

From Cardboard to Training Tool

BY PAULINE BARTEL

Since downloading the Google Cardboard app and using it to create a simple 360-degree image, Tamera Gilmartin has been intrigued by virtual reality and its training potential. The app allows a person to take a 360-degree image on their cellphone. When inserted into a cardboard holder, the phone becomes a virtual-reality headset, capable of transporting someone anywhere in the world.

"I realized this new technology could replicate any experience at a very low cost. I was amazed by the new opportunities for training it provided," said Gilmartin, an assistant professor of marine transportation. "The app was free. The cardboard phone holder was \$10. I spent 30 seconds creating a 360-degree image, and I was blown away by how immersive it was."

Gilmartin is using the technology to create 360-degree videos onboard vessels to help students see and understand certain deck-side operations. Using the videos, Gilmartin can more tangibly demonstrate the potential dangers of these operations and provide students with important hands-on learning experiences with virtual reality. Now Gilmartin is creating full training videos that share the experience of evolutions conducted onboard a vessel.

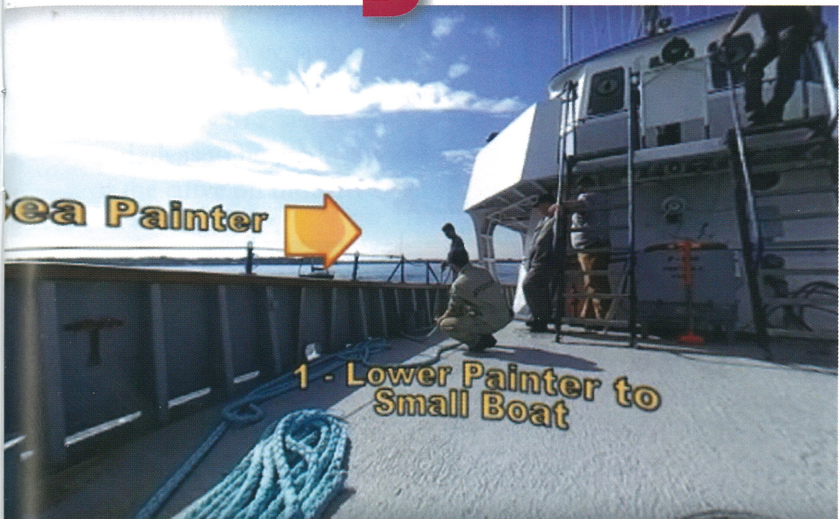
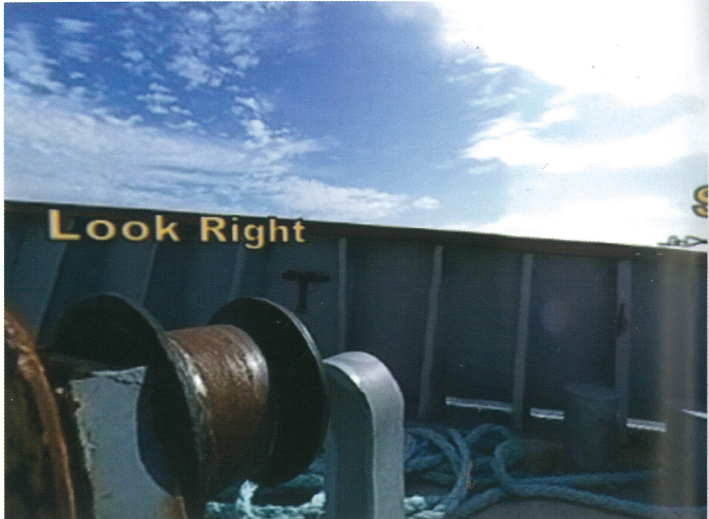
Gilmartin has been teaching at SUNY Maritime College since 2012. Before that she sailed on research vessels for the National Oceanic and Atmospheric Administration and Oregon State University, as well as on container ships and military support vessels. She has a bachelor's degree in Marine Operations and Technology from the U.S. Merchant Marine Academy and a master's in Learning and Emerging Technologies from SUNY Empire State. She holds a chief mate's unlimited license.



For her virtual reality project, Gilmartin received a \$25,000 grant from the college's Faculty Student Association and another from the SUNY Innovative Instruction Technology Grant program. After purchasing 360-degree camera equipment and headsets for 30 students, she joined the Empire State VI during the 2018 summer sea term to record the operation of lowering and raising the anchor. From this footage Gilmartin will create a 360-degree training video that will be integrated into a standard classroom. She will also research this training format next semester to determine its effectiveness.

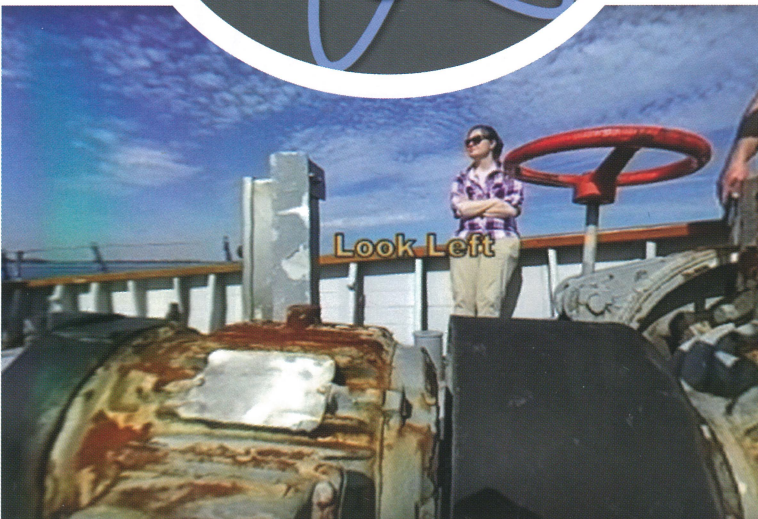
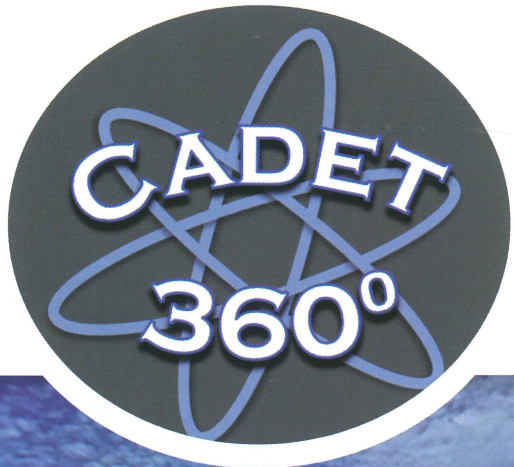
"When the 360-degree videos are played through a virtual-reality headset, students' visual, auditory and tactile senses are engaged," Gilmartin said. "They experience it as if they were standing in the location."

Gilmartin has also undertaken a pilot study to explore integrating 360-degree training videos into the experiential learning process. She recorded the operation of a small boat coming alongside a larger vessel and tested the video



with two groups of students. The first group viewed the training video after attending a related lecture. The second group viewed the training video before attending the lecture. According to Gilmartin, students who viewed the video first "were extremely excited and had many questions. That was the biggest result I've seen so far – a much higher level of engagement."

Gilmartin believes that virtual reality will be an integral part of the classroom of the future. "Many educators are talking about virtual reality, and everybody's trying to take that next step," Gilmartin said. "It's exciting that at SUNY Maritime we have already taken that next step toward integrating this new technology alongside our well-established experiential learning-based curriculum." ■



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