
Bridging the Last Mile: Credentials to Employment *Barriers to Adoption*

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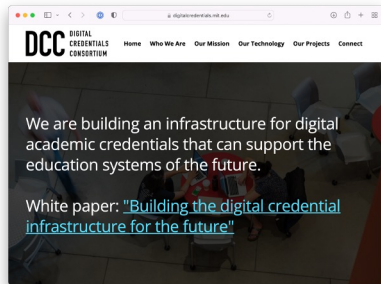
AACRAO Technology & Transfer Summit

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Digital Credentials Consortium (DCC)

Massachusetts Institute of Technology

DCC - Group of 12 Universities



- Delft University of Technology (Netherlands)
- Georgia Institute of Technology (USA)
- Harvard University (USA)
- Hasso Plattner Institute, Potsdam (Germany)
- Massachusetts Institute of Technology (USA)
- McMaster University (Canada)
- Tecnológico De Monterrey (Mexico)
- Technical University of Munich (Germany)
- University of California, Berkeley (USA)
- University of California, Irvine (USA)
- University of Milano-Bicocca (Italy)
- University of Toronto (Canada)

DCC - Guiding Principles | Values

Learners - Commitment to learner agency and participation

- Learners retain primary control over their credentials

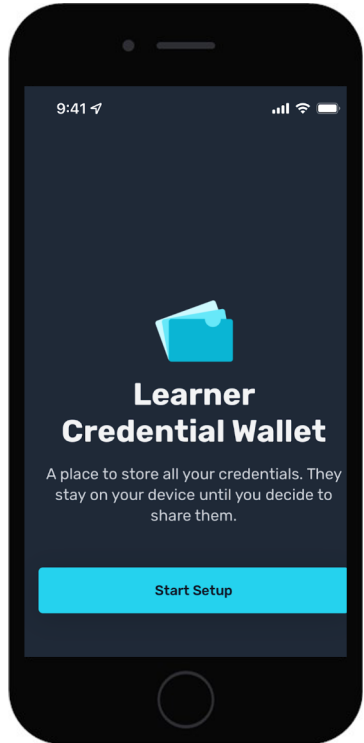
Issuers - Commitment to issuer control of the design of the credential

- Issuers control to whom they issue credentials, the particular achievement that the credential represents, and which credential options are available to the learner

Trust - Commitment to open processes, open standards (W3C VC, CLR2.0, OBv3), and open source software

- Credentials can be verified without consulting original issuer

Learner Credential Wallet (lcw.app)



- Key component of the digital credential ecosystem
- Fully open-source and open-standards based
 - Code available on GitHub under MIT license
- iOS and Android mobile apps available for download
- Deployment pilots with U.S. institutions
- Supported by DCC members, US Department of Education, Walmart

Bridging the Last Mile Report

Semi-Structured interviews with key stakeholders:

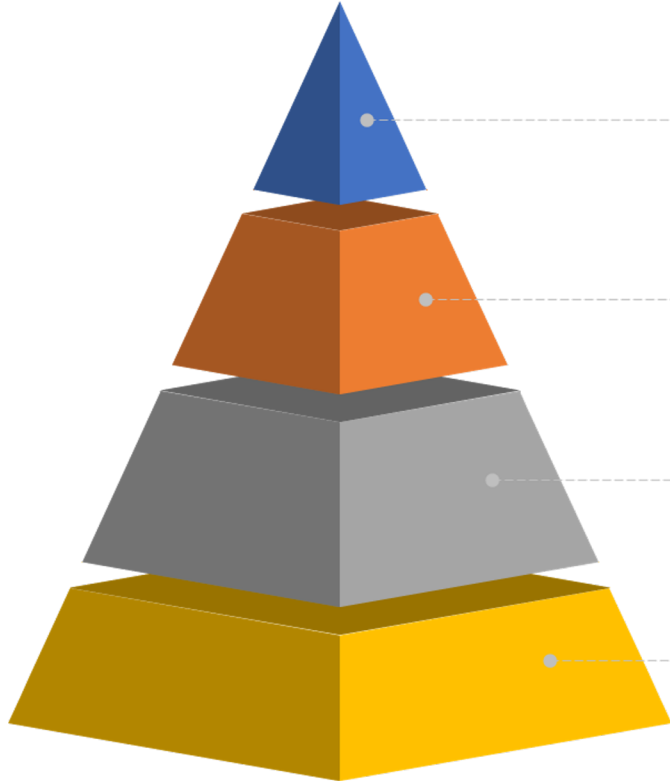
- Employer representatives
- HRMS / ATS vendors
- Credential Issuers

Current Observations based on interviews with 18 persons.
Final study will have observations with approx. 20 persons.

Lead researcher: Anthony F. Camilleri, Knowledge Innovation Centre

Supported by Walmart

What do Employers want from Digital Credentials?



Developing Experience Portfolios

Documenting skills acquisition while in employment

Verifying Credentials

Checking that applicants can back up their claims about achievements with documentation

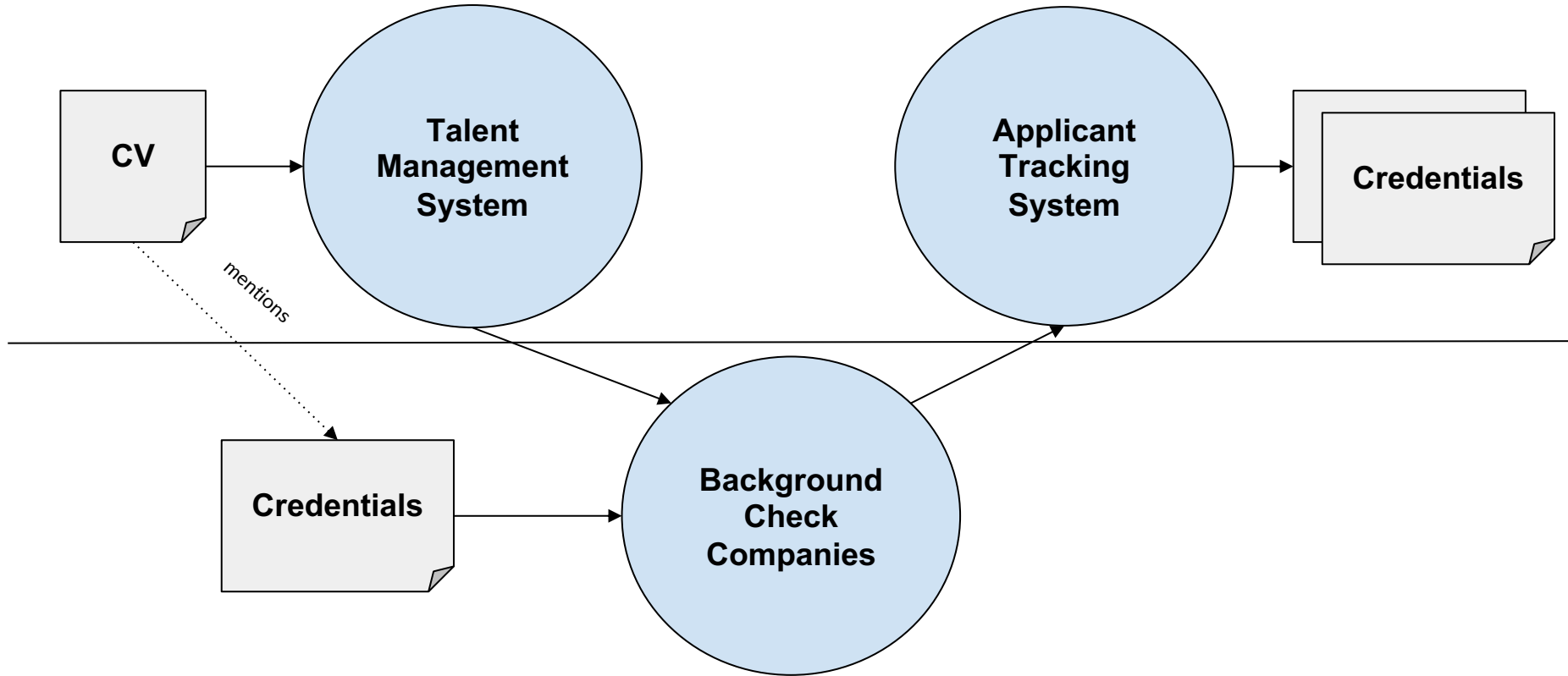
Widening Access

Identifying suitable candidates who may not typically apply for qualify for positions

Matching Jobs to Skills

Accurately describing the full skills and competencies of job applicants and matching these to positions

Simplified View of the HRMS Space



Segmentation of Employers

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	Level of demand for verifiable credentials (VCs)	Role of VCs in continuing education of staff	Motivation for Validation / Verification
Large Employers	Verification already taken care of by credential verification / background check companies	Strong interest in increasing metadata included in credentials for credentials earned during employment	At application stage main interest in metadata. Verification more relevant at pre-hiring stage.
Small Medium Enterprises	Tends to be done in house (or not done) - verifiable credentials would offer significant benefits, but only if low barrier to entry	Hard to do - SMEs tend not to have a training infrastructure of their own - more something that would come from outsourcing partners	At application stage metadata is critical - verification of the credential only comes at pre-hiring stage.
Regulated professions	Verifiable credentials are an absolute necessity for every application process	Strong alignment with use of verifiable credentials for continuing education	Credential verification can be prerequisite to enter application process

Towards a Tipping Point of Adoption

For high-value academic credentials (diplomas) automatic verification only does not offer sufficient value to drive adoption.

Existing verification systems are not *bad enough* to incentivize change.

Rate of uptake will be directly correlated with the volume of credentials and the quality of metadata.

Insight

There is a **gap between the value digital credentials provide today and the potential benefits they offer in the future (and expectations of these benefits)**

Barriers to Adoption - Processes

- For simpler use cases: the 'chicken and egg' problem
- (Potential) Issuers do not issue the types of credentials employers need or want
- The design of CVs and their relationship to credentials is built for a paper-first world
- Strong interest in skills-based hiring, but few case-studies or evidence of success (to date)
- Next-Gen credentials that better represent skills bring advantages to users, but not necessarily to the issuers

The Skills-Based Hiring Paradox

Employers claim **skills-based hiring is the future** while **continuing to rely on degrees** as proxies for talent and **not issuing skills-credentials** for achievements of their own employees (which might be the key enabler of skills-based hiring)

Barriers to Adoption - Systems

- Many of the standards and technologies necessary for adoption of true skill-based hiring are still relatively new
 - Academic achievement <-> CV linking
 - Sectoral competence frameworks
 - Standards for trust
- The stickiness of existing trust networks for credentials has been underestimated
- Validation of credentials (as opposed to verification) is largely unsolved

Recommendations

Moving Beyond Pilots - Start Issuing Data- Rich(er) Credentials at Scale

- For 'equivalence' credentials - issuers should issue to entire student cohort as soon as possible, rather than continue to focus on pilots
- Only requirement is selecting widely accepted envelope (and content) standards
- In short-term, minimise risk by maintaining primacy (or equivalence) of older forms of credentials
- Continue piloting and experimenting with more complex use cases, but not at the expense of deployment

Create an 'Open Benchmark' for Digital Credentials

- Demand (demonstrated) interoperability and compliance with existing open standards (JFF Plugfest)
- Short answer: Open Badges v3 or other W3C Verifiable Credentials based standards (CLR 2.0 supports OBv3)
- This could take the form of a 'guidance for use' standard or a Gallery of Examples, endorsed by key stakeholders from across the skills space

Develop Trust Infrastructures

- Leverage existing processes for accreditation, as well as other trust registries
- Work with trust issuers in the licencing/accreditation domain to digitise their lists and link them to credentials
- Include information on trust networks in issued credentials
- Opportunity to more actively engage with professional associations

Enhance the Evidence Base for Skills-Based Hiring

- Implement **end-to-end** high-quality deployments, performed within a closed system that meet the following criteria
 - Requirement for verified credentials
 - Network of approved providers / qualifications
 - Mix of degrees and continuing professional education credentials
 - Clear competence requirements / progression pathways
- Conduct additional research on skills frameworks, and the extent to which skills can be documented and serve as a proxy for talent

Increase Employer-Issuing of Skills and Achievement Credentials

- Research & Pilots
 - Which processes in employment can be adapted to incorporate formal skills assessments
 - Necessary prerequisites, both technological and methodological
 - How to integrate them seamlessly into HRMS systems, and issue credentials to them more or less automatically
- Scope for significant knowledge transfer between academia and employment in this area

Tackle Validation

- Making display and validation libraries available would lower burden on developers who need to support multiple semantic standards and credential styles
 - APIs are also an option, but a less resilient choice
- Incentivizing a network of validators (linked to specific use cases) is key to accelerating adoption
- Regulated professions (for example healthcare) seem to hold most potential for these use cases

Propose a 'Digital Credentials Roadmap'

- 5 year plan that makes clear what can be done now, what is for the future, and what are the prerequisites
- With full participation of employers, issuers, trust-providers, standardisation experts and SIS/HRMS vendors
- Could be convened by any stakeholder with enough influence, or by government
- Leveraging a wealth of existing research from many orgs

Questions / Comments?