

The Credential Transparency Description Language

Scenario

Three individuals in Topper City each have an interest in knowing more about credentials. Marcella Ortiz, director of human relations for a technology firm, needs to find standards that can help her weigh the increasingly diverse array of degrees and certificates that job applicants are bringing to her company. With his sights on a career in coding, bartender Jack Braithwaite is trying to determine which credentials best suit his vocational aspirations. Susan Trypton, chair of the department of computer science at Topper City University, wants to make sure that the degrees students will earn in the new academic programs she is designing will give graduates a set of 21st-century competencies that employers will value.

While coming from different perspectives and levels of expertise, Ortiz, Braithwaite, and Trypton all found their way online to the Credential Registry. Using technology and a common vocabulary made possible through the Credential Transparency Description Language (CTDL), the registry collects and organizes information about thousands of credentials in ways that can be sorted and searched according to a user's needs.

Ortiz, for example, finds in the Credential Registry rich detail that enables her to compare the competencies that are the basis for many of the credentials she is seeing on job applications. For Trypton, the registry largely confirmed that the competencies the university had designed into its new computer science programs align with those found in comparable programs at other institutions, although her search also uncovered some specific skills that she will ask her colleagues to consider adding to the curriculum for the new programs. Braithwaite takes advantage of the Credential Finder app, where job seekers, students, workers, employers, and others can search for information about credentials. There, he can review more than a dozen specific programs, offering various kinds of credentials, that fit his needs for coding training.

Wanting to know more about the architecture and especially the standards that undergird the Credential Registry, Trypton took a closer look at the CTDL. Her research showed that the CTDL provides a valuable lexicon, developed with broad input from credentialing stakeholders, that helps create and clarify a common understanding of concepts and terminology in the fast-evolving world of credentials. She plans to share that information with colleagues who are developing new programs.

1 What is it?

The Credential Transparency Description Language (CTDL) is a dictionary of terms—a “specialized language”—for describing credentials and credential-related information, including rules for credentialing practices and organizations. The CTDL provides a common, unified, consistent, and transparent vocabulary for describing today's credentials, including diplomas, badges, certificates, certifications, licenses, and degrees of all types and levels. Providing a means for credential-related data to be shared consistently across a wide variety of audiences, the CTDL allows stakeholders to compare key credential data attributes, including eligibility, assessments, courses, costs, competencies, and quality-assurance claims. The nonprofit organization Credential Engine maintains and supports the growth and development of the open-licensed CTDL, which is the backbone of the [Credential Registry](#). While the registry does not capture any student-level data, it does include a web-based collection of data about credentials, as well as tools and services that enable students, employers, and others to examine and compare credentials.

2 How does it work?

The CTDL can be thought of as a lexicon that defines specific subclasses of credentials (e.g., degrees, certificates, badges, etc.) and clarifies the structure and purpose of those credentials. The CTDL helps enable owners of credentials detail them—and update them regularly—using common terminology that can be readily recognized by both search engines and other credential publishers. The CTDL provides a shared vocabulary that supports collaboration across many different groups in defining criteria and standards for credentials. When applied in a context like the Credential Registry, the CTDL helps a wide variety of stakeholders—from universities and corporations to students and human resource directors—effectively compare different credentials.

3 Who's doing it?

To date, some 5,000 credentials have been posted to the Credential Registry. More than 160 organizations partner with Credential Engine, including nine states that use the CTDL to help meet state education and workforce goals. As one example, the [Indiana Commission on Higher Education](#) has published nearly all of the degrees and certificates offered by the state's public two- and four-year institutions, as well as a number of credentials

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from private, professional, and government providers. The [Military Credentials Working Group](#) seeks to bring clarity and transparency to military-related credentials. [More than 50 certification bodies, including NOCTI](#), the nation's largest provider of industry-based credentials and partner industry certifications for career and technical education programs, are also active in the Credential Registry. [The public website Credential Finder](#) (currently in beta) enables users to explore credential data in the registry.

4 Why is it significant?

With the recent proliferation of badges, certificates, micro-degrees, and other measures of an individual's knowledge and skills, the practice of credentialing is rapidly evolving and the range of entities that provide credentials is expanding. [Experts](#) say there is currently not enough clarity about the value, quality, and design of credentials, and this situation complicates the use of credentials by both employers and learners. By providing a metadata infrastructure for shared language about credentials, the CTDL helps clarify definitions of credentials and adds needed transparency to the credentialing marketplace. The CTDL provides a shared language that makes it easier for students, businesses, researchers, and automated systems to discover, understand, and compare information about credentials from a variety of sources and make better decisions, based on their particular needs, about the relative value of different credentials.

5 What are the downsides?

As credentials continue to evolve and proliferate, their development and design have been relatively idiosyncratic and siloed, making meaningful comparisons of credentials challenging. Fundamentally, it is difficult to develop and share standards that enable better assessments of the relative value of different credentials. In terms of the CTDL specifically, it is logistically and perhaps politically challenging to evolve a common language that many disparate credential developers can share productively. Perceptions and assumptions about given credentials may have to change, and broader thinking may be needed overall about credentialing. Work will also be needed from a technical standpoint to create meaningful ways to compare credentials that might now be relegated to silos, requiring some organizations to improve or change the ways

they collect, manage, and share data. Product enhancements and interoperability specifications will also be needed to help institutions better manage credential data across their IT systems.

6 Where is it going?

As the means to recognize and detail learning achievements continue to expand, providers and users of credentials may broaden their use of the CTDL to compare credentials and assess the skills of those who hold various kinds of credentials. As it evolves and grows to support new and emerging credentials, the CTDL will benefit from having more users invested in its use and committed to refining its vocabulary. Public entities such as state governments will likely see increasing value in credential transparency, and more might adopt the CTDL standards for state credentialing. Similarly, a growing number of employer associations and consortia might adopt the CTDL. As learners take more control over the documentation of their learning during the course of their careers, the CTDL vocabulary will likely come into greater use as a tool and standard for defining and clarifying learner competencies and skills. Going forward it is likely that we will see more alignment between the CTDL in the Credential Registry and complementary efforts such as IMS Global's [Open Badges](#) and the W3C [Educational and Occupational Credentials Community Group](#).

7 What are the implications for teaching and learning?

The CTDL is helping spread clarity of meaning about skills and competencies across the credentialing ecosystem. It is becoming an important tool for employers, learners, and others to compare credentials. This transparency will help learners set academic goals and match their academic programs to jobs that they aspire to. The CTDL can help learners make more-informed enrollment decisions and can promote long-term mastery goals that align well with the education and workforce ecosystem. Similarly, the CTDL can help employers match applicant skills to their needs for the workplace. In these ways, the CTDL can help align the supply of credentials with the demand for competencies and skills, promoting an interconnected and transparent marketplace while preparing students, workers, providers, employers, policymakers, veterans, and others for the 21st-century economy.