Billy Molina Jr

Ship Draft Measurement

Summer Group Manager/Liaison

3/25/2015

Completed Methods:

Gathered research material on relative technologies including sonar, image processing, pressure sensors, and lasers that could be possibly used to accurately measure the draft height of a vessel. All the variables and client limitations including adverse weather operations, portability, and accuracy were considered in the selection of the best method before moving forward. Further research in reference to laser technology was gathered to aid design work break down and to provide purther insight into the technology.

Projected Methods:

After laser selection is complete, the dimensions will be used to design a mounting device to attach the laser to the vessel in a non-permanent manner. The design and build out of a draft measurement system will utilize mounted on a counter balanced mount system that will accurately read the distance from its mounted position to the waterline. The mounting mechanism will be require 3D CAD drawings for manufacturing. It will be comprised of a rigid mount which will be attached to the vessel via suction or magnets, and a balanced or bearing mount which will attach the laser to the rigid body allowing for counter balancing as the ship rocks due to waves.Using the completed CAD drawings, themounting device will be manufactured using the selected materials and will be mounted in a controlled lab for static testing and evaluation. Testing will be deemed successful once the laser has read the preset distance off the water’s surface within 1/8th of an inch. During the summer all methods and subgroups will be gathered and finalized for project presentations and reports that will also be utilized by the fall group the next semester.