

## *Digital Badging*

### Purpose

This research brief outlines common terms, constructs, benefits, and challenges surrounding the broad concepts of digital badging and related areas. It is intended to help provide a shared vocabulary to make further discussions of these important approaches more productive, and highlight areas of opportunity and further research.

### What is a badge?

In this context, a badge is a form of recognition. It might be awarded for an achievement, the attainment of a skill, or a certain level of accomplishment. The classic example is a Boy Scout merit badge, earned after completing a series of activities and demonstrating the accomplishment<sup>1</sup>. If you attain a sufficient number of individual badges you become an Eagle Scout.

A military award such as a Purple Heart is a badge that represents that the recipient was injured in battle, a form of recognition for sacrifice and service to the country. A trophy might be considered a badge that recognizes participation or achievement in sports. Many companies give out plaques, trophies, and other visible emblems to honor and recognize employees.

Technology certifications offered by CompTIA, Microsoft, or Cisco are a form of a badge earned by taking a test to demonstrate knowledge or skills. Certain jobs may even require specific certifications.

In the broadest sense, a college degree can be considered a badge, in that it is a recognition that one has met a high level of established education requirements. However, **badges tend to refer to recognitions for smaller achievements than a full degree**, and have traditionally been associated with learning or achievements for extra-curricular activities or specialized skills.

Going forward, we will consider badges to be in contrast to a formal degree. It is a form of **alternative credential**.

In sum, badges:

- can be formal or informal, academic or non-academic, permanent or temporary, and can take any number of physical forms;
- generally refer to recognitions for specific achievements or skills or activities as opposed to the breadth of a full college degree;
- can help individuals personalize how they communicate their accomplishments and abilities;
- may have an expiration date, requiring the recipient to renew or re-earn it.

Physical badges have obvious limitations. Who carries a printed skill certification with them to a job interview? Instead, people might list it on a resume, but in many instances these are difficult to validate, or even to appreciate the meaning. As everything moves online, digital options are

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<sup>1</sup> Here is a merit badge example for Bird Study:  
[http://www.scouting.org/filestore/Merit\\_Badge\\_ReqandRes/Bird\\_Study.pdf](http://www.scouting.org/filestore/Merit_Badge_ReqandRes/Bird_Study.pdf)

being created to address the issues of validation, explanation, portability, accessibility and permanency.

### **What is a digital badge?**

Quite simply, a digital badge is a badge displayed in digital form.

According to the MacArthur Foundation, *“Digital badges are an assessment and credentialing mechanism that is housed and managed online. Badges are designed to make visible and validate learning in both formal and informal settings, and hold the potential to help transform where and how learning is valued.”*

The first half of this 3.5 minute video on digital badges from the MacArthur Foundation provides an excellent overview: [MacArthur Foundation: What is a Digital Badge](#).

Digital badges have distinct advantages over physical counterparts. They can be placed onto a resume on LinkedIn (see an example of how this is done on one site here: [How to Add A Digital Badge to LinkedIn](#)) or anywhere the recipient chooses (portability). The resume viewer can click on the badge to see highly detailed information about how the badge was attained (accessibility, explanation), for how long it is valid (permanence), etc. Digital badges typically are controlled by the badge issuer on a secure site, not the recipient. This helps ensure authenticity and proper validation.

In September 2011, the Mozilla Foundation released a set of open source technical specifications and standards called the **Open Badges Initiative**: [About Open Badges](#)  
These standards establish certain core infrastructure elements, such as the metadata that can or should be tagged to a digital badge and specifications for the badge’s security. Information about the badge includes at least three categories:

1. The Badge Assertion – includes a unique identifier for the badge, the recipient, data to help a third party verify the badge, a brief description of the type of badge, and the date it was awarded;
2. The Badge Class – the name and description of the achievement the badge represents, as well as criteria for earning it;
3. Issuer Organization – the name and description of the issuing organization, along with contact information.

In brief, a digital badge and accompanying metadata need at the very least to communicate who earned the badge, what achievements the badge represents, and who issued/awarded it. The intent is to enable greater understanding of the badge and ease of verification. It also may include information about how the badge fits within a particular set or collection of badges. (More on stackable credentials later.)

Source: [Mozilla: Open Badge Specification](#)

The specifications continue to be refined. In 2014 a network of organizations and individuals founded the **Badge Alliance**, a group dedicated to fostering and growing the open badges approach.

In addition to Mozilla's Open Badges, multiple start-up companies have developed **badging platforms**, systems where digital badges can be earned and displayed. Most often, platforms embed a completion process in the design of a specific system which will automatically issue a badge when specific goals or metrics are met. Examples may be passing a chapter test in online learning, posting a 10<sup>th</sup>, 25<sup>th</sup> or 100<sup>th</sup> blog post or watching a certain number of videos.

Once earned, platforms also allow for the transfer and display of the badges and can often allow badge skills to be searched by employers. Examples include [Mozilla](#), [Badgeville](#), [Credly](#) and the [Badge Alliance](#). Many of these platforms have requirements on issuing and earning badges but there is no single set of standards that exist across platforms. The more the standards become common, the easier it potentially becomes for users to earn badges, issuers to create them, recipients to share them and employers to search for them.

### **Why are digital badges such a topic of conversation in education currently?**

Interest in digital badges arises from the merging of multiple forces. These include:

- the ever-increasing prominence of digital technologies and online education
- the need for lifelong learning when technology is changing so quickly
- the increasing cost of college degrees
- the increasing prominence of the non-traditional learner in colleges, who may have to stop and start formal education due to job and family circumstances
- the spread of various alternatives to college, such as boot camp models and MOOCs
- the skills gap between the jobs available and the current capacity of the workforce
- the focus on demonstrations of competency in certain skills rather than seat time or semester-length courses as a means of measuring college credit (competency-based education models).

All these forces converge on the need for alternative credentialing beyond the traditional degree structure, and the need for individuals to document and communicate (especially to potential employers) their demonstrated skills, competencies, and experiences.

According to educational policy analyst Kevin Carey, *"The badges movement is based on the idea that people should be able to gather useful, verifiable evidence of everything they learn, not just everything they learn while attending an accredited postsecondary institution."*

Source: [Chronicle.com: A Future Full of Badges](#)

Badges are also gaining momentum not as separate from college degrees but as a component within them, signaling benchmark achievements along the larger degree path. These address some of the limitations of college degrees, such as:

1. College transcripts list courses, but not skills. There is a lack of granularity.
2. College grades are subjective and don't necessarily establish a clear level of competency.
3. Partial completion of degree programs doesn't come with recognition for what the student has learned.
4. College programs can be theoretically focused without clear and direct job relevance.
5. Employers are becoming more vocal in complaining that recent college grads are not prepared for the workplace.

For a more thorough dissection of limitations of degrees in their current form, see pages 4-5 of this white paper from Pearson's badging platform Acclaim: [Pearson: Open Badges for Higher Education](#).

### **What is a microcredential and is it different than a digital badge?**

There is no formal definition of a microcredential. Some researchers use the terms microcredential and digital badge interchangeably. Others consider them to be different, in that a digital badge is a means of representing any credential digitally, while a microcredential could be represented as a digital badge or in paper or other physical form. Clearly, however, these concepts go together; they represent the trends towards greater specificity in identifying and signaling skills, and recognizing learning beyond formal or comprehensive education/training.

This PPT presentation from a think tank forum provides an excellent overview of microcredentials from the perspective of the certification industry: [Knapp International: Micro-Credentials: Is Small the Next Big Thing?](#)

### **What are stackable credentials?**

Designing credentials that "stack" enables learners to have something to show for each benchmark achieved or skill demonstrated after engaging in meaningful learning or work activities. Stackable credentials can then be put together (stacked) to attain a higher-level recognition. This model provides a modular alternative to traditional two and four-year degree credentials that may better align with the needs of working life-long learners.

With a stackable credential model, *"students are able to earn shorter-term credentials with clear labor market value and then build on them to access more advanced jobs and higher wages. These stackable post-secondary certificates and credentials would offer an accelerated entrance to the job market, which is essential for students who need to work while in school and may not be able to wait four to six years to finally earn a marketable credential.... Stackable*

*credentials also increase the persistence and motivation of the learner by offering smaller, yet recognized subgoals.”*

Source: [McGraw Hill: Portable, Stackable Credentials](#)

Examples of programs designed to be stackable -- including DeVry University's medical coding and billing program and EdX/MIT's "MicroMasters" in data science -- can be found here: [US News: 'Stackable' Credentials Rise in Online Education](#).

### **What are some ways that digital badges are currently being used?**

Here are some current examples of how digital badges are being used:

- The UC-Davis Sustainable Agriculture Program, a competency-based model, uses a badging system to document the achievement of the broad program outcomes – such as “systems thinking” - that employers have said is required for people who specialize in this cross-disciplinary field.  
[UC Davis: Digital Badges at the Agricultural Sustainability Institute](#)
- Badges for Vets provides digital badges to veterans who completed specific military training programs as a means of signaling some of the hireable skills employers may be seeking.  
[Badges For Vets: Badge Overview](#)
- Digital Promise, an organization promoting innovation in the nation's education system, has developed a system to help school teachers attain badges (referred to as micro-credentials) by submitting evidence that they have attained certain skills, such as the ability to check for understanding during lessons. In many cases, badges attained fulfill professional development requirements even across state lines.  
[Digital Promise: Educator Micro-Credentials](#)
  - For a sample of the available micro-credentials: [Digital Promise: Sample Micro-credentials](#)
  - This white paper from NC State University explains lessons learned from the implementation of teacher micro-credentials: [NC State Seven Lessons Learned from Implementing Micro-Credentials](#)
- As a means of recognizing education attained outside of formal schooling, such as a Massive Open Online Course (MOOC) or an afterschool program:
  - [Open edX Features](#)
  - [Mooshme.org: AMNH Summer 2013 Badging System Report](#)
- An example of badging used outside of education (but with potential relevance) is on online Q&A or ranking websites. Badges can motivate certain behaviors (e.g. writing reviews, etc.) and establish credibility for frequent users whose questions or responses

have been helpful to others. They also help participants establish themselves as a member of the specific online community. One example is Stack Overflow: [stackoverflow.com: Help Center - Badges](https://stackoverflow.com/help/badges)

### **What about the use of digital badges within courses?**

Motivation is another way to use digital badges in the form of gamification. By establishing badges within a course, teachers and instructional designers can motivate certain behaviors and encourage focus on the achievement of a series of “chunked” learning goals.

In this case, the badges are meaningful only in the context in which they are used – they are not external-facing, and therefore we won’t go into more detail on them here.

However, it is also possible that a course or program may have internal-facing badges during the course/program, and then provide an external-facing badge at the end. Here is an example of such a youth leadership program that does so:

[adacemia.edu: Digital Badges: Recognizing, Assessing, and Motivating Learners In and Out of School Contexts](https://adacemia.edu/digital-badges-recognizing-assessing-and-motivating-learners-in-and-out-of-school-contexts)

Perhaps assessment language can be helpful here. When used within courses, badges can be either formative or summative.

Badges may be used to place emphasis on outcomes that may not be part of the typical assessment plan. According to the same article as the link above from the *Journal of Adolescent & Adult Literacy*:

*“In a traditional learning context, there are many gaps in the assessment and evaluation system, including an inability to place value on skills generally not recognized in the classroom. Badges shift the focus from achievement measurement through rubrics to personalized achievements that validate learning experiences inside and outside of the classroom environment. When embedded into a curriculum and content rich environment, digital badging ecosystems validate the process of learning and specific skill development that may be missing from traditional learning assessments and evaluations.”*

## **How has DV X explored digital badges?**

DV X has partnered on several pilots related to the use of digital badges.

### **Badging Soft Skills/Internship**

DV X partnered with the DeVry University Career Services team and badging platform BadgeCert to explore using badges to signal certain soft skills and learn whether employers find badges meaningful. The research began with employer focus groups, where we learned that employers felt they couldn't tell an applicant's soft skills from resumes, and that badges would be more meaningful to them if they came from a third party as opposed to from DeVry.

This led to a project where a prototype badge was developed that potentially could be earned by someone who scored the highest possible score on the rubric used by the internship employer. The rubric focuses primarily on soft skills.

We then sent a group of employers resumes with badges and resumes without them. While we found that internships are important to employers, and displaying a badge on a resume may offer some value, we also discovered that employers don't yet know about the interactive nature of digital badges; not a single outside employer clicked on a digital badge to see additional information.

There is clearly a long way to go in educating employers about digital badges and the information they contain. This discovery is in line with other research suggesting that hiring managers are just beginning to learn about badges, particularly outside of the tech industry, where they are more widely understood and accepted:

[US News: What Employers Think of Badges, Nanodegrees from Online Programs.](#)

### **Badging Honors**

DV X partnered with the leaders of DeVry University's Honors College and the badging platform BadgeCert to learn whether a digital badge would motivate students to participate in the Honors College, or would motivate existing Honors College students to complete the program.

Structured interviews found that students did value the digital badge and (for some) would make them more likely to participate and/or complete the program.

### **Badging Ungraded Coursework**

DV X partnered with Chamberlain College of Nursing and the badging platform Youtopia (a member of the DV X Labs 1871 Ed Tech Incubator) to explore whether using badges as a form of gamification within courses would make it more likely for students to complete activities that are expected but not graded. Students received badges for completing their textbook reading ahead of class (assessed with a 3-question quiz at the start of class) and for completing their online case studies successfully the first time they were attempted.

On average, badges did not increase activity completion rates. Explanations could be that students did not see value in this type of internal-facing badge, that the badging system may not



have been explained sufficiently, or for other context-specific reasons. Incorporating this type of gamification requires careful attention to how badge value is communicated, and requires frequent attention from faculty.

### **Badging Study Abroad Preparation Activities**

DV X partnered with the Study Abroad program at DeVry University and the badging platform Youtopia to track and recognize students for completing the series of activities that need to be done for participation in the Study Abroad program. This program requires quite a bit of paperwork, and the idea here was to inject some sense of fun and accomplishment in the completion of otherwise unpleasant but essential tasks.

Students and faculty found Youtopia useful as a centralized place to track activities and to store documents. However, the meaning of the badges themselves was not fully clear to them. This study again emphasizes the importance of clear communication of purpose and value of badges.

### **Challenges and Future Trends with Badges**

#### **Learning curve for hiring managers**

As mentioned earlier, digital badges are still so new that many employers are simply not aware of what they are, how they work, and what they can mean. This will undoubtedly change over time as digital badges become more common.

#### **Need to maintain badge metadata over time**

Any organization wishing to issue a badge needs to keep in mind the need to maintain the digital information associated with it. For example, if DeVry University were to issue a badge for participation in the Honors College, it requires determining for how long the badge will be maintained with the badging platform.

#### **Potential of badge value dilution**

Assuming that badges will become more common, there will come a point where applicants will need to consider how many badges are appropriate to include on a resume or some other means of display. The more badges there are, the less they may mean. It will be incumbent on the holder of the credential to determine which ones mean the most, and potentially, a job applicant can customize a resume by prioritizing some badges more than others. Additionally, while some badges may not expire, the distance from attainment of that badge may lessen its value.

#### **Need for continuing standardization**

The Open Badges Initiative has been a significant turning point in making badges more viable for a variety of issuers and providing guidance on what a badge is and what information it should include. However, there is still no guidance available on distinguishing between a badge



attained for a 2-hour workshop or a six-month full-time boot camp. Not all badges are equal, by any means, and it may prove useful for a taxonomy of badges to be developed. Another way this may occur is with a ranking system that enables employers or others to rate badges on their meaning/value and have that information readily available. Movement towards “connected credentialing” is occurring, in which credentials will be more directly comparable. For more on connected credentialing, see: [EDUCAUSE Review: Credentials Reform: How Technology and the Changing Needs of the Workforce Will Create the Higher Education System of the Future](#).

### **Wallets/Backpacks**

Digital badges need to be portable. It is likely that a badge earner will have badges stored on multiple badging platforms. These can be difficult to track and use, so newer developments include the use of digital “wallets” or “backpacks,” means by which badges from different platforms can be easily consolidated and shared.

### **Badges for Soft Skills**

A survey of more than 400 employers, cited in [research](#)<sup>2</sup> by the Economic Policy Institute, noted that employers found that the four most important job skills are oral communication, teamwork/collaboration, professionalism/work ethic, and critical thinking/problem solving. According to the paper, *more than 90 percent of employers surveyed declared these “soft” skills to be “very important.” However, these are exactly the type of skills for which alternative credentials do not widely exist. As such, these are potentially prime candidates of skills appropriate for recognition with digital badges.*

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<sup>2</sup> Economic Policy Institute – The Need to Address Noncognitive Skills in the Education Policy Agenda, Emma Garcia, Dec 2, 2014

## Appendix

Badging Platform	Description	Website	Key Customers	Cost
Acclaim Pearson	Partners with academic institutions and organizations to create proprietary, verified digital badges	<a href="http://www.youracclaim.com">www.youracclaim.com</a>	Capella AXELOS Microsoft Adobe	Per User or Per Badge
Accredible	Offers and end-to-end certificate management platform. Allows institutions to create and award badges. A freemium site that asks users to pay for premium credentials	<a href="http://www.accreditable.com">www.accreditable.com</a>	Udacity Hootsuite Kaplan	\$1.50 to \$2.50 Per Badge Issued
BadgeCert	Enterprise-class hosted software platform enables organizations to recognize their stakeholders' accomplishments with dynamic digital badges	<a href="http://www.badgecert.com">www.badgecert.com</a>	Ohio State AACE SMEI Dale Carnegie	Per Badge Issued
Basno	Allows organizations to create, customize and distribute badges. Basno badges grant owners' recognition from friends, family, and businesses	<a href="http://www.basno.com">www.basno.com</a>	NYC Marathon NYU Fulbright Ironman	\$55 - \$415 per month platform usage fee
Credly	Digital badge platform that recognizes lifelong learning by letting users verify, share and manage digital badges and credentials	<a href="http://www.credly.com">www.credly.com</a>	Learning Machine UCF Notre Dame	N/A
Digital Promise	A non-profit organization originated by the U.S. Congress as part of the 2008 re-authorization of the Higher Education Opportunity Act that has built a badging platform recognizes built for teacher professional development	<a href="http://www.digitalpromise.org">www.digitalpromise.org</a>	Chicago Library  Verizon  Beacon Project	N/A
Mozilla Open Badges	Viewed as the standard for creation and verification of digital badges. Badge issuers and developers have access to software that will allow them to build badges.	<a href="http://www.openbadges.org">www.openbadges.org</a>	Chicago Summer of Learning  CGI America	Free