



User Manual



Quick Reference

Nautical Environment for Research, Exploration, and Understanding of the Sea

Project Overview	1
Getting Started	2A
Orientation	2B
Expedition	2C
Data Analysis	3D
About UT Design	4
Credits	5



Project Overview

Nautical Environment for Research, Exploration, and Understanding of the Sea

What is N.E.R.E.U.S?

NEREUS, the name of a Greek sea god, is an acronym for Nautical Environment for Research, Exploration, and Understanding of the Sea. The UT Design class of 2011, in collaboration with the Division of Instructional Innovation and Assessment (DIIA) and the UT Marine Science Institute (MSI) have created this virtual oceanography research simulation in Second Life in order to enhance undergraduate learning by rendering a virtual space for research experience. The user is directly engaged in the scientific process within our virtual landscape. We want to show that human activities and abilities have a direct effect on absorption of information and research.

Why and How?

The idea for NEREUS started with a trip Tracy Villareal made to DIIA to learn about what technologies or techniques could enhance his distance education classes, in which he conducts class through video link from the MSI to Austin. His students had become increasingly under-stimulated, and generally disinterested in the material being covered. After meeting Leslie Jarmon and being introduced to Second Life, the ability to create and manipulate experience became an intriguing opportunity. Tracy envisioned an environment in which his students could explore and extract information from a virtual ocean. After meeting Riley Triggs, instructor of the UT Design class of 2011, the project went into fruition.

You are the first to use NEREUS. We hope the program will supplement your Marine Science curriculum by providing an experiential quality to your research. Remember that although this is an educational tool, it is also an opportunity to enliven academic material, so have fun!

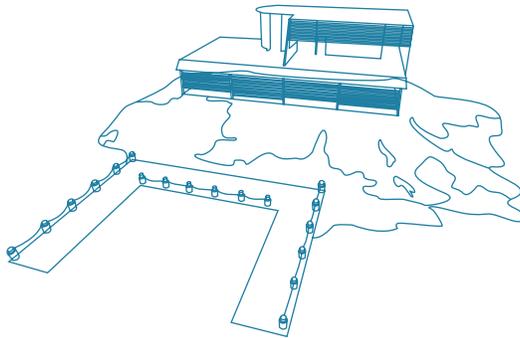


Welcome to N.E.R.E.U.S.

Nautical Environment for Research, Exploration, and Understanding of the Sea

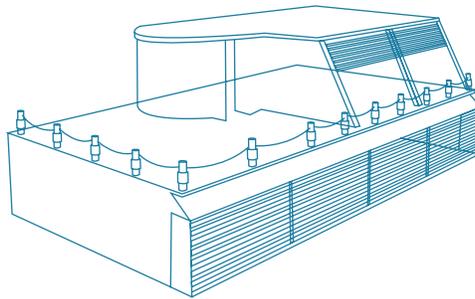
A Getting Started

1. First you will need to download, register, and create an avatar from www.secondlife.com. Be sure to use a valid email address.
2. After obtaining a username and password, log into Second Life.
3. Once in Second Life, access the preferences tab and set notecards to auto-save mode.
4. Teleport to SLURL: <http://slurl.com/secondlife/Educators%20Coop%206/33/254/1003>

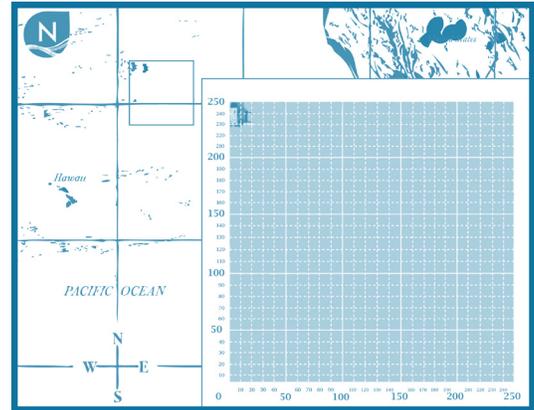


B Orientation

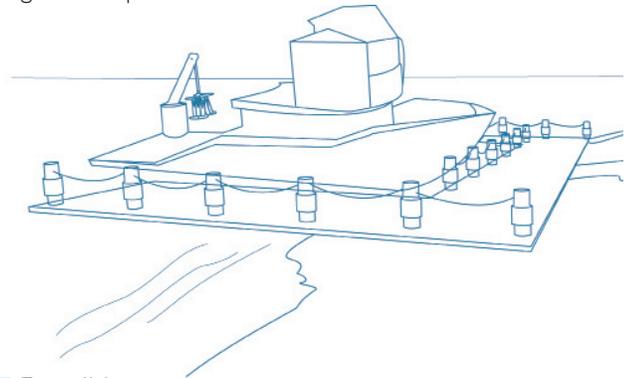
1. Once teleported, walk to the shack and view the orientation media inside. Take time to explore the surroundings.



2. When ready to start expedition, you can find the instructor NPC on the bottom floor.
3. Touch the instructor to learn more about the assignment and receive the Heads Up Display (HUD) pictured in the next column.

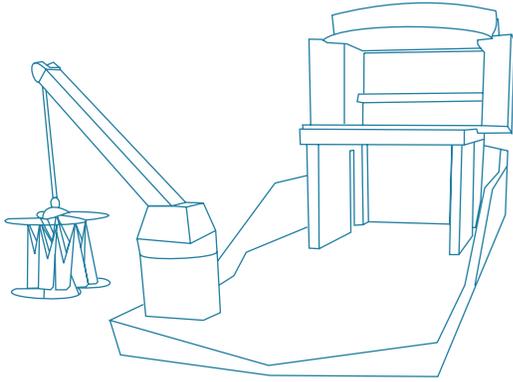


4. Leave the shack and walk down to the dock to begin the expedition.



C Expedition

1. Board the ship.
2. Find the Captain NPC inside the cabin.
3. Touch the Captain to start the timer. You will have 1 hour to complete your assignment.
4. Take a seat and click on the boat to input the sampling location coordinates in the local chat box. Enter in the format [X Y] (without the brackets but including the space) where X is an East/ West coordinate *between 60 and 256* and Y is a North/ South coordinate *between 0 and 170*.
5. Stand up and walk to crane at the back of the boat.



6. Touch the crane and it will ask if you want sample now. Type “yes” or “no” in the local chat to answer.
7. If you say “yes,” the crane will prompt you to enter a sampling depth (Z) in the local chat. Z must be *between 0 and 20*, where 0 is the ocean floor.
8. The sampling instrument will return the data in the local chat window. Save your results in a note. (Inventory > Create > New Note) The note will save to your inventory in the Notecards folder.
9. Repeat process from step 4 in order to navigate and sample a new location.
10. Don't forget, the clock is ticking! When your hour is up, the boat will disappear.
11. Your expedition will then be over; enjoy the sealife as you swim back to shore.

D Data Analysis

You will be using the Ocean Data Viewer to analyze and view the data obtained during your research. Your instructor will go into further detail about this final step.



About UT Design

Nautical Environment for Research, Exploration, and Understanding of the Sea

The purpose of DES 311K Design Technologies II is to explore issues of and skills for designing objects and space. This revolves around the technical skill of designing objects using three dimensional computer modeling software. Projects over the past several years have explored the need for designers to rectify the inherent disconnect between designing/modeling in a virtual world where anything is possible and the real world where craft, tolerances, and budget are paramount in determining the success of realizing a product. The facility to “smooth” the space between the virtual design and the real product is essential in order to create successful designs for production.

For the Spring semester of 2009, we have capitalized on the free availability of the online environment of Second Life (SL) (www.secondlife.com), a ground breaking and widely adopted online environment that enjoys many corporate (IBM, BMW), institutional (MIT, University of Texas), and governmental (NASA, NOAA) presences. The commercial potential has been documented widely, and the possibilities for data and information access are just now being explored. It is this area of “environments for information” that DES 311K is working within this semester.

Through the offices of UT's DIIA (Division of Instructional Innovation and Assessment) and their Second Life champion, Dr. Leslie Jarmon, we were put in contact with Dr. Tracy Villareal from UT's Marine Science Institute in Port Aransas, TX to work with him in creating an alternative learning situation about ocean data collection and sampling for his introductory oceanography class. His interests first stemmed from possibilities of remote teaching in SL, but were quickly turned towards providing assignments using the inherent spatial and participatory elements of SL.

Humans possess seven types of intelligence that we use in varying degrees in our everyday lives: linguistic, mathematical, kinetic, natural, musical, inter/intra personal, and spatial intelligence. Of these, spatial intelligence is underused in teaching in disciplines outside of visually oriented topics such as design, and kinetic intelligence is rarely relevant. The proposition of DES 311K this semester is to use the inherent strengths of design methodologies and design students to provide students of MNS 367K HUMAN EXPLORATION/EXPLOITATION OF THE SEA a more memorable and enriching experience by accessing their spatial and kinetic intelligences through learning in a three-dimensional environment.

Professor Riley Triggs
Design division
University of Texas at Austin



Credits

Nautical Environment for Research, Exploration, and Understanding of the Sea



The UT Design class of 2011 would like to thank the National Science Foundation (NSF) for its support of Dr. Tracy Villareal's work on open-ocean diatom blooms. The title of the award is Biological Characterization of the Nitrogen-Fixing Rhizosolenia-Richelina Symbiosis. (Project number NSF OCE-0726726.) An abstract of the proposed work can be found at: <http://www.nsf.gov/awardsearch/showAward.do?AwardNumber=0726726>. Project NEREUS would not be possible without financial support from NSF. Find out more about the foundation at www.nsf.gov/about.



The UT Design class of 2011 would like to thank the Division of Instructional Innovation and Assessment (DIIA) at the University of Texas at Austin for including us in this exciting and challenging project. DIIA supports innovative technology-enhanced learning in accordance with the University's core purpose and values. Find out more about the division at www.utexas.edu/academic/diia/about/mission/index.php.

The University of Texas at Austin Marine Science Institute, the oldest and most significant marine research facility on the Texas coast, is changing our understanding of the world's oceans and coasts and educating a global population dependent on the ocean ecosystem. The primary goal of the Marine Science Institute is to improve our understanding of the marine environment through rigorous scientific investigations, cutting-edge research, education, and outreach programs. Learn more at <http://www.utmsi.utexas.edu/>.

The University of Texas at Austin is dedicated to improving the quality of life of the people of Texas and the United States. The university contributes to the advancement of society through research, creative activity, scholarly inquiry and the development of new knowledge. As an enduring symbol of the spirit of Texas—big, ambitious and bold—UT drives economic and social progress in Texas and serves our nation as a leading center of knowledge and creativity. Learn more at <http://www.utexas.edu/>.

Special thanks to:

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