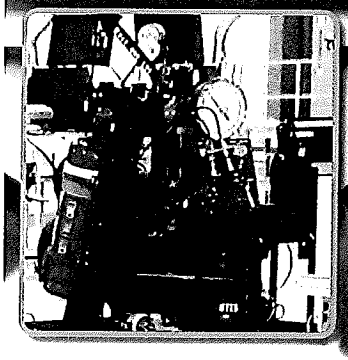
ORDNANCE

Magazine Winter 2012

Published by the United States Army Ordnance Corps Association in support of the Army Ordnance Corps personnel worldwide

Game-Changing Professionals

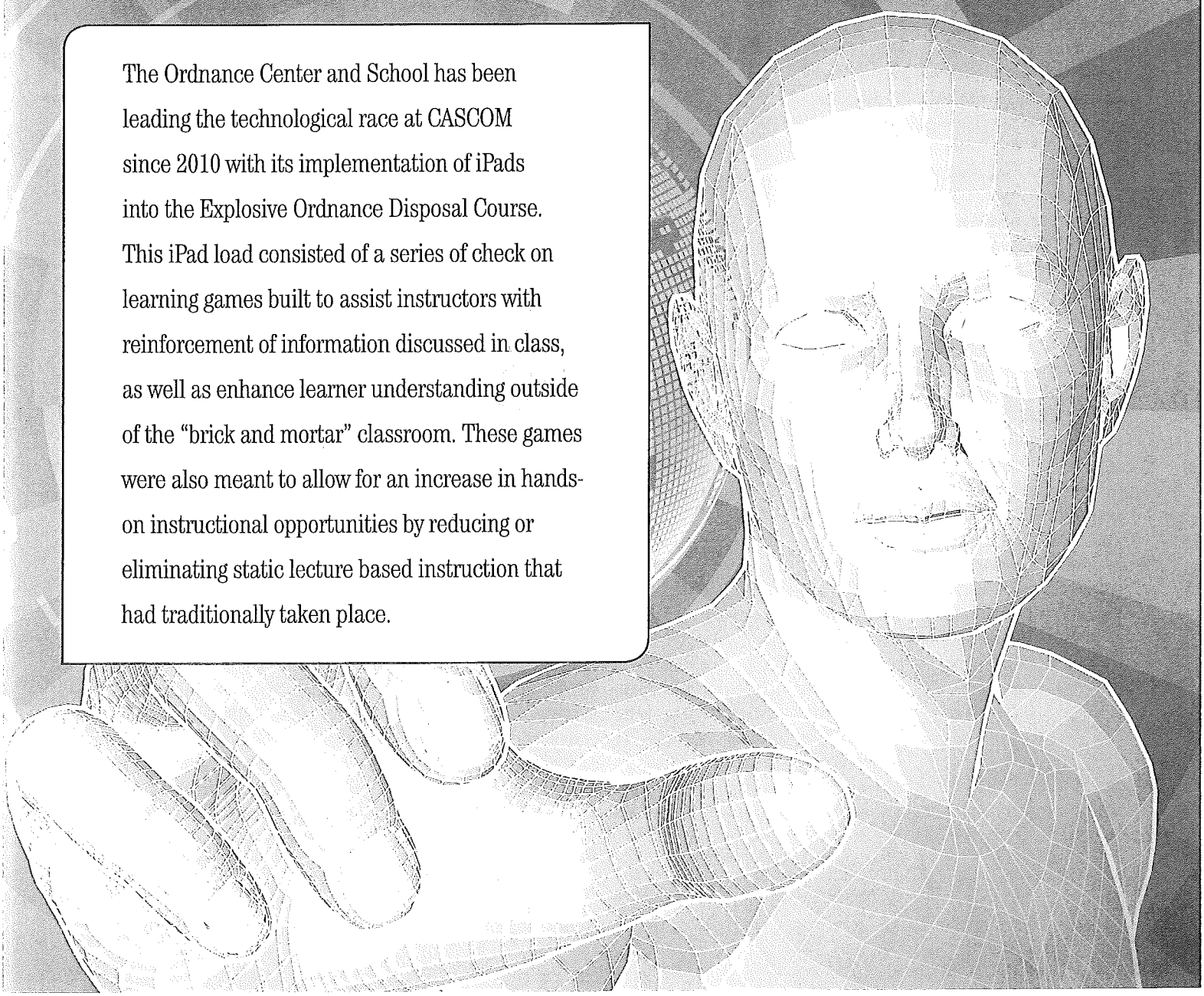


Leveraging Technology into Army 2020

The Future of TECHNOLOGY IN THE ORDNANCE SCHOOL

by Matt MacLaughlin, Chief, Technology Integration Branch

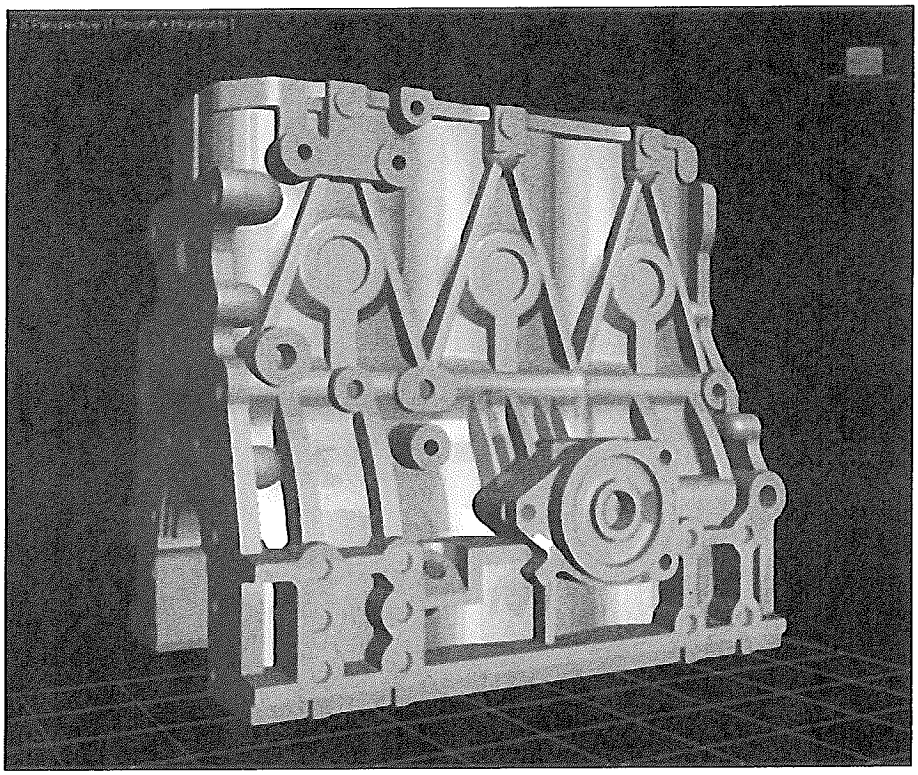
The Ordnance Center and School has been leading the technological race at CASCOM since 2010 with its implementation of iPads into the Explosive Ordnance Disposal Course. This iPad load consisted of a series of check on learning games built to assist instructors with reinforcement of information discussed in class, as well as enhance learner understanding outside of the "brick and mortar" classroom. These games were also meant to allow for an increase in hands-on instructional opportunities by reducing or eliminating static lecture based instruction that had traditionally taken place.



Over the past year the iPad initiative has grown. In the EOD course, not only has the game initiative continued, the device is now loaded with a video library of specialized topics such as Electric and Non-Electric Demolition procedures, all of the necessary books and guides a student will need for the course, as well as a fully immersive RECON simulation Beta that utilizes touch technology. The successes of the EOD iPad program has lead to further iPad use in the Ordnance school, as well as other advanced technological integration efforts.

The 91D MOS is gearing up for an iPad program of their own which will incorporate a virtual 60kW, 400Hz, Diesel Engine Generator with not only interactive panels and switches, but also simulated equipment failures and consequences. The 91Ds are currently working with Combined Army Support Command's (CASCOM) Technology Integration Branch in preparing their Video Podcast library, and plan to incorporate these videos with the simulation when their pilot kicks off later this year.

The 94F MOS is also utilizing the Technology Integration Branch to create and implement a simulation for the Improved Chemical Agent Monitor (ICAM). The ICAM simulation was developed as a way to not only allow students to gain a deeper familiarity of the equipment, but also reduce the possibility of damage to classroom ICAM demo hardware. The initial build will be for the laptop computer, but the future of this simulation will incorporate the utilization of passive 3D televisions to bring it off the small screen and transform it into a larger, more immersive product that will incorporate touch screen technology as well as immediate feedback. This feedback mechanism will allow instructors to act as a "guide on the side," focusing on what the student is doing, while the computer concentrates on capturing student's choices in the simulation and generating a grade.

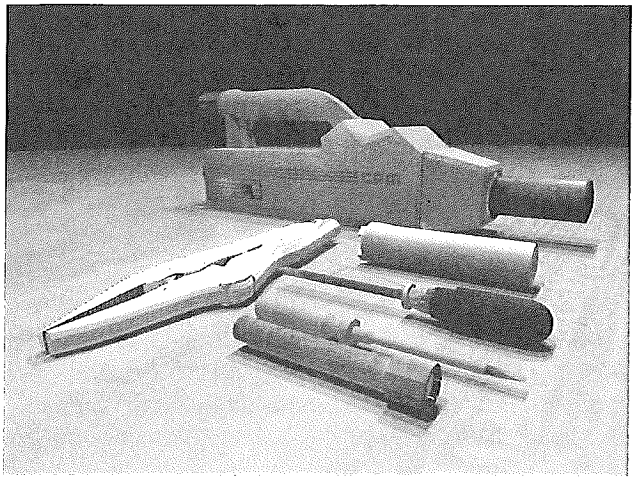


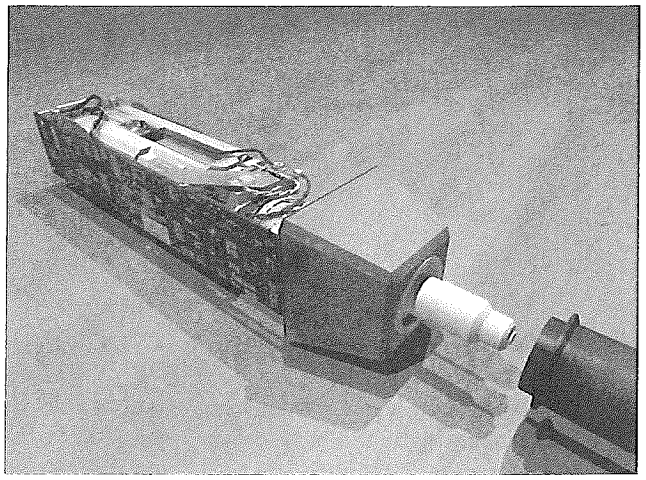
The 91D MOS iPad program will incorporate a virtual 60kW, 400Hz, Diesel Engine Generator with interactive panels and switches and simulated equipment failures and consequences.

Touch screen technology is not, however, confined to the 94F MOS. In the coming months, any products created for the Ordnance community using Virtual Battlespace 2 (VBS2) will also incorporate the possibility of using touch screens. The combination of touch technology and VBS2 will allow fully immersive scenarios to take on a different face. Instead of just a first person shooter type environment dependent on the player, touch screen technology will allow instructors to "draw" on VBS2 topographic maps using their finger and then overlay their directives directly into the3D virtual VBS2 world. These instructions can be used for initial briefings, corrective opportunities during VBS2 gameplay, and even after action sessions with the students.

CASCOM VBS2 users will also have the opportunity to utilize the virtual driver housed in the CASCOM HQ, Technology Integration Futures Lab. The virtual driver allows an individual to choose from any of the vehicles in the VBS2 asset library and drive it through a virtual environment; all the while giving full driver 180 degree visibilities inside the vehicle. What makes the virtual driver different than the rudimentary wheel and brake experience in a VBS2 classroom is the incorporation of actuators which rumble and pitch the seat as you drive, as well as full stereophonic sound in the headrest and the lab walls. The Virtual Driver will be available at the end of January 2013.

In addition to VBS2 in the CASCOM/ Tech Integration Futures Lab, the Ordnance Community will also have the opportunity to take part in the CASCOM Commercial Off the Shelf Game Training Network (COTS GTN). Whether in





barracks, at home, or deployed, the CASCOM COTS GTN uses popular gaming titles such as Halo and Call of Duty to train Soldiers in military concepts. Training IED scenarios, to convoy operations, and even just good 'ol teambuilding, the COTS GTN will be open to the Ordnance community to train wherever they may be stationed. The beta tests have just recently closed, but look for the full release of the GTN to Soldiers everywhere in February 2013.

Another enhancement provided to the Ordnance Community through console gaming will be the use of motion capture to guide and grade training. Using both the Playstation 3 "PS Move" and the XBOX 360's "Kinect" camera sets, the Technology Integration Branch will be enhancing maintenance and repair training. Currently, experimentation is being done using the Kinect camera to train disassembly of pieces of Ordnance and IEDs. In the coming fiscal year, expansion of motion capture will include fine motor maintenance tasks (i.e. wrench turning and screw driver type repairs) using the PS Move. CASCOM is working with cognitive scientists at Virginia Polytechnic Institute and State University to not only create educationally sound products in this new technology but also code robust evaluative tools to grade the motion capture for the instructor.

The virtual driver at CASCOM Head Quarters available for use by CASCOM VBS2 users.

The Ordnance School has poised itself to remain on the front end of technology. From mobile device implementation to experimentation in the realms of augmented reality, this year will prove to be a paradigm shifting one filled with new ideas and innovative solutions. The Technology Integration Branch will be there with them every step of the way and report each and every item as they become available via their upcoming monthly Podcast show, and on their "SCoE MOBILE" Facebook Page. Stay Tuned.

Matt MacLaughlin, Jr. is currently serving as Chief, Technology Integration Branch, Training Technology Division, Training and Doctrine Development Directorate, Combined Arms Support Command. He holds master's degrees in English from Virginia Tech and Instructional Design/Technology from East Carolina University. MacLaughlin came into the Department of the Army as a Logistics Specialist intern in 2005. He taught the Army Logistics Management College's (ALMC) Introduction to Army Logistics and Defense Regional Interservice Support Agreements courses both residentially and online before taking over as Chief of Technology Integration in 2009.