eCDL Integration with Commercial Skills Test Information System (CSTIMS)

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16. Abstract

In coordination with the West Virginia Division of Motor Vehicles (WVDMV), the Rahall Transportation Institute (RTI) integrated the *eCDL* program with the **CSTIMS**, a software program owned by the American Motor Vehicles Administrators Association (AAMVA). *eCDL* is a multi-phase approach in the development and implementation of an electronic version of the commercial driver license skills testing program which includes real-time testing validation through GPS, imagery, audio, and wireless tests with auditing functions. **CSTIMS** was built to reduce fraud and automate the administrative processes at the beginning and at the end of the commercial driver license skills testing procedure including scheduling, test site direction, reporting, and fraud alerts. The project integrated the two software programs allowing a schedule test inserted into **CSTIMS** to be displayed in the *eCDL* interface in the field. When the CDL test is completed the results are then transmitted back through both organizations' servers for display in **CSTIMS** allowing for a full circle of display, analysis, and tracking.

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eCDL and CSTIMS Integration Project

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In 2005, the West Virginia Division of Motor Vehicles entered into a collaborative agreement with the Rahall Transportation Institute (RTI) located at Marshall University to address issues arising out of the 2002 Commercial Driver's License Compliance Review and other identifiable instances of potential fraudulent activity that may occur in the CDL skills testing process. That collaboration has employed a multi-phase approach in the development and implementation of an electronic version of the CDL Skills Test. In Phase I the State of West Virginia identified additional hardware and software needed to develop a complete system with fraud prevention, process reconciliation, data analysis, information sharing and sustained system monitoring for validity, reliability and dependability. The Rahall Transportation Institute successfully developed the application software for Phase I, continued with Phase II in 2008 and Phase III in 2011 of the *eCDL* skills testing project. RTI integrated GPS satellite technology with the mobile computerized skills testing system to provide successful covert monitoring of skills tests throughout the State. All third party examiners conducting CDL skills test in West Virginia have been provided mobile computers equipped with GPS receivers, bar code scanners and cameras. The examiners are a combination of private contractors and state employees. Enhancements of the software include a complete update of CDL testing requirements to current standards while employing additional fraud prevention techniques and tools by harnessing the technology available in modern computers. Additionally, an *eCDL* clearinghouse was established for data sharing with any and all interested states and the Federal Motor Carrier Safety Administration (FMCSA).

West Virginia has realized a decrease in the opportunity for fraudulent activity in the CDL Skills Testing process. The efforts to eliminate the old manual paper-driven system through the implementation of the collaboration's research of current geo-spatial technologies, wireless communication and other technological advancements have been crucial to the project's success.

In 2004, the American Association of Motor Vehicle Administrators (AAMVA) created a working group composed of the jurisdictional department of motor vehicles, third party tester stakeholders and the FMCSA. The working group's mission was to respond to the issues raised by the DOT Office of the Inspector General's 2002 report on CDL fraud entitled "Improving Testing and Licensing of Commercial Drivers."

The working group conducted preliminary studies and site visits throughout 2004 to collect information to formulate the design for the prototype and software development to address the potential issues of a pilot study. In early 2006, a pilot of the Commercial Skills Testing Information Management System (*CSTIMS*) was rolled out in four volunteer states.

CSTIMS' development ran a parallel course with West Virginia's *eCDL* development. While *eCDL* was developed as an actual skills testing tool to be utilized by

examiners in the field, **CSTIMS** was built to handle the administrative processes at the beginning and end of the skills testing procedure (i.e. scheduling, test site direction, reporting and alerts).

In 2011 the WVDMV obtained a grant to fund RTI's portion of an integration project to link eCDL and CSTIMS. The integration linking the two projects provides the best possible solution to AAMVA jurisdictions in attacking fraud on all levels in the commercial drivers' license process by allowing a scheduled test created in CSTIMS to appear in the eCDL field device and upon completion of the test the results appear back in CSTIMS. This type of integration gave a cradle to grave testing solution.

The two applications are integrated though a series of web service calls between the two installations. Due to the physical separation of the systems, the integration is based on an asynchronous protocol between the systems. This could also be considered a store and forward system such that if one of the systems is unavailable through the internet, the messages are stored locally and then forwarded to that system when that system is once again visible. Another way of thinking for this integration would be "batch"; the functioning of neither system will stop if a connection is not available.
So while the systems effectively "talk" to one another regularly (nightly batch process for users and schedules from CSTIMS, test results from eCDL as submitted by examiners) they are still separate entities that can be operated independently.
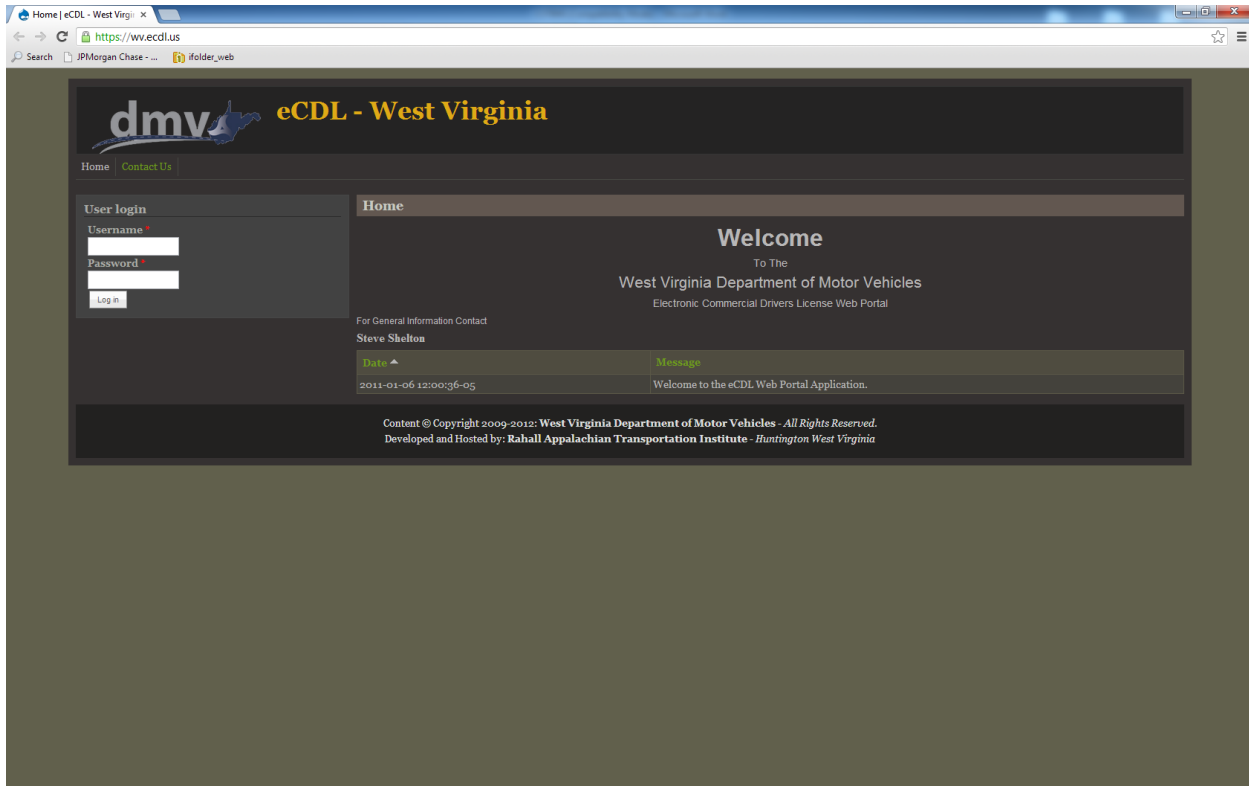
The integrated system was deployed on November 12, 2012 in WV and is experiencing the normal bumps all new software deployments face, such as forgotten passwords and workflow process changes. However, when operated correctly the system integration operates flawlessly and the circle of information is complete. It is too early in the integration to discuss findings, final conclusions or future recommendations as the bulk of data needed for that analysis is not yet had a chance to compile in the associated databases of eCDL and CSTIMS.

Appendix A includes screenshots and a link to the interfaces of each of the two systems.

APPENDIX A

West Virginia Electronic Commercial Driver's License Website

https://wv.ecdl.us/

Commercial Skills Test Information Management System Website

https://cstims2.aamva.org/Cstims/Training/Login.aspx?ReturnUrl=%2fCSTIMS%2fTraining%2fwelcome.aspx