otsdaq (Off-the-Shelf Data Acquisition) is a *scalable, coherent,* data acquisition architecture for particle physics experiments. It provides a menu of hardware, firmware, and software choices that work together “*off-the-shelf*.” The menu is shared publicly online and is intended to be collaborative and open source; when members of the broader DAQ community integrate their own hardware, firmware, or software piece into the *otsdaq* framework, that work can be captured and made available to others.

The *otsdaq* approach places an emphasis on scalability – so what works for you on your laptop in your office, can be replicated by an order of magnitude for your test beam run, and then again for your experiment – all managed through a user-friendly, web-based, graphical user interface and configuration system that grows with you as you go from one user to a full experiment of users.

The web-based graphical user interface (GUI) on the client side is implemented in HTML5 and JavaScript. Web GUI functionality currently includes multiple-user management, chat, logbook, console message viewer, configuration GUI, 3D data visualizer, ROOT visualizer, state machine, and command macro creation/execution. The key advantage to the web-based user interface is that web browsers are available on all platforms and devices – users can control their DAQ system from a Linux node, a Windows PC, or their mobile device.

The initial *otsdaq* menu has been populated with a few “Internet of Things” style hardware and firmware options including the PicoZed, BeagleBone Black, and KC705 boards. An *otsdaq* UDP protocol has been developed for transferring data between hardware and software, and compatible template firmware has been written for all of the boards in the menu. This is an example of what is meant by a *coherent architecture*, if a user chooses to use the *otsdaq* UDP protocol, then the software interface plug-in already exists, and the user can communicate with their hardware and visualize their data without writing any software! The idea is as the user community grows, more boards and protocols will be added to the menu.

On the server side, *otsdaq* is implemented in C++, and makes use of the CERN XDAQ software framework for its web server, run control, and various utilities. *otsdaq* includes tools and templates for users to build custom components as plug-ins and integrate them into their system. *otsdaq* currently is designed for Scientific Linux 6 and 7, and each *otsdaq* release will also be optionally available in the form of a Virtual Machine installation making your *otsdaq* system completely platform independent.

*otsdaq* is developed and maintained by members of the Scientific Computing Division at Fermilab. *otsdaq* is a new product; initially supported by the Fermilab LDRD program (<http://ldrd.fnal.gov/>) in 2015. The first stable release was distributed in December 2016. Early adopters include CMS Outer Tracker, LCLS-II cavity test stand, CCD low-noise readout collaboration (UNAM, Mexico; Universidad Nacional del Sur, Argentina; Instituto Balseiro, CNEA, Argentina; Universidad Nacional de Asuncion, UNA, Paraguay; Fermilab), and the Fermi Test Beam Facility.

A ‘First Demo’ tutorial has been developed to allow new and prospective users to get up and running with *otsdaq*. Documentation for the tutorial and installation instructions can be found by following the links to the User Manual from the project wiki: <https://cdcvs.fnal.gov/redmine/projects/otsdaq/wiki>.

Current work on *otsdaq* includes slow controls and monitoring (including compatibility with EPICS - <http://www.aps.anl.gov/epics/>), automated run control, user customizable GUIs, and documentation for additional tutorials.