Handshake: Open Source Social Networking Platform for the Enterprise

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Gilbane Conference, San Francisco

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The MITRE Corporation

- MITRE is a private, independent, not-for-profit organization, chartered to work in the public interest
- Founded in 1958 to provide engineering and technical services to the U.S. Air Force
- Currently manages 4 Federally Funded Research and Development Centers
  - Department of Defense
  - Federal Aviation Administration
  - Internal Revenue Service/Department of Veterans Affairs
  - Department of Homeland Security
- Supports a broad and diverse set of sponsors within the U.S. government, as well as internationally

7,000 employees worldwide
Vision for Next MII

Sponsors and partners exploit all relevant mission information and services

Unified Business Portal

- My status
- Messages
- Blogs/wikis
- Photos
- Bookmarks
- Podcasts

Teams
Communities
Networks
Relationships

Delivery by identity, role, location, credential, network, modality

Voting
Rating
Expertise

Co-develop
Cloud services

Anticipatory
Awareness
Relevant
Secure

Partner
Sponsor
Public
Alumni
Employee
Business Goals for Social Networking

- Capture relationships of MITRE staff with partners, sponsors, industry, and academia
  - Leverage these relationships

- Improve cross-organizational collaboration and networking

- Bring broader segments of the community to bear on important sponsor problems
  - Vetting position papers/benchmarking with broad audiences
  - Enable new business models and federal processes
  - Deliver information to sponsors and partners

- Support internal social networking

- People tracking
  - Retirees, alumni, students/coops, consultants

- Improve situational awareness around relationships, activities and groups
Solution Criteria

- Deploy a social networking research platform
  - Fully customizable, extensible, measurable, integratable
  - Investigate the business value of cross organizational collaboration
  - What will make the capability successful?

- Single platform for internal and partner networking
  - Fine-grained access control model available
  - Easy to use/walk up and use
  - No licensing costs for unlimited number of partner participants

- Meet MITRE’s InfoSec and OpSec requirements
  - Most commercial internet systems do not
  - Secure and easy invitation model
  - Minimize sharing errors

- Initial low cost solution
Extending MITRE’s Reach with Handshake

Social Networking Research Platform, powered by Elgg
Home page provides access to... connections

...peripheral awareness of activity
Home page provides access to...

...groups & communities
Home page provides access to...

...tagged content
Home page provides access to... files, blogs, wiki pages, bookmarks, photos
Each profile field is access controlled
You choose what you share with whom

Profile page lets you share with others

Donna Cuomo - MITRE

"doing a handshake demo" (posted Mar 19, 2010)
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Professional interests: innovation, social networking, social and collaboration tools, enterprise information architecture, knowledge management, strategy
Education: State University of New York at Buffalo, Industrial Engineering/Human Computer Interaction, PhD, MS

About me
I am presently the Chief Information Architect in CI&T, working on social networking and media, defining the strategy for our next intranet, collaboration, and knowledge management processes and tools. I am currently deploying a social networking prototype to support cross-organizational collaboration and the capture of MITRE staff's professional relationships. I have been employed at MITRE for over 20 years. I worked in the MITRE Air Force Center for 12 years before joining MITRE's information technology organization.

Message board

Post

Jennifer
Mar 31, 2010
I am indeed! I was just in another meeting and remembered that I wanted to email you to tell you!!!

Reply on Jennifer's message board

Marie
Feb 12, 2010
Donna
You might want to join the Social Media Communications Strategies Group

Reply on Marie's message board

Patrick
Jan 14, 2010
Donna, that is great. Who do I contact if I want to submit a module? I am not sure I am that ambitious but I would like to explore the possibility...

Re:
Pat, Handshake is based on open source code so we can build, enhance, or add any functionality we want to it, such as image files where
Groups provide a forum for collaboration

Description:
For project development teams interested in using and sharing knowledge of agile development methodologies. A currently "hot" agile development topic is the Scrum agile software development framework which many teams at MITRE are exploring. The use of this development framework plus other agile methodologies are appropriate for sharing through this group.

Interests: program management, Scrum, agile development, Software Development

Website: http://en.wikipedia.org/wiki/Scrum_(development)
Quickly catch up with what’s been going on
Engage in discussions, share resources, collaborate on wiki pages, post to blogs…
MITRE Customizations: Permissions & Trust

- MITRE Identity model with single sign on

- Authenticated email-based invitation model for inviting participants

- “Box Model” for group permissions
  - Restricts contents to group permission level ceiling
  - Ensures that information is not inadvertently exposed

- Visualized permissions & access
  - Every group
  - Each piece of content
  - Customized access levels
MITRE Customizations: Awareness

- Created group activity river
  - Scrollable access to activity history
- Enhanced email notifications to activity
  - Clearer subject headings
  - Cleaner formatting
  - Hyperlinks to content, sender’s profile
  - Daily email digests
  - Full email integration in progress

MITRE Customizations: Awareness

Released to open source community
MITRE Customizations: Groups

■ Ability to restore accidentally deleted groups

■ Ability to “remove” group members

■ New group widgets
  – Group activity widget
  – Group Information widget – HTML form for lists, hyperlinks, images

■ Multiple group owners
MITRE Customizations: End User Experience

- Improved search
- Streamlined navigation
- Activity logging & data visualization for end users
- Affiliated organizations model
- Connections recommender – based on digital footprint

Abigail Gertner & Justin Richer, MITRE

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Abigail Gertner & Justin Richer, MITRE
Handshake – Extending MITRE’s Reach

High-level DoD medical simulation decision makers

IBM, DISA, APL, P3CG
STRATCOM, Aerospace, Gilbane, TraceLink, DNI

Early Responder Forum
Handshake Group
- 100+ leaders from 45 States and 2 Territories

People tracking
Cross-organizational teams/consortia
Communities of interest
Govt/acquisition processes
Internal teams and departments
Social networking research

OLIN Scope Team

MITRE Alumni
Owner(s): Donna George

Handshake Group

Student Program

OLIN Scope Team

All Things Agile

2-4 weeks

Public Interest Network Inter

Description
A community improving transparency, discussion and engagement
Reference for posted on this

Aerospace, JHU/A Lincoln Lab Sandia, CAN SEI

High-level DoD medical simulation decision makers

Approved for public release. Distribution unlimited

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Distributed Knowledge Café using Social Tools

Morning speakers broadcast via VTC

Speakers had Handshake profiles

Participants in Bedford, MA and Wash. DC

Face-to-face demonstrations in afternoon on both sides

Blogging and discussions throughout the day
User Adoption & Growth

Handshake Membership
- Handshake members
- MITRE members
- non-MITRE members
- CAC users

Handshake Content
- Images
- Files
- Top-level pages
- Bookmarks
- Albums
- Pages
- Groups

Handshake Communication
- Messages
- Wire posts
- Discussion topics
- Group blogs
- Personal blogs

170 groups & communities

530 external users from ~200 organizations

530 external users
from ~200 organizations

Handshake Membership

Handshake Content

Handshake Communication
• Each node represents a Handshake user
• Size of node is proportional to number of connections
  • External users are hot pink
  • CCG = orangey/yellow
  • Corporate = green
  • C2C = lavender
  • CIIS = blue
  • CAASD = orange
  • DOD C3I = maroon
  • Contractor = gray
Organizational partners are users from established partner organizations.

Organizational partners can “self join” – invitation from MITRE employee not required.

Direct partner (explicitly granted to individuals) – can be co-group owners, invite others from their own organization.
Advantages of Open Source for Research

- **Price**
  - No software purchase cost
  - No initial investment solution
  - No licensing costs based on # of users

- **Met our InfoSec requirements**
  - Internal hosting on our own servers

- **Extensible & modifiable**
  - We change what we want (e.g., usability, invitation model)
  - We set our own priorities (e.g., enterprise enhancements, permissions)
  - We build what we want (e.g., Affiliated Partners)
  - We can integrate (e.g., single sign on, email, contact recommender system)
  - We instrument for evaluation & research

- **Access to community**
  - We leverage others’ contributions & plug-ins
  - We share back changes for use by “friends” (e.g., Aerospace, JHU/APL, World Bank, etc)

But …

We wish more code modifications were shared back

We worry about the vitality of the open source dev community
Advantages of Using Elgg

Key features already built in
- Plug-in model allows for extensibility without modifying core
- Granular access control model supports a critical requirement
- “Social networking” functionality is important to our model
- New release 1.7.1 provides API access to social graph

Strong open source community
- Good community traction
- MITRE has developed relationship with core Elgg developers
  - Elgg developers are responsive to our needs & concerns
  - Our contributions to code base give us “street cred

But …

Not polished product
- Not enterprise focused
- Not security focused
- Inconsistent user experience
- Lacks full-text search
- (Some of this is being addressed)

Little support, training, or documentation
- Hard to get input into roadmap
- (Curverider will provide some consultancy)
- (Hosted service to be launched in May)
Our Next Steps

■ Enhancements
  – Upgrade to Elgg 1.7.1, provides APIs for My MII v2 integration.
  – Improve browsing/searching/filtering for users & groups

■ Development
  – Pulse of Handshake – what’s new, what’s happening, what’s big
  – Ability to customize groups
  – Extend permissions model

■ Assessing Business Value
  – Finalize evaluation plan
  – Complete instrumentation of Handshake for data collection
  – Track activities and analyze logs
Any questions?
# Team-Community-Network-Public Continuum

<table>
<thead>
<tr>
<th>Teams: Product responsibility</th>
<th>Communities: Influencers &amp; Participants</th>
<th>Networks: Relationships and Knowledge Pool</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worker Productivity</td>
<td>Leveraging Broadly</td>
<td>“Colleagues” Engagement</td>
<td></td>
</tr>
<tr>
<td><strong>Project Support</strong></td>
<td><strong>Enable Participation</strong></td>
<td><strong>Enable Connecting</strong></td>
<td><strong>Awareness</strong></td>
</tr>
<tr>
<td>Essential Capabilities:</td>
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<td>Essential Capabilities:</td>
</tr>
<tr>
<td>Document management, access</td>
<td>Self serve, access control, identity</td>
<td>Information awareness and presentation;</td>
<td></td>
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<tr>
<td>control, work flow and</td>
<td>management, Collaborative interaction,</td>
<td>customized view; recruiting interaction</td>
<td></td>
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<tr>
<td>calendar support, Collaborative authoring and interaction</td>
<td>Social validation</td>
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**Collaborative Work and Activity**

**Information Availability & Delivery through Unified Business Portal**

**Bringing the Network Expertise to Bear**

**Infrastructure Enablers: Trusted Capability and Information Access by Identity and Affiliation**

*Adapted from Gartner, Drakos, 2009*
User Feedback

I had to transition what I was doing with my sponsor and lost connection with all these people. Now I have a way to keep in contact with them, and it’s been great.

It’s a very lightweight way to share information with my project team and department. It’s frictionless and effective.

I have an excuse to “talk” to people I would otherwise not have the opportunity to.

Handshake provides the only way we can collaborate with our sponsor and our sponsors’ stakeholders – other than email and phone.

People come up to me and say, “Hey, I’ve seen you on Handshake.” Handshake has been useful for growing my cross-center network.