

A comprehensive guide to digital badges.

This is your in-depth guide to what digital badges are and how they are used.



Introduction

This is a comprehensive guide on digital badges. In this document we will go into detail on what they are, how they fall into the greater category of digital credentials, their history, how they are used, how they are aggregated, issued, and verified, as well as review common criticisms of digital badges.

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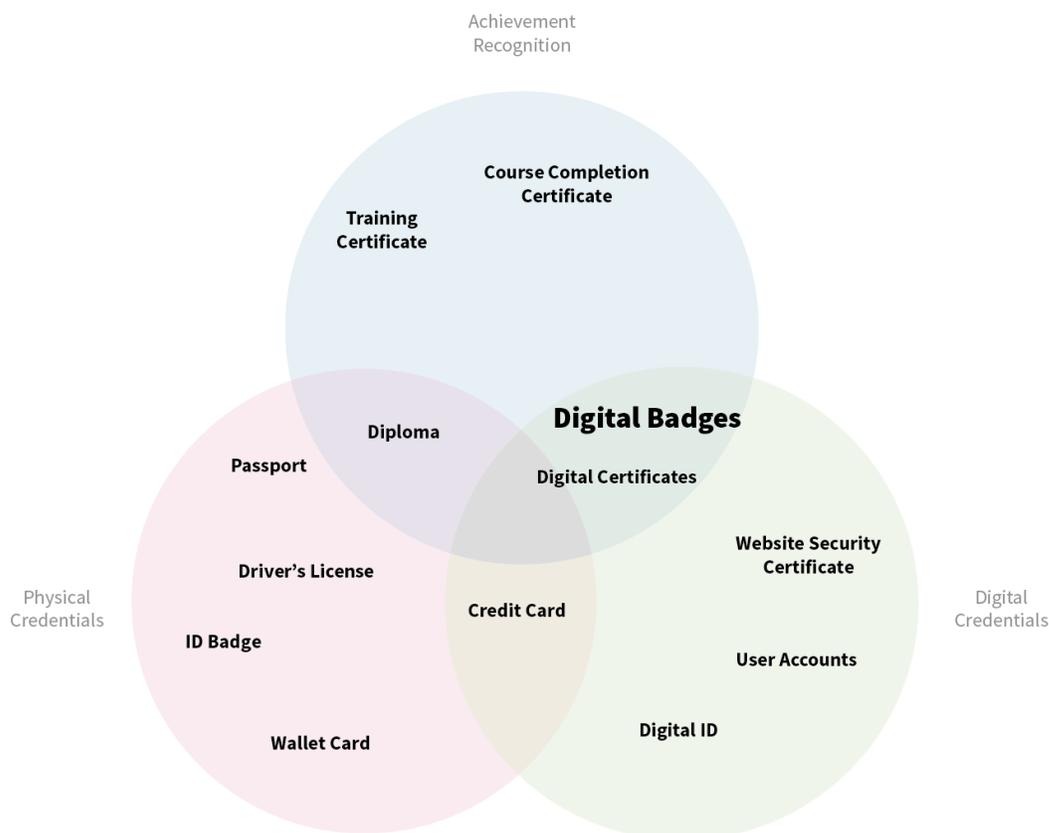
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What are Digital Badges?

Simply put, a digital badge is an indicator of accomplishment or skill that can be displayed, accessed, and verified online. These badges can be earned in a wide variety of environments, an increasing number of which are online.

Disambiguation

The term “badge” or more specifically “digital badge” in some circles has become a catchall term for any form of digital credential. This isn’t accurate however, and is often a source of confusion. Digital badges are just one subset of digital credentials, and this fact is worth diving deeper into.



Digital Badges are just one part of the larger credentialing ecosystem. There are many ways to recognize an achievement, and many forms of proof for a variety of needs. A Digital Badge serves both as recognition of learning or achievement AND digital proof of that accomplishment. | Source: Accredible

Defining Digital Credentials

Digital credentials are digital forms of any type of physical credential. These

range from driver's licenses, passports, tickets to membership certificates, online certifications, training completion certificates, and countless other examples. Digital credentials are simply digital versions of these traditionally paper credentials, that shows proof of some kind of qualification, completion, clearance, or competence. On a practical level, these digital credentials should be verifiable just as their paper counterparts. All should contain the individual's name, what the credential is for, who issued it, and if necessary, when it expires.



A Passport is a common physical credential which shows proof of citizenship. A Digital Badge is a common digital credential showing proof of learning or an achievement | source: US State Dept.

Confusion Across Industries

Because of the wide array of credentials and industries adopting the term “digital credential” it is often difficult to determine exactly what is meant when someone references digital credentials. For example, some tech industries consider a password or user ID as a credential. In the online learning industry, a digital credential is often associated with a digital version of a traditionally paper certificate used to designate course completion or competency.

We'll be exploring digital credentials as they apply to some form of learning or achievement. This includes higher education, continuing education / executive education, MOOCs, associations, online learning, training programs, certifications, bootcamps, awarding bodies, and more.

Categories of Digital Credentials

There are three forms of learning-associated digital credentials:

1. *Test-based Digital Credentials*
2. *Digital Certificates*
3. *Digital Badges*

Test-Based Digital Credentials

Like the name suggests, test-based digital credentials are awarded to individuals who can prove competency in some subject through a proctored exam. Often times this exam is done online, but it's not uncommon for individuals to travel to physical test centers to complete their examination. This is common for higher stakes credentials. For example, to receive one of the various certifications offered by the [International Association of Privacy Professionals \(IAPP\)](#), individuals schedule either an online or in-person examination through the IAPP website. These test-based credentials are very similar to online certificates (see below), the main difference being they require an exam to pass. The output - a digital version of a completion certificate - is often the same, however.

Digital Certificates

Digital certificates are essentially the same as test-based digital credentials, but they don't require a proctored exam to receive. Often these digital certificates are issued for completion of a course or seminar, or might be the digital equivalent of a certificate of membership of a group or association.

Digital Badges

Badges are still very much in their early stages of growth, and as a result are much more ambiguous in their application (which is one of the reasons why we created this guide). Sometimes they're awarded for higher stakes accomplishments, such as completing a rigorous examination or passing a course. Other times they're given out for low stakes tasks such as watching a video or going through an HR training program. Whereas test-based digital credentials and digital certificates are designed to look similar to their physical counterparts, digital badges have a more unique look.

A (Brief) History of Digital Badges

Most are familiar with the concept of a badge, but digital badges weren't really on anyone's radar until around 2011 when Peer 2 Peer University and The Mozilla Foundation co-authored a paper titled "[An Open Badge System Framework](#)." In this paper, a badge was defined as "a symbol or indicator of an accomplishment, skill, quality or interest." Example systems included the Boy Scouts of America, Girl Scouts, and even technology companies like Foursquare. According to the report, badges "have been successfully used to set goals, motivate behaviors, represent achievements and communicate success in many contexts. . . . [B]adges can have a significant impact, and can be used to motivate learning, signify community and signal achievement."

The paper does highlight one very important fact about badges - context is more important than design: "[T]he information linked to or 'behind' each badge serves as justification and even validation of the badge."

In short, it's imperative that the badge includes information on who earned the badge, what the badge represents, how it was earned, when they earned it, who issued it, and whenever possible, evidence examples of the work that went into earning the badge.

The Open Badge Standard

The Mozilla Foundation would go on to develop an open technical standard called [Open Badges](#) in 2011, which served as a common system for issuing, collecting, and displaying digital badges across various websites and non-profit organizations. Contextual information like "what the badge represents, how it was earned, when they earned it, who issued it" is critical to the definition of a badge in this standard.



The Open Badges standard was founded in 2011 by the Mozilla Foundation. | source: Open Badges

Open Badges 1.0 was launched in 2012, and by 2013 over 1,450 organizations were issuing badges. The Badge Alliance, a network of organizations and individuals committed to building and advancing Open Badges, was formed in 2014. In 2014, Concentric Sky and edX partnered to launch Badgr, an open source project to serve as a reference implementation for Open Badges. In 2015 IMS Global Learning Consortium announced their commitment to Open Badges as an interoperable standard for credentials, and later in 2016 it was announced that stewardship of the Open Badge standard itself would officially transition to IMS Global on January 1, 2017.

The Anatomy of a Digital Badge

In addition to the image-based design we think of as a digital badge, badges have meta-data to communicate details of the badge to anyone wishing to verify it, or learn more about the context of the achievement it signifies. Together these data should provide all the information needed to understand what the badge signifies: Who received the badge? Who issued the badge? What was the criteria for issuing the badge? Does it Expire?

Some or all of this information will be displayed in a visual format wherever the badge is displayed, but it is also stored within the digital badge's meta-data so it can be verified any time - even if you only have the image!

Other information like tags, expiration date, whether or not the credential was revoked are optional fields that may or may not be displayed with the badge image, but will always be included in the meta-data if they are relevant to the badge.



 **Example Certificate Title**

Earned by **Jordan Smith**

This is an example description - you can write anything you want here.

We recommend describing the achievement.

Issued on	Issuer	Follow
August 14, 2014	 Example Organization	  

Skills / Knowledge

Example Skill

Sample Knowledge

Example badge (issued using Accredible) with meta-data shown. The badge image shown here will contain copy of all the information on display (issue date, badge name, etc) that can be retrieved later, even without visiting the webpage. | source: Accredible

In order for a digital badge to be Open Badge Compliant, it needs to have certain required meta-data:

- *Badge Name*
- *Badge Criteria (Often written in the description section)*
- *Badge URL*
- *Issue Date*
- *Issuer (an account or record associated with the organization issuing the badge - at least their name)*
- *Recipient (an email or user account associated with the badge owner)*

Other meta-data is optional, but very useful to help explain to anyone viewing the badge it's context and current state.

- *Alignment (Standards adhered to)*
- *Additional Information about the Issuer*
- *Expiration Date*
- *Evidence URL*
- *Revocation / Revocation reason*
- *Tags*

The Many Functions of Digital Badges

Just like their real-world counterparts, digital badges serve a wide variety of purposes depending on the issuing body and the individual. For the most part, badges' functions can be bucketed into one of five categories.

1. *Motivate Participation*
2. *Motivate Collaboration*
3. *For Recognition and Assessment*
4. *Act as Alternative Credentials*
5. *Represent Competencies*

1. Motivate Participation

This is one of the core functions, to encourage participation by recognizing individual participants. [TripAdvisor's issuing of digital badges](#) to users were meant to recognize their most frequent contributors and encourage others to follow suit. Numerous organizations rely on badges boost participation in employee training and other HR programs.

2. Motivate Collaboration

Most online communities rely on a small number of individuals generating a majority of the content and discussion, which means fewer overall opinions. By using digital badges as rewards to encourage collaboration, a wider variety of voices and perspectives can be elicited, which can in turn help to engage more individuals in discussion or data-sharing. For example, [OER Commons](#) uses badges to encourage collaboration among teachers, educators, and more in their online community.

3. Recognition and Assessment

Digital badges can be used to recognize quality, indicate trust, or represent awards. In the education space they're often associated with various types of assessments, including summative (evaluation of prior learning), formative (provide guidance

and feedback), or transformative (reshape the learning process). Digital badges are most commonly associated with formative assessment where an individual is provided feedback and his or her progress is tracked. This is common with massive open online courses (MOOCs for short) and online assessments. Badges can also be strung together to show various “levels” of mastery obtained over time.

4. Alternative Credentials

Some consider badges a potential threat or challenger to diplomas given the fact that more and more online education programs are adopting badges to mark achievement. However, this notion is hotly contested. It’s more common for individuals and organizations to recognize the modular nature of badges versus the comprehensive nature of a diploma or degree. But again, this is up for debate.

5. Represent Competencies

In most educational programs, traditional time-based assessments provide a single quantitative grade, more often than not on some kind of “pass - fail” scale. Badges provide a more modular and flexible way of showing various levels and combinations of competency or mastery.

How Badges are Issued and Verified

Badges are issued by individual organizations who set criteria for what constitutes earning a badge. They're most often issued through an online credential or badging platform. These platforms allow organizations to design, issue, and manage the various badges they want to award to individuals.

Most advanced digital badging platforms offer integrations into Learning Management Systems (LMS for short) that automate the issuing process after a course or program is completed (and passed).

The actual issuing of a badge, in practice, is only one of many steps in what can be a much longer process. At a higher level that process may look as follows:

- 1. Determine what skill or achievement to recognize*
- 2. Set the criteria for what constitutes earning the badge*
- 3. Develop test or course criteria/curriculum*
- 4. Make the curriculum available to individuals (can be free or paid, online or in-person)*
- 5. Score or evaluate those who enroll in or complete the course, to determine who will receive the badge*
- 6. Design and issue the badge via a digital credential platform*

As stated before, the purpose of this final step is to award a badge to serve as an indicator of accomplishment or skill that can be displayed, accessed, and verified online. And now that a badge has been issued to an individual, he or she can share it in various formats. These might include social media, personal websites, email signatures, professional profiles (ex: LinkedIn), and resumes.

The Importance of Sharing and Verification

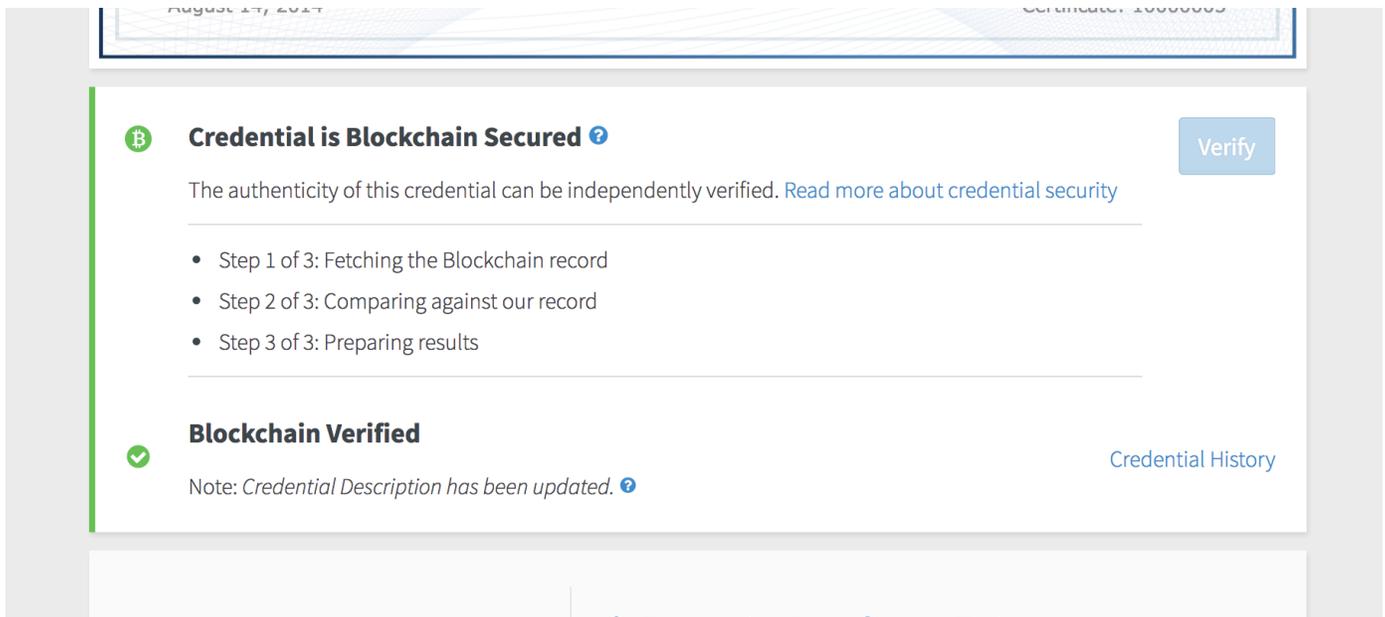
Individuals work to earn digital badges for a specific purpose. Sometimes that's general self-improvement, but often it's because they're trying to show current or potential future employers that they are continuing to grow or have acquired new

skills. This means two things:

1. *Individuals will want to share or display their digital badges*
2. *Third party “verifiers” will want to be able to verify the badge is legitimate*

If an individual can't share their badge, and if a third party can't verify it, then the value of the underlying credential is significantly diminished. This is one of the main reasons for the Open Badge standard. Third party verifiers can see the various meta-data associated with the badge to determine if it is valid. Again, these data include things like:

- *What the badge is called*
- *The name of the organization that issued the badge*
- *What the badge represents*
- *What an individual had to do to earn the badge*
- *The name of the person who earned the badge*
- *When the badge was issued and if it expires*



Example of Accredible's new ability to verify the legitimacy of badges or certificates using the Blockchain. | Source: Accredible

The end goal is for a third party (such as a current or future employer) to be able to quickly and easily see what the badge represents and verify that it is legitimate.

Criticism of Digital Badges

There are various arguments to be made against the implementation of digital badges. For example, some people argue that they may encourage hierarchical relationships when implemented online. Other times, badges are criticized for encouraging behavior that may be beneficial for the issuer but not necessarily the individual. Some claim that administering badges for things that people are doing or should be doing reduces people's motivation to complete those tasks when the reward is removed.

Specifically in education, the “gamification” of earning badges raises concerns that students may start to obsesses about earning as many badges as possible instead of on mastering the right material, or that the badges offered may not even represent anything of value. The problem of “meaningless” badges is brought up often, especially when badges can be earned for simply signing up for a course or watching a video. This leads to the biggest criticism of badges, their perception as “low stakes,” or even worse, a claim that due to the frequency of their use as such that they fundamentally cannot be viewed as “trusted credentials.”

How do you know a badge is valid or credible? How do you know a badge was earned and not simply handed out for the passing of a trivially low bar? These are important questions to consider.

There are ways to address these criticisms, most commonly along the lines of requiring that embedded records of who issued the badge are supported by links to pages explaining in detail how and why the recipient earned it, and providing further details regarding their program. This can mitigate some concerns, but the debate will undoubtedly continue.

The Future of Digital Badges

With the rise of online education and the increasing availability of high quality massive open online courses, more and more individuals will choose to learn new skills outside of traditional colleges and universities. This is not to say that traditional methods of learning will go by the wayside. It simply means that a college or university diploma is no longer the only credential that can be used to evaluate the competency of an individual.

This does mean, however, that third party verifiers (re: employers) will demand that they can evaluate the quality of an individual's achievement in the same way they were able to when evaluating a traditional diploma. In short, there will be an increasing need for verifiable digital badges and digital credentials in the coming years.

Look for three things from badges in the not-so-distant future:

- 1. Badges will continue to gain popularity as a way to signify learning achievement*
- 2. The need to verify the legitimacy of badges will increase as more organizations enter the market and offer their own online courses*
- 3. More and more employers will rely on badges and other forms of digital credentials when making hiring decisions*

Next Steps

If you want to learn about implementing a digital badging program for your organization, or want to look at improving your existing badge program, contact us or sign up for your free Accredible account at Accredible.com.