewport’s display.

The right side of the interface is dedicated to the palette, which stored all rendering information in the project, and sorts them into tabs. The first tab, objects, stores the positional and display information for each model, group, and part in the model. The appearances tab stored all the appearances that have been loaded in the project including those that aren’t being used. The scenes tab performs a similar role, and stored the loaded scene elements for the project. The camera tab stores each camera’s positional and display information. Lastly, the library tab stores all the currently available elements ready to load into a project.

The heads-up display is located on the bottom of the interface. It is simply a reference area that displays rendering information on the left, viewport specific information in the middle and the render device being used on the right.