Credential Engine: Promoting Credential Transparency via a Linked Data Registry

Jeff Grann, Cali Morrison, & Nina Huntemann - January, 2019
What pivotal experience changed your life?

The Problem – Lack of Understanding for All Credentials

The Marketplace of Credentials Is Confusing and Complex:

- Many different types of credentials with variation in content, quality and value.
- The market is expanding - over 330,000 confirmed in the U.S. alone.
- No common language to describe or compare credentials
- Misalignment between industry needs and educational offerings
- No mechanism for stacking credentials based on “competencies.”
Searching for Hotels vs. Credentials

Why are the searches different?

- Travel industry uses linked data
- Credentials currently don’t
  - information is not well-organized or comparable.
  - same term used in different ways (certificate)
  - different terms used in similar way (outcomes, competencies, skills, objectives)
  - machines can’t understand credentials
- With Credential Engine, we're moving the credential marketplace to use linked data, allowing credentials to be found and compared just like cars, flights, or commercial goods.

The Credential Finder pulls data from the Credential Registry and shows credentials with competencies, learning opportunities, and assessments.

New: Search for competency frameworks now available
https://credentialfinder.org
Credentials and Competencies

The graph of credentials, assessments, learning opportunities, competency frameworks, competencies, and the ties between them can be very deep and detailed.

The Credential Engine Registry leverages CTDL to enable these data to be put together, housed, and searched even if it is owned and provided by a variety of sources.

Rosetta Stone

Why was this a significant discovery?
A Common Language for Credential Data

Credential Transparency Description Language (CTDL)

<table>
<thead>
<tr>
<th>CREDENTIAL</th>
<th>ORGANIZATION</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Name / Parent Organization</td>
<td>Price</td>
</tr>
<tr>
<td>Description</td>
<td>Type</td>
<td>Cost Types</td>
</tr>
<tr>
<td>Competencies</td>
<td>Description</td>
<td>Payment Information</td>
</tr>
<tr>
<td>Owned/Offered By</td>
<td>External Quality Assurance</td>
<td>Residency</td>
</tr>
<tr>
<td>External Quality Assurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewal/Revocation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connected Credentials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jurisdiction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSESSMENT</th>
<th>LEARNING OPPORTUNITY</th>
<th>IN DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Types</td>
<td>Labor Market Value</td>
</tr>
<tr>
<td>Competencies</td>
<td>Competencies</td>
<td>Employer Requirements, Preferences, or Recognition</td>
</tr>
<tr>
<td>Assessment Type</td>
<td>Delivery</td>
<td>Career Pathways</td>
</tr>
<tr>
<td>Delivery Type</td>
<td>Requirements, Duration, and Location</td>
<td>Credential Holder Profiles</td>
</tr>
<tr>
<td>Requirements, Duration, and Location</td>
<td></td>
<td>Military-specific descriptors</td>
</tr>
</tbody>
</table>

*For CTDL’s full vocabulary of 300+ terms, visit www.credreg.net*
**Example: Competency Frameworks**

- Competency Frameworks
- Credentials
- Credentials with Competencies
- Learning Opportunities with Competencies
- Assessments with Competencies

**Example: Quality Assurance**

Supports QA actions
- Approves
- Accredits
- Recognizes
- Regulates

Supports QA claims
- Approved By
- Accredited By
- Recognized By
- Regulated By

Bi-directional Verification
Example: Pathways (Expected Spring 2019)

A pathway is…

- a structured set of **objectives** and **qualifying conditions** defining points along a route to fulfillment of a job, occupation or career.

- **Qualifying conditions** include sets of prescribed, preferred or recommended artifacts:
  - Competencies (knowledge, skills, abilities)
  - Assessments
  - Courses
  - Credentials
  - Work experiences
  - Jobs


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How We do it: Transparency Through Technology

**Credential Transparency Description Language (CTDL)** – Common language that describes key features of credentials, credentialing organizations, and quality assurance bodies.

- Common descriptors will allow for better apples-to-apples comparison between credentials.

**Publishing** – After creating a user account, organizations use the API, Registry Publisher, bulk upload, or-in the future-harvest structured data to convert organization, credential and quality assurance information to the common language and publish to the registry.

- Organizations will have a suite of options to add information to the registry.

**Credential Engine Registry** – houses information described by the common language and supports an open applications marketplace.

- Developers will create specialized applications for different types of users, like employers, military veterans, and students.

**Credential Finder Prototype Application** – Basic search to view information in the registry.

- The public will use Credential Finder to see all information in the registry.

**Community** – Receives technical assistance and other services to consume from and publish to the registry.

- Credentialing organizations, developers, and other users will have access to resources like best practices, user guides, and staff support.
Credential Registry Publishing Options

| Manual Entry via the Publisher App | Bulk Upload via the Publisher App | Application Programming Interface (API) | Harvesting CTDL Structured Data from the Web*
|------------------------------------|-----------------------------------|------------------------------------------|-----------------------------------------------|

- Have a just a few credentials?
- Need a low tech solution?
- Want to have your credential data automatically update?
- Looking to move to structured data?

* The process for Harvesting from the Web as a publishing method will be determined as part of 2019 planning.

#ELIWeb @jeffgrann @calimorrison @ninabeth

Third-Party Publishing

**Trusted 3rd Party Publisher:**
A software product or system that can publish credential information to the Credential Registry with permission of their customers seamlessly.

**Credential Engine:**
The account system is automatically updated to show publishing approval and the 3rd party has immediate access to publish to the Registry.

Credential Engine provides the interface for authorized parties to publish credential data on an organization’s behalf.
Questions?

American Public University System
Getting Involved: Leading from the Middle

Using the Bulk Upload Tool

Crafting Your Bulk Upload Tool

On the Registry website, choose the elements, above the minimum reporting elements, your institution/organization wishes to populate with each of the credentials you plan to publish and download your custom .csv file.

Upload to the Registry

Simple upload process, then the review by the Credential Engine team before publishing.

Map Elements to SIS

Craft the map which outlines the element names in your SIS which match with the elements you wish to populate on the registry.

Quality Control Check

Internal quality control check on the data in the CSV file.

Pull Data From SIS to Bulk Upload Tool

In partnership with the IT team in charge of managing data in the SIS, we created a script to populate the CSV.
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- 99% would recommend MicroMasters programs
- 94% said the program met or exceeded their expectations

Questions?

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