

MEZURI

SMART DATA FOR DEVELOPMENT

A DEVELOPMENT IMPACT LAB (DIL) INNOVATION AT THE UNIVERSITY OF CALIFORNIA, BERKELEY

THE CHALLENGE: TIMELY AND ACTIONABLE DEVELOPMENT DATA

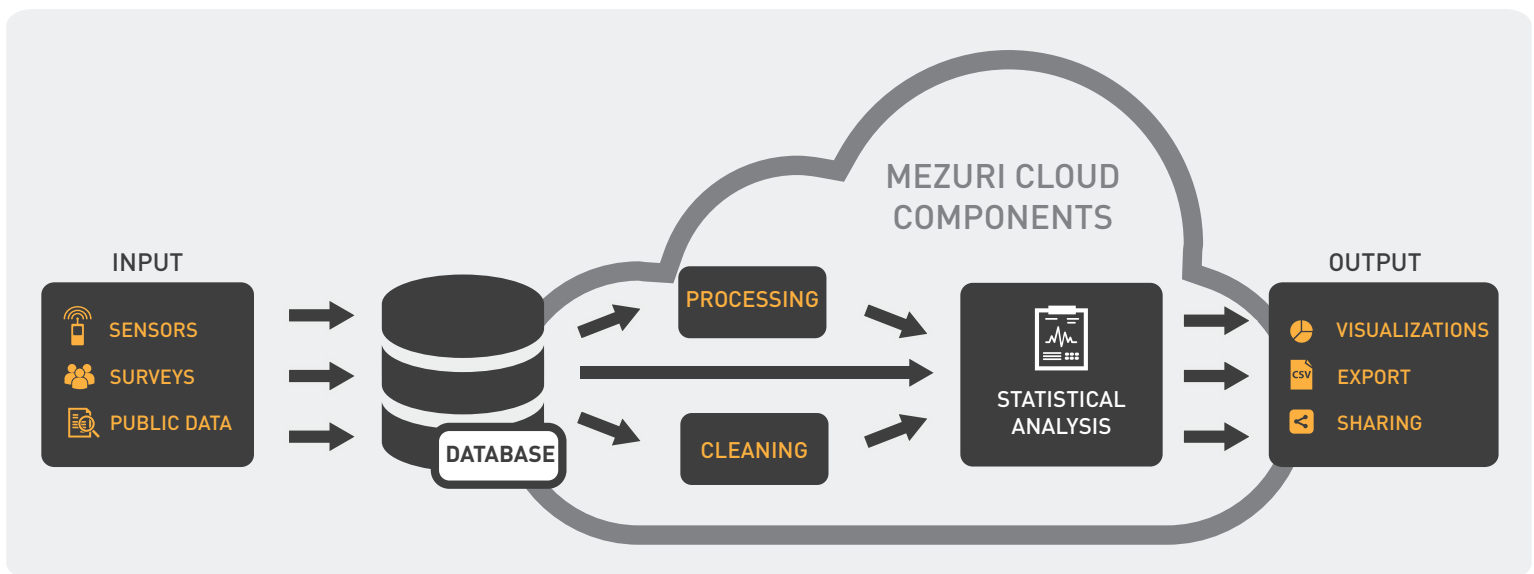
The continual improvement of technology and the digitization of vast amounts of survey, sensor, network, and other numerical and text data are promising more reliable, real-time information for development actors. The ability to use this data, however, is hampered by the inability to process this enormous quantity of disparate data in a timely manner. To overcome this challenge, the development community needs a complete end-to-end data pipeline to not just capture and aggregate raw data, but also process it into meaningful results and provide actionable outputs through compelling visualizations and robust statistics. The Mezuri team is working to build a comprehensive tool that meets all of these needs.

THE INNOVATION: MEZURI DATA PLATFORM

The Mezuri Data Platform is a modular platform for data collection, aggregation, visualization, and decision support, with the ability to take data from a variety of sources, including sensors, surveys, and digital streams. The platform's unique data provenance tracking algorithm ensures that original data sets remain accessible even after analyses have been performed, enabling a truly collaborative and open community of researchers and development actors to share data sets, learn from others' interventions, and build upon prior successes to increase the efficacy of future development interventions. Robust visualization and decision support help researchers to be nimble in their projects, making smarter decisions closer to real time (within hours and days of data collection, rather than months or years).



MEZURI AT A GLANCE



KEY ATTRIBUTES

Flexible data sources: Mezuri can accept data input from a variety of technologies, including Mezuri team technologies like Open Data Kit, SWEETSense, and Lab11 sensors, as well as smart phone apps, manually entered paper surveys, publicly available data sets (e.g. census, weather), etc.

Multi-step data processing, cleaning, and statistical analysis: Workflows can be performed interactively or even automatically as new data comes in.

Provenance and repeatability: Mezuri tracks every data processing step taken and original data sets remain accessible.

Security, scalability, and reliability: A combination of encrypted data transmission, user access control, and a cloud database ensure that all data is safely stored and backed up automatically.

Openness and flexibility: An open-source system, the platform can be extended by its users, and cloud-based processing and analysis routines can be shared, enhancing the development practitioner community.

Sharing and collaboration: Raw input, processed data, processing code, and visualizations can all be shared among team members, research collaborators, funding agencies, or even the public at large so that others can examine and build upon a project's work.

IMPACT

The Mezuri Data Platform stands to revolutionize the way international development impact data is collected and utilized. Social scientists will be able to track impact faster and better, allowing for smarter experiment design, and avoiding repetition of prior work. Engineers and scientists will no longer need to build redundant data management systems and can instead devote their expertise to developing and iterating transformative technologies. Funding agencies and international aid organizations will have access to a continual view of programs, allowing them to understand what is and is not working. Finally, Mezuri will help the research and development practitioner community at large by making it easier to share, vet, and build upon data, processing code, and statistical analysis of existing projects. As in any other field, it is not just more data, but smart data that are the key to more effective programming. The Mezuri platform will deliver smart data to development.

ABOUT THE TEAM

Mezuri is a collaborative effort led by Eric Brewer's Technology and Infrastructure for Emerging Regions (TIER) group at UC Berkeley together with Gaetano Borriello's Open Data Kit group at the University of Washington, Evan Thomas's SWEETLab at Portland State University, and Prabal Dutta's Lab11 at the University of Michigan.



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Portland State UNIVERSITY



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The Development Impact Lab (DIL), an innovation lab at UC Berkeley focusing on technologies for developing regions, harnesses expertise in science, engineering, and economics to maximize the adoption and impact of new innovations for the world's poor. DIL was established in 2013 by the Blum Center for Developing Economies in partnership with the Center for Effective Global Action (CEGA) and with support from the Global Development Lab powered by USAID.