AIIM Standards Program
Project Proposal

Submit completed project proposal to Betsy Fanning at bfanning@aiim.org

1. **Title (of the proposed work, committee or CoP). No trademarks or service marked owned by AIIM may be used. The title is subject to approval of AIIM.**

Standards for Human Reference Model: Creation, Management, Publication, and Ownership

2. **Date of Submission:** April 18, 2013

3. **Statement of purpose, including a description of the problem to be addressed.**

Problem Statement

In the knowledge economy, people are important new source of capital – intellectual capital. Intellectual capital is to the knowledge economy what financial capital was to the industrial economy, and what physical capital was to the agricultural economy. We have always tracked things about people – their address, their public records, places they have worked, education credentials, papers they've written, books they've published, etc. We have tracked them in a variety of sources, using a variety of data models, and for many different reasons. In the knowledge economy it is important to have a standard reference model for people. A standard reference model could pull together all of the common attributes of a person.

Just as reference models for information, documents and content were critical to freeing data from applications, to supporting interoperability in the 20th century, so is a standard reference model for people important in the 21st century. In the knowledge economy, a common reference model will allow us to create, manage, discover, verify, and use information about people across applications. A common reference model also may provide an opportunity for people to create, own, publish and manage their own profiles. A common reference model would enable consuming applications to leverage open data about people rather than to replicate or embed people data.

Challenges

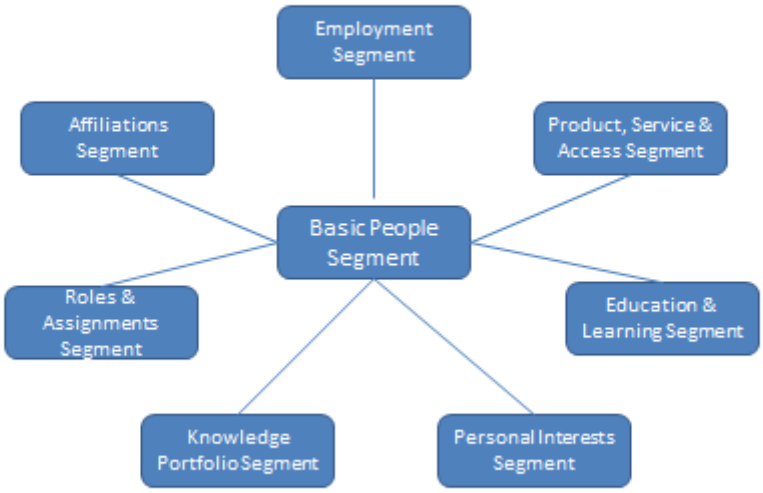
Today there is no common reference model for people. Rather there are hundreds of application-specific models each designed to serve a functional goal. There are several reasons why a model does not exist.

- People are complex objects – there are several dimensions to a single person and each dimension has multiple attributes. An elegant and extensible data model is needed to support and manage this complexity.
- Different dimensions may have different security and access requirements. Some of the dimensions need to be protected for privacy while others may be public. There is a need for guidance on how to treat each dimension.
- People are dynamic not static – this is another aspect of the complexity challenge. Each dimension, though, may exhibit a different rate of change and have a different life cycle;
- People have intellectual capital attributes and types of knowledge which should also be supported by a common reference model, i.e., narrative intelligence, emotional intelligence, social capital, relational capital, attitudes, procedural knowledge, etc.

- A people entity speaks directly to identity – identity management has matured in organizational directory and management contexts. However, identity management is ultimately the responsibility of the individual. A people data model may help to move management in this direction.

The need is for a single extensible data model that addresses all of these needs. The need is for a model which is extensible over time, managed at different levels by different parties, and with clear indications of alternatives and consequences at each step. Figure 1 illustrates some of the segments that may be important to a common reference model. Figure 1 is a strawman structure to illustrate the coverage a Human Reference Model might provide.

Figure 1.
Seven Segments of an Extended Human Reference Model



The extensible Human Reference Model is designed around seven logical property groups – called segments.

1. Basic People Segment – basic descriptive properties which include essential identification and distinguishing features of an individual. This segment might also include Life Events that pertain to those identifying properties;
2. Product, Service and Access Segment – descriptive properties that describe an the physical and digital commercial products and services that an individual is permissioned to use; may include
3. Education & Learning Segment – current and past education and learning events, including links to academic e-portfolio, student aid records, and so forth.
4. Employment Segment – current and past employment, talent matrix ratings, performance data
5. Affiliations Segment – social network affiliations, social media, professional association linkages, and non-formal information affiliations;

6. Roles & Assignments – teams, projects and initiatives the individual has been associated with – these are formal relationships to identifiable organizations;
7. Knowledge Portfolio Segment – knowledge products, knowledge behaviors, knowledge assets and knowledge impacts, intellectual capital properties (narrative intelligence, emotional intelligence, collaborative intelligence, etc.);
8. Personal Interest Segment – personal descriptions, interviews, interests, activities, external social profile references, and personalization agents;

A multifaceted reference model is necessary to support all of these facets. Each facet will have its own behaviors, its own life cycles, and its own security and access requirements. The data sources for each facet will also vary.

Strategy and Approach

We propose a multi-phased standards discovery and development approach, including:

Step 1. Establishment of guiding principles for a human reference model to provide a general governance framework for this standards development effort;
Step 2. Review of the literature and available models that pertain to any segment of the proposed human reference model;
Step 3. Develop a strawman structure for an extensible Human Reference Model;
Step 4. Map the existing models to the strawman structure to identify synergies and gaps;
Step 5. At the segment level, identify and align attributes across models and reconcile attribute level specifications;
Step 6: Define standard segments, properties and specifications, and extensions
Step 7. Prepare use cases to test the human reference model

Potential Uses of a People Reference Model

People Reference Model supports several key knowledge practices and processes, including: Expertise Locator, Knowledge Discovery, Recommender Engines, Personalization, Intellectual Capital Management dashboards and metrics, Networking, Onboarding, Talent Management and Trust Building.

Expertise Locator – The challenge in constructing an Expertise Locator is determining who has expertise and gauging the level of expertise. This challenge goes beyond a simple architecture design task either for People or Knowledge. Attempts to construct an Expertise Locator in the past have raised questions and concerns about how expertise is determined. When individuals self-designate they may over-rate or under-rate their level of expertise. In addition, judgments which are based on subjective opinions rather than hard evidence and peer review processes are not well trusted.

In contrast, suggested levels of expertise based on explicit content and "evidence" derived from the People data models could provide an objective source for gauging areas and levels of expertise. The People Data Model includes properties which are indications of knowledge and expertise description. Properties in three segments are particularly important for characterizing expertise: Education and Learning Segment, The Knowledge Portfolio Segment, and Affiliations and Assignments. Deriving indications of expertise from the people data models also provides an incentive to individuals to upload explicit examples of their work, education and knowledge.

Knowledge Discovery – People are an as important a source of knowledge discovery as are information and data. Most of today's "knowledge discovery" systems are targeted to codified information. A typical knowledge discovery result will surface multiple references to items which have been created by a person – an indirect indication of knowledge grounded in codified information. Or, it produces results which point to the location or essential identifying features of a person. Today's knowledge discovery engines do not index people as knowledge objects, but as properties of indexed information. Because people are always associated as an attribute of information (author, referenced person, reviewer, contributor, etc.), it is challenging to construct a "People discovery" mechanism. A robust people data model focuses on a person as the source of knowledge and fully describes his/her knowledge properties. The People model ties information, data and knowledge to a person and provide the "object" focus needed for discovery. People are complex sources of knowledge – there are multiple dimensions of discovery which are never captured through indirect references from published information and data.

In addition, knowledge discovery of people is critical for an organization of experts. The tendency of experts looking for information or knowledge is to first go to other experts, rather than to codified sources of information. Knowledge discovery engines can surface key people who are knowledgeable about the items referenced in the discovery.

Recommender Engines

The purpose of a recommender engine is to bring relevant resources to the attention of an individual, without their having to know about them up front or having to explicitly search for them. Recommender engines use any of four essential approaches to identifying content to recommend: (1) content to content matching; (2) content to user transaction matching; (3) content to user group matching; and (4) content to user profile matching. Content to content matching matches metadata of other resources to a resource a user has viewed or selected. This is the least robust of all of the methods. In the second approach, the engine may track the user's transactions and make recommendations on patterns it sees. This is more robust than the first method because it focuses on behavior. However, the method generally takes defines the user from a logon or IP address. Where multiple people are using that, recommendations may be off interest. The third method assigns a user to a group description based on transactions or known demographics – and makes recommendations based on the activities of other people assigned to the group. The fourth method is the strongest and produces the most relevant recommendations. It relies on a deep profile of an individual which is continuously updated, and which identifies and distinguishes the different facets of an individual. Recommendations are targeted, relevant and what we call 'elastic'. The recommendations stretch or contract with the changes in the user's profile. The most relevant segments of the Extended People model would include employment segment (roles, responsibilities), education and learning, knowledge portfolio, affiliations and assignments, and personal interests.

Intellectual Capital Management Dashboards

This is a forward looking feature. The most effective way to grow the intellectual capital of an organization is to assign the responsibility to the individual. Intellectual capital management dashboards put information about intellectual capital growth and performance in the hands of the people who are best positioned to act on it. The most relevant segments of the Extended People data model would include: education and learning, knowledge portfolio, affiliations and assignments, and personal interests.

Organizational Network Analysis and Networking

An extended People model could provide reliable and persistent information for continuous monitoring of organizational networks, particularly where it extends the properties around which networks may be defined. There are properties in all of the segments that might serve as important connectors for networks.

Onboarding

Onboarding is largely managed within the human resources enterprise systems. However, the Extended People data model could provide information to managers, peers and others to facilitate the onboarding process. The more we know about a new colleague, the easier we can make their transition.

Talent Management

The current professional view of talent management extends beyond internal performance ratings, retirement plans or likelihood of external recruitment. Talent management speaks directly to intellectual capital management. Managers interested in managing the talent of their staff (e.g., intellectual capital assets), will find value in the Extended People data model. The most relevant segments of the Extended People data model include education and learning, knowledge portfolio, and employment.

Trust building

The value here is very simple. People trust people they know. And, the more you know about someone, the greater the probability that you will trust them. The more you know about someone, the greater your capacity to find a way to reach them and work with them. By telling people more about yourself, the greater the probability they will approach you.

4. List of deliverables with milestones

We envision six deliverables from this effort, including:

1. Extensible Data Model comprised of segments and their attributes
2. References to existing good practice data models that might support facets of the model
3. Minimum level specifications for each attribute
4. Proposed governance models for segments, including stakeholders for each attribute
5. Discussion of the products associated with each segment and possible uses
6. Use case scenarios for each segment
7. Use case scenarios for important applications – enterprise architecture, intellectual capital,

5. Anticipated audience

Stakeholders for this effort include (1) individuals for whom data models may be constructed; (2) advocacy groups interested in access to and behavior of the dimensions of the models; and (3) consuming organizations and industries, in particular electronic businesses that benefit from having extensive information about people to drive their business.

We envision that representatives from the following industries and interest groups would have a stake in this work. We suggest inviting members from each of these areas to contribute to the development work: social media (Facebook, LinkedIn, Google, Match.com, and eHarmony), enterprise architecture community (FEAC, EACOE, TOGAF, and DODAF), security industry, privacy advocacy groups, human resource management and intellectual capital community (Oracle/PeopleSoft, Human Capital Institute, ECIC), publishing community, knowledge management community, and network administrators.

6. Coordination with other standards development activities if this is similar to an existing project, a description as to why the proposed work is necessary.

Most standards are either de facto or proprietary (Facebook, LinkedIn, Match.com, eHarmony). Existing standards may be specific to a facet (Identity Management, Financial Services, and Security). Wherever useful standards exist, they will be used to support the People Reference Model.

7. Resources (minimum of 3 committee participants is required for approval) and potential funding for work

- Denise Bedford, Kent State University, Co-Chair
- Owen Ambur, Retired Emeritus AIIM Member, Co-Chair
- Amazon
- Department of Homeland Security
- Department of Labor
- Dept. of Defense
- Dept. of Justice, NIEM, Donna Roy
- Digital Media Industry
- DODAF
- Ebay
- eHarmony
- EU Core Public Service Model
- Facebook
- Federal Enterprise Architecture Foundation
- Google
- IEEE
- Law Enforcement
- Liberty Coalition
- LinkedIn
- National Digital Watch
- National Institutes of Standards and Technology
- OASIS
- Office of Management and Budget, Scott Bernard
- Office of Personnel Management
- Open Knowledge Foundation
- Oracle/PeopleSoft
- Pandora
- People CMM , Carnegie Mellon Software EngineeringInstitute
- PESC
- SAP
- Semantic Search Community
- State of Virginia
- Synthetic World Application Developers
- TOGAF
- W3C

8. Identification of proposed first meeting (meeting date, time, location, mode (in person, conference/web, etc.)) and projected ongoing meeting schedule

July 2013 at AIIM Headquarters, plus remote meeting support for all other members

9. Proposed Project Leader or Committee Chairperson (preference is given to AIIM Professional, Trade, and Basic Members)

Owen Ambur and Denise Bedford as Co-Chairs

10. Proposer's Contact Information

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