Badge System Design Principles (Part 1)

Working Document
Author: Mozilla Foundation + community
Date open for comments: 04.09.13
Date closed to comments: 04.26.13

~~THIS WORKING DOCUMENT IS OPEN TO PUBLIC COMMENTS UNTIL APRIL 26TH, 2013.~~
After April 26th, comments will be reviewed and the paper revised.

THIS DOCUMENT IS NOW CLOSED TO PUBLIC COMMENTS.
Thank you for sharing your thoughts, comments, ideas!
Review will now begin and a revised document will be posted by May .

The challenge

Digital badges are surging in use and interest. They can be used to represent a wide variety of things: achievement, accomplishment, affiliation, recognition, completion, association, etc. As badges act in reflexive and recursive ways, a variety of challenges can face the uninitiated individual or organization interested in issuing badges. However, it is possible to achieve harmonious and meaningful badge systems by investigating and attending to several areas.

This paper lays out foundational principles to be considered when undertaking the design of a badge system. Questions that this paper will address include: How do badges come together to create a system? Can a system evolve of its own accord? Must a system be designed to be effective? How much complexity is enough to develop a useful and dynamic system? Is a system ever finished? This paper outlines the many and varied aspects of badge system design and drafts recommendations for several of them. This paper does not address questions or definitions of quality. Other areas not specifically addressed here will be featured in future papers.

In order to talk about badge system design, it's vital to develop a foundational definition of a badge. The following paragraph is excerpted from ["Open Badges for Lifelong Learning"](#)

What Is A Badge?

> *badge [baj]: a special or distinctive mark, token, or device worn as a sign of allegiance, membership, authority, achievement, etc.* – Dictionary.com

A 'badge' is a symbol or indicator of an accomplishment, skill, quality or interest. From the Boy and Girl Scouts, to PADI diving instruction, to the more recently popular geo-location game, Foursquare, badges have been successfully used to set goals, motivate behaviors, represent achievements and communicate success in many contexts. A "digital badge" is an online record of achievements, tracking the recipient's communities of interaction that issued the badge and the work completed to get it. Digital badges can support connected learning environments by motivating learning and signaling achievement both within particular communities as well as across communities and institutions.

The paradox and the challenge

Open Badges present opportunities for transmission of deeply held beliefs, strong opinions and decisive values about learning, education, agency, creativity, dynamism, change, and evolution. A robust badge system developed with intelligence, sensitivity and finesse has the power to alter the course of individuals' lives. It provides an environment in which important concepts are recognized, feedback is welcomed and incorporated, individuality is respected, people are encouraged to express themselves freely and creatively, expand their potential, attempt difficult but rewarding experiences, interact with and aid others, seek and find opportunities, learn, experience, make, scaffold, share and grow.

The complexities of a standard approach

> *For those who labor long and hard to craft good and just standards, as well as those who have suffered from their absence. On the one hand, the fight against the tyranny of structurelessness. On the other, the fallacy of one size fits all (Lampland & Starr, 2009).*

The quote above found in [Standards and Their Stories](#) captures the inherent paradox of badge system design. By seeking to standardize the process we risk the introduction of systemic rigidity. And yet by developing badges without a plan we risk the possibility of ideological entropy.

What is a badge system?

As indicated by the definition above, badges are protean tools. Tools that can capture learning outcomes and skills in ways not currently possible in traditional formal contexts. Badges can be earned in formal and informal settings, in traditional and non-traditional ways, at atomic or meta levels, and be amassed into intelligible sets of social currency. They can be used to represent new forms of assessment and to surface new learning pathways. Consequently, badge systems are equally protean devices.

An open badge system is more than a series of simple documents indicating learning. Instead it's a rich and varied representation of journeys, experiences and learned processes. Composed of badges but so much more than the sum of their parts, badge systems can communicate basic tenets of an organization. Their design can illustrate learning progressions, create scaffolding opportunities and be used to motivate and direct earners along prescribed pathways. Some of their tremendous potential resides in their ability to function equally well as channels for personal feedback, providing windows into personal agency, subject mastery, and self discovery.

Badge systems can be intensely orchestrated and thoughtfully designed, can evolve organically, can rise up through simple badge accretion, or can be composed of many different badges from across many different badge systems. (This last point touches upon the idea of badge pathways and will be addressed in a later paper.) It should be noted that badge systems will be composed not only of badges of varying completeness and quality but that they will also produce

"products" of varying completeness and quality.

In addition to ratifying our understanding of badges, it's also necessary to review the role that other systems play in this environment. Systems design acknowledges the matryoshka doll-like quality of any aspect of a system: systems containing systems. In addition to this wheel within a wheel concept, there's also the watch movement aspect of systems design: change a single facet and that in turn affects something further down the line—or possibly another system altogether. Because badge systems can be both independent of other systems and yet interdependent on the emerging ecosystem, deep knowledge of possible badge system variables is highly recommended.

Ten important variables

What goes into an open and decentralized badge system framework that will encourage individuals, organizations, educational institutions, etc. to work with and build upon the work represented within it? In what ways can a viable, meaningful, and valuable network of activities, assessments and badges be constructed? Like many other creative endeavors, badge system design asks the designer(s) to forge through spaces of potential chaos bumping up against unknown variables. So, with that understanding, where should badge system designers direction their attention?

Ten areas present themselves as structural tent poles in standing up a robust badge system. They include: 1) team selection, 2) goal definition, 3) environment definition, 4) audience definition, 5) badge types, 6) languages including verbal and visual, 7) timing, 8) technology, 9) assessment, 10) pedagogies and educational and professional alignments. This paper will address the first five subject areas in detail and touch upon the remaining five. A second paper will examine the role of visual and verbal languages, time, technology, assessment and pedagogies as well as learning pathways.

Teams and goals

Two areas that play symbiotic roles in the development of a badge system include team selection and goal identification. Either can precede the other, or they can be developed in tandem, but both are essential and contribute equally to the development of rational badge systems.

Team

As with any endeavor, proper team selection can influence future success. It's vital that at least one person be responsible for ensuring the badge system's coherence; essentially a project/product manager. Other team members who will provide conceptual scaffolding for your badge system design include any or all of the following: learning designers, systems thinkers, assessment experts, software engineers, visual designers, curriculum designers, writers, operations managers, process engineers, UX experts, subject area experts, and brand managers. Your team may be composed of very many people or just a few but their capacity for creativity should never be in doubt. A badge system presents the relatively rare prospect for

profound thinking about your organization's goals and, if desired, can lead to deep and systemic change.

Goals / intended outcomes

Identify the goals of your organization, focusing on outcomes of experiences, remembering that badges are effective representations of experiences, achievements and affiliations, not necessarily goals unto themselves. Identify lynchpin badges that provide the basis of your system and focus on developing those as a set. Badges do not need to have parallel construction or equivalent levels of criteria. Note that the development of your badge system goals may not be the same as individual badge goals. It's worth using the five why's technique as you think through your badge systems goals. And it's more than worth writing them down to share with your team.

Questions to ask include what's the real goal we're aiming for here? How can we transmit the magic we feel to others? How can we create a system that works to keep people in the game? And what are ways we can do it so that our participants feel rewarded in both mind and spirit?

Environments

Badge systems operate in at least three different environments. They include: larger governing systems, learning domains, and the burgeoning open badge ecosystem itself.

Badges themselves operate within many larger systems and therefore they're influenced by those systems. In short, context is required for their understanding. Systems that can affect badge systems include federal government, state government, districts, professional organizations, informal groups, etc. And while there are certainly ways to develop badge systems that have a universal appeal, the real beauty of a flexible badge system is its ingrained resilience, its ability to morph into various, context-appropriate representations.

A dynamic approach to badge system design ensures that flexibility and resilience are built into the system from the ground up. A badge system that intentionally eliminates flexibility or works to prevent later organizational modification runs the risk that its badges will fade in meaning and significance. Unlike the static structures of degrees or certificates, badges have the capacity to influence their environments as much as reflect them. The ecosystem benefits from different badges and the need for individuation, modification, and personalization will always exist.

In addition to the systems mentioned above, badge environments can include formal and informal learning spaces, and traditional and non-traditional learning areas. Linking together these types of environments into new systems introduces the possibility for new types of trust networks to form. And with these new influential trust networks, new forms of validation can arise. In that way, the ecosystem both builds on existing structures and evolves into a compelling, self-reinforcing environment. The content in one area can feed back into another, creating powerful and constructive feedback loops.

The Open Badges ecosystem can be likened to a triad. Eventually it will ripen into a tetrad. The foundational triad consists of the issuing organization, the badge earner and the displaying organization working with a consuming public. The Open Badges ecosystem recognizes the earner as the driver of the system with all the affordances that entails. The fourth player in the ecosystem will be endorsing organizations.

Audiences

A badge has multiple audiences. A badge system has even more. It's vital to consider who your badge will touch throughout its life cycle. And likewise, who will touch your badge during its creation. Here are a few audiences to consider: the badge earner along with the social groups in which the badge earner operates, the organizational issuer and the individual issuer, the consumer, and the general public.

Earners

The badge earner is at the center of the badging experience. She makes decisions about which learning experience to choose, which learning arc makes sense and how she'd like to use her badges. Recognize that your badge earner may have different reasons for undertaking the requirements of your badges. She may be able to distinguish that one badge is preferable to her over another, but for the most part, she will be seeing them as components of badge systems. She wields quite a bit of power within the ecosystem, e.g., what to earn, where to earn it and with whom, and ultimately how to display it.

In general, the badge earner is your primary audience. As she thinks about earning a badge, she is operating in a world with social influences and pressures. Therefore, it's vital to consider her role within her social groups, chosen and otherwise and how they might influence her view of certain badge within badge systems. Design for your primary audience at all times.

Issuers

The organizational issuer and the individual issuer play multiple roles in the development of badges and their associated systems. They're generally the secondary audience. They assume the part of content creator: developing the badge progressions, creating scaffolding learning opportunities and undertaking the complex issue of assessment. Additionally, issuers make the commitment to participate in the broader Open Badges ecosystem. The issuer walks a fine line between producing something the organization believes is useful to its purposes and accommodating the needs and desires of the badge earner. These two aims do not necessarily correlate, consequently it pays to consider both of them so as to align them as closely as possible.

Consumers

Part of a badge lifecycle involves consumption. Good badge system design looks toward the ways in which the badge will be consumed, whether that's by a hiring organization, an institute of higher education or by individuals who see others earning a badge. In a related vein, any issuing organization can act as a consumer of badges and badge systems. For example an

issuing organization can design their system to recognize or require completion of another organization's badges. While it's impossible to know all the ways in which a badge might be consumed, building a system that anticipates types of badge consumption will lead to a more successful badge system. Also, it's worth noting that not all badges in a system will be consumed in the same way, so they don't need to be created as conceptual clones of one another.

The general public

Lastly, badges will enter the arena of the general public at some point. These are the people who will have the most superficial interaction with your badges. It's okay if they don't get them. Badges are highly contextual and seeing them outside of their context can remove a good deal of their meaning and value. So, it's not necessary for the general public to grok each badge in your system. However, developing a strong visual system as well as a sturdy conceptual framework for your badges will aid the public in understanding how they fit together as a whole. Typically, the general public is not your primary audience.

Definitions / types

Just as there are different types of people, there will be different types of badges appropriate for those people. While badges can operate quite well in the world of quantification providing quantitative data about knowledge areas, they can also play well in the realm of qualitative information. Robust badge systems will include both cognitive and non-cognitive badges. Put another way, badge systems should consider acknowledging both hard and soft skills. Hard skills equate to things like knowledge about subject areas that can be ascertained through standardized tests, for example basic geometry skills. Soft skills include concepts like collaboration, teamwork and creativity: things that prove much harder to test for using traditional standardized tests.

In addition to creating badges that represent hard and soft skills, consider other possible lenses with which to view the badges in your system: academic, professional, institutional, and associative are just a few ways. And not only can these alternate views aid your badge system design, but so can thinking through what specific badges may represent will, too. Badges can be issued for reasons of participation, recognition of skill, acknowledgement of achievement, formalization of affiliation, etc. Indeed, it's entirely possible to have each one of these types of badges within a cohesive badge system. What does this mean? That a badge system does not have a series of parallel badges, does not require an even balance of all types of badges, and can have many more of one type of badge than another. A system could be composed entirely of skill badges aimed at recognizing accomplishments within one institution.

As stated earlier in this paper, it's essential to start with a goal in mind when designing your system. While you may deviate heavily on the path to a fully executed badge system, moving forward with a primary aim will help to guide your work.

Those other five important things in brief

It would be remiss to discuss badge system design without touching upon all of the areas mentioned. Consequently, this paper will only skim the surface of: language, pedagogies, timing, technology, and assessment, reserving the bulk of these areas to be investigated in an upcoming paper.

Language and pedagogies

In addition to their ability to transcend physical boundaries, badges introduce many potential languages, e.g., visual, verbal, cultural, pedagogical, etc. Badges will activate these languages, sometimes one at a time, sometimes all at once. Each of these languages may speak to different audiences, and often to many audiences at once. For example, one of the primary ways we consume the world around us is through our eyes. Consequently a visually appealing badge system may entice individuals to want to participate in your programs. Place emphasis on the look of your badges and the cohesiveness of your visual system. But be mindful that badges are representations of learning outcomes, achievements and affiliations.

And while visual appeal is important in a badge system, don't expect that all members of the team to use language in the same way: perform periodic checks to ensure that approaches, languages, and pedagogies are all facing in the same direction. Existing standards can provide guideposts to the development of your system but remember that by designing an Open Badges system you're also endowed with the chance to develop and implement your own standards. And that those may be superior to what is currently in existence. Seize the opportunity to be creative about pedagogies and assessments.

Timing and technology

Timing plays a vital role in learning trajectories. Think through how and when someone will receive badges: will it occur immediately after a learning experience? After some series of progressions? When will they receive feedback that they're on the right course? Consider how your badge system builds upon itself—or upon other badge systems.

Timing is also a key component in the construction of your system as a whole: will you be introducing badges as they're created or will you be creating an entire system and then releasing them as a set? And related to this, when and where will you build in testing and feedback? What's the user experience for someone earning badges within your system? What sort of technology will you be accessing and/or developing to implement your badges? What sort of technology will be required to access or participate in your badge environment? Can your badges be easily ported between different badge platforms? Do they need to be? Early technology decisions can influence later outcomes and occasionally cause lock-in. Software is a medium with its own concerns about political approaches and views: be mindful of its complexities as well.

Assessment

There's no small way to think about assessment but briefly: consider how, when and where your participants will be assessed. Provide multiple ways for individuals to be assessed, including by

experts, by their peers and by themselves.

To rubric or not to rubric: rubrics can provide some standardization but bring with them their own complexities. Recognizing that badges are highly contextual, developing different methods of assessment as well as different ways that assessment can be implemented can help to create a robust badge system. And keep in mind the power of allowing your participants to assess the assessment methodologies.

The future as a variable
The Open Badges ecosystem is still in a developing state, as such there are a number of areas of opportunity that can be seized and built upon. Badges constitute new areas of opportunity with regards to acknowledging achievements, thinking through assessments, creating new standards: this potential cannot be overemphasized. Recognize that the future is also a variable and that as simple as we try to make our badge systems, they will be deeply influenced by our worldviews: imbued with our community's understandings, desires, and values—and those will be intertwined with the earner's understandings, desires, and values. We cannot know what the future holds but we can build badge systems that are flexible, resilient, and dynamic. We can use them to help shape a new future.