Websites

Tuesday, 29. August 2017 15:14

IrukaTact: Submersible Haptic Search Glove	Sonar based water pressure tactile feedback glove	https://dl.acm.org/citation.cfm?id=2856546&CFID=820283077&CFTOKEN=26565284Sonar
Augmented Reality underwater		https://dl.acm.org/citation.cfm?id=1599398&CFID=820283077&CFTOKEN=26565284
ScubaWorld Project Ariadna 19.08.2016	• Global scale independent GPS-based underwater navigation system • GPS on surface as point of reference • Data fusion principle uses 11 sensors upon submerging with an real-time algorithm to compute the movement vectors	https://scubaworld.com/scubanews/gps-based-underwater-navigation-technology-for-divers
Navimate 2009	• GPS gateway hung from a dive boat or buoy which determines it exact location • Communicates with a wrist unit with (multiple) underwater transducer portion, using acoustic signals • Criticism says this approach would not be accurate or reliable and an all in one system would be what people want	https://www.navimate.com/ http://scubagadget.com/navimate-claims-to-have-underwater-gps-but-then-shows-how-good-they-can-fin-backwards-dema-2009-product-announcements/

	want	announcements/
POSYDON, U.S. Navy GPS for drone submarines, June 2016	• Currently using large and expensive inertial measurement units (military grade, large accelerometer) and a last known surface GPS position • Track forward movement and depth • They plan to use rather cheap acoustic beacons which broadcast the time • Receiver triangulates • Speed of sound in water is a function of the saltiness and temperature of water (harder than just speed of light)	https://www.theatlantic.com/technology/archive/2016/06/its-gps-underwater-for-robots/486656/
Navidive by Applied Logic Engineering, Inc.	• 2 components: surface based GPS receiver connected via a wire to the portable device carried by the diver • Shows position while under water • Allows to load dive site information before diving, navigate to waypoint, save position, dive trace, save entry position • Provides software to read SD card on PC • Commercially available • Failed on Kickstarter	http://www.navdive.com/ https://www.kickstarter.com/projects/1889195857/navdive-gps-based-navigation-for-scuba-divers/?ref=kicktraq
Water Linked	• 4 receiver and selectable locator • Acoustic triangulation of included locator • Web-based UI • About 4000 Euro	https://waterlinked.com/products/ Waterlinked.com. (2018). Water Linked AS ? Discover Underwater GPS. [online]

		Available at: https://waterlinked.com/ [Accessed 6 Jun. 2018].
Patent: System for underwater GPS navigation 2002/2004	• Buoy floating with GPS antenna • Display underwater	http://www.google.com/patents/US6701252
The underwater GPS problem 2011	• Discusses methods for Dilution Of Precision (DOP) underwater • Statistical methods (biased and unbiased alternatives) • Some influences differ substantially from surface GPS	http://ieeexplore.ieee.org/document/6003649/
Performance Analysis of an Inertial Navigation Algorithm with DVL Auto-Calibration for Underwater Vehicle 2014	• INS/DVL calibration algorithm to improve sensor data fusion between Gyroscopes, Accelerometers, GNSS, depths, and DVL (Doppler velocity log) • Result: position error less than 0.3% of distance traveled	http://ieeexplore.ieee.org/abstract/document/7049481/
Range and Range-Rate Observations 2015	•	
Haptic feedback websites		
Therma VR: Exploring Integrated Thermal Haptic Feedback with HMD	• 5 thermal feedback modules • Applying +-3 degree on users skin • Evaluated the system for direction cueing • Accuracy for cold stimuli	https://dl.acm.org/citation.cfm?id=3025824

	89.5%, for not 68.6%	
Glasses with haptic Feedback of Gaze Gestures	• 3 vibration motors in glasses (nose , left/right ear) • As single actuator is recognized with high accuracy (100 ears, 85 nose) • Haptic feedback to improve performance of gaze gestures	https://dl.acm.org/citation.cfm?id=2581163
HapticHead	• 3D vibrotactile Guidance System tested in VR against visual and auditory feedback • Visual 99.9% hit rate, mean 1.5s • Vibrotactile 92.7% hit rate, mean 3.7s • Auditory 44.9%, 7.8s	http://hci.uni-hannover.de/research/haptichead http://hci.uni-hannover.de/papers/Kaul2017CHIPaperHapticHead.pdf http://hci.uni-hannover.de/papers/Kaul2016CHIPosterHapticHead.pdf
Thermal feedback		
"Baby It's Cold Outside": The Influence of Ambient Temperature and Humidity on Thermal Feedback	• Entirely private • Varying environmental conditions over 5 month • Factors of perception: rate of temperature change (ROC), skin base temperature • thermal sensitivity is best on the head and trunk but worse towards the extremities (Quantitative sensory testing: effect of site and skin temperature on thermal thresholds) • Ambient temperature and Humidity have significant effect on number of thresholds produced • Intensity of change has	http://delivery.acm.org/10.1145/2210000/2207779/p715-halvey.pdf?ip=137.226.73.221&id=2207779&acc=ACTIVE%20SERVICE&key=575DA4752A380C0F%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&__acm__=1516701803_cf8c53900c7e81af

	intensity of change has significant effect of thresholds produced • Significant differences in the number of detections between all stimulus intensities (1 vs 3, 1 vs 6, 3 vs 6) • ROC has significant effect on detection rate • Location has significant effect • No training effect found	[688ce553fb228808]
ThermoVR: Exploring Integrated Thermal Haptic Feedback with Head Mounted Displays		