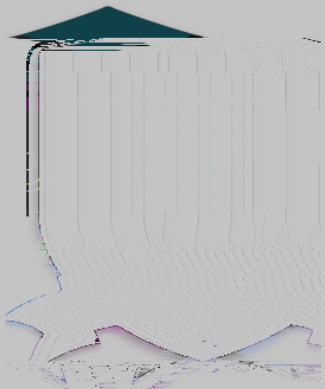
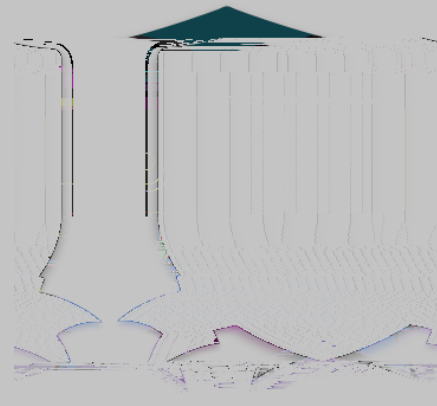


A comprehensive guide to digital badges.

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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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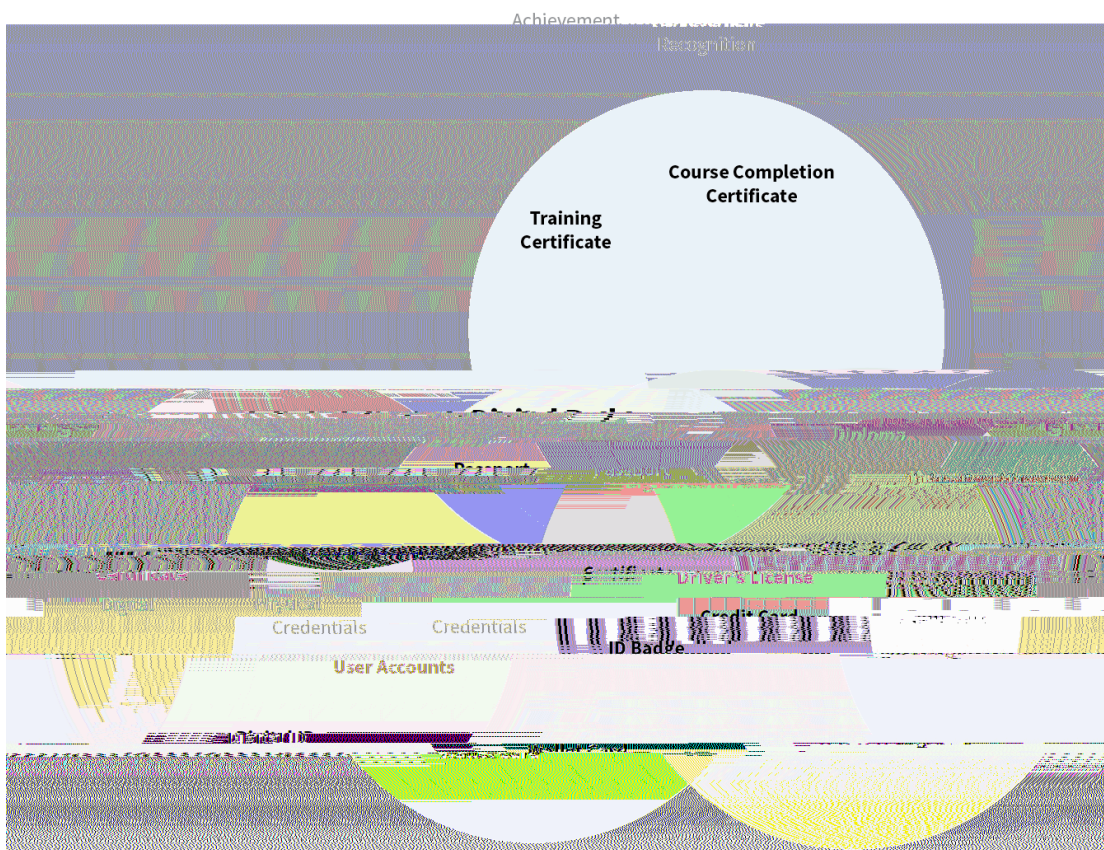
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What are Digital Badges?

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

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.

A (Brief) History of Digital Badges

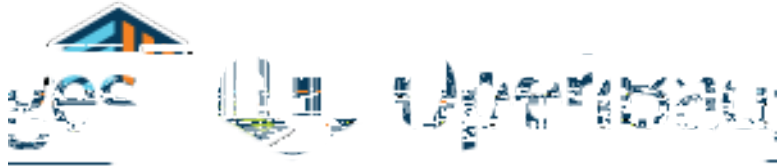
Most are familiar with the concept of a badge, but digital badges weren't really on anyone's radar until around 2011 when Peer 2 Peer University and The Mozilla Foundation co-authored a paper titled "[An Open Badge System Framework](#)." In this paper, a badge was defined as "a symbol or indicator of 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

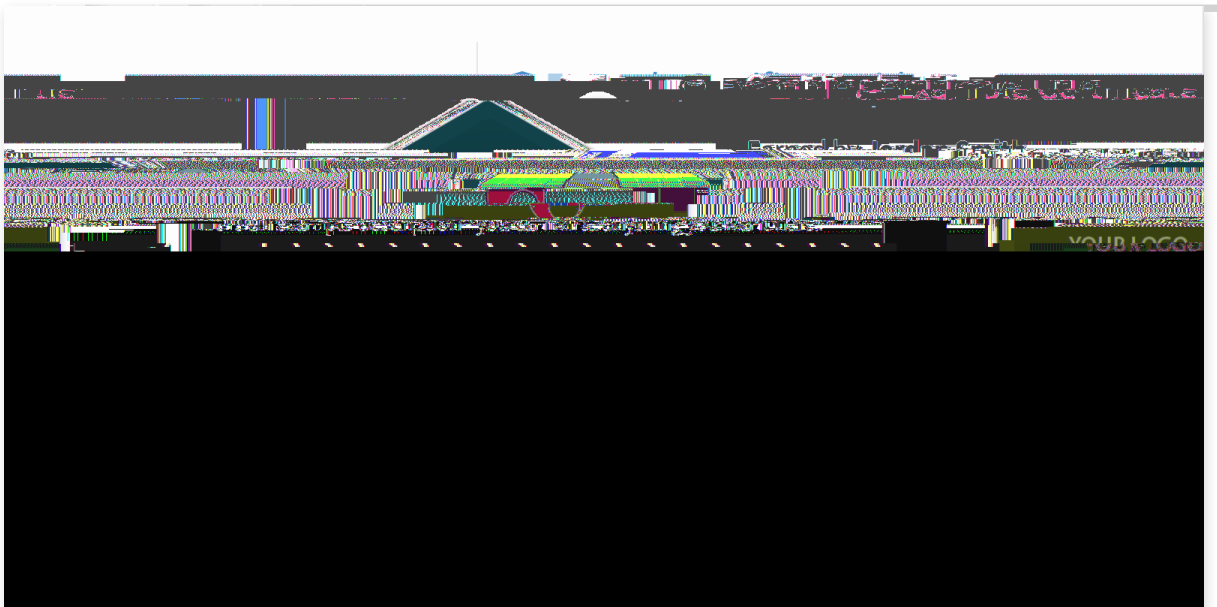
Open Badges 1.0 was launched in 2012, and by 2013 over 1,450 organizations were issuing badges. The Badge Alliance, a network of organizations and individuals committed to building and advancing Open Badges, was formed in 2014. In 2014, Concentric Sky and edX partnered to launch Badgr, an open source 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 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)*

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.

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:

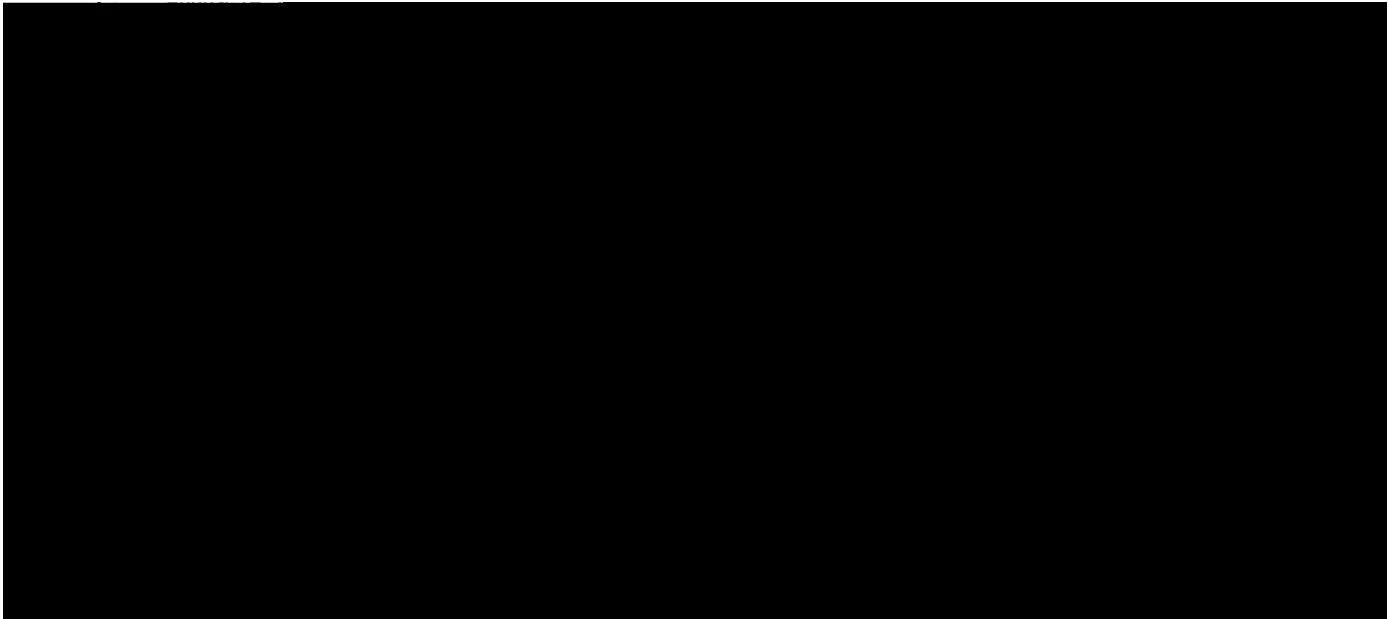
1. *Determine what skill or achievement to recognize*
2. *Set the criteria for what constitutes earning the badge*
3. *Develop test or course criteria/curriculum*
4. *Make the curriculum available to individuals (can be free or paid, online or in-person)*
- 5.

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.

