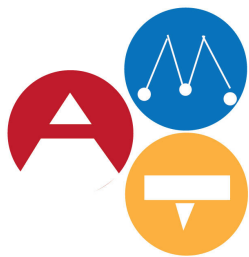


The Future of Micro-Credentialing: An Overview of Digital Badges for the Arts

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Introduction

When an arts organization is looking to hire someone new, one of the first things hiring managers review is the resume. Under educational experience, GPAs and degrees from accredited, learning entities in bricks-and-mortar facilities tend to be listed and sometimes revered. However, as many within the arts can attest, these elements hardly illustrate many of the essential skills needed to recognize qualified applicants. More often than not, this means that attention is largely focused on the previous work experience section. For the seasoned hire this works well, but for those just entering the workforce, it creates a difficult environment. Furthermore, traditional metrics also fail to recognize self-directed learning and the vast array of alternative learning resources that individuals can access.

Digital badges are an alternative method of credentialing that can identify specific skills a learner has mastered through the course of their own self-directed learning. Badges can be acquired in online, in-class, or apprenticeship learning settings. Arne Duncan, the US Secretary of Education, has said, "badges can help speed the shift from credentials that simply measure seat time, to ones that more accurately measure competency [...] badges can help account for formal and informal learning in a variety of settings."¹ In other words, the use of digital badging is facilitating a shift where the education section of a resume tells a manager just as much information about an applicant as the work experience.

To help clarify this, the Center for the Future of Museums explains, "One badge might represent your completion of an on-line course on collections management. One

might represent your packing and shipping skills acquired via a workshop you took at the last museum conference and an internship. Yet another documents the projects you completed as a volunteer at the Major Prestigious Museum."²

In spite of the great potential that digital badges offer for distinguishing an individual's job-specific credentials, work must be done to make them more widely understood. [A recent survey by Extreme Networks](#) showed that 46% of participants believed that digital badging is not yet widely recognized, and 34% of participants didn't fully understand the concept. The same survey also showed that over 60% of participants believed that digital badges will eventually either supplement or entirely replace diplomas and course certificates.

The following research work is meant to be a guide for hiring managers in the arts that:

- Defines what digital badging is;
- Explains suggested taxonomies of digital badges (because not all badges are created equal)
- Reviews the acquisition process;
- Introduces initiatives to standardize and create accreditation;
- Compares viewpoints on strengths and weaknesses compared to the traditional learning accreditation model;
- Demonstrates the need for digital badges as a credential;
- Suggests other considerations for using digital badges in the hiring of employees.

Defining Digital Badges

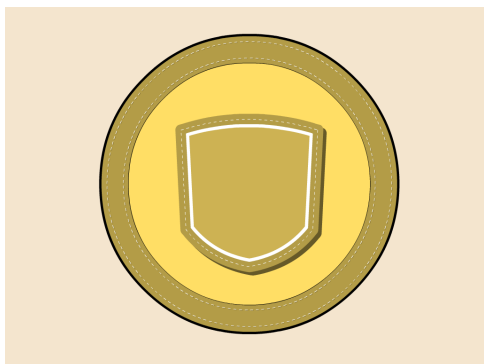
At the most basic level, a digital badge is a digital visual representation that symbolizes

¹ "Digital Badges for Learning," US Department of Education, September 15, 2011, Accessed April 20, 2015.

² Elizabeth Merritt, "Open Enrollment: Digital Badges for Museum Futurists," *Center for the Future of Museums*, March 5, 2013, Accessed March 1, 2015.



the student having achieved a unit of learning. It can show mastery, accomplishment, service, or authority and represents knowledge, skill, or achievement of a set goal.³ It is very similar to the badges awarded to Boy and Girl Scouts, and in the same way there is a wide variation in the types and weight of skills. The section on taxonomy will dive much more deeply into this variety.



This image illustrates the basic physical look of a digital badge
Image Source: [Classhack](#)

Functions of Digital Badging

According to Daniel Hickey, associate professor and program head of learning sciences at Indiana University, the intended functions of digital badges are fourfold.⁴

³ Cathy Davidson, "Why Badges Work Better Than Grades," *HASTAC*, March 21, 2011, Accessed April 20, 2015.

⁴ Daniel Hickey, "Intended Purposes Versus Actual Function of Digital Badges," *HASTAC*, September 11, 2012, Accessed April 20, 2015.

Working with the MacArthur Foundation, he identified the following design principles:

- Recognizing Learning
- Assessing Learning
- Motivating Learning
- Evaluating Learning

While each of these functions is worth investigation for organization interested in educational reform, the following research focuses on the first principle: recognizing learning through digital badging.

Why Digital Badges?

"Badges [provide] an alternative and more in-depth method for students and workers to demonstrate knowledge and skills. Meanwhile, badges also give employers a new way to assess critical but hard-to-measure skills such as creativity, communication, teamwork and adaptability." -Connie Yowell, Director of Education, MacArthur Foundation

Badges can do more than simply verify a single skill or set of skills; within their metadata they have the ability to contain testimonies, criteria, and dating with third party verification. The most notable advantage of digital badging is the development and recognition of learning pathways; that is, rather than completing the set series of classes and learning modules laid out by a degree program, learners design their own array of classes tailored to their own interests and objectives. This includes the ability to complement their learning using more than just one learning setting. "Single schools (or teachers) do not have to do *everything* for *everyone*, but can rely on the wealth of the community to offer experiences they do not provide[...]we can enable learners[...]to see learning not as something that happens within certain

walls, on certain days and not in the summer, but as a lifelong pursuit.”⁵

Beyond the depth of information, badges can verify a breadth of information that traditional grading structures do not acknowledge. Websites such as [Open Study](#) are dedicated to using badges to recognize skills such as teamwork, problem-solving, initiative, passion and engagement.⁶ “According to most employers, the skills we do not grade are often the ones most important to future success in the work place. What we do not grade--interpersonal skills, collaborative skills, imagination, innovative, initiative, independence--are many of the things employers want in future employees.”⁷ Through badge recognition of learner traits in addition to hitting learner benchmarks, more of these skills can be recognized.

The [American Alliance of Museum Trendwatch](#) notes that digital badging creates an exciting situation for cultural institutions in particular:

“When any learning, on or offline, can be converted into a recognized workplace credential, museums are less likely to be confined to the fringes of the formal education system and more likely to move into the mainstream. Microcredentialing through digital badges (or other systems of recognition) is a window of opportunity for museums, a way to validate the education that draws upon their digital resources and education staffs. The fragmentation of credentials could also increase the value

and visibility of non-degree training that museums already offer, like in-service teacher training.”⁸

Badge: Arts Advocate



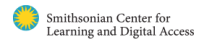
Badge Description

The arts, whether visual, literary or performing, allow for creativity and a personal story to be told in a unique way. Artists use different mediums to describe experiences of others or their own to help tell a story. Art can help communicate ideas and messages in subtle and not-so-subtle ways. Art can be used as a tool to link various disciplines and provide an outlet for creativity and connections to present a topic, such as water, in a new way.

Completing this Badge successfully means...

You understand many ways that art can be used to communicate experiences, ideas and connections about water to other subject areas.

Brought to you by



Produced by



Digital Badge Acquisition

A vital piece of information in the information offered by a digital badge is the manner in which it was acquired. There are several ways in which someone can earn a digital badge; the following are some of the most common.

MOOCs: MOOCs are online classes that allow a limitless number of students to enroll with virtually no barrier of entry.⁹ [As AMT lab contributor Caroline Brent noted](#) last year, Massive Open Online Courses (MOOCs) are proving a potentially beneficial platform for arts organizations that wish to supplement their educational programming.¹⁰ MOOCs often take a gamified approach to learning, which is intended to provide a more motivating experience for the learner. Online courses can show a variety of skills and learning experiences. Websites like Code Academy show the completion of interactive learning units of coding languages, and Khan

⁵ Timothy Cook, "Learning Pathways." - The Saxifrage School," *Medium*, November 7, 2014, Accessed March 2, 2015.

⁶ James Crotty, "Badges Lend Gravitas To Free Education Revolution," *Forbes*, February 25, 2013, Accessed March 1, 2015.

⁷ Cathy Davidson, "Why Badges Work Better Than Grades," *HASTAC*, March 21, 2011, Accessed April 20, 2015.

⁸ "Trendswatch 2013: Back to the Future," *American Alliance of Museums*, Accessed March 1, 2015.

⁹ Caroline Brent, "What's a MOOC?" *Arts Management and Technology Laboratory*, March 19, 2014, Accessed March 1, 2015.

¹⁰ Caroline Brent, "MOOCs for Arts Managers," *Arts Management and Technology Laboratory*, April 9, 2014, Accessed March 1, 2015.



Academy shows expertise in any number of learning areas. Students can take classes in math, science, or arts and humanities; they can also do units on test preparation. Kevin Carey, director of the education program at the New America Foundation, says that MOOCs only need an official credential to be able to keep up with traditional college credentials.¹¹ [Forbes has stated](#) that digital badging is the top contender for becoming this credential.

Translating Existing Experiences: Websites have also been created to recognize certain learning after the fact. Badges for Vets shows skills that Vets already acquired during their military service, but does so in a streamlined, easily digestible format in digital badging¹². This makes it easier for veterans to articulate the skill sets they acquired during their service into hiring terms, thereby easing the transition into civilian work.

Community Organizations: Many community organizations offer badges to recognize the voluntary learning students are doing outside the classroom. Organizations like the [Urban Arts Partnership](#) use badges to recognize arts learning and they build upon each other to represent mastery.

One of the most impressive models of community badging is the collaborative structure of Cities of Learning.¹³ Chicago¹⁴ and Pittsburgh¹⁵ are just two cities that have

adopted a badging system for accrediting student extracurricular learning, encouraging students to continue learning during the summer months. Cities of Learning partners with local community organizations to create a spread of badges which students can earn should they choose to attend learning experiences at partner organizations. Badges certify skills as diverse as being able to operate a camera, keeping a good attitude, and learning the basics of woodworking or 3d printing.

Educational Institutions: Several high schools and universities have adopted badging as a means to supplement and further recognize existing learning credentialing. SUNY uses badges to indicate course completion within a certificate program, allowing students to display subject area learning without having to complete the entire certificate program.¹⁶ Seton Hall University issues badges to attendees of events, recognizing school participation as well as attendance to optional workshops and classes on subjects such as diversity, community emergency training, and leadership.¹⁷ Michigan State University issues badges for event attendance as well as exemplary performance in classes.¹⁸ Noteworthy participation is the main credential recognized by colleges. Carnegie Mellon is also working on an online program that uses badges to certify high school student

¹¹ Kevin Carey, "Here's What Will Truly Change Higher Education: Online Degrees That Are Seen as Official," *The New York Times*, March 7, 2015.

¹² "Badges for Vets II Digital Badges Help Connect Skilled Veterans to Opportunities," *Open Badges Blog*, November 11, 2013, Accessed April 20, 2015.

¹³ "Cities of Learning," *Connected Learning Alliance*, Accessed April 20, 2015.

¹⁴ Nancy Scola, "Connected Learning: Chicago Tests 'Digital Badges' to Track Education," *Next City*, March 31, 2014, Accessed March 1, 2015.¹⁸

¹⁵ "Badges You Can Earn," *Pittsburgh City of*

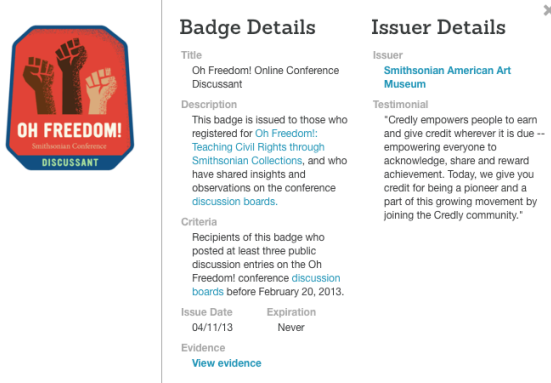
Learning : Explore Pittsburgh, Discover Your Future, Accessed March 2, 2015.

¹⁶ "Innovative Library Services Through Technology Certificate Program," *State University of New York*, August 5, 2014, Accessed April 20, 2015.

¹⁷ "The Badges Blog," *Seton Hall University*, Accessed April 20, 2015.
"Badges," *Badges | Michigan State University*, Accessed April 20, 2015.

participation and learning of key principles in robotics and computer science.¹⁹

Cultural Institutions: Institutions such as the Metropolitan Museum of Art, Museum of Modern Art, and J. Paul Getty Museum have their own learning units on Khan Academy. Students who earn badges in these units can show their initiative to gain expertise on normally exclusive subjects such as conservation, curating work, and arts management. The Smithsonian has their own MOOCs specifically oriented toward encouraging participation in their educational modules and exploring their website.²⁰



Badge Details

Title
On Freedom! Online Conference Discussant

Description
This badge is issued to those who registered for *On Freedom! Teaching Civil Rights through Smithsonian Collections*, and who have shared insights and observations on the conference discussion boards.

Criteria
Recipients of this badge who posted at least three public discussion entries on the *On Freedom!* conference discussion boards before February 20, 2013.

Issue Date 04/11/13
Expiration Never

Evidence
[View evidence](#)

Issuer Details

Issuer
Smithsonian American Art Museum

Testimonial
"Credly empowers people to earn and give credit wherever it is due -- empowering everyone to acknowledge, share and reward achievement. Today, we give you credit for being a pioneer and a part of this growing movement by joining the Credly community."

Taxonomies of digital badges

Not all badges are the same, and can indicate varying breadths and depths of learning experience. [Teacher and technologist](#) Grant MacDonald [notes](#) the need to develop taxonomy for these badges so that the integrity of the credential is not compromised based on a lack of understanding of the different types of badges. MacDonald suggests that there are two types of badge: Non-competency and competency.

¹⁹ "About the Badge System," *Computer Science Student Network*, Accessed April 20, 2015.

²⁰ "Badges." *Smithsonian Quests Digital Badging for the Classroom and Beyond*. Accessed March 2, 2015. <http://smithsonianquests.org/badges/>.

Non-competency badges: Within non-competency badges there are two types: encouragement badges and social badges. These resemble "good work!" stickers on a paper, or friendship cards. These are mainly useful for young learners and are not within scope of this paper, as they are not useful for formal credentialing.

Competency badges: According to McDonald, competency badges can be broken down into three types:

- **Achievement:** Based on reaching a measurable achievement; MacDonald gives the example of running a certain distance within a certain time.
- **Skill:** Used to credential expertise within an area. These apply to acquisition of a full skill set, rather than of a single event; the complexity of the recognition makes it so that these types of badges are the most useful to provide evidence of job-worthy skills.
- **Mission:** This indicates that the learner has completed a series of activities to achieve the badge. These are also worthy of recognition as a credential, proving that the learner has most likely engaged in several cross-disciplinary levels of learning in order to reach mastery.²¹

All competency-based badges can provide valuable information to hiring managers, depending on the competencies being displayed.

A more detailed way of thinking about a potential taxonomy is framed by Dr. Ilona Buchem, Professor of Digital Media and Diversity at [Beuth University of Applied Sciences Berlin](#). She suggests that the

²¹ Grant MacDonald, "Digital Badges - A Suggested Taxonomy," *Learning in the Cloud*, July 4, 2014, Accessed March 1, 2015.



taxonomy be broken down by content, issuer, and process, and beneath each of these divisions, there are subdivisions under which each badge may fall.²²

Content related: This category defines what it is that the badge represents. Subdivisions of this are:

- Achievement badges: Demonstration of achievements
- Capability badges: Demonstration of knowledge, skills, competence
- Potential badges: Indicators of future performance
- Participation badges: Evidence of participation (such as attending a conference, event, etc)
- Membership badges: Membership in a club, organization, etc.
- Commitment badges: Attitudes, values, beliefs
- Encouragement badges: Again, the badge that functions as a “good job!” sticker

Depending on the badge and what the hiring manager is looking for, all of these categories have the potential to be valuable in hiring except for encouragement badges. Here we can see that formal skills, interpersonal/attitude-based skills, and participation can all be summarized through the badge.

Issuer related: This category states who issued the badge; in other words, it defines the relationship of the reference.

Subcategories are:

- Organizational: University, employer, formal
- Team: Group, teams; formal individuals
- Social: Friends, peers
- Vendor: Vendors to their clients

²² Ilona Buchem, "Digital Badges / Open Badges Taxonomy," *MedienDidaktik 20*, February 28, 2015, Accessed April 20, 2015.

Organizational and team badges are the main types relevant to hiring; the social and vendor categories represent informal or purchased relationships, rather than formal working and team-based relationships.

Process related: This category shows how the badge was achieved. Subcategories are:

- Activity badges: A single, measurable activity was completed
- Mission badges: Completion of a series of activities that make up a “mission”
- Assignment badges: Completion of a single assignment
- Composite badges: Completion of multiple assignments
- Progress badges: Making progress on a specified task
- Grade-based badges: Based on formal grades

For hiring, the process defined by the badge may be less important, although it can give the hiring manager a sense of the depth of experience. Mission and composite badges, for example, represent the completion of numerous activities and assignments, which indicates more work was done in that area.

While there is no formal taxonomy of digital badging, this proposed schema offers managers an idea of the hierarchy of information represented by badging.

Open Badges: The Main Initiative to Standardize Credentials

It is relatively easy to simply create and issue a digital badge. Since they are issued and displayed virtually, it is a largely unregulated practice that begets questions of validity and worth. Beyond looking at the institution that issued it and its position within the taxonomy of digital badging, it is important to understand how long ago it was

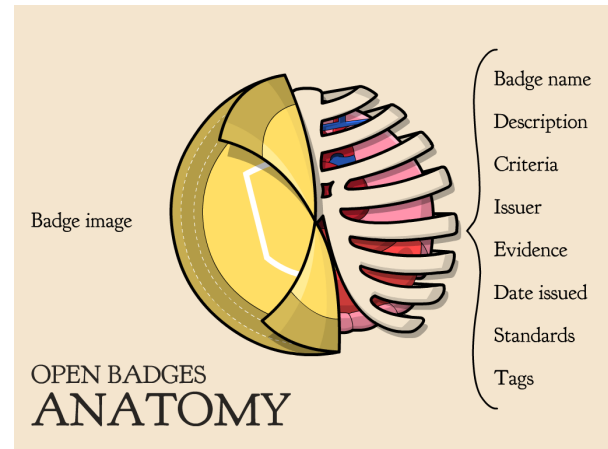
earned and the detailed process of acquisition. For example, did the student watch a video or did the student complete interactive units that required a display of skills to ensure moving on to the next level? Did s/he simply attend an event, or was s/he an active participant? It is also important to be able to guarantee that the person claiming the badge in fact earned it rather than just copying then pasting the image of a badge. There is no official standard, but Open Badges is a framework that largely addresses and is working to solve all of these problems.

[The Open Badge framework](#) was created by Mozilla, perhaps best known for the web browser [Firefox](#). Open Badges was released in 2013 after almost 2 years of research and development by [Mozilla](#), [the MacArthur Foundation](#) and [HASTAC](#). The Open Badge software sets a technical standard that any organization can use to create and verify their digital badges.

When defining how an Open Badge differs from a digital badge, one needs to understand that the only qualifying factor for a digital badge is the physical image that acts as a representation of the achievement. While it is capable of holding more information, this is the most basic requirement, essentially acting as a trophy. On the other hand, as former Mozilla employee Doug Belshaw [described](#), the metadata in Open Badges is “baked” in.

An Open Badge (or similar badged credential) [...] includes metadata with value beyond the image; for example, the metadata will usually include the identity of the badge issuer, the date of issue, and the criteria the badge holder met. In spite of the superficial resemblance, and the use of the word “badge,” Open Badges and credentials

*are not an example of gratuitous gamification.*²³



The above image summarizes the contents of Open Badge metadata fairly well. [Open badge metadata](#) includes information about the skills acquired and what the earner had to do to show mastery, the qualifications of the issuing party, larger skill sets proven, and verification of the earner’s identity. Open Badges [include authentication channels](#); this means that when someone is confirming the validity of a badge, they can “call back” the issuing party and confirm that this badge was in fact issued to this person. Another useful tool is the Open Badge’s ability to expire. Therefore skills that need to be refreshed or can become outdated can have credentials that reflect the timeliness of the skill acquisition.

The other advantage of the Open Badge is the ability to integrate multiple badges from different sources into a single location. Open Badges [have what is called a “backpack”](#), where the person who earns

²³ Bill Brandon, "Open Badges: Portable Credentials for Learning by Bill Brandon : Learning Solutions Magazine," *Learning Solutions Magazine*, January 28, 2013, Accessed March 1, 2015.



the badge displays all the badges that they earned. The backpack is then able to be shared on websites, social media, LinkedIn, resume, etc. [This makes it easier](#) for prospective employers or clients to access and view the metadata.

There are several organizations that are issuing and/or developing badges on the Open Badge framework, and [Mozilla lists them all here](#).

Potential drawbacks to Digital Badges

Drawbacks to digital badges mainly center around the question of accreditation. "Another possible flaw in and potential downfall of this system revolves the difficulties and dilemmas of deciding what the badges represent, how one earns the badges, and how badges will be standardized for recognition of 'institutions' of learning and of employment. This lack of consensus about the meaning of badges will create further problems once the learner leaves that learning platform. What value will the badges have in unrelated institutions?"²⁴ Because there is not yet an official accreditation process, anyone can make a digital badge, myself included. In fact, you get a digital badge at the end of this article simply for reading it. (created with: <https://credly.com/>) If you recall the suggested taxonomies, this is really more of an encouragement badge (aka non-competency, although the skills being laid out are certainly the start to acquiring competency!) This is why checking credentials of the issuer are so essential.

In the same vein, lack of understanding of the taxonomies of digital badges can create confusion for those who imagine digital badges as gamified, youth-oriented badges.

²⁴ Jackie Gerstein, "I Don't Get Digital Badges," *User Generated Education*, March 15, 2013, Accessed March 2, 2015.

While these certainly exist, again, not all badges are created equal.²⁵

Another potential issue is "carpet badging". Carpet badging is the mass awarding of badges with little or no assessment of work; this, again, comes as a result of accepting badges from sources that do not hold themselves to a high standards. Institutions that have taken the time to gain accreditation and become part of the open badges initiative are not likely to be a part of this, and are therefore the safest bet when looking for a digital badge source.

When digital badges are presented as a credential, it is important to ask oneself what information is being presented. In spite of the attractive layout and touted benefits, it is important to not be dazzled by the imagery, and instead look for support of the type of skills—physical or interpersonal—that the job needs, just as one would through any other credential. In addition, make sure to closely check the accreditation of the badge. While this extra work may seem a little much, it is important to remember that unlike items on a resume, badges are already third-party validated, so what you see is largely what you get.²⁶

²⁵ Bob Nilsson, "Will Digital Badges Replace Resumes... and Diplomas?" *Extreme Networks*, March 21, 2014, Accessed March 1, 2015.

²⁶ Nilsson, Bob, "Will Digital Badges Replace Resumes... and Diplomas?" *Extreme Networks*, March 21, 2014, Accessed March 1, 2015.



A creative imagining of "carpet badging"
Image Source: [Classhack](#)

Conclusion

As employers, there are many skills essential to the workforce that a standard degree listed on a resume can tell little to nothing about. Furthermore, when learning and experiences are desired or achieved it is difficult to motivate students to pursue or demonstrate competency. "Without a way to capture, promote and transfer all of the learning that can occur within a broader connected learning ecology, we are limiting that ecology by discouraging engaged learning, making critical skills unattractive or inaccessible, isolating or ignoring quality efforts and interactions and ultimately, holding learners back from reaching their potential."²⁷

Universities and organizations alike are beginning to utilize digital badging, signifying the growing recognition they have within the educational sector.²⁸ As more professionals come to recognize the various resources students have to learn, we are witnessing a shift toward a new

methodology of credentialing this learning. However, it is important to note:

"The badge is neither a means nor an end. Let us not use badges as a tool for motivation, but as a tool for way-finding and archiving. They may look pretty, but their real power lies in their ability to visualize opportunities and capture learning. Badges should not make us care, but they can help us see what to care for and hold on to it for the future."²⁹

Rather than being a means to totally replace learning strategy, the digital badge instead builds a portfolio of learning that is more comprehensive and skill-specific than a traditional degree. As we encourage students to participate in 21st century learning, we must begin to recognize and understand what 21st century learning recognition looks like. By doing so, we can also create a more efficient hiring process in which the most qualified individuals are brought into teams that fit them and their skill sets with increasing accuracy. Digital badging, if properly understood and held to the high standards, has the potential to be the greatest method of recognizing truly meaningful learning, regardless of how that knowledge was acquired.

²⁷ "Open Badges for Lifelong Learning," *Mozilla Wiki*, August 27, 2012, Accessed April 20, 2015.

²⁸ Adam Croom, "A Brief History of Digital Badges in Higher Ed," *Adam Croom*, April 22, 2014, Accessed March 2, 2015.

²⁹ Timothy Cook, "'A Badge Won't Make Me Care,' The Saxifrage School," *Medium*, November 26, 2014, Accessed March 2, 2015.



Appendix I: Additional resources

[A Brief History of Digital Badges in Higher Education](#), for those interested in diving into how traditional learning institutions have implemented badging

[Connected Learning](#), the founder of Cities of Learning

[SkilledUp](#), a website for MOOCs on any desired subject.

[Mozilla's List](#) of Organizations Developing and Issuing Open Badges.

[Badge Alliance](#), a network of organizations and individuals trying to provide a rich infrastructure for the use of open badges.

[Credly](#), a resource for organizations or educators who would like to create their own digital badges

Appendix II: Article Badge

For reading this white paper, you have earned a digital badge. In order to claim it, you will need to make an account on [credly.com](#) and enter in the claim code. The badge will hold metadata on how it was earned and what it signifies. Congratulations!



Claim code: 805-B504-331

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