

Exploring and Learning about Reef Data in Serious Games.

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We describe on-going work towards the development of a novel 3-dimensional environment or serious game to help visualize, explore and learn about aspects of the reef. This is part of the Smart Environmental Monitoring and Analysis Technologies (SEMAT) research project. Games for learning, or serious games as they have come to be known, use gaming technologies and rich graphics and sounds to help people “play” with the topics of learning. Serious games are increasingly being used in many sectors such as business, health, the military and especially in education as a motivational resource for the digitally-savvy generation. In our serious game, data (e.g. salinity, temperature, light, etc.) collected through remote sensor networks is used to generate/render the ambience and aesthetics of our interactive visualization by varying colour, texture, lighting and conditions of living creatures, etc. In comparison to traditional visualization techniques (e.g., 2D line graphs), our technique allows everyone from children and lay people to experts, to intuitively learn about and understand the environmental conditions in the reef. In addition it helps raise societal awareness of how sensitive ecosystems operate and the impacts humans have on them.