

Digital Badges: Signposts and Claims of Achievement

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Abstract. We discuss digital badges in education, focusing on two functions of badge architectures: mapping a learning system and offering a vocabulary to present one's achievements. We have designed, implemented and evaluated two badge architectures; our research findings support the conclusion that students see these medals less as extrinsic motivations than as signposts that point out relevant learning targets. Also, because trainers and students define badges mainly as fun, locally relevant prizes, there is little concern for how they can be used to communicate merits outside the learning community. Badge architectures can be designed to support local or public reputations; if public visibility is desired, the system should assist holders' work of claiming merit.

1 Introduction

Digital badges are increasingly considered an alternative to grades and degrees (Casilli, 2012; Davidson, 2011, 2012; Hickey, 2012a, 2012b). Large-scale initiatives such as Mozilla Open Badges (The Mozilla Foundation, 2012) and the DML Competition (HASTAC Initiative, 2012) have brought them to public debate. We examine two prominent claims based on our research, and we discuss implications for design¹:

- Badges are extrinsic incentives (Hickey, 2012a; Resnick, 2012) that run the risk of crowding out intrinsic motivation;
- Badges are evidence-based credentials (Casilli, 2012; Davidson, 2012) easily communicated and understood by observers.

Our discussion is based on an evaluation research concerning two badge architectures that we designed and implemented in University Politehnica of Bucharest: the Cisco Networking Academy CCNA.ro medals, and the Local Networks Course (RL) Hit List². The evaluation relies on semi-structured interviews with 12 students and 4 instructors for the CCNA.ro system, and with 14 students and 4 teaching assistants for the RL course.

The CCNA.ro medal system (see Fig.1) awards medals for a variety of student involvements and achievements. For each CCNA training track, 'Bronze', 'Silver' and

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² <https://systems.cs.pub.ro/teaching/courses/rl/hit-list/>

‘Gold’ medals reward final GPAs greater than 75%, 85% and 95%, respectively; ‘Inquisitive mind’ rewards student involvement in class discussions; ‘Technical stamina’ is awarded to students who complete all laboratories; ‘Perfectionist’ acknowledges students with all scores above 90%, and ‘Community catalyst’ is granted to participants with 3 or more forum contributions. Each medal is available to any student who fits the criteria, and can be displayed on students’ profile as a credential (for potential recruiters, employers, peers, and other interested observers).

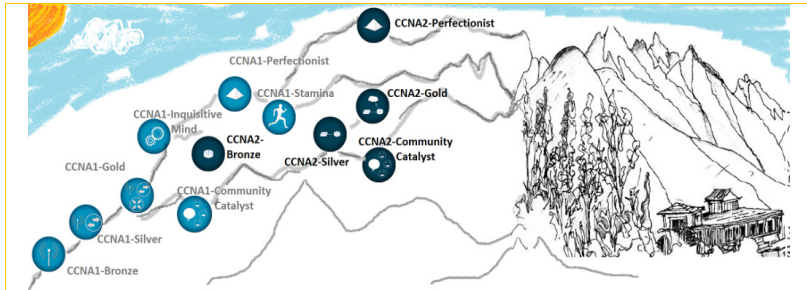


Fig. 1. The CCNA.ro Medal Architecture: Signposts for Exploration

RL Hit List

For 2012 there are still 6 RL pin awards available:

- 0 (out of 5) for the top scores at the midterm quiz
- 0 (out of 5) for the top scores at hands-on exam results
- 0 (out of 5) for overall activity (voted by the teaching assistants). Week 3, 6, 9, 12, 14
- 3 (out of 9) for course activity (3 for CA, 0 for CB, 0 for CC)
- 3 (out of 9) for written exam (3 for CA, 0 for CB, 0 for CC)

ID	Name	Reason	Data
305	Constantin CARAPENEA	Written exam [CB]	21.01.2013
304	Alexandru ȘRBU	Written exam [CB]	21.01.2013
303	DIACONESCU Vladimir	Written exam [CB]	21.01.2013
302	Oana – Georgiana NICULĂESCU	Lecture involvement [CB]	21.01.2013

Fig. 2. The RL Hit List: Design for Reputation across Generations

The RL Hit List³ has a different mission and design (see Fig. 2): it awards a limited number of medals to top 10% student performers on selected activities. Each medal consists of a digital mention on the online ‘Hit List’, and a metallic pin badge conferred publicly, in a special section of the lecture. The Hit List is designed as a chronologically numbered list that spans multiple generations, aiming to assemble a community of recipients sharing a memorable course-related experience.

³ <https://systems.cs.pub.ro/teaching/courses/rl/hit-list/>

2 The “Motivation” vs. “Attention” Issue

Badges are often discussed as extrinsic motivators (Hickey, 2012a; Resnick, 2012) – pointing to their potentially corrosive role on the development of an intrinsic, authentic learning involvement. We argue that focusing on badges as incentives obscures their cognitive role as ‘signposts’: badge architectures chart learning routes, through their conditionalities and entitlements (Rughiniş, 2013a, 2013b).

This cartographic function is visible for designers, who face the challenge of selecting relevant points of recognition throughout the learning system. By making explicit that some performances are remarkable, badges *focus attention*, *map* the curriculum, and *nudge* (Thaler & Sunstein, 2008) student exploration. This function of drawing attention has been particularly visible in students’ accounts of their evaluation of badges: the distinction between a score of 90% and a score of 95% becomes visible as a meaningful difference because of the associated ‘Silver’ / ‘Gold’ medals; the relevance of involvement in course and forum discussion is highlighted by the associated medals. CCNA.ro badges are seen by students as having a function of visualizing achievement, of translating numbers or unarticulated merits into a language of praise, for themselves and for others; it is because of their attention-grabbing power that medals acquire positive valence.

3 The “Evidence” vs. “Interpretation” Issue

Badges create ‘bragging rights’ for peer conversations, but also become boundary objects (Akkerman & Bakker, 2011) – that is, credentials for employers, recruiters, and significant others in various domains of practice. Badges can acknowledge in/formal instruction, personal experience and peer evaluation, complete and partial achievements. Because of their flexibility, badges are clues that invite interpretation (Rughiniş, 2013a): What does a medal or collection of medals *actually say* about its holder?

Badges are ‘evidence-based’ insofar the conditions for their award are publicly available, together with other information about the issuing authority and the recipient. In a strict sense, badges are explicit descriptions of merit – but they are easy to make sense of especially if the interlocutor is familiar with the activity and the community in which the badge was awarded. On the contrary, a problem of interpretation arises for interlocutors that are distant, professionally and/or socially – as it may be the case for recruiters in Human Resource departments. Even self-presentation of one’s medals may not be straightforward, in contexts with an unfamiliar public.

Holders (in our case, students) are directly interested in invoking their medals, to highlight their merits. At the same time, students themselves may not be aware of the potential of badges to ‘say something’ meaningful about their skills and achievements. This is especially the case for badges that are introduced as secondary, playful achievements, accompanying traditional, ‘hard’ credentials such as grades and points – as it is the case in our two architectures.

We have observed, in interviews, that some students define badges as minor in public significance – being rather ‘for fun’, or for self-motivation. Even students who see their badges as an indication of special merit are unsure of how to practically introduce them in a CV, a personal online profile, or in discussions with employers. This uncertainty was stronger for the RL Hit List: the very innovations that make this architecture attractive also render it difficult to interpret for outsiders. The medal, in RL Hit List, is a number that is awarded chronologically; although there is a brief description of the related merit (see Fig.2), the RL Hit List falls short of being self-explanatory.

Therefore, our evaluation of the badge architectures employed for CCNA.ro and the Local Networks RL course indicates that designers should explicitly take into account holders’ interpretive work in communicating for other observers, such as recruiters, what their badges say about them. There are two main possibilities of using badges for building holders’ reputations:

1. Badges for *local community use*: in this case, badges appear on participants profiles in the system, with little concern for their outside relevance. Stack Overflow badges offer such an example (Stack Exchange, 2012a). Stack Overflow encourages users to create professional CV’s that are distinctive from their user profiles, and which do not refer to badges at all, including instead a variety of other information about their activity on the platform (Stack Exchange, 2012b);
2. Badges for *public use*: in this case, holders are encouraged to include their medals on various public profiles. Mozilla Open Badge infrastructure is designed to support such public display; the Khan Academy, for example, encourages learners to publish their badges on Facebook (Khan Academy, 2012).

Badge designers that aim for public visibility can take a series of steps to encourage holders’ interpretive work in presenting their achievements:

- a) Create a public, online description of the badge architecture, that would offer holders and other interested persons a vocabulary in which to make sense of the significance of each achievement;
- b) Provide technical means for publishing badges as digital awards on various public profiles; for example, badg.us⁴ offers a quick and easy platform for badge generation compatible with Mozilla Open Badges;
- c) Present samples of public profiles (CVs, Facebook, LinkedIn) in which badges are included, with examples of how to classify them (as learning outcomes, distinctions, community recognition etc.) and how to describe them.

4 Conclusions

There is a gap between public debates on digital badges, and learners’ views and practices. While badges are much discussed as incentives, they also have an attention-focusing role, as signposts that map learning systems and make visible

⁴ <http://badg.us/en-US/>

significant learning outcomes. Badges are also discussed as clear, evidence-based credentials; still, if badges are to support public reputations, holders must make them visible and ‘translate’ them for external observers. This requires a publication and interpretation work, which should be supported through the design of badge architectures, and through vivid examples and communication between instructors and learners.

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