

Embracing Cultural Diversity - User Experience Design for the World

Usability Professionals' Association International Conference

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**Usability Knowledge Online:
Discover the Body of Knowledge**

www.usabilitybok.org

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This paper includes:

- What is a “Body of Knowledge” for the Usability Profession?
- Who Will Use It?
- Content Topic Areas
- Content Organization
- Categories as a Usability “Map”
- Web Presence & Future Architecture

What is a “Body of Knowledge” for the Usability Profession?

Every professional discipline builds a framework that outlines the overall practice, techniques, and standards. Such a framework guides individual practitioners and educators, providing a way of identifying that the professional discipline is delivering on its service aims. In professional disciplines that are very mature (for example, the law) and where the human/social stakes are particularly high (for example, medicine), their framework is highly refined and tied to broad educational standards - practitioners can thus be measured and certified in their knowledge and performance. In other disciplines, the framework acts as a guide for professional development within the discipline, as well as to further understanding by people outside the discipline.

The usability profession has evolved and established clear practices over the years, and the Usability Professionals’ Association (UPA) promotes the aspects of stable practice within the profession, as do other similar/related organizations like the Human Factors & Ergonomics Society (HFES), the Computer-Human Interaction (SIG CHI) group within the Association of Computing Machinery, the User Experience and Usability group (UUX) within the Society of Technical Communications, and the Interaction Designers’ Association (IxDA), among many others.

The documented reference for a framework that describes a professional discipline is commonly known as a “Body of Knowledge” (BoK). In 2002, the UPA Board felt that it was both useful and feasible to consider creating a BoK to support the usability profession. The Board saw the BoK as an enabler for other things that, together, would support the development of the profession and the people involved. They illustrated this concept with the following diagram:



Starting in 2004, the UPA’s project participants and board committed that the Usability BoK:

- Represents a broad consensus regarding the profession itself and the range of knowledge, skills, and methods that should be mastered by practitioners in the field.
- Will necessarily be broad and inclusive in scope, because our profession is inherently multidisciplinary and draws on a wide range of other practices.

From Usability BoK Mission Statement:

http://usabilityprofessionals.org/upa_projects/body_of_knowledge/bok-mission.html

The Usability BoK serves to support UPA’s current 2010 goals in the following ways:

<i>UPA goal statement</i>	<i>Usability BoK role</i>
1. Become the authoritative source on the practice of usability, user-centered design (UCD), and user experience (UX).	Provide a single, substantive resource that is available for use by anyone internationally who is looking for an independent reference point on the subject of usability.
2. Facilitate professional development and education within the UX field.	Outline a framework to answer the question “what is involved in practicing usability?” that can be used by practitioners for skills-building and professional development planning.
3. Promote the business value of user experience, research, design and evaluation to business and other entities.	Include information on Managing UX. Include case studies describing usability in practice. Include discussions of beneficial outcomes that can be achieved, within descriptions of specific usability and design techniques.
4. Foster a community of user experience professionals through knowledge sharing and networking. <ul style="list-style-type: none"> • Provide effective UPA Governance. • Enhance and provide the value of UPA membership. 	Promote volunteer engagement in UPA activities and provide a place for knowledge-sharing with the wider community. Promote the knowledge of UPA members through links from the Usability BoK to UPA publications and activities.

(2010 goals: http://www.upassoc.org/about_upa/)

The Usability BoK isn’t just a Web site with some usability information on it. To be an authoritative resource it must meet two criteria:

1. There must be a **framework** for answering the questions “*what is the practice of usability?*” and “*how does it relate to me and my experience?*” This view of the Usability BoK focuses on the organization and linked relationships between topics. Content value will be significantly enhanced by adding tags from a taxonomy that helps describe a “map” of various aspects of the discipline.

For more on this, see the section below on **Categories as a Usability “Map.”**

2. There must be **sufficient content** to be useful and realistically represent the scope of the profession.

“We recognize that the body of knowledge should be derived from published literature, conference proceedings, and the experiences of practitioners accumulated over many years. It is not possible or desirable for this project to duplicate all of the existing resources. Rather, the outcome will be a guide that contains core material supplemented by pointers to existing resources, and continues to evolve as the practice of usability evolves.” (from the Usability BoK Mission Statement)

For more on this, see the section below on **Content Topic Areas**.

Who Will Use It?

The Usability BoK is targeted primarily to practitioners and educators, although it can also be used by managers, decision makers, and others who interact with usability professionals or need information about usability.

- **Practitioners** can use it to extend their skills, to find answers to questions, to get advice about situations that they face in their work.
- **Educators and researchers** can use it to prepare course materials, to structure a curriculum for a course or degree program, and to find authoritative references.
- **Managers and decision makers** can use it to understand the roles and skills of usability professionals, to identify the benefits of incorporating usability at a project and an organizational level, and to learn more about hiring employees or consultants.
- **Collaborators and colleagues** from a range of disciplines, such as developers, analysts, artists, and other project team members can use it to learn about usability and how it relates to their work.
- **Policymakers**, ranging from standards bodies and other professional associations to government legislators, can use it as a reference when setting standards or guidelines related to the use of technology.
- **Other interested people**, which might include journalists, students, or people who are just curious when they hear it mentioned, can get quick overviews on specific topics, as well as open up avenues to explore further.
- **Other related sites** (in future), via the Open Linked Data community, will be able to “read” the Usability BoK as a map of the overall subject of usability and user-centered design, allowing the information to be linked to other information resources throughout the Web and the Semantic Web, as well as promoting the profession to other communities. This means that related disciplines who are also working on their own web resources and Bodies of Knowledge (such as STC, IxDA, etc.) can inter-link and share content, as well as potentially move toward cross-searching information from multiple related sites.

Content Topic Areas

There are many subjects to explore in order to describe the usability profession, as well as all the related disciplines that have significant overlap with usability and user-centered design.

The content available for public view to date, via the Preview site, has been representative of the *type* of content that will exist, but not yet the *scope* of content that must exist. As a new Usability BoK site is developed, additional topics will be outlined on the public site so people have a better sense of all the topics that need to be covered. UPA and other volunteer contributors have been able to see this list of content topics as they are in progress on the Draft wiki, as well as get updates about the project through conference presentations, posters, SIG meetings, and member e-mails over the years.

The Usability BoK is constructed around “Topics” – each page on the site is a stand-alone topic, with relationships to other topics.

- Users can get a clear summary of any particular topic without having to look in a number of different places.
- “Related links” between topics allow users to follow connections from things they know to techniques and information that may be new to them.
- Topics provide a doorway to relevant information on the Web, through links to online articles and sites, as well as references to books and publications.

We decided, after reviewing a number of reference sites and descriptions of usability, that many organizing schemes risked “freezing in time” a particular view of the profession and the knowledge that represents the profession. We also realized that, in the near future, categorization and semantic technologies would allow us to potentially represent the content in different ways for different user needs. As a result, we decided that a basic reference organizing scheme for the Usability BoK Web site itself could be based on the *type* of content, supported by rich cross-linking and categorization.

What is Usability?

- Introduction to usability
- Related disciplines
- Glossary

Topics

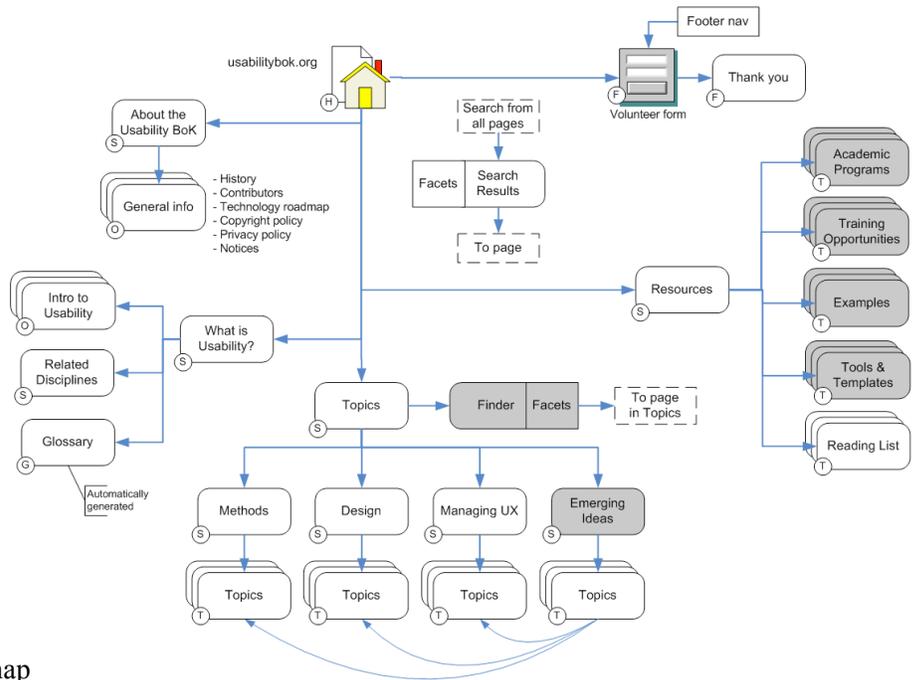
- Methods
- Design
- Managing UX
- Emerging Ideas & Research

Resources

- Reading List
- Tools & Templates
- Case Studies / Examples
- Academic programs
- Training opportunities

About the Usability BoK

- History
- Editorial Board
- Contributors
- Content & technology roadmap
- Copyright policy, privacy policy, notices



Content Creation

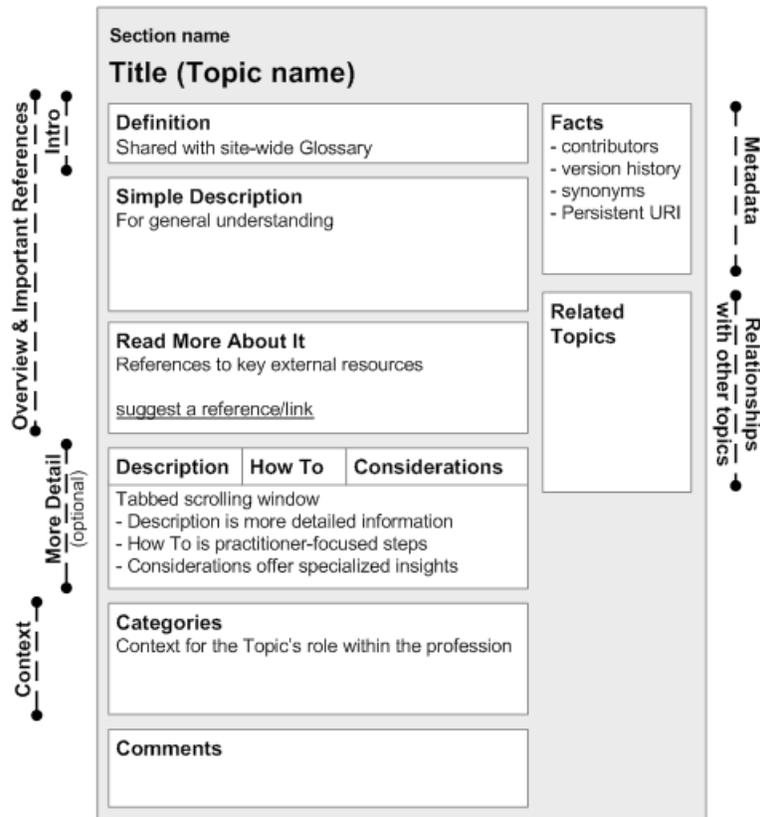
The Usability BoK content is created and managed initially in a wiki (draft.usabilitybok.org – login required), shared by over 500 volunteers. The wiki provides a lot of flexibility when adding content to existing topics and allowing contributors to identify new topics. The process for contribution is:



Content Organization

Content pages are organized to be useful to a wide range of users. They provide a definition and simple overview to the topic, as well as linked references to the most important information about that topic that is available on the Web or in print. They can also contain additional detail that is useful for specific audiences, or to explore questions that are a source of active debate within the profession.

Here is an illustration of the main elements of content:



Because of the way that Usability BoK content is managed using a database, in future it would be possible to share or reuse particular chunks of content from a Topic page. For example, if a user indicates that they are an HR manager or journalist, rather than a usability practitioner, they may have the option to see only the “overview” (title, definition, and simple description) for each Topic, as a way of matching the content to their experience and need for information.

Can “Authoritative” and “Contributed” Content Co-exist in a Living Model?

The above content model has some interesting attributes in our “Web 2.0” community-collaborative world. It helps resolve the tensions between:

- **A strong editorial process**, creating an authoritative/definitive “Body of Knowledge” that can support activities like professional development and certification within the profession, as well as acting as a consistent reference for people outside the profession.
- **A community collaborative process**, creating a living, dynamic reference guide that keeps the profession relevant to the social and organizational contexts in which it operates, and maintains information over time.

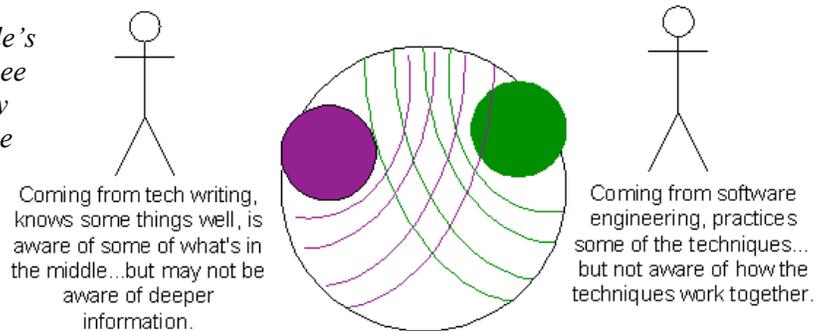
The content model provides a lightweight segmentation of content between the authoritative “overview” (definition, simple description, hierarchy/link relationships to other topics within the reference work) and the potentially collaborative/dynamic “detail” (reference links to outside material, detailed content to meet different audience needs). While the current technology plan doesn’t include specific implementation of that editorial segmentation, it is something to consider as part of the technology roadmap going forward, if it is considered valuable by the Association and the user community.

Categories as a Usability “Map”

The Usability BoK needs a mechanism to fulfill its remit to be “broad and inclusive in scope, because our profession is inherently multidisciplinary...” It also has to be useful to a range of important user groups who have different needs and experience. A "map" of the subject is what makes content findable and navigable, and also provides a framework from which other efforts (such as certification) can derive their definitions of the profession.

During the initial workshop in 2004, the concept of the map was expressed in a few ways:

“The body of knowledge should be in people’s comfort zone – they should come to it and see themselves easily. Each person has an entry point that can ripple across the field. Maybe we’re thinking about a network?”



How different disciplines are related:

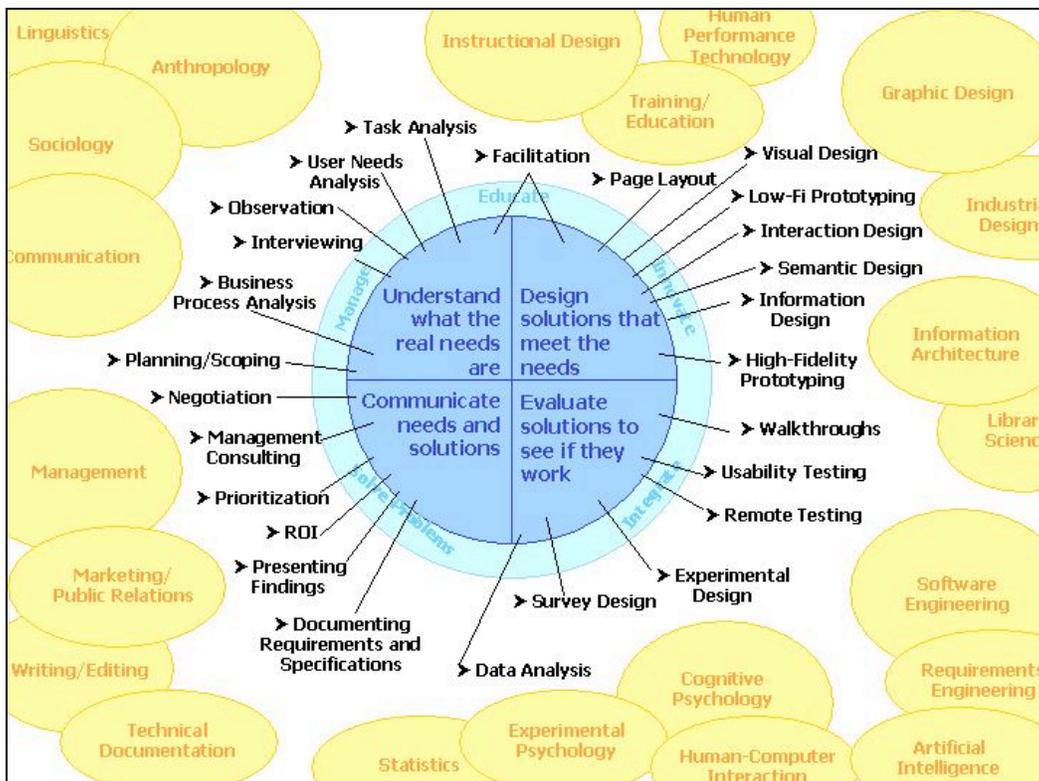
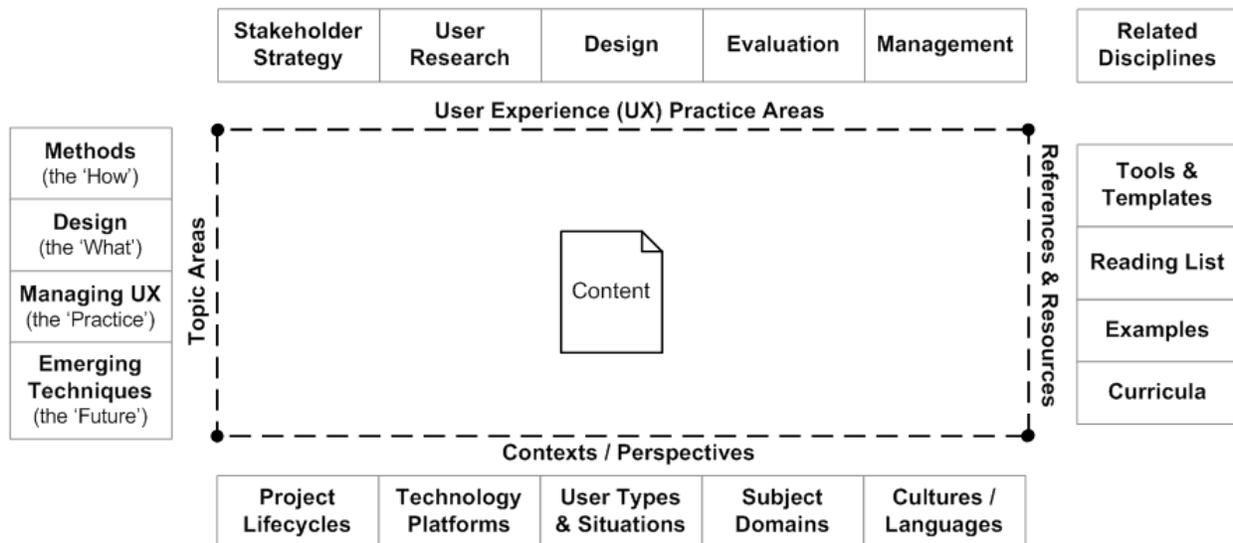


Diagram by Lisa Battle, 2004.

So what might a high-level map look like? First, there are four broad dimensions, illustrated below as four sides of a rectangle. Each of the four dimensions is made up of categories (which are themselves hierarchical, with further categories of detail) that define the commonly understood and useful categories within the dimensions.

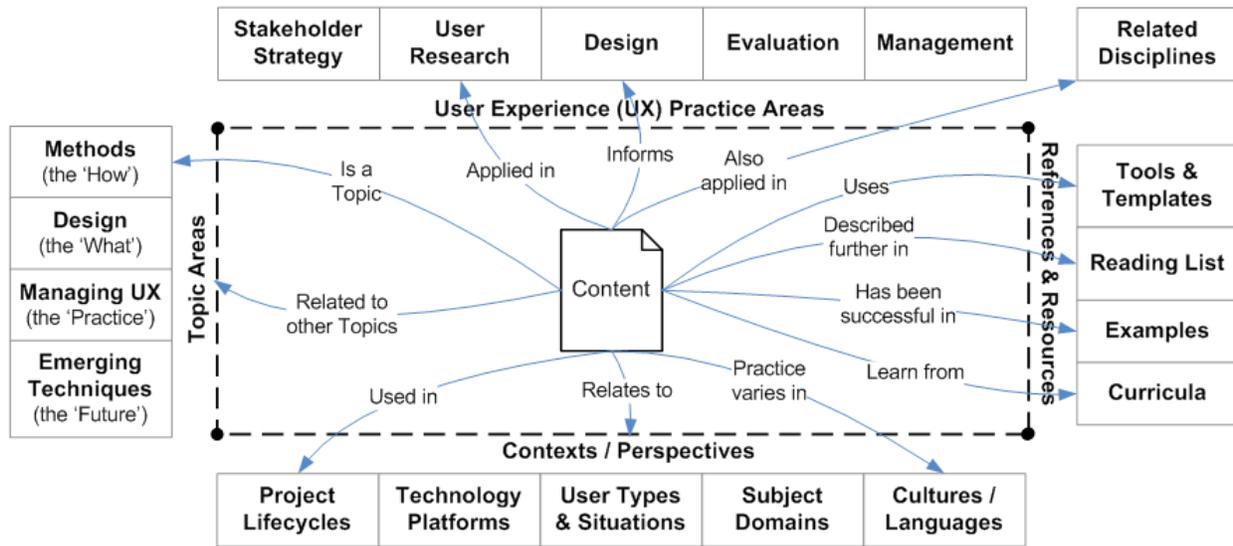


The main sections of the map are:

- UX Practice Areas:** The core disciplines that align under the umbrella of User Experience, including strategy, user research, design, evaluation, and management. In addition, there are other professional disciplines related to UX, and these relationships also need to be expressed in some way, as described above.
- Topic Areas:** The content “heart” of the Usability BoK, specific topic can be arranged into methods, design, managing UX, and emerging techniques. That last topic category provides users with information about techniques and ideas that may not yet be part of the mainstream usability practice, but are being researched as ways to solve new challenges.
- References & Resources:** The best way to support people in a way that encourages best practice and long-term professional development is to provide access to tools and information that help people “get it right.” These references and resources don’t have to be housed within the Usability BoK (although some could be), but they should be linked in a way that allows them to be searched, referenced by topics, and available to people who need them. The categorization and mapping between resources and topic areas helps people search for things they know, as well as find pointers to relevant things that they don’t know and should explore further.
- Contexts / Perspectives:** This categorization scheme allows people to identify specific situations that relate to their experience and circumstances, and apply them as filters on the available content within the Usability BoK site. The goal is to increase the relevance of the information that people use, while supporting a secondary goal of exposing practitioners to additional information that matches their situation but may not yet be part of their “toolkit” – thus encouraging professional development.

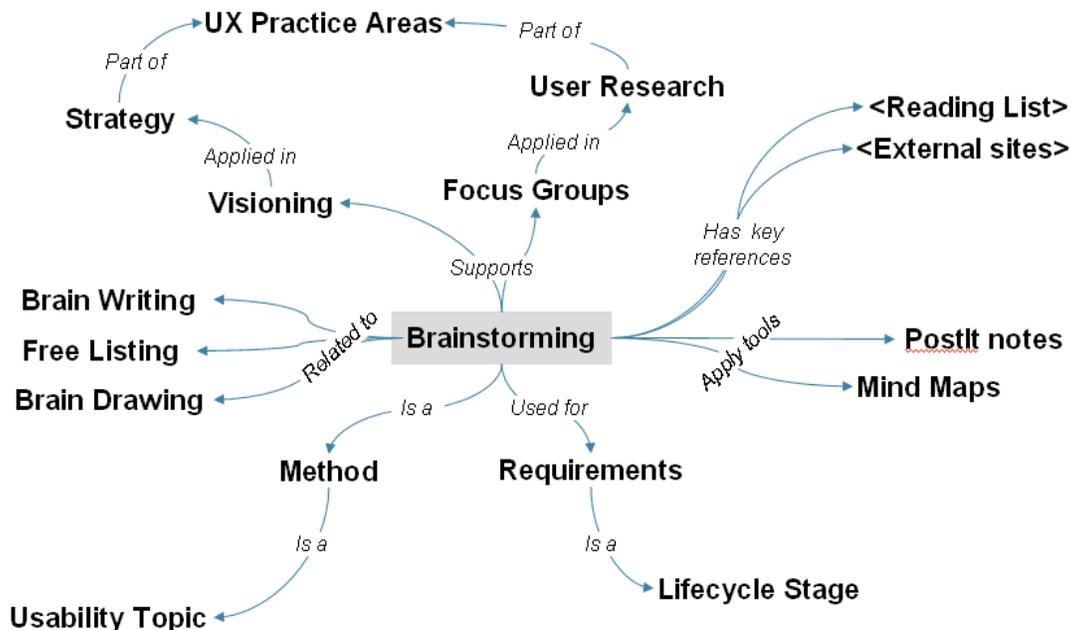
The categories by themselves are not a “map” – any more than a list of cities is not a map unless it has the roadways that provide connections between the cities. Over time, it is possible to draw connections between the items in each category, so that the map informs users about the relationships in the overall usability profession’s framework, and reflects changes in the profession’s scope and relationships.

Every item of content, as a topic, is related to the whole map through a series of connections. So at “street level” the map looks like this:



This framework, modeled as an ontology within a future Usability BoK web site, allows people to hone in on their particular needs based on key criteria that relate to their situations and experience. By including faceted search and browse that maps the touch-points and overlaps with other disciplines, we have the opportunity to incorporate content from outside organizations, as well as share content with those organizations that improves overall visibility.

The connections are more than just links or tags; by naming the relationships between content and terminology, we build a semantic map that can be leveraged in the future as the Semantic Web matures, making the Usability BoK Map increasingly useful over time. For example:



Do We Build the Map from the Top-Down or Bottom-Up?

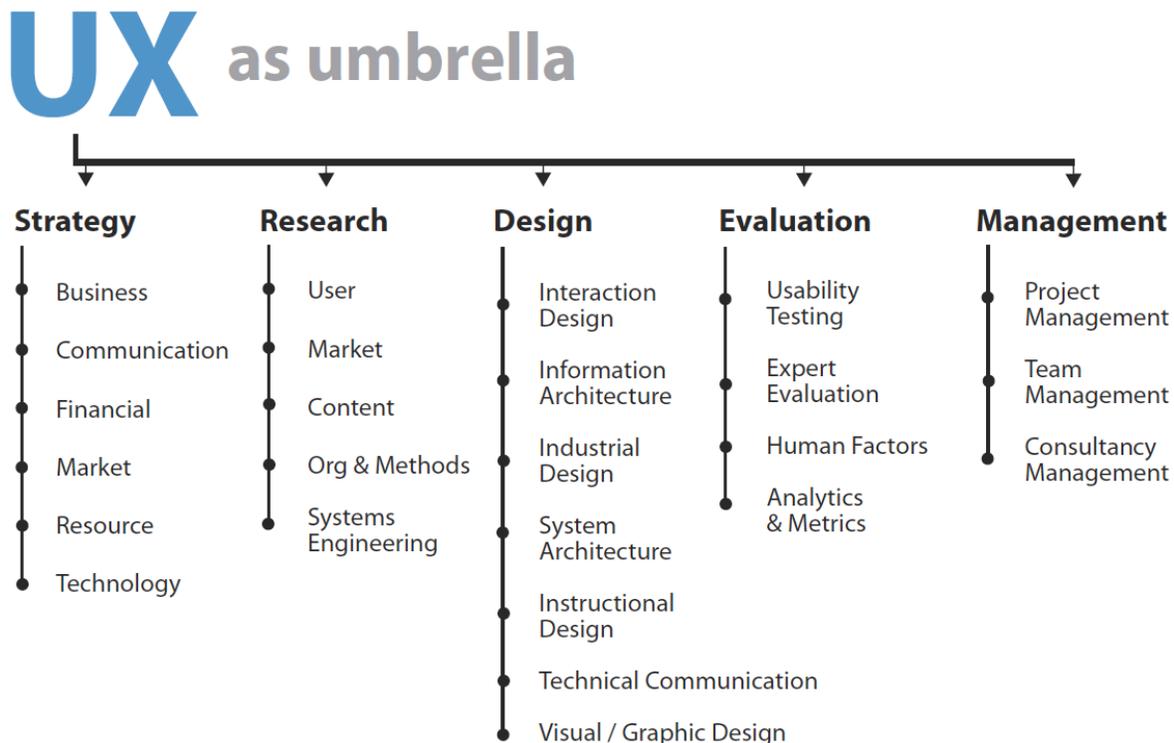
The Usability BoK team decided some time ago to allow this map to grow organically from the bottom-up, based on the content and the experience of contributors. At the same time, we received and reviewed numerous usability content organizing schemes that already exist in the profession. So in reality we started at both ends and worked toward the middle, drawing from the best of both approaches.

- **Bottom up creation:** One of the best ways to elicit the map was to draw it from the content created by the Usability BoK contributors themselves. Every topic would include references to other topics, terms and descriptions that could turn into keywords. Those reference relationships and terminology would provide the raw materials for the map – much as Card Sort exercises work from collections of terms identified by users and stakeholders, with organization schemes derived as an outcome.
- **Top down discussions:** Early in the project the working group developed a large candidate list of topics that would be relevant to the profession, along with a range of additional metadata lists (such as types of users, stages in software development lifecycles, system platforms, etc.) that would be useful categories for tagging specific items of content as the project moved forward. In 2007 we also gathered a number of categorization scheme examples. While many of these other schemes are created for specific purposes that may be different from the Usability BoK, we “reality check” our own categorization against these other views of the profession, to try and create as much consistency and alignment as possible.

An early implementation of this work is going into the next generation of the Usability BoK – current Drupal site development is part of this. One reason it was chosen was for the taxonomy module, which is integrated well into the overall content management, and some reasonably mature search and listing components that will allow users to do faceted filtering to hone in on particular interests.

UX Practice Areas

The emergence of “User Experience” (UX) as a cross-discipline umbrella term came in parallel with the team’s efforts to establish key aspects of the map to be used for categorization. We felt the map needed to be more than a general list, and arrived at the following for the categorization scheme (still evolving):



Web Presence & Future Architecture

Currently (early 2010), the Usability BoK runs two technology environments that support the project, along with using additional Web applications that provide utilities to support particular project needs.

- **Preview Site** (www.usabilitybok.org) – a custom content management system built in 2005 to provide a place to share early examples of the topics with the wider community. The design was purposely made quite simple, so that people could browse through a few example topics to provide feedback on the types of content and approach that the project was taking at the time. This site is still in use as a Preview of some examples, but is not planned to continue beyond 2010 as available content outgrows the site’s capabilities. Along with the main Preview site, some early work was done with Spanish translation to understand some of the issues that would arise with having a multilingual resource.
- **Draft Wiki Site** (draft.usabilitybok.org) – an implementation of the MediaWiki platform (which also powers Wikipedia) was set up in 2006 to support collaboration between Usability BoK content contributors. The site is password controlled, in order to create a comfortable environment for contributors to work on drafting content, collaborative editing, and discussions as they refine content for public use. The decision was taken early on that the site would not be visible to the public generally, because the authoritative nature of the Usability BoK was such that exposing draft, “in progress” material did not match the project’s overall goals. However, anyone within the public community can contribute, once they request a login to the wiki – over 500 people have requested logins over the past few years.
- **Additional Web Applications** – the Usability BoK project team and volunteers, as an internationally distributed group, uses a number of additional tools:
 - Social bookmarking – there are Usability BoK accounts for users to provide links on a range of sites, including Delicious (“UsabilityBoK”), Twine, ZigTag, and others. There is also a Twitter hashtag for the project: #upaBoK.
 - Doodle Polls – requests for collaboration on priority topic areas, and contributor sign-up for specific topics.
 - Google Docs – collaborative project documents and spreadsheets.
 - Google Analytics – monitoring use of the Preview site, types of browsers and operating systems being used, and search terms.

The future architecture needs to support the longer-term goals of the project, both as a framework for the profession and as a source for content. In 2009, Drupal was chosen as the platform to begin developing the next generation of the Usability BoK. There are a number of reasons it was chosen:

- It has extensive capabilities to create and manage *structured* content, so supports the structured nature of topic content pages, and allows reuse of different parts of that content in future.
- It has extensive taxonomy creation and management capabilities, allowing us to implement the categorization that is needed to provide the *framework* portion of the strategy.
- It includes Web 2.0 social collaboration facilities, so should allow the Draft Wiki site to be incorporated into the same technical environment as the public site, making content management and migration of peer reviewed topics easier.
- It has been chosen as a future platform for the UPA’s main member site, as well as other Web sites that may in future share content, categorization and services with the Usability BoK.
- It is widely supported by the Open Source development community, so would provide a viable longer-term platform as the site’s needs change.
- It has an active development group focused on RDF and RDFa Semantic Web implementation within the product, which supports the extension of the framework and topics to be used by other sites in the wider community; this essentially aims at making the Usability BoK *the authoritative database* for usability references and categorization on the Web.

Some additional features we are looking at to make the Usability BoK more useful include:

- Page navigation and hierarchical browsing – along with site hierarchy navigation, related topics can be accessed like paging through a book.
- Facet categorization – leveraging the taxonomy to allow users to filter content in order to focus on information that matches their specific needs.
- Glossary integration – along with a site-wide glossary, enabling important terms to show pop-up definitions when those terms are used on other pages in the site, so people can get definitions without having to leave a page they are reading.
- Rich link information – links to external resources are stored with additional categorization information to allow them to be managed more easily and become more useful over time.

Along with feature currently being considered in the design, future opportunities include:

- Profile use for professional development – it could become possible to tag methods to a user’s profile as “know” or “learn” in order to keep track of personal development goals.
- Profile sharing and profile enhancement – contributors who are also UPA members could have the same profile on both sites, if they choose, and share their list of topic contributions on their UPA member profile page.
- Granular content assembly – the nature of topic page structure could allow one or more pages to be printed or exported to create a specialized “abstract” on a particular subject area.
- Visual topic “browser” – because of the detailed relationships captured in categorization and links between topics, it could be possible to allow visual browsing among topics, where it might be easier to see the connections between them.

Let’s Finish Where We Began

Overall, the efforts and ideas described in this paper support the goal that the Usability BoK:

- Represents a broad consensus regarding the profession itself and the range of knowledge, skills, and methods that should be mastered by practitioners in the field.
- Will necessarily be broad and inclusive in scope, because our profession is inherently multidisciplinary and draws on a wide range of other practices.

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