Naturally, maritime training simulators at all events are valuable instructional and pedagogical tools. Through the history, the maritime simulation was utilized to train prospective maritime apprentices in whom it has filled the gap left by the acute shortage of opportunities for jobs onboard vessels around the globe. However, professional seafarers are the axis of success and competitiveness in the field of maritime training. They are the ones that, who are well trained and have the responsibilities of their work and the surrounding environment. In order to achieve the success along with effective training skills, both maritime companies and seafarers should implement a management of safety onboard ships, which only can be executed through the effective usage of the Bridge Resource Management (BRM) and righteous maritime simulation training.

Qualitative upgrading of the maritime training process at higher education levels depends predominantly on the instructive value of the instructors' educational software and the content of these programs which contains advanced and intelligent scenarios that benefit positively in providing effective training in order to, transfer and implement their gained skills from virtual reality to the actual environment with minimal risks and additionally to avoid the unforeseen occurrences at sea. The outcomes of the evaluation have shown the instructional suitability of the maritime educational scheme and significant capabilities, it provides, as well as the domains and frameworks for its instructional development. The above facts are substantial in the refinement and improvement of the current maritime education and growth of the apprentices' capabilities and the professionalism of their skills, along with the farthest purpose of creating more educated marine navigators in the worldwide merchant fleet.

This research proposes and demonstrates in details the purpose of the maritime simulation training complexes, the elements that if provided, will lead to an effective maritime simulation training, types of maritime simulation, the International Maritime Organization (IMO), its tools and its power for the effectiveness of the maritime simulation training through different conventions & codes and the future for the maritime simulation training, in order to emphasize and accentuate the interplay between instructors and apprentices in an integrated maritime simulation complex on which a serious maritime event is taking place.

The distillation of this thesis draws an attention to the effectiveness of the partnership between maritime apprentices and their instructors across a maritime simulation training complex scheme during a virtual maritime scenario event in an advanced facilities located in the state of Florida, which is armed with modern technology, provides both added stimulation for the apprentice himself and elevates the simulator a degree toward a vessel for practical training and/or sailing.

Major: Modeling and Simulation

Educational Career:
Bachelor's of Nautical Sciences, BS, 2008, King AbdulAziz University

Committee in Charge:
J.Peter Kincaid, Chair, Modeling & Simulation
Luis Rabelo, Industrial Engineering & Management Systems
Gene H. Lee, Industrial Engineering & Management Systems

Approved for distribution by J.Peter Kincaid, Committee Chair, on October 1, 2015.
The public is welcome to attend.