

Communities as a first-class abstraction for information sharing

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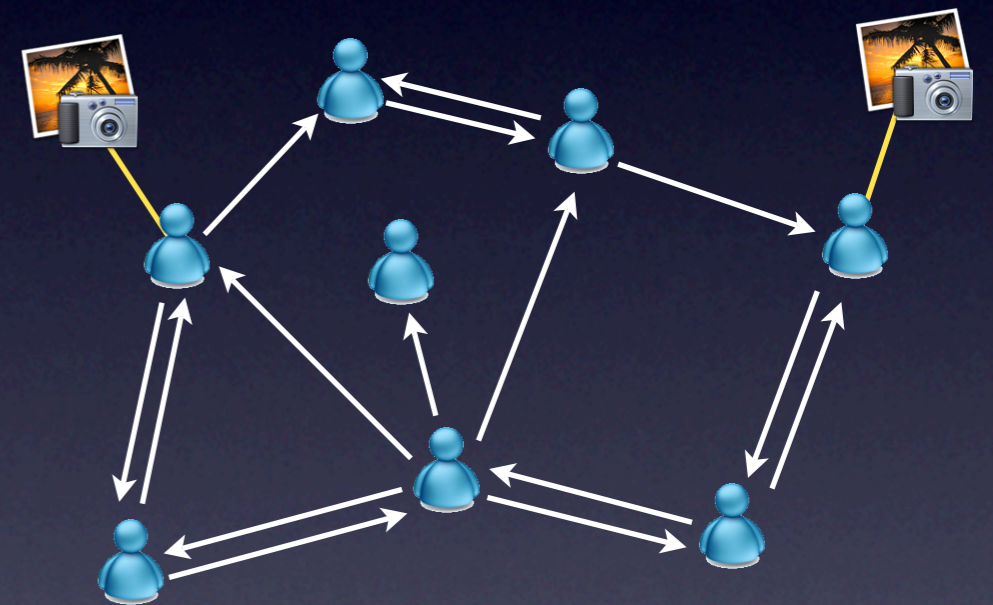
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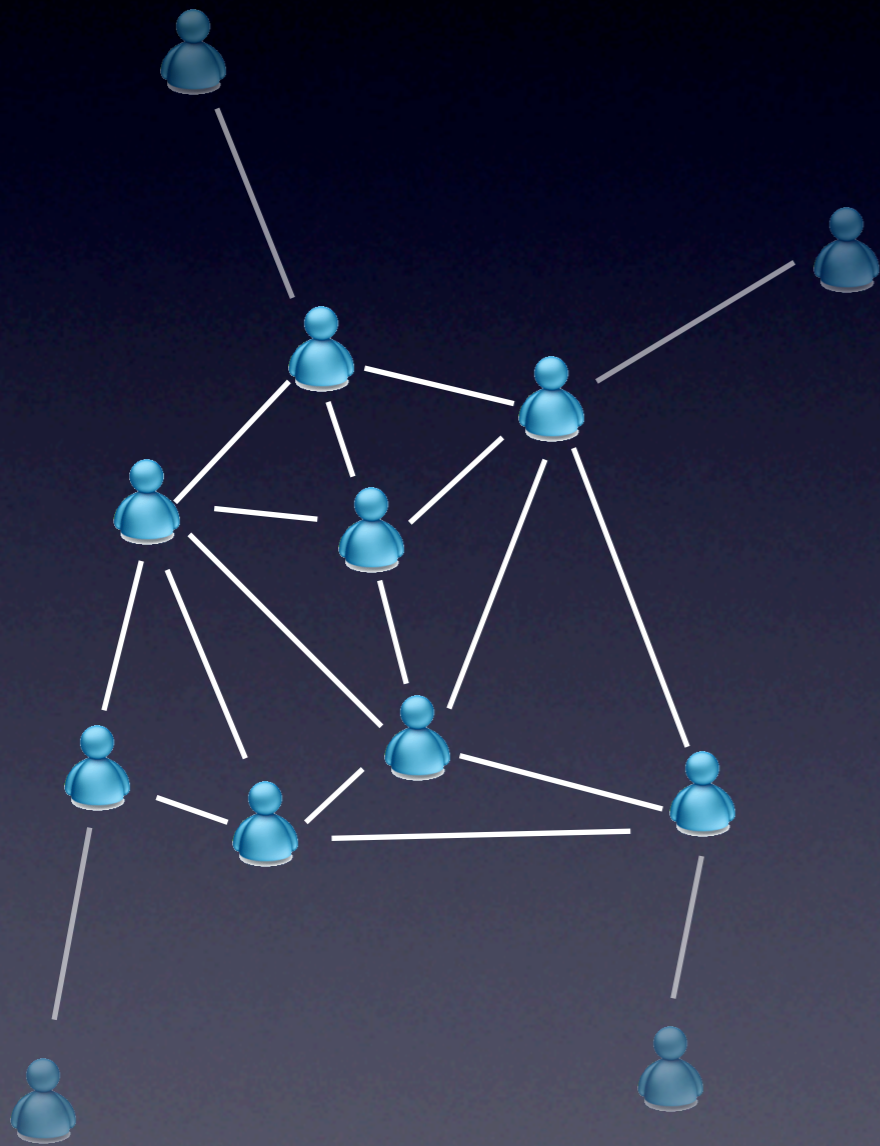
OSDI 2008 Work-in-Progress Session

Online social networks

- **Popular way to connect, share content**
 - Among most visited sites on Web
 - Users: MySpace (247 M), Facebook (120 M)
- But, all is not well...
- Increasing volume and variety of content leading to challenges
 - **Privacy and access control**
 - **Relevance**



Can *communities* help us?



- Communities are **groups of densely connected users**
 - Can offer a solution to this dilemma
- Members often
 - **Share interest**
 - **Enjoy mutual trust**
- In practice, can **automatically detect communities** [Phy.E'02, ICCT'03, PNAS'04]
 - Manual maintenance not necessary

Addressing privacy

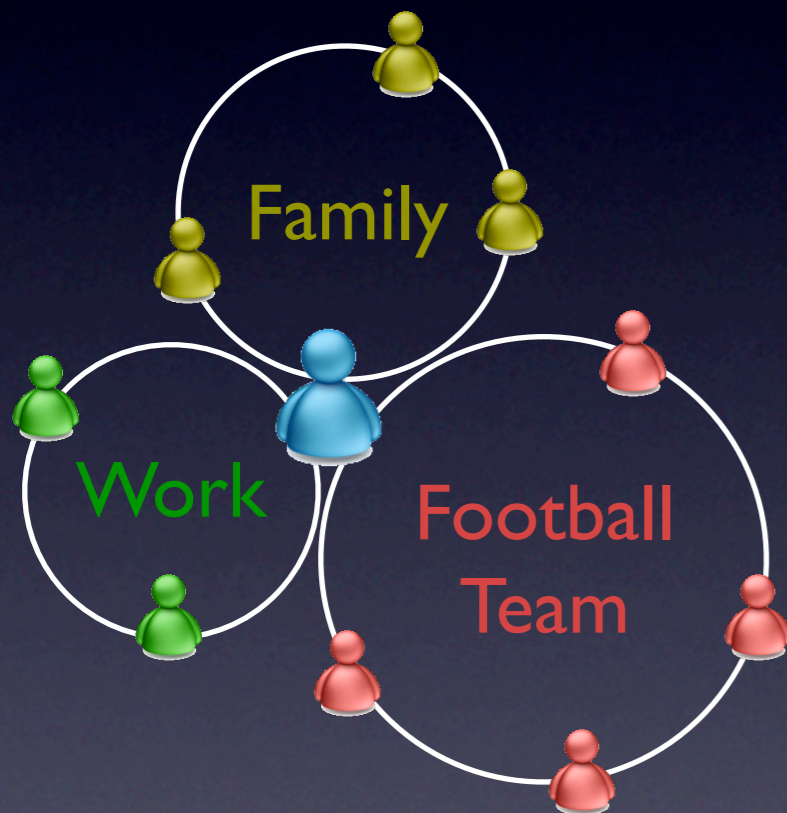
- Today, access control limited to
 - (Subsets of) friends
 - Entire world
- Communities **provide a natural middle ground**
- Can enable sharing between groups of users
 - **Beyond just friends**



The screenshot shows the 'Edit Photo Album Privacy' interface. At the top, there is a blue header with the text 'Edit Photo Album Privacy'. Below this is a section titled 'Who Can See This?' with a lock icon. The first option is 'Everyone on Facebook', which is selected with a checked checkbox. Underneath, there is a section for 'Friends' with a horizontal line. This section contains four radio button options: 'Friends of Friends' (selected), 'Only Friends', 'Some Friends', and 'Only Me'. Each option has a brief description of who can see the content. Below the 'Friends' section is a section for 'Networks' with a horizontal line. This section contains a dropdown menu currently set to 'All of My Networks'.

Addressing relevance

- Increasing amount and variety of content
 - Search facilities return **aggregated global opinion**
- Communities represent **users with shared interest**
 - Can naturally be leveraged to find relevant information



Using communities in PeerSpective

- PeerSpective is a **social network-based web search tool**
 - Indexes browsed pages
 - Web search collects results Google and from friends
- **Aggregate results by community**
 - Allows community-based sharing
 - Find more relevant results



Google

PeerSpective

Questions?

PeerSpective information and downloads:

<http://peerspective.mpi-sws.org>