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# **A speculation on the possible use of badges for learning at the UK Open University**

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## **Abstract**

There has recently been a flurry of interest in supporting the idea of using 'badges' to recognise learning, particularly due to the Mozilla Open Badges project (<http://openbadges.org/>) and the funding channelled through the 2012 Digital Media and Learning Competition (<http://www.dmlcompetition.net/>). Badges offer the potential of rewarding informal learning and reaching non-traditional learners.

This paper speculates on ways in which badges for learning could fit into the offering of the UK Open University, and exposes some of the tensions that badges raise.

**Keywords:** badges, informal learning, lifelong learning, OER

## **Introduction**

There has recently been considerable interest in the use of badges to recognise and reward informal learning, stimulated by the publication of Mozilla Foundation white paper on badges for lifelong learning (Mozilla, 2010). This in turn led to the Mozilla Open Badges project (<http://openbadges.org/>) and <https://wiki.mozilla.org/Badges>) and the funding from the MacArthur Foundation channelled through the 2012 Digital Media and Learning Competition (<http://www.dmlcompetition.net/>).

These badges can be seen as the digital equivalent of the badges worn by Scouts (<http://scouts.org.uk/scouts/badges/>). Each different badge represents a skill or competency, such as 'camp cookery', that the Scout has demonstrated to the satisfaction of a Scout leader. The Scout can collect a number of badges and display them on their uniform. Not only do badges like these provide motivation and focus for learning useful life skills, they have sufficient value that they may be used to support a university or job application.

Generalising from such examples leads to the idea of badges to recognise skills and achievements that are outside formal education systems, that can be collected by individuals and displayed as evidence of their skills and capabilities, and that would be valued by others. Although the current interest is in digital badges that are awarded and displayed online, the activities and skills that the badge represents could either be earned in the 'real' or online world. A Scout could still earn their cookery badge at camp, but receive a digital badge to display online as well as one to sew on their uniform. However, there are also possibilities in awarding badges more or less automatically as the result of a user's activities online. Such badges are used in online forums and Q&A sites such as StackOverflow (see <http://stackoverflow.com/badges>). For badges to have worth, their award must offer some measure of validation, although this is generally understood to be not as rigorous as the assessment required in formal, accredited learning.

The Mozilla Open Badge Infrastructure (OBI) (<http://openbadges.org/>) is a software infrastructure that supports the awarding, collecting and display of badges. The badges are represented by

graphical images which also contain a link that explains the badge in more detail; this includes the identity of the issuer and a description of the badge, potentially with detailed evidence supporting the award. An individual can collect badges in a 'backpack' which gives the user some control over the display and there is a layer of security to demonstrate that the person displaying the badge is the one who earned it. Badges are portable: they are intended to be shown on other sites, for example on social networks such as Facebook and LinkedIn.

Badges are promoted (for example Mozilla 2010, HASTAC 2011) as an opportunity to recognise and reward informal learning and reach non-traditional learners. They could therefore have a role in supporting the mission and core values of the UK Open University (OU) which includes 'making lifelong learning open to all, inspiring and enabling people to develop wherever, whenever and however they need' (Open University 2011). This paper explores some of the issues that should be considered. It emerges from experience in iSpot, an existing project which has its own badging system and which is described below as a case study, and from a discussion meeting held with OU colleagues in May 2012.

## **Issues with badging for learning**

### ***Informal or formal learning?***

*Should badges be used only to recognise informal learning, perhaps in the Open University's open educational resource OpenLearn (<http://www.open.edu/openlearn/>), or should they also recognise success on the university's modules that lead to formal qualifications?*

Badges seem a natural fit to informal learning and offer less to formal learning which already has widely recognised qualifications and awards that can be used to convey a person's achievements.

Badges seem a particularly good fit to learning based around Open Educational Resources (OER). Much OER focuses on content and, for an individual user, can lack the structure and motivation provided by formal learning. The role of assessment in engaging and sequencing formal study could be replaced by working towards badges in less formal study.

However, there may still be a role for badges in formal study. Many OU students sign their emails and forum postings with a signature that includes a 'course survivor' list of modules they have taken so far. Badges reflecting the modules they are currently studying or already taken would likely be attractive to current students, both for display within the OU community and in the wider world of Facebook and other sites. iSpot users (see below) who are students of the *Neighbourhood Nature* module received an OU module badge; iSpot users who study other OU modules have asked for similar badges. There would even be value in a general OU badge (or badges for a current student and alumnus) that could be displayed on social network sites; this could link directly to the student's academic transcript. Module badges would have value for the many OU students who study individual modules for personal or career development without proceeding to a full qualification.

Perhaps of particular value would be badges that form bridges between the informal and formal domains. This might reflect preparatory work, for example a badge could be earned by completion of the 'Are you ready for...?' quizzes used to ensure that students meet prerequisites for modules. An alternative might be to offer accreditation of prior learning where a collection of badges could be recognised as evidence of learning: these badges might in turn have come from independent study of OER material.

## **Audience**

*Who will be motivated to acquire badges – existing students or the general public? Can badges provide a route for access to higher education, offering low-stakes tasters that will encourage prospective students to embark on higher education? Do badges offer a way of encouraging lifelong learning?*

Again, there seem to be two possible applications of badges. They could be used to recognise stages on an OU student's accredited study, or be used for informal learning linked to OpenLearn and other projects. It is the second that has the potential for engaging a new audience, or retaining undergraduate students as lifelong learners. Here the fit to the OU public offering through OpenLearn, iTunes U and other channels is a good one. OpenLearn content combines extracts from OU modules with broader-reach material, particularly that associated with BBC/OU broadcasts.

## **Types of material**

*What types of material might promote engagement and motivate people to earn badges?*

The issue here is less the subject content than the type of activity involved. A badge could reflect acquisition of content knowledge, for example reading learning material on OpenLearn (perhaps evidenced by VLE activity tracking), or light-touch assessment such as an online quiz. Alternatively it could reflect other types of learning, particularly social and constructivist approaches. This might be evidenced by participation in a forum, creation of content on a wiki, or activity on SocialLearn, the OU's new social learning platform (<http://sociallearn.open.ac.uk/public>).

There is an overlap between badges and reputation systems. Badges are used to reify reputation in online trading systems (e.g. eBay) and in online discussion systems (e.g. StackOverflow); badges reflect expertise in iSpot (see below). Acquiring reputation and social capital is one motivation that can be captured by collecting badges. Such badges also have a notion of progression or ranking – medals might be a better metaphor – and this is another clear motivation, for example on iSpot. Additional privileges may be given to those acquiring certain badges and this reward introduces aspects of gamification. However, it is not clear what privileges would be appropriate for learners engaging with the OU.

## **Value**

*What is the perceived value of badges to learners? Will badges also be perceived to have value to others – to friends and family, to peers, or to employers?*

To motivate learners to collect and display badges, they must first of all reflect activities and achievements that learners themselves value. Secondly, the learner must be able to articulate this value to others around them, perhaps starting with their friends and family and their peers. Peers in this context might mean fellow students for those who are already studying with the OU, but would have to be understood more widely for those who are prospective students or members of the wider public engaging with outreach material through OpenLearn, for example.

Finally, for the aspirations of the Mozilla Foundation and other promoters of badges for learning to be fully met and for badges to have lasting societal impact, badges should be valued by employers. People might use badges as evidence of skills or experience that are not captured by accredited learning.

## **Readability**

*How will people 'read' the meaning of a badge – what subject, level, and extent of study or learning does it represent?*

Badges are being promoted in part because their flexibility allows them to be used for many different purposes, with issuers being able to create badges to suit their own purposes without reference to external agencies. Of course, the flip-side of such flexibility is that it is less easy for anyone to understand what the purpose of the badge is. Although the Mozilla Open Badge Infrastructure allows a badge to link to accompanying statements and evidence, a badge should ideally be understandable without the need to follow these through in detail. To take an analogy in formal education, a student whose CV lists a "BSc (Hons) Mathematics (1st class)" is making a claim about the subject and level they have studied that is readily understandable without recourse to a detailed academic transcript.

If the OU were to offer badges for material that relates closely to the standard formal offering, for example for material originally written for modules but now available as OER, then the subject and level can be described easily. The 'extent' is also sometimes available as a notional figure for study hours. Presumably a similar approach could be extended to preparatory material, and even at a stretch to material produced to support outreach, such as interactives that accompany BBC/OU broadcast programmes.

Badges are of course graphic images, and so readability must also be thought of in terms of graphic design. As the iSpot example discussed below shows, this can be quite a challenge. A traditional Scout badge is a far simpler proposition: sewn on to the uniform of a Scout, it need only convey the subject since the issuer and level are taken from the context. Any OU badge would have to convey at the least:

- Issuer:** the OU, or an OU-related project such as iSpot?
- Subject:** broadly: arts, science, maths..., or at finer detail: English literature 1500-1700?
- Level:** OU level: (0), 1, 2, 3, 4, or with reference to national qualification frameworks?
- Extent:** hours of study: 1, 10, 100?, or credit points: 1, 2, 10...?

## **Radical or conventional?**

*Can badges, by escaping the constraints of traditional syllabuses and quality assurance frameworks, support radically different educational experiences? Or will they be used simply to recognise smaller chunks of otherwise conventional study?*

The rhetoric around badges (see for example Mozilla 2010, HASTAC 2012) strongly encourages badges to recognise 'new skills' that are not well captured by conventional education and assessment (although this perhaps says something about the constraints of standardised national tests in the US education system).

In the OU context badges could be of particular value for projects, such as iSpot, that are outside the bread-and-butter offering of the OU. However, badges also seem a good fit to OER such as OpenLearn. Here much of the OER content is extracted from existing or past modules and so associated badges are more likely to recognise small chunks of conventional study.

## **Granularity**

*What should the granularity of a badge be? Should it reward a small chunk of learning, perhaps the equivalent of a few hours of study, or the hundreds of hours of study required for a traditional university module?*

The OU has developed a well-understood (at least by its students and staff!) system based around credit for modules that make up qualifications. While students might like to display badges corresponding to modules they are studying or recently passed, badges are probably more suited to smaller chunks of learning that are not recognised by current structures. Most modules offered by the OU are 30 or 60 point and the smallest are 10 point, equivalent to about 100 hours of study. This suggests that badges might be appropriate for smaller chunks, perhaps corresponding to 10 or 20 hours of study.

However, this could mean a large catalogue of potential badges. OpenLearn for example contains material corresponding to 12,000 hours of study in over 600 units, and the OU channel on iTunes U has 3,000 tracks and 400 e-books representing 5,000 study hours (Open University 2012). Describing individual badges for these units, let alone smaller chunks, would be a challenge. A more workable alternative would be generic badges, for example one for any 10-hour chunk of first-level science. However, that might not be so attractive to a learner since there would be less incentive to study a second chunk if the badge received is the same. A badge backpack could become clogged with apparently identical badges.

One approach could be to support a system of badges that accumulate and can be traded in for a larger denomination. The analogy for the normal credit-bearing offering for the OU might be to think of a badge as equivalent to success at an assignment. While studying a module, a learner can measure their progress by how many of the continuous assessment milestones they have successfully negotiated. With the passing of an exam or other final assessment, all these are wrapped up in an overall module result, and focus is now at the module level, itself now just one step on the way to a qualification.

The notion of badges which can be collected and traded in also fits a design for learning focused around challenges. This sees a badge as a reward for a specific and limited goal, and large-scale achievement as the accumulation of successfully met challenges. This is in some sense the mirror image of describing a module in terms of learning outcomes, and one which might be easier for learners new to higher education to understand.

## **Assessment**

*What level of assessment is appropriate for a badge? Is it the case that a badge requires a less rigorous assessment than credit-bearing modules that lead to formal qualifications? Can methods of assessment be offered at sufficiently low cost to form an effective partner to open education resources? What forms of assessment could offer this low-cost basis: what place should there be for learner analytics, computer-marked assessment, peer assessment or self-certification?*

Badges are intended to be validated indicators of achievement (Mozilla 2010; HASTAC 2011). This implies that learning should be demonstrated in some fashion before a badge is awarded, although badges could be awarded simply for participation and this could be as simple as tracking activity through VLE tools.

Rigorous assessment is an essential component of credit-bearing modules that lead for formal awards qualifications. Assessment should be reliable (consistent and repeatable), valid (an effective

test of the intended learning outcome), fair (not disadvantage any particular type or group of student), and not be open to impersonation or plagiarism. Badges seem appropriate as recognising and rewarding achievement in a light-touch manner with less concern in meeting the above demands for rigour. The attraction for an institution is to find cost-effective means of rewarding achievement in informal learning without the heavy costs associated with the rigorous assessment required for accredited learning. A disincentive is the thought of lending the institution's reputation to badges which can be awarded trivially, or worse, are open to gaming or cheating.

At the extreme, badges could be self-awarded, an approach that implies zero ongoing cost for the institution. Of course, the value of such a badge to others would be corresponding low because of the potential for misuse. Computer-marked assessment, for example in the form of banks of multiple-choice questions, could be used at minimal ongoing cost, but require considerable investment to create initially, and are susceptible to plagiarism. However, it is possible to envisage OU modules (or parts of modules) which include computer-marked assessment and which reach the end of their active life being transferred to OpenLearn, complete with computer-marked assessment. A sufficiently large bank of questions with random elements would provide some protection against plagiarism.

Peer assessment offers another option that is potentially of low ongoing cost. For example, if an appropriate assessment is to write a short essay, this could be peer-assessed, for example by two or three other learners. A badge could be earned only if the learner had received an adequate score from their peers and had provided feedback to other students. Peer review and comment is used very successfully as a learning technique on several OU modules. For example [\*Digital photography: creating and sharing better images\*](#) (T189) and [\*Design thinking: creativity for the 21st century\*](#) (U101) use Open Studio / Open Design Studio to provide a structured environment in which students share and comment on each other's work (Holden, 2009). It would be possible to imagine extending this, or another system such as PeerWise (<http://peerwise.cs.auckland.ac.nz/>), to provide a peer-assessment system that would underpin the awarding of badges. However, peer-only systems could be subject to 'gaming' where learners collude to pass each other; moderation by teachers is usually required to provide a check.

The Mozilla Open Badge system does allow a badge to be supported by evidence. It might seem that requiring a self- or peer-certified badge to be supported by evidence would mitigate against problems of cheating or gaming. However, in practice this would seem to demand some level of checking before the badge is awarded. Once the badge is awarded, it is unrealistic to expect potential consumers of the badge to check the evidence against criteria, and difficult to see in practice how a badge could be revoked. Although OBI does support badge revocation at a technical level, the administrative arrangements necessary to ensure that such a process operates fairly could be onerous.

### ***Brand and reputation***

*How could branding and reputation work in an ecosystem where an institution offers both formal study leading to qualifications and informal study that leads to badges?*

Brand reputation of higher education institutions is a valuable asset. The Open University takes pride in a reputation for teaching quality which has been hard won in the face of some scepticism in its early years. This brand would therefore be a valuable part of any OU issued badges, offering an assurance of quality and value. Conversely, there is a danger to brand identity by applying the OU brand to badges that recognise learning that is of a different nature to the formal, accredited

modules. This would be particularly true if badges were associated with learning at a different educational level or with much less robust assessment of performance than core modules.

One way to protect brand values would be for badges to be used only as another way of expressing existing accredited achievements, for example a badge for a successfully completed module. There would be value in making it easy for students to show their current achievements *en route* to a qualification, but this would be a very restrictive use of badges. An alternative approach would be to make a clear separation between formal credit recognised with conventional awards and qualifications and informal learning recognised by badges. In this scenario, badges would never be used for learning that is credit-bearing: there could be no 'currently studying' or 'course-survivor' badges. A compromise might be to use two visually distinct classes of badges but it is hard to see how the distinction could be conveyed clearly.

It might be noted that iSpot (below) uses badges that reflect its own identity and brand, and not that of the OU. The OU shield is only used on iSpot to recognise formal OU study.

### **A case study: Badging skills and expertise on iSpot**

The following is based on an existing badge system that is currently supported by iSpot (<http://www.ispot.org.uk/>) and a proposal 'Building Citizen Science: A Natural History Badge Ecosystem' submitted to the 2012 Digital Media and Learning Competition (Rosewell *et al* 2012a & 2012b). (This proposal was not funded).

#### ***Existing iSpot badges***

iSpot is a public-access website hosted by the Open University. Its long-term aim is to encourage a new generation of naturalists by providing them with the support they need to learn the identification skills that underpin natural history. iSpot can be seen as a social learning community which is positioned as a bridge between informal and formal learning. Learning identification skills in an informal and social space is particularly appropriate because identification and natural history skills are as much the preserve of amateurs as of professionals, particularly in the UK which has a long tradition of expert amateur natural historians and where there is currently little teaching of such traditional skills in higher education.

iSpot is a social networking site where people can post 'spots' – interesting observations of wildlife, ideally based around a photograph and with date and place recorded. The iSpot community has approaching 20,000 registered users who have made 125,000 observations which include 6,700 different species. We can see how the community works and the role which badges play by following the learning journey of a new user, Alice.

Alice's interaction with the community starts when she takes a photograph, for example of a bird (Figure 1).





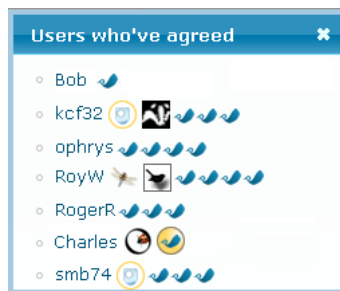
**Figure 1** Alice uploads an observation

Alice uploads her photo to iSpot, saying when and where it was observed. If she can, Alice also adds an initial identification. Alice's observation will be seen by other iSpot participants; they may either agree with Alice's identification or suggest an alternative identification (Figure 2).



**Figure 2** Paul supplies an alternative identification

Here, another user, Paul, has suggested a different identification and this has been confirmed by others (Figure 3). It is at this point that badges come into play. Every community member is accompanied by badges which reflect their expertise; badges are also used to show where a member represents a natural history society.



**Figure 3 Users who have agreed with an identification**

Bob is a beginner (shown by a single bird icon 🐦), RogerR has greater experience (🐦🐦🐦🐦), and Charles is a bird expert, shown by his gold badge (🏆), and his expertise is vouched for by a natural history scheme or society (his affiliation badge links to the society web site).

An identification with sufficient weight of expertise behind it becomes a 'likely ID'. The reliable name gives Alice a key to unlock learning about that species and its ecology; it provides other observations on iSpot of the same species and links to information on sites such as the Encyclopedia of Life (<http://eol.org/>) and the National Biodiversity Network (<http://www.nbn.org.uk/>). Alice has started her learning journey.

The fact that Bob and Charlie have agreed with Paul's identification also provides evidence of Paul's increasing expertise in correctly identifying birds. Every user such as Paul has an expertise score (similar to a reputation score in other systems) that is increased when other participants agree with an identification that Paul has made. The increase is very modest if the identification has been agreed by a novice whose own score is low, but the increase is larger if the agreement is from someone who is themselves experienced or an expert and therefore has a high score. As Paul's expertise score grows, he is rewarded with higher badges (shown by multiple bird icons) at milestones. Of course, expertise in identifying birds doesn't necessarily imply expertise in plants; iSpot badges therefore track expertise separately in different biological groups (Figure 4).

<b>Social Points</b>	
🌟🌟🌟🌟🌟 (1934)	
<b>Reputation in groups</b>	
Group	Reputation
Other organisms	
Birds	🐦🐦🐦
Invertebrates	🐛🐛🐛
Fish	
Amphibians and Reptiles	🐸🐸
Mammals	🦏🦏
Plants	🌿🌿🌿
Fungi and Lichens	🍄🍄

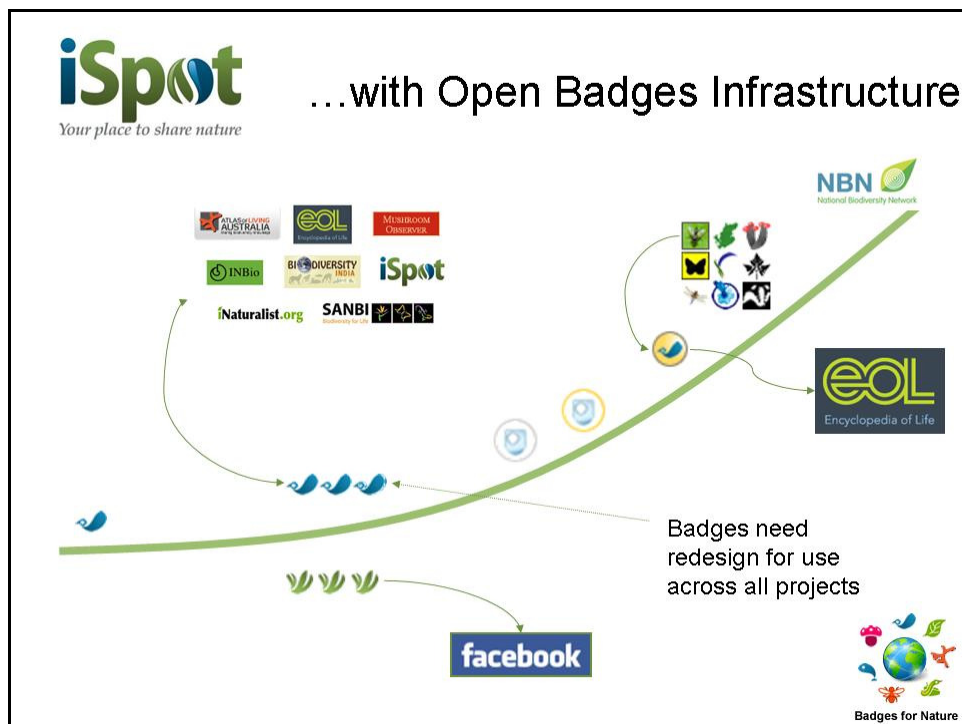
**Figure 4 A user profile on iSpot, showing expertise badges**

Like Paul, Alice can offer agreements and identifications to other users, and engage in comment and discussion around observations; these contributions are also reflected in badges reflecting social activity.

## Building Citizen Science: A Natural History Badge Ecosystem

iSpot's badge system predates and differs in some respects from the Mozilla Open Badge Infrastructure. iSpot badges are issued by iSpot and are currently not portable – they can only be seen on iSpot and only have meaning and currency within iSpot. However, we are currently considering a move to the Mozilla Open Badge Infrastructure (OBI) and entered the HASTAC DML competition with a proposal for a natural history badge system with a number of other partners (see Appendix 1) who run web-based projects in the area of natural history and citizen science. This proposal would allow users of all partner projects to display their natural history badges (wherever obtained) in their profiles, showing affiliations with organisations. People could also display their natural history badges on social networking sites, such as Facebook or LinkedIn. Projects would issue their own distinctive badges to mark specific skills and expertise and to reward engagement. Our sites would then begin to automatically recognise each other's badges and use them to influence the awarding of privileges and badges across the different sites.

For example, expert badges are issued on iSpot to individuals recommended by one of the many UK natural history societies. With an OBI, these badges could be issued directly by the natural history society and accepted automatically by iSpot (see Figure 5). Conversely, badges issued on iSpot could be accepted by other sites. For example, Encyclopedia of Life (EOL) is an aggregator of authoritative biodiversity information, reviewed by credentialed curators. OBI badges would enable EOL to recognize expertise developed on other sites such as iSpot and grant them curator status (see Figure 5). Individuals can thus develop their skills through participation and contributions across multiple organizations and increase interaction among professional scientists and enthusiasts.



**Figure 5 A user's learning journey on iSpot, showing badge acquisition and exchange**

Badges on iSpot also reflect the transition between informal and formal learning. Students who studied the Open University module *Neighbourhood Nature* received an affiliation badge for that module (🌿), and a further badge (🌱) when they passed (see Figure 5). iSpot was used to support learning in that module and part of the assessment required demonstrating a level of participation on iSpot. Our natural history badge proposal envisaged badges on other partner sites that also

reflect formal and informal learning. For example, the National Biodiversity Institute of Costa Rica (INBio) and the India Biodiversity Portal also target formal and informal learning. Their curricula include observation activities and problem- or challenge-based activities that encourage students to explore biodiversity. INBio's Cyberhives program (<http://www.cibercolmenas.net>) is an excellent use-case for developing badges that recognize growing understanding of applied science and technology skills related to biodiversity.

Note also these natural history badges reflect activities and skills that are both online and offline. iSpot reputation badges are earned by online activity and awarded by an automated system, but the expert badges reflect expertise brought from elsewhere and awarded by human decision. Badges envisioned for activities such as INBio's inquiry projects may be carried out partly online and partly offline and would be more likely awarded by a human assessment process.

### Badge design

A 'Natural History' badge sounds an attractive prospect, but there are many devils in the detail. To begin with, the range of partners vary in both scope and focus within the field of natural history. iSpot focuses on identification skills, but other projects may stress wildlife recording, critical thinking or experimental design. Expertise in identification skill may be restricted to one biological group and to one geographical area. To address these issues, we envisioned a system of badges that reflects several different dimensions.

**Skills** These would include identification skills (iSpot, iNaturalist, Mushroom Observer), data contributor (iNaturalist, India Biodiversity Portal, Atlas of Living Australia), science skills (INBio), eco-tourism and environmental policies and practice (India Biodiversity Portal) and content curation (Encyclopedia of Life).

**Biological group** iSpot currently divides the living kingdom into a number of informal groups: birds, invertebrates, fish, amphibians and reptiles, mammals, plants, and fungi & lichens.



**Figure 6 Informal biological groups used on iSpot**

iNaturalist uses groups that are similar but not identical. A site such as Mushroom Observer may be focused on just one of these broad-brush groups but might record expertise at a finer level of detail.

**Region** Because the species that make up communities vary so much, expertise in identification may need to be referenced to just one region of the world. These might be simply the continents, or ecozones such as Palearctic, Neotropic, etc.

**Level** This dimension reflects the learning journey between beginner and expert, providing a path for progression. As an example, the iSpot system provides five levels of earned expertise (e.g. a beginner in plants: 🌱 or a knowledgeable birder: 🐦🐦🐦) plus two levels (knowledgeable and expert, e.g. an expert in birds: 🐦🌐) that are awarded by referees to acknowledge existing expertise.

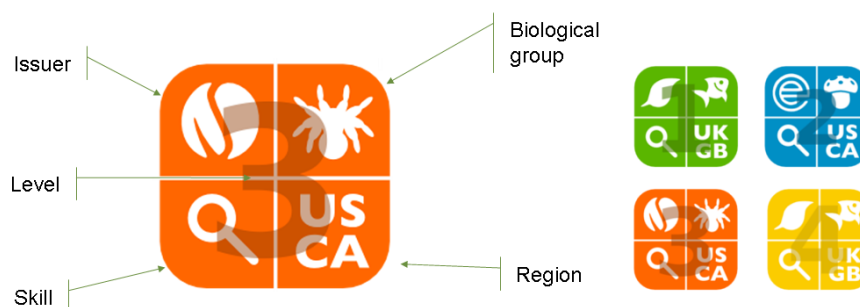
**Issuer** We proposed a coherent set of badges that could be issued and used across a number of collaborating projects. However, we are aiming at a decentralised ecosystem of badges, rather than a single issuing authority. It is crucial that the identity of the issuing organisation be reflected in the badge, as well as a unifying design to reflect the commonality across the collaborating issuers.

-  Amateur Entomologists' Society
-  Amphibian and Reptile Groups of the UK
-  Bedfordshire Moth Group
-  Bees, Wasps and Ants Recording Society
-  Belfast Hills Partnership
-  Berks, Bucks and Oxon Wildlife Trust
-  Berkshire Moth Group
-  Biological Recording In Scotland
-  Biological Records Centre
-  Black Country Biodiversity Group
-  Botanical Society of the British Isles
-  Bristol Regional Environmental Records Centre
-  British Bryological Society
-  The Mammal Society
-  The Marine Biological Association
-  Merseyside BioBank
-  National Museum Wales
-  Natural History Museum
-  Natural Shropshire & Shropshire Biodiversity Partnership
-  New Flora of the Isle of Man
-  Norfolk and Norwich Naturalists' Society
-  Opiliones Recording Scheme
-  Oxford University Museum of Natural History
-  Pembrokeshire Coast National Park
-  People's Trust for Endangered Species

**Figure 7 Badges of some of the partner natural history societies active on iSpot**

iSpot already has a use-case: experts in the community are validated by iSpot's partner natural history societies (Figure 7, see <http://www.ispot.org.uk/representatives>) and the expert user is accompanied by their sponsoring society badge which link back to the society's web site. Some societies now report significant traffic from these badges, showing the importance of allowing partner branding to be visible.

Our badges would therefore need to be composite to reflect all the above combinations, and this would be reflected in their graphic design. The image below suggests how this could work.



**Figure 8 Left: A mockup of a badge reflecting a level 3 skill in identification of North American spiders issued through iSpot. Right: Other possible natural history badges, showing permutations of biological groups and issuers.**

## Conclusion

Badges are promoted as a good fit to informal learning. For the Open University and other higher education institutions, they would represent a way of motivating and rewarding engagement with a wider public, as well as providing bridges into formal learning and paths out into lifelong learning.

Badges could be coupled with existing outreach and OER material where their flexibility and light-touch validation would provide a cost-effective means of providing learners with a tangible reward. (The task of providing suitable validated badges for the OU's extensive public offering is, however, a daunting one.) Keeping badges distinct from formal credit-bearing awards provides a way of handling the issues of brand and reputation, allowing the badge to be supported by the institutional brand without devaluing the core awards. Alternatively, badges that do not use the OU identity can be used for specific projects such as iSpot.

However, there is likely to be demand from our students for badges that represent their current and past study. The OU student community is a large and proud one, and it surely would enhance the OU brand visibility if students could easily show their OU badges on social networks. Using badges for both informal and formal learning does however raise a serious issue for managing brand and reputation.

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## Appendix 1

### Collaborators in 'Building Citizen Science: A Natural History Badge Ecosystem

Atlas of Living Australia		<a href="http://www.ala.org.au">http://www.ala.org.au</a>
Encyclopedia of Life		<a href="http://eol.org">http://eol.org</a>
iNaturalist		<a href="http://inaturalist.org">http://inaturalist.org</a>
INBio		<a href="http://www.inbio.ac.cr">http://www.inbio.ac.cr</a>
India Biodiversity Portal		<a href="http://indiabiodiversity.org">http://indiabiodiversity.org</a>
iSpot		<a href="http://www.ispot.org.uk">http://www.ispot.org.uk</a>
iSpot Southern Africa		<a href="http://za.ispot.org.uk">http://za.ispot.org.uk</a>
Mushroom Observer		<a href="http://mushroomobserver.org">http://mushroomobserver.org</a>