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6/22/10

COMPUTER-SUPPORTED COOPERATIVE WORK (CSCW): RELATED WORK

Agenda

- **Review**
 - Anwendungen 1
 - Projekt 1
- **Motivation**
- **Definitions**
- **Related Work**
 - CommunityMirrors
 - GENIE
- **Conclusion and Future Work**

REVIEW

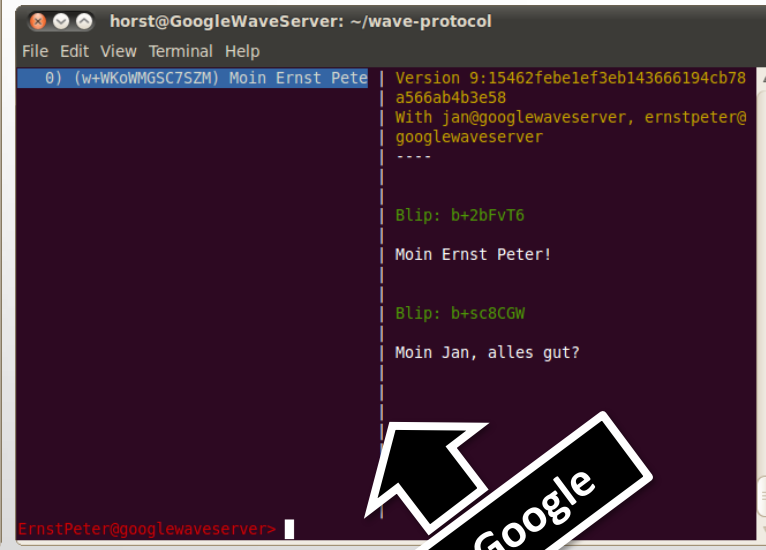
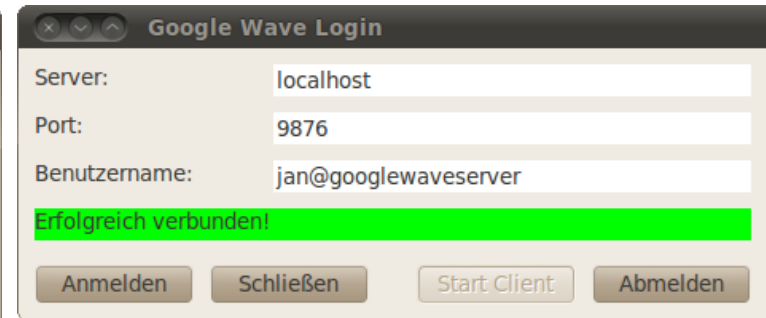
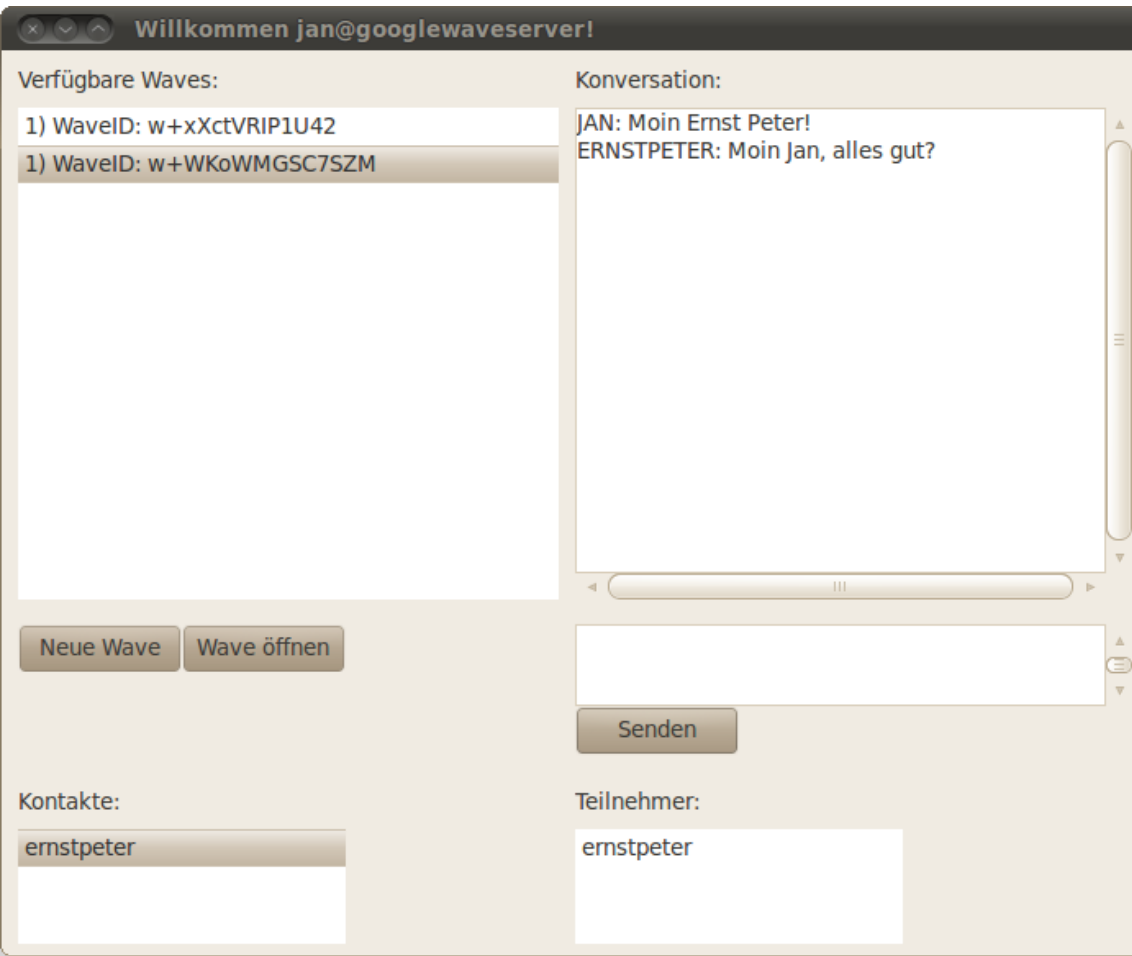
Anwendungen 1

- *„Collaborative Programming with Google Wave“ (1)*
- **Topics:**
 - CSCW (1, pp. 7 – 9)
 - Google Wave (1, pp. 10 – 16)
- **Basics for Projekt 1:**
 - *„Developing Google Wave desktop clients based on Java and SWT“*



Projekt 1

by me

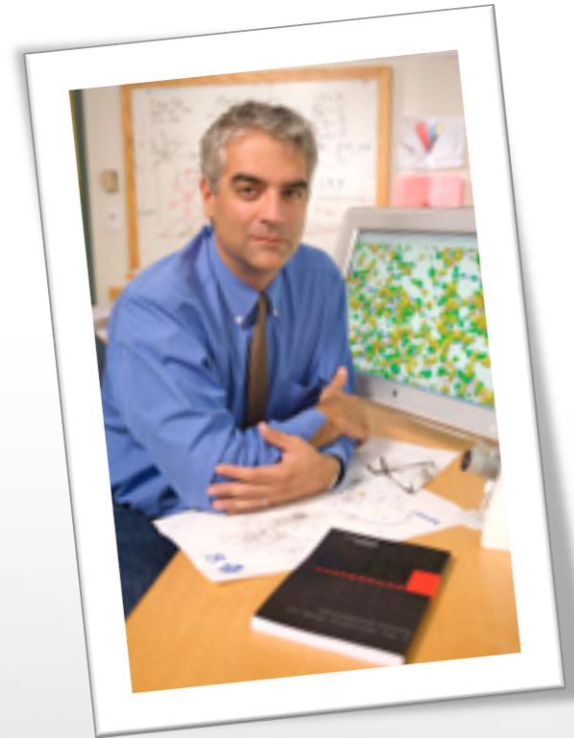
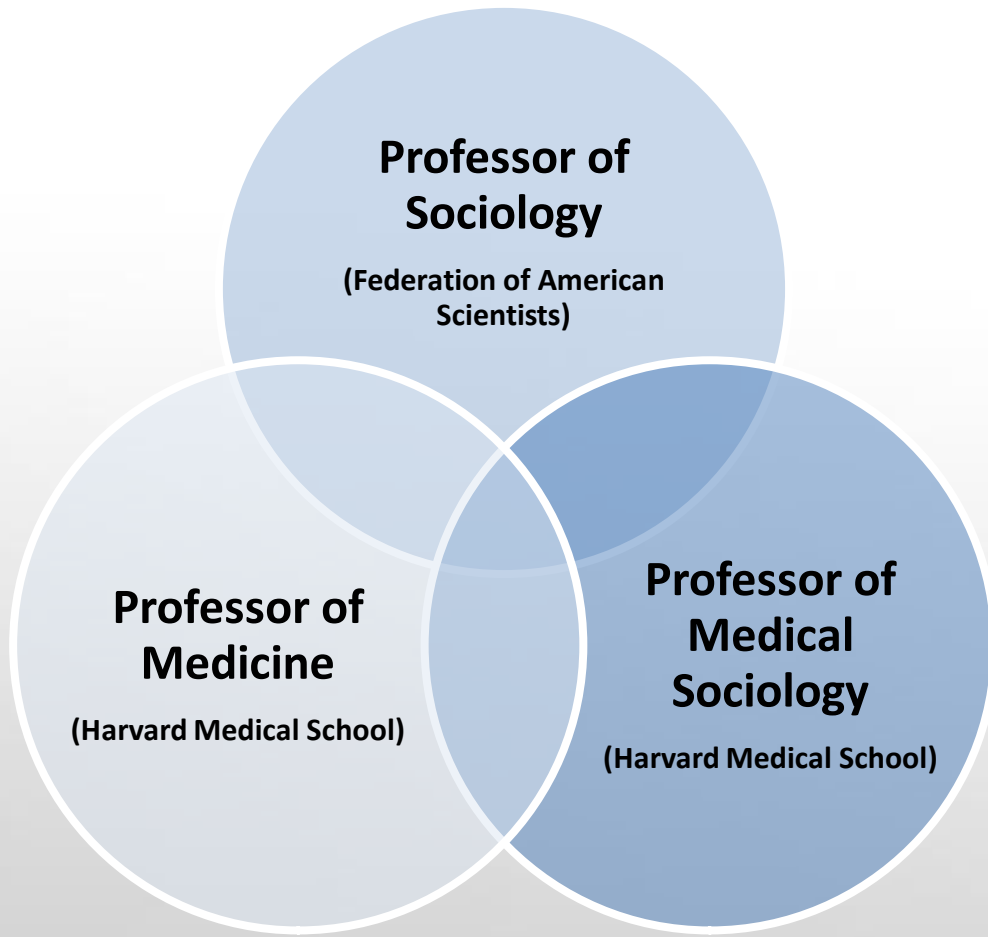


by Google

5

MOTIVATION

A perspective by Nicholas Christakis (2)



Source: <http://christakis.med.harvard.edu/>

Happy people vs. sad people



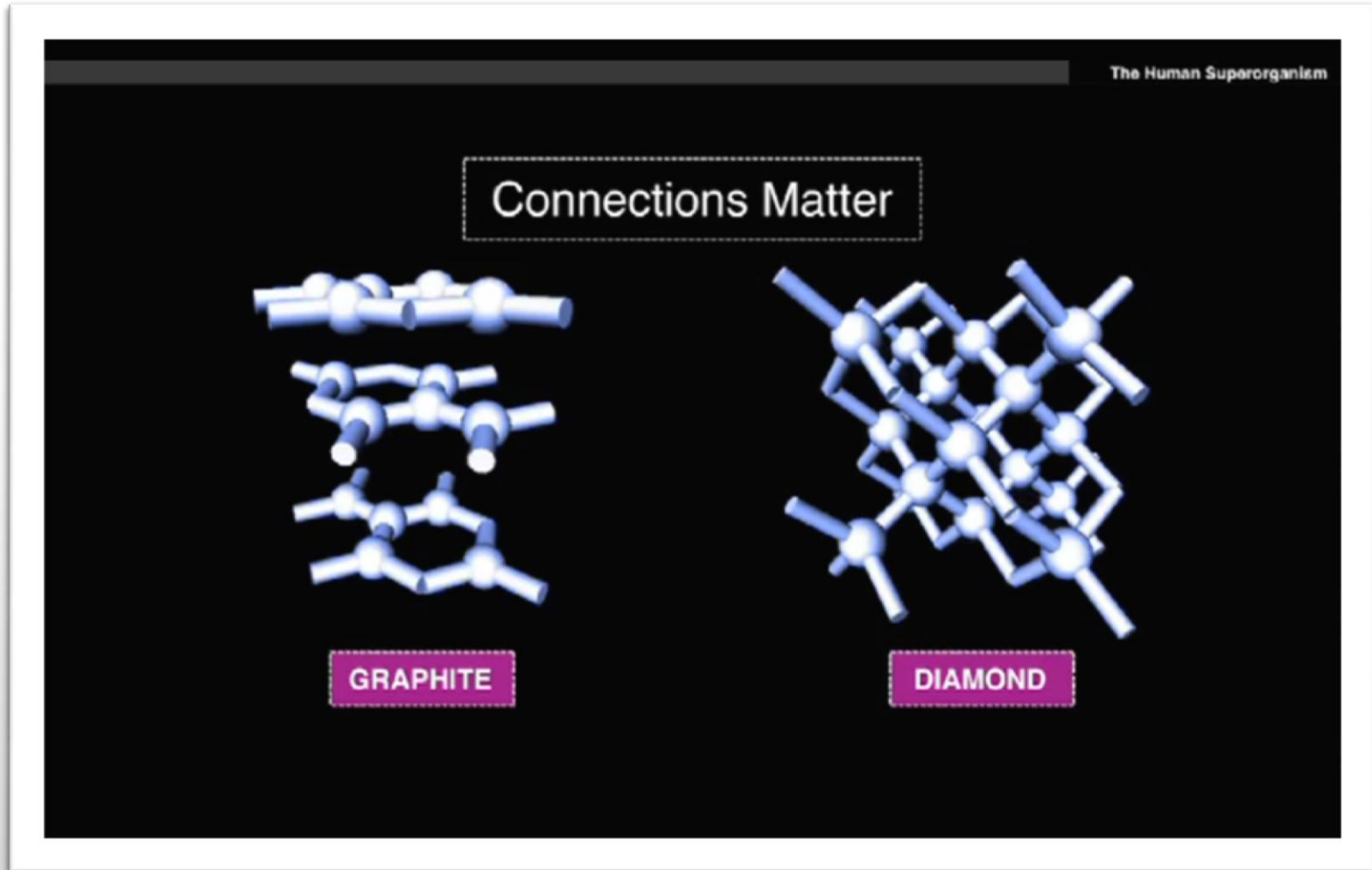
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Connections matter!



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DEFINITIONS

Computer-Supported Cooperative Work (CSCW)

- Bruegge and Houghton (3):
„Computer-Supported Cooperative Work (CSCW) refers to cooperative work carried out by a group of individuals with computer support.“

Awareness

- **Dourish and Belotti (4):**

“[...] an understanding of the activities of others, which provides a context for your own activity [...]”

- **Gutwin and Greenberg (5, pp. 1):**

“Group awareness is the up-to-the-minute knowledge of other people's activities that is required for an individual to coordinate and complete their part of a group task.”

Groupware

- **Ellis et al. (6):**

“computer-based systems that support groups of people engaged in a common task (or goal) and that provide an interface to a shared environment.”

- **Koch and Möslein (7):**

- Groupware frequently concentrates on Workspace-Awareness (e.g. Microsoft SharePoint)
 - in this context awareness describes the relation between people and their relationships / contents

RELATED WORK

CommunityMirrors

- **Project by the Cooperation Systems Center Munich (CSCM)**
 - Research topics (8):
 - Cooperation Systems
 - Social Software
 - Enterprise 2.0 (see Holsten (9) and Kirstgen (10))
 - CSCW
 - Groupware
 - etc.
- **„Head“ of CSCM is Prof. Dr. Michael Koch (11)**
 - Professorship for Programming Cooperative Systems, Software Technology Institute, Department of Informatics, Bundeswehr University Munich
- **Web: <http://www.communitymirrors.net/>**

What is a CommunityMirror?



Public shared large screen user interfaces

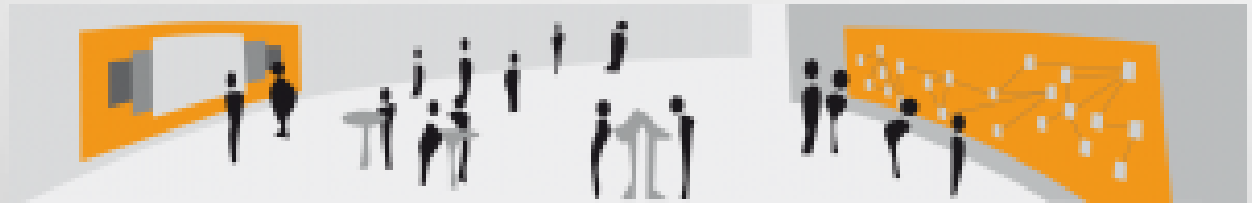
*Supports interaction and matchmaking
in the community*

Source: <http://www.kooperationssysteme.de/proj/communitymirrors/>

*Increases awareness and appreciation
of community information*

*Provides informations about
a community and its activities*

Support the innovation management



Source: <http://www.kooperationssysteme.de/proj/communitymirrors/>

What is a CommunityMirror?



Source: <http://www.kooperationssysteme.de/wp-content/uploads/ott-2008-geneme-ideamirror-praesentation.pdf>

What is a CommunityMirror?



Source: <http://www.kooperationssysteme.de/wp-content/uploads/ott-2008-geneme-ideamirror-praesentation.pdf>

Different forms



MeetingMirror (12)

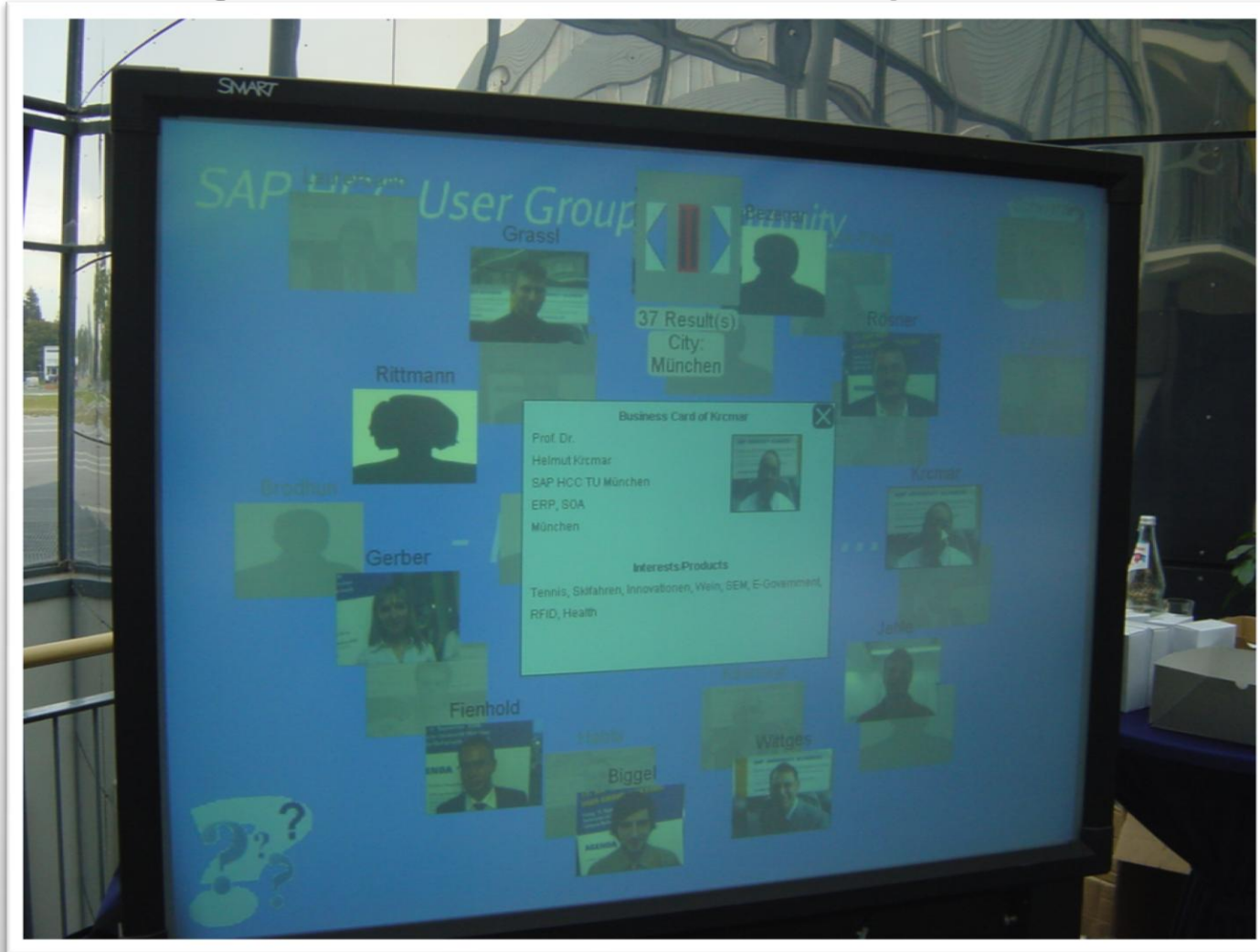
- Is a CommunityMirror at community meetings
- Initial point:
 - Extend the scope of web-based community-platforms in the „real world“ through CommunityMirrors and ubiquitous interface to the community-platforms
- Idea:
 - Visualize personal information to the community
 - Communicate an overview of the community (awareness)
 - Manage personal information (identity management)

MeetingMirror – Examples



Source: <http://twiki.informatik.unibw-muenchen.de/pub/Main/MeetingMirror/>

MeetingMirror – Examples

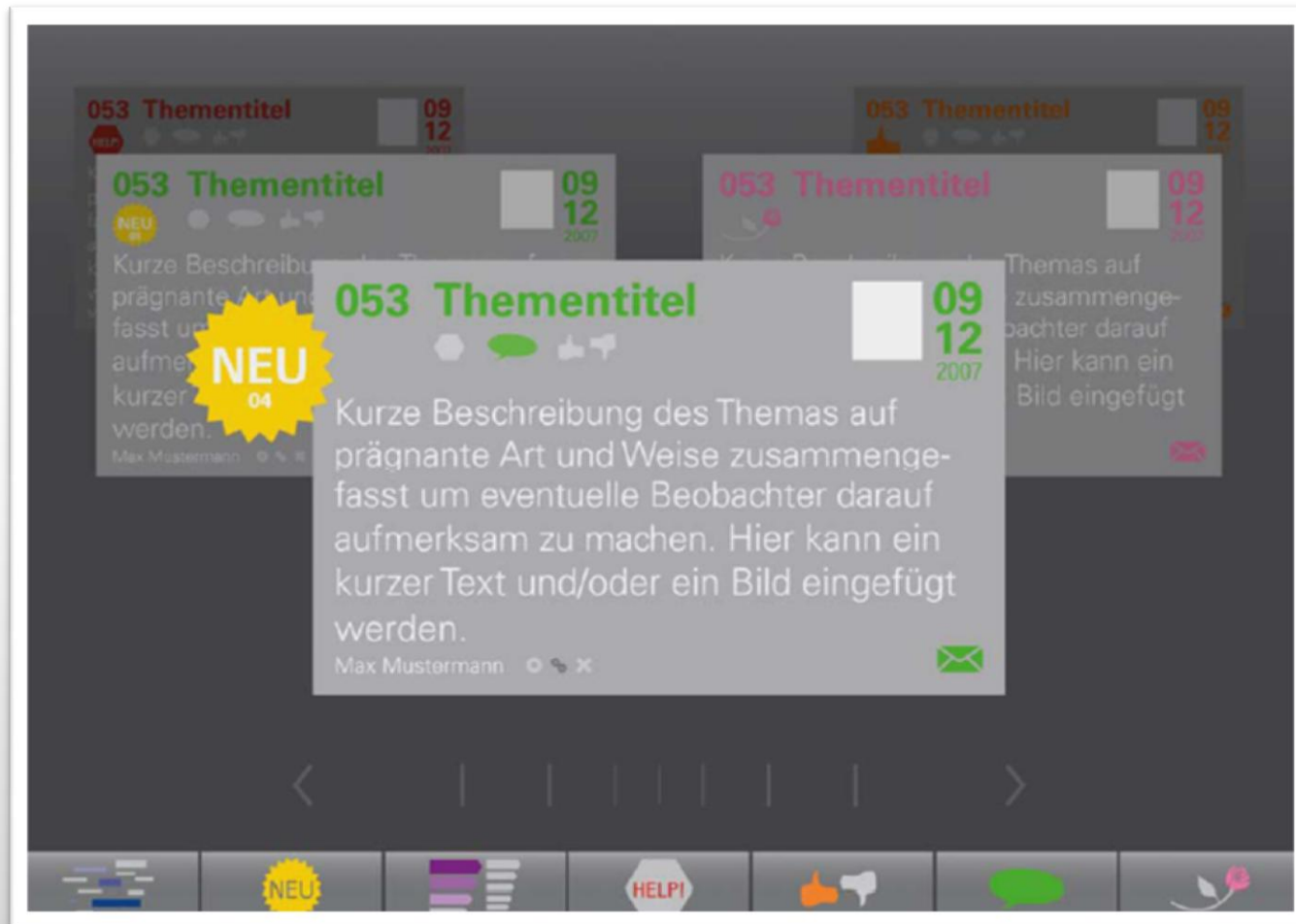


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IdeaMirror (13)

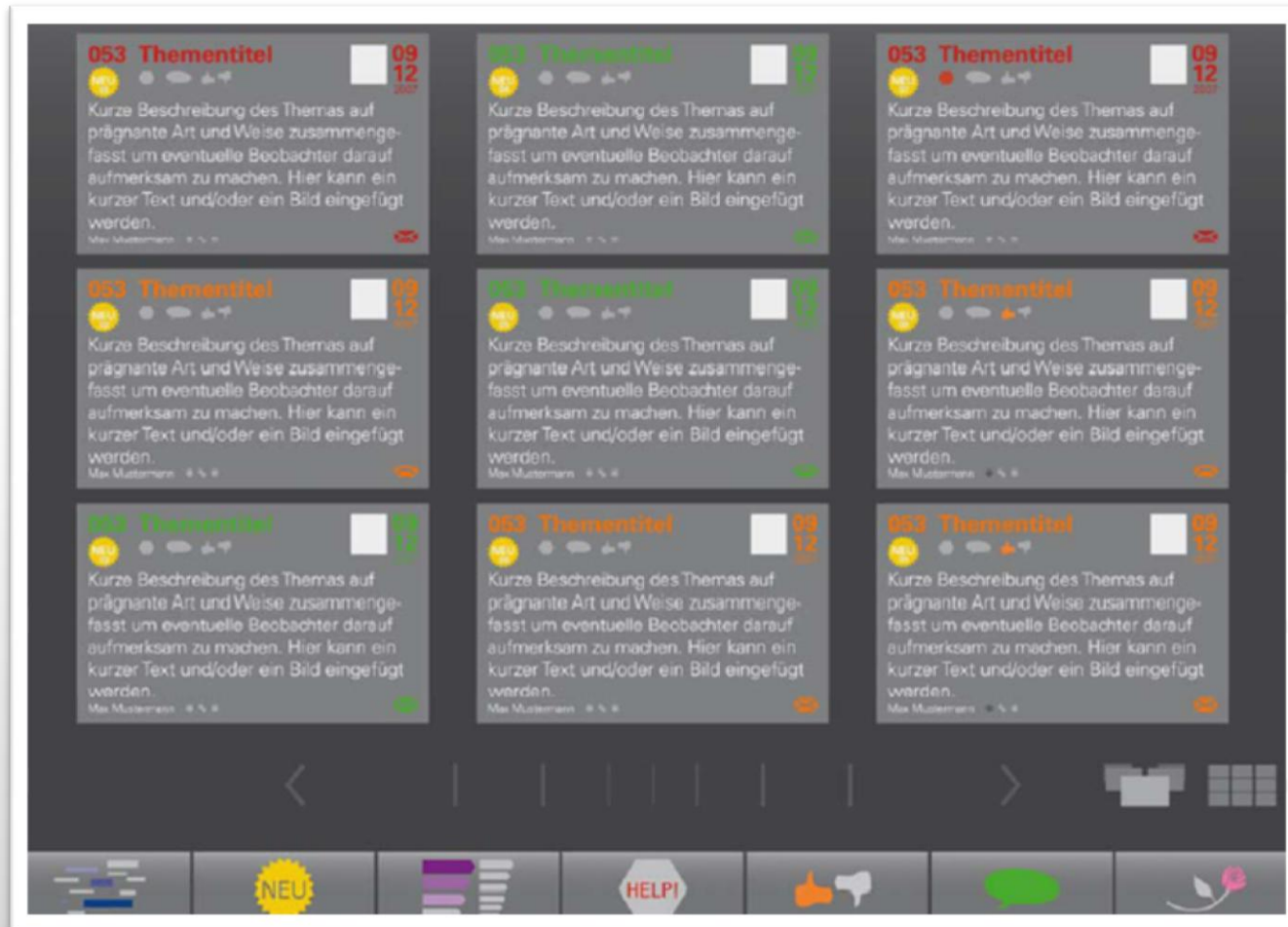
- Is a CommunityMirror at especially crowded places
- Initial point:
 - New results have shown a necessity for aiding one another in a community (e.g. sharing information)
 - Capacity of innovation for companies depends on the creativity and motivation of their employees, customers, partners, etc.
- Idea:
 - Early impact on innovation processes (see GENIE)
 - Including ideas of employees, customers, partners, etc. (appreciation)
 - Make creative ideas visible to companies (awareness)
 - Allow direct communication between people (matchmaking)

IdeaMirror – Examples



Source: <http://www.kooperationssysteme.de/wp-content/uploads/ott-2008-geneme-ideamirror-praesentation.pdf>

IdeaMirror – Examples



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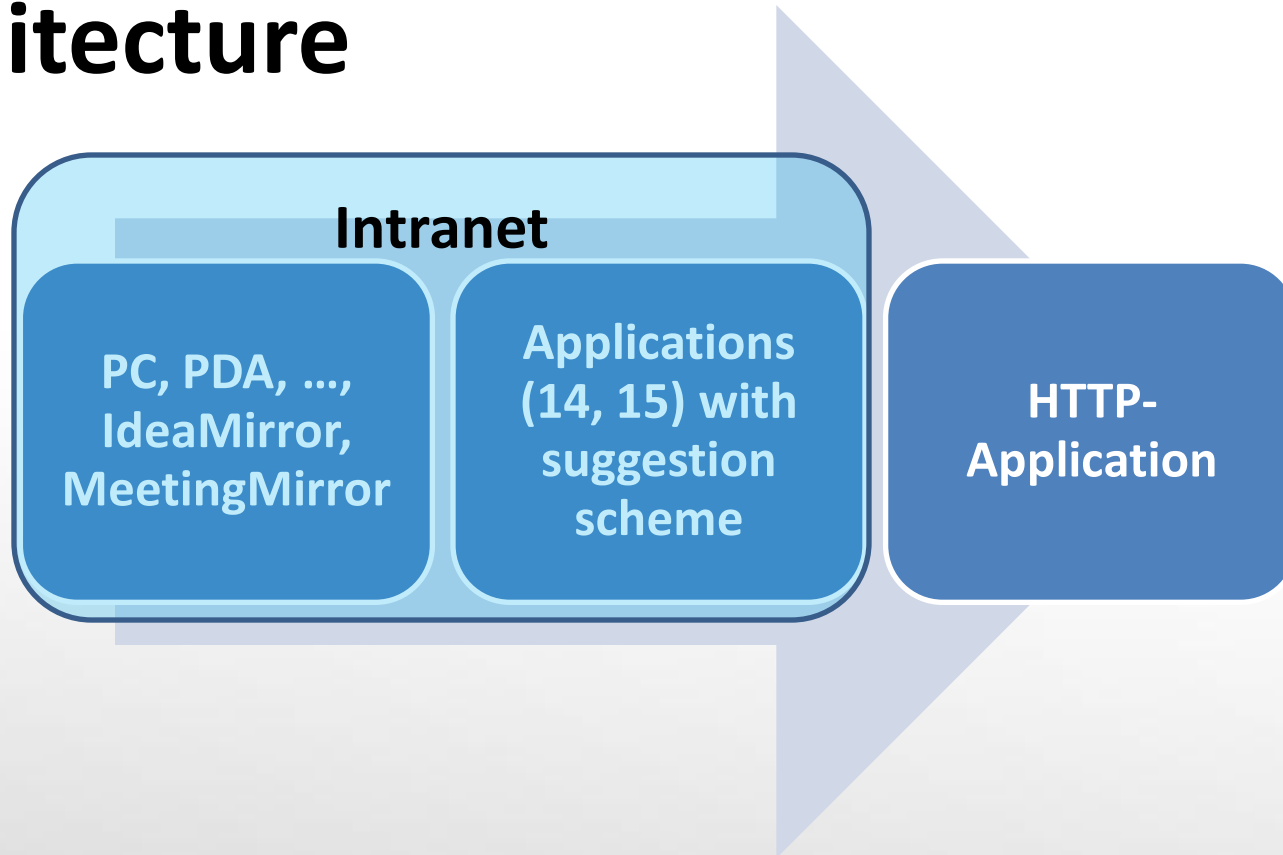
IdeaMirror – Examples



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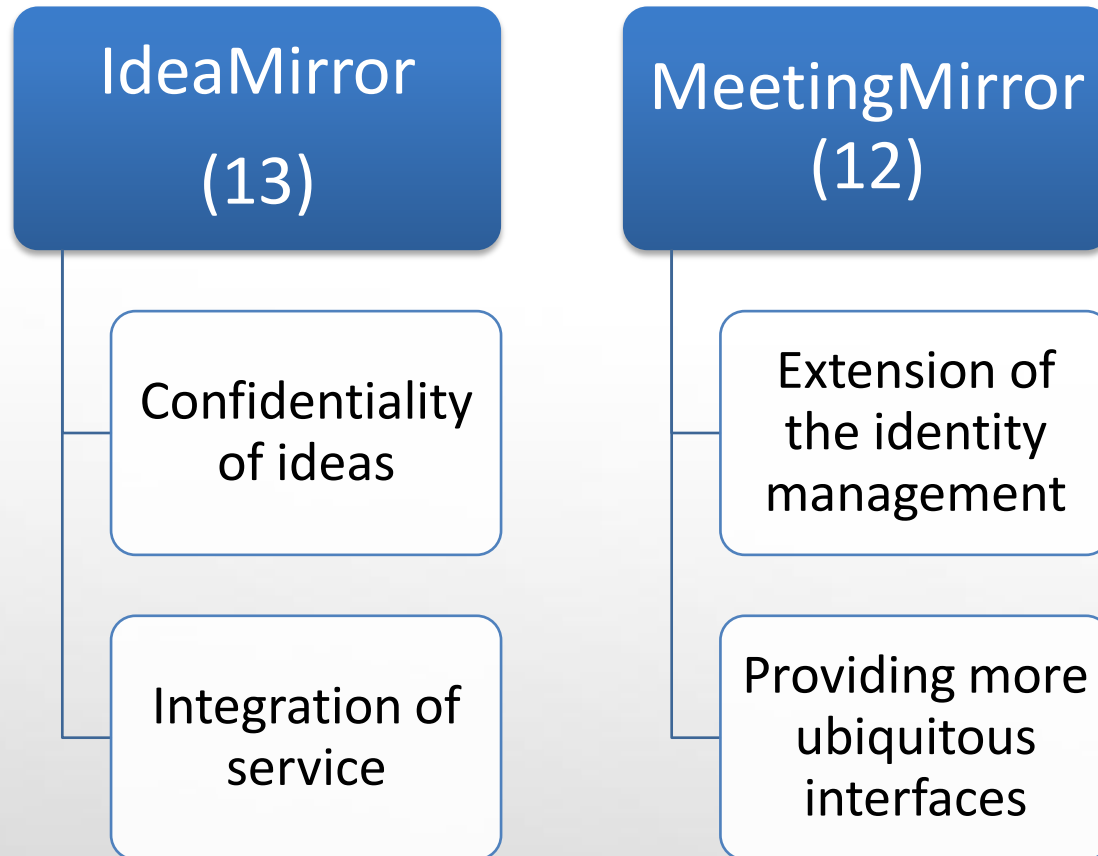
More: <http://www.sapiens.info/>

CommunityMirrors – Example architecture



(!) Common goal: Support the awareness of information to employees, customers, partners, communities, etc.

CommunityMirrors – Challenges



CommunityMirrors – Trade-Off

IdeaMirror

+ improves companies innovation (see GENIE)

+ increases awareness and appreciation

+ many companies and universities involved

- may result in expensive effort for integration

MeetingMirror

+ eases communication effort

+ increases awareness

- static user interface

- not focused

GENIE (Gemeinschaftsgestützte Innovationsentwicklung für Softwareunternehmen)

- **Cooperation partners:**



Source: <http://www.kooperationssysteme.de/>



Source: http://projekt-genie.de/index.php?option=com_content&task=view&id=26&Itemid=45

- **Aided by i.a.:**

- Federal Ministry of Education and Research (BMBF)
- European Social Fund (ESF)

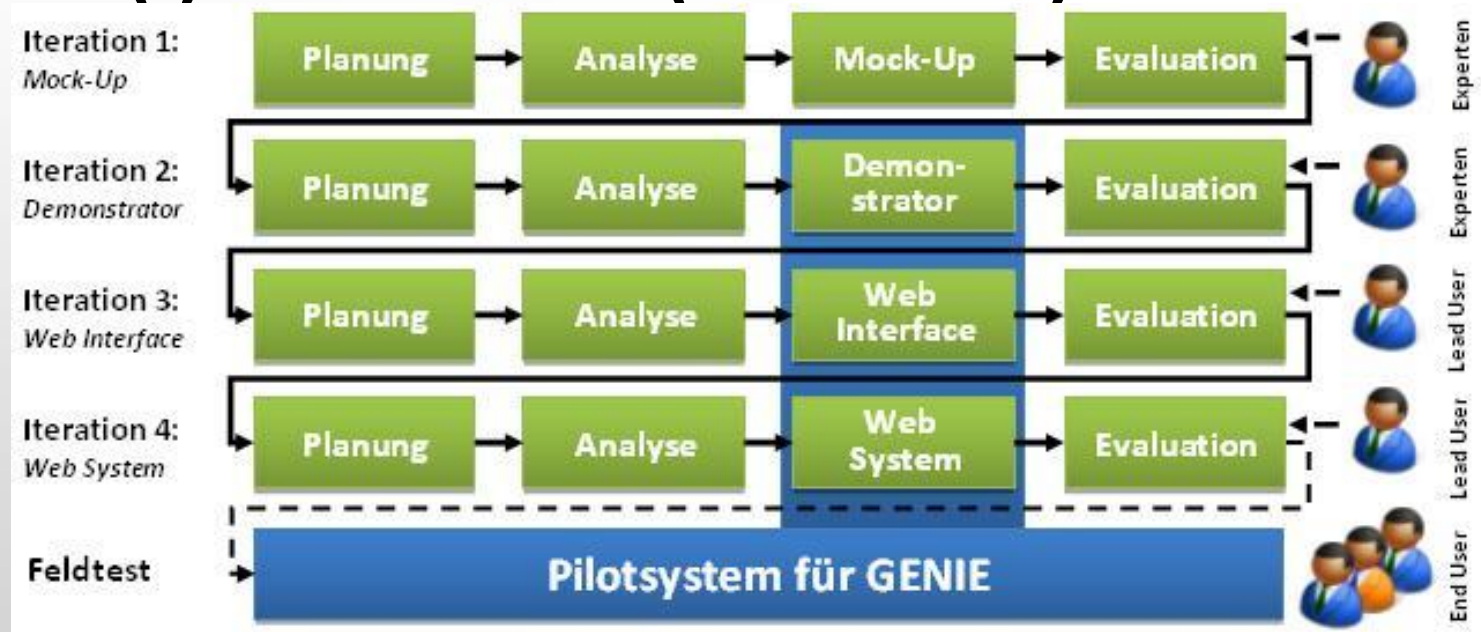
- **Web:** <http://projekt-genie.de/>

What is GENIE? (16)

- **Project for supporting innovation culture and innovation management in companies**
- **Initial point:**
 - Missing integration of customers or partners in the innovation management
 - + Sports industry
 - - Software industry (see Open Source)
- **Goals:**
 - Creating innovation communities
 - Participants: Customers, employees, researchers, partners, etc.
 - Develop innovative ideas which may generate new products
 - Develop an internet platform for collaboration

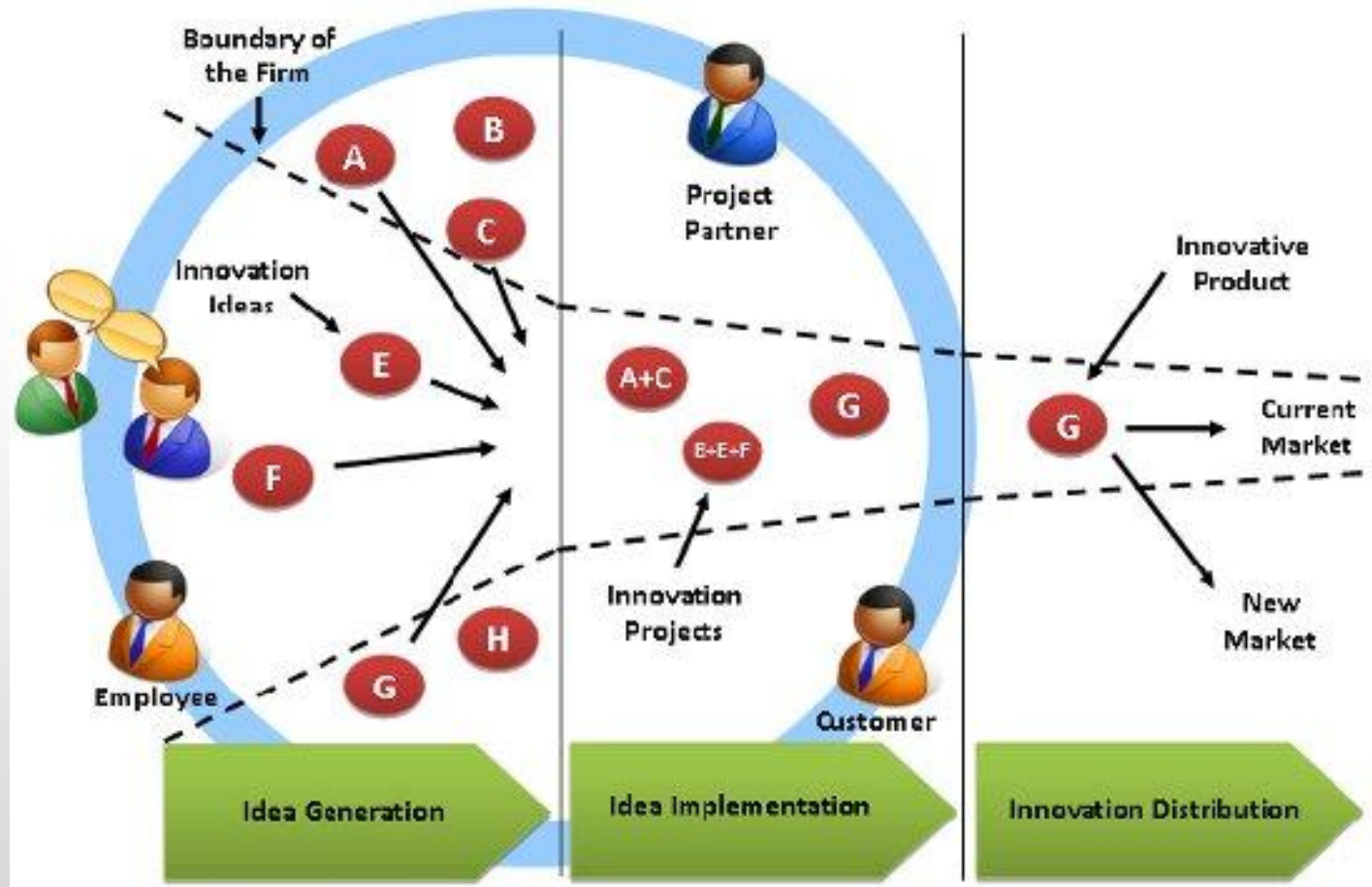
GENIE – Internet platform

- Support for brainstorming and idea implementation through online interfaces and (!) IdeaMirrors (real world)



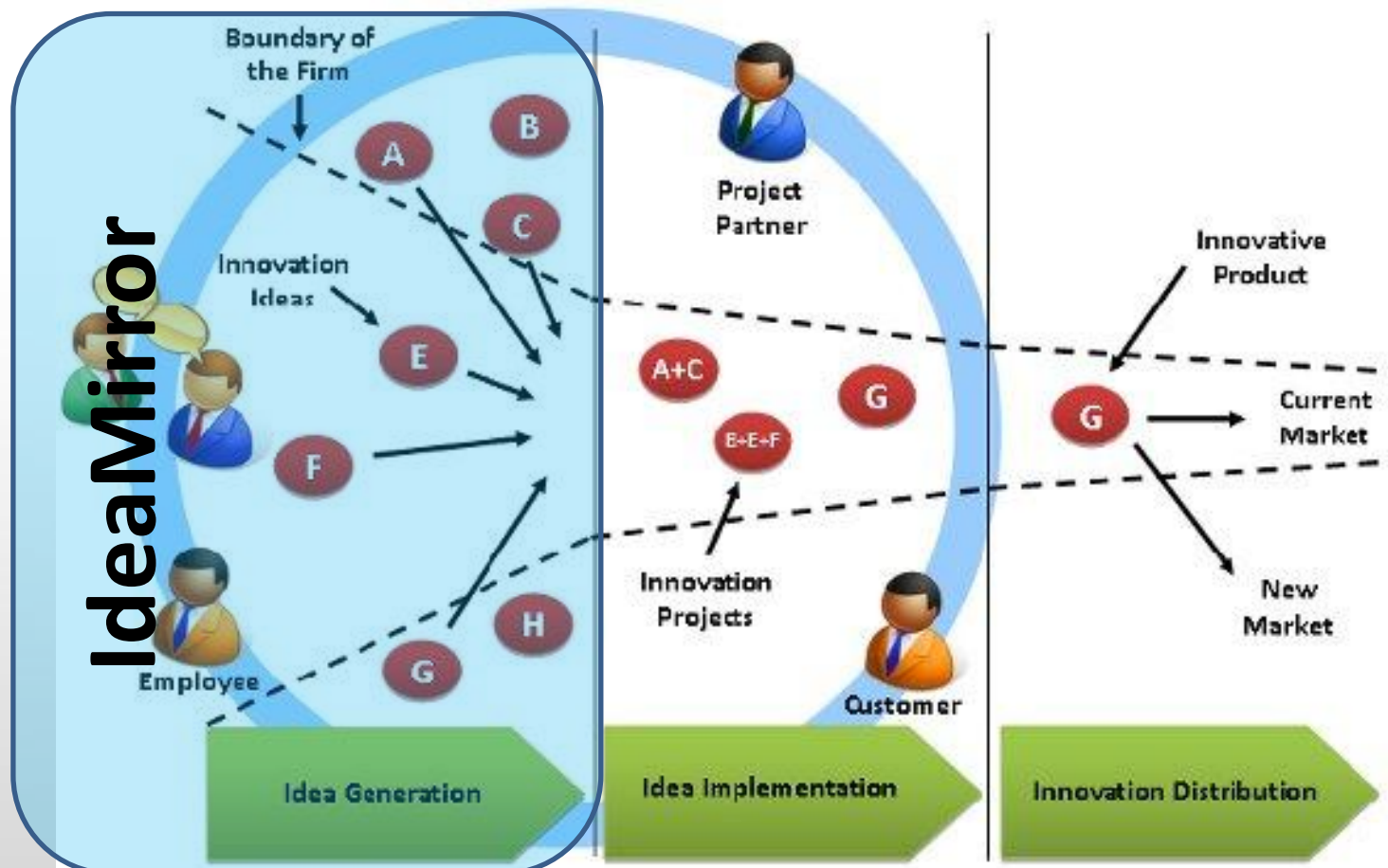
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GENIE – Innovation process



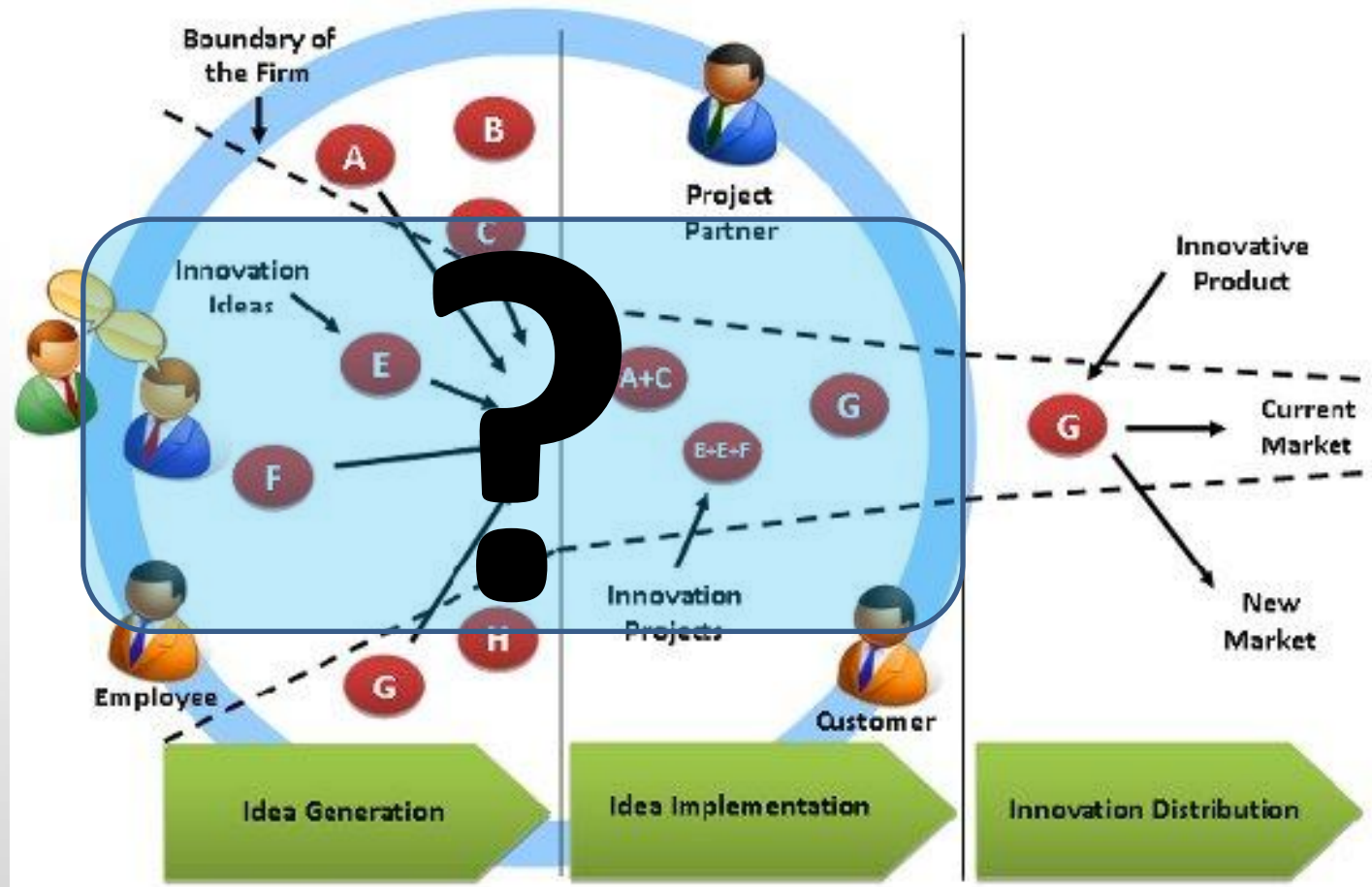
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GENIE – Innovation process



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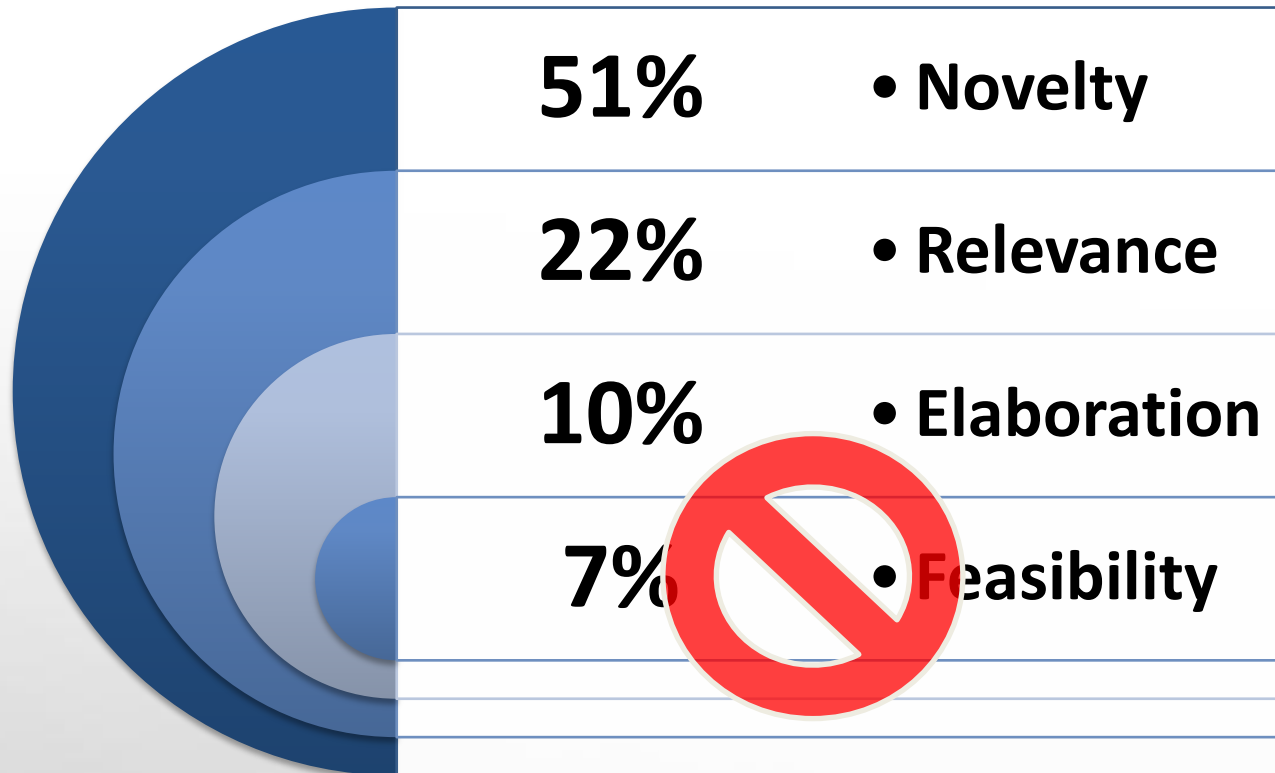
GENIE – Innovation ideas

- **Blohm et al. (17, pp. 2):**
„[...] innovations are in general not the result of a single inventor but rather of collaboration processes where many individuals contribute and combine their individual knowledge, experience, and strengths.“
- **Blohm et al. (17, pp. 3):**
„Since all innovation begins with creative ideas [...] But creativity and idea quality are both complex constructs.“

GENIE – Research context (SAPiensi)

- **Idea competition in summer 2008 over a period of 14 weeks targeted users of SAP software (17, pp. 4)**
- **Collaboration by using wiki technology**
- **Every user was ...**
 - ... asked to submit ideas which improves SAP software
 - ... able to edit other users ideas
- **Two type of ideas:**
 - Ideas from a group of participants
 - Ideas from a single participant
- **Evaluation by a group of independent experts (Consensual Assessment Technique (CAT)) and empirical findings**
- **The 10 best ideas were rewarded with non-monetary / monetary prizes 6.000 EUR in total**

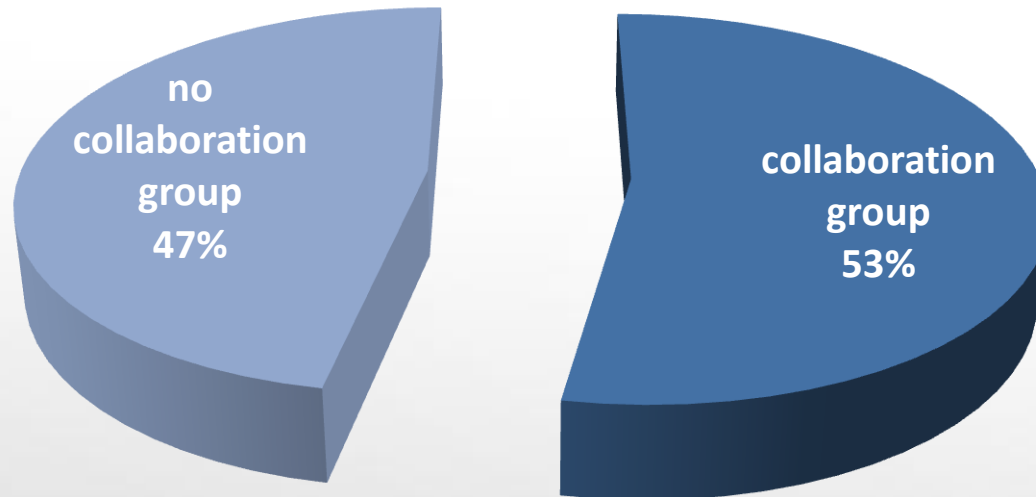
GENIE – Research results



(17, pp.6)

GENIE – Research results

Average quality score (%)



(17, pp.7)

(!) 5 of total 7 good ideas from the collaboration group

GENIE – Challenges

Increase sample size

- see SAPIens (127 participants)

More research on:

- Motives on collaborating ideas
- Findings in other examples
- Harvest the wisdom of crowds

Develop valid ranking mechanisms

- e.g. user generated content or other users

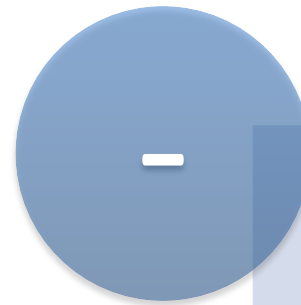
GENIE – Trade-Off



**Research on
different
balance points
(e.g. 17)**

**Many
companies and
universities
involved**

**Aided by official
institutions**



**Outstanding
research**

**May result in
expensive effort
for integration
(see IdeaMirror)**

CONCLUSION AND FUTURE WORK

Conclusion

- **CommunityMirrors**
 - New way to visualize information in community meetings or crowded places
 - Increases information awareness and appreciation
 - Eases communication effort
- **GENIE**
 - Is an aided project by i.a. BMBF and ESF
 - Focused on:
 - internet platforms for collaboration
 - innovation communities
 - Uses the IdeaMirror for the „real world“ visualization
 - Young project which involved many partners

Future Work

- **Upcoming for Projekt 2:**

- **Google Wave:**

- Integrating persistence to my Google Wave environment (see Projekt 1)
 - Including „live communication“ into my Google Wave application
 - Maybe: How to develop an Eclipse Plug-in?

- **CommunityMirrorFramework (CMF)**

- Installing the framework
 - Testing a CommunityMirror
 - Web: <http://www.communitymirrors.net/framework/>



QUESTIONS

**THANK YOU FOR
YOUR ATTENTION!**

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