Functional Requirements:
- Software architecture is able to deliver an appropriate and reliable "simulation" of various manufacturing scenarios for training. Appropriate and reliable can be defined as the simulation being able to accurately display the models and can be interacted with in such a way that would simulate the interactions in real life.
- The application must be able to take in/import CAD models and metadata, and then display them within the game engine.
- Display and interact with CAD models in a 3D environment.
- Data validation that assesses the user's performance and learning by having the user input data while building a drill with a real caliper.
- Validate that the training was successful through a testing process with has the user identifying and interacting with different parts of the model to show knowledge of the component.
- Built using mostly pre-existing software components
- Authentication of a user when logging into the validation site.
- Controls for simulation are mouse and keyboard. No external devices other than those controls should be needed in order to use the simulation software.
- Program teaches the user the key features of a caliper.
- The key features that must be taught and be intractable within the simulation about the caliper are: Outside measuring faces, Step measuring faces, Inside measuring faces, Clamp screw, LCD Display, Scale cover, Depth bar, Main scale, Slider, Connector cap, Thumb roller, detection/display module, ZERO/ABS switch, Power on/off switch, in/mm switch, ORIGIN switch, Battery compartment lid, Guide tang, and Locking tang

Non-functional Requirements:
- Application runs on Linux, Windows, and MacOS
- Application can run smooth 3D animation without excessive lag. Target FPS of 30.
- User interface that consists of easy navigation between simulation and validation testing
- Validation site should be able to handle moderate amounts of traffic
- Validation site loads in under 3 seconds
- Keyboard controls should be accessible and easy to use. This means that keyboard remapping should be allowed.
- Main simulation is coded in Unity game engine
- Validation sites runs on restful web service

User Requirements:
- The application must create a report for each user after they have completed the training that will show the progress they have made
- The application will also create a report that will assess the effectiveness of the training and will be sent to management.

System Requirements:

- Access to validation reports should be restricted to all end users other than management.
- The report needs to include the date and time simulation was started, date and time it was ended, length spent on each question, and which answers were correct and incorrect
- Once a user has logged in and started the validation testing, they should be able to save testing and come back to it at any time