

RE and Social Computing

Social Software for Requirements Elicitation and Negotiation

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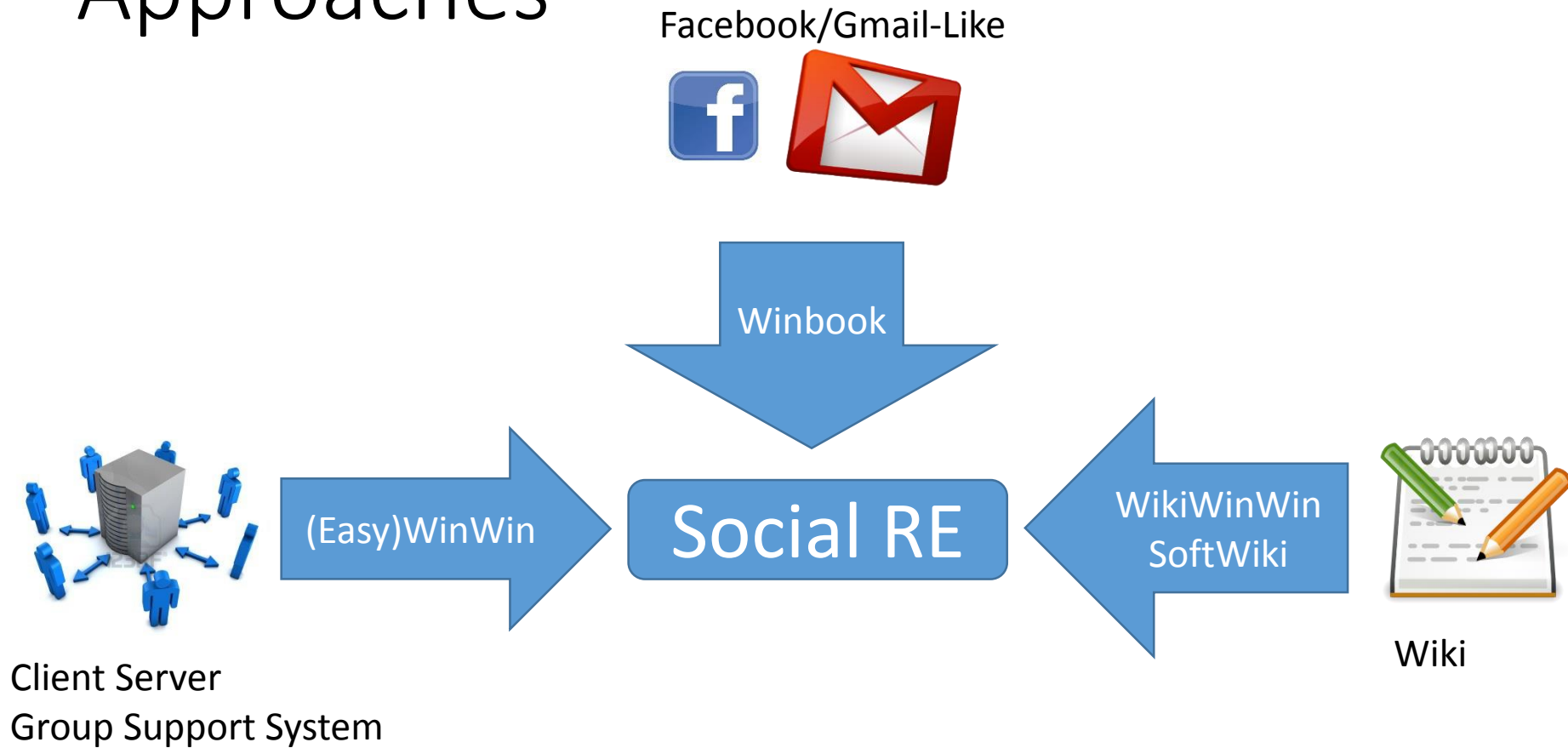
Questions to answer

- What is (Easy)WinWin?
- What RE activities are supported by WinBook and SoftWiki?

Relation to the session topic

- Social Software *for* RE
- Tools for:
 - Requirements elicitation
 - Requirements analysis and negotiation
 - Requirements validation
 - ~ Requirements specification
 - ~ Requirements management

Approaches



Developing Groupware for Requirements Negotiation: Lessons Learned

- Uses “WinWin Approach”:
Success-Critical stakeholders negotiate requirements
 1. Identify & document topics to be discussed/negotiated
 2. Collect stakeholder conditions (goals/requirements)
 3. Prioritize conditions (voting)
 4. Identify issues and options
 5. Negotiate agreements
- Advantages
 - Builds trust
 - Helps to build a shared vision and to adapt to changes
 - Create a institutional memory (tracing of requirements/evolution, decisions, ...)

Implementation of WinWin

- Generations:
 - G1: Prototype
 - G2: Unix client-server
 - G3: Formally analyzed and rigorous negotiation model
 - G4 (EasyWinWin): Implemented on top of a GSS
 - G5/G6: Later
- Lessons Learned
 - Use a process for negotiating and collaboration
 - Allow anonymous submissions
 - Choose the right stakeholders (representative, empowered, ...)
 - Refine agreements to measurable agreements
 - Ease of Use is important
 - You can involve mainstream users

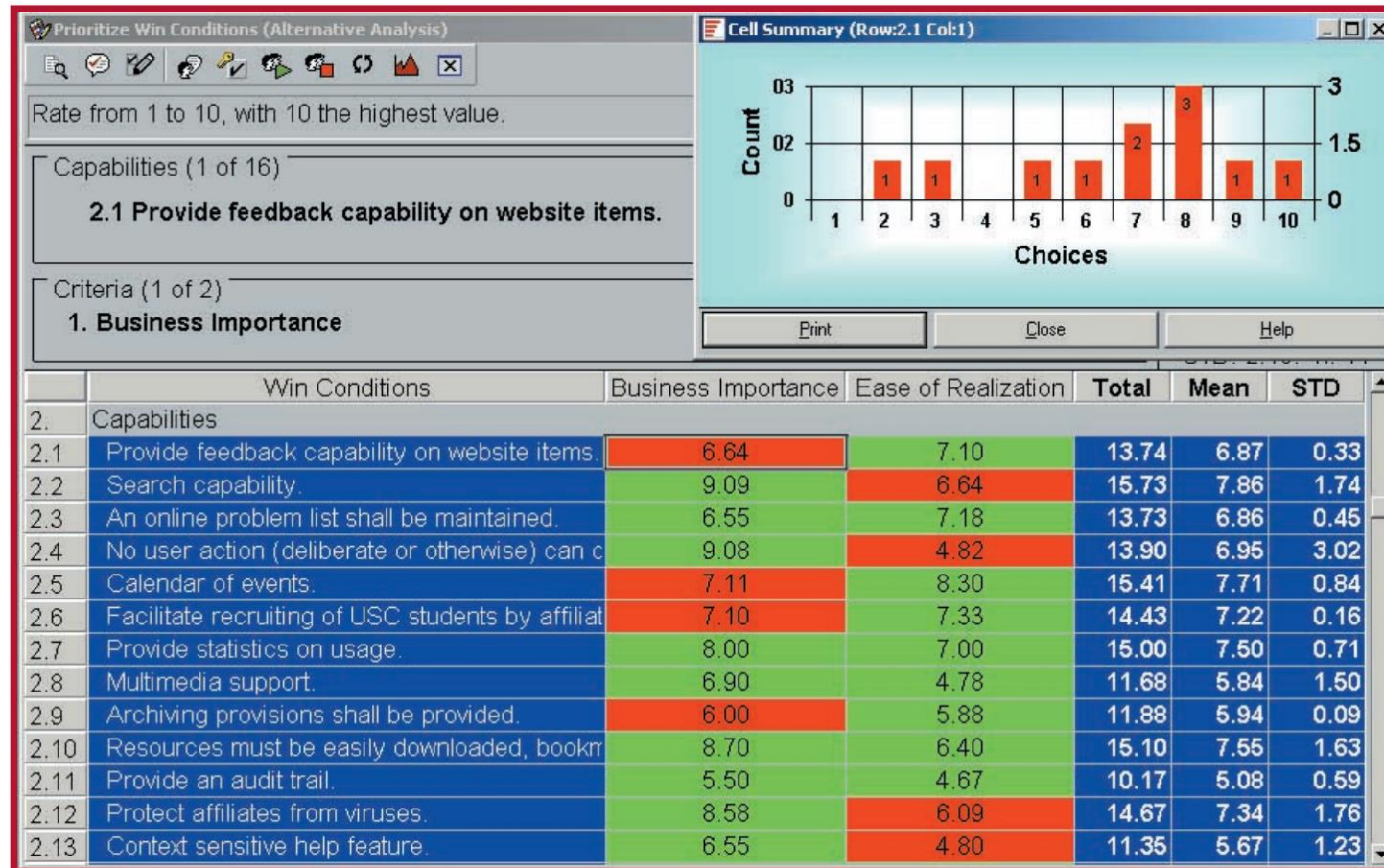
EasyWinWin: List of win Conditions

The screenshot shows a web application titled "GroupSystems - Online Bookstore Site and Ad Management - [Converge on Win Conditions {Categorizer}]". The interface includes a menu bar (File, Folders, Edit, Categorizer, Group, Options, Window, Help) and a toolbar with icons for Agenda, People, Whiteboard, Handouts, Opinion, Reports, Briefcase, Log, Find, and Folder List. The main content area displays a list of 11 win conditions, each with a progress indicator (e.g., 0/0, 1/0, 2/0) and a description. The fifth condition, "5. The site management must have a website which displays banners", is highlighted. On the right side, a sidebar shows a hierarchical list of categories: Project & Process (0), Capabilities (13), Interfaces (7), Level of Service (3), Evolution (3), and <TBD> (7). The bottom status bar indicates 23 ideas, 9 comments, 6 categories, 15:26, and the user paul.

Progress	Win Condition
0 / 0	1. Site management adds bookstore layout information (floor, location, type of material).
0 / 0	2. The banner will provide a link to the university bookstore
0 / 0	3. Interface for advertisers to select their schedule
2 / 0	4. Default banner of bookstore if no other events available
0 / 0	5. The site management must have a website which displays banners
0 / 0	6. Different kinds of advertising, including sales, 'now hiring,' book signings, etc.
1 / 0	7. Flexible text on banners
0 / 0	8. Display address of the bookstore, a map of it and also a picture of it.
1 / 0	9. Ads must be hyperlinked so that users can click on them to get more details
1 / 0	10. Link to bookstore site (incl book's prices)
2 / 0	11. Web statistics tracking to determine number of visits for banners

23 ideas | 9 comments | 6 cat. | 15:26 | paul

EasyWinWin: Consensus G4



Process Implications of Social Networking-Based Requirements Negotiation Tools

- Presents the next generation of WinWin
- G5: WikiWinWin based on Wiki
 - Steep learning curve
 - Lots of manual effort
- G6: Winbook based on Facebook and Gmail
 - Win condition as “Status”
 - Discussion as comments
 - Categorization with color labels
 - Users loved it
 - Export as Specification possible

Wall page view

[Home](#) [Profile](#) [Logout](#)

Enter your Win Condition/Requirement/Expectation here...

Post

Categorize

Show/Hide ▾

Equilibrium

Export TSV



Win Condition (WC_387): Benefits Capability/ Functional ...
External software inter...
Ability to show a project on a map.
[muru](#) [Agree](#) · [Potentially Agreeable](#) · [Comment](#) · [Raise Issue/Concern/Risk](#)



Issue (Iss_358):
Not clear what kind of input info will there be (coordinates, street names, etc.)?
[Zhanna](#) [Close Issue](#) · [Comment](#) · [Suggest Option/Alternative\(s\)](#)



Win Condition (WC_370): Capability/ Functional ... Benefits
System can create progress reports
[muru](#) [Agree](#) · [Potentially Agreeable](#) · [Comment](#) · [Raise Issue/Concern/Risk](#)



Issue (Iss_360):
What reports need to be generated?
[Stephen Taylor Rice](#) [Close Issue](#) · [Comment](#) · [Suggest Option/Alternative\(s\)](#)



Option (Opt_114):
Executive Reports and ...
[Stephen Taylor Rice](#) [Agree](#) · [Comment](#)

Categories:



Create Category

 **Attaching User Data**

 **Benefits**

 **Budget and schedule**

 **Capability/ Functional requirements**

 **Deployment**

 **Development needs**

 **External software interface**

 **Language**

 **Level of service**

 **License Limitations**

 **Team Benefits**

 **Tools**

 **User interface**

 **User Priveleges**

View All

A Web Platform for Social Requirements Engineering

- Tool based on a wiki
- Top-Down: RE/PM defines taxonomy
- Bottom Up: Users can assign tags
- Tags can become glossary terms or part of the taxonomy
- Rating included
 - Problem: What is rated? Requirement itself, benefit, ...?
- Interlinking of requirements supported
- Semantic Web Support (!)
- Not tested in the wild

SoftWiki UI

The image displays five screenshots of the SoftWiki UI, each with a label in a box:

- A0**: A screenshot of the main interface showing a sidebar with a search bar and a list of themes. The themes are categorized into 'Alle Themen', 'Allgemeines (2)', 'Design (11)', 'Dokumentation (2)', 'Inhalt und Funktionalität (27)', and 'Normen und Vorschriften (2)'. The 'Inhalt und Funktionalität' category is selected, showing a list of sub-themes like 'Grundlegende und übergreifende (9)', 'Informieren (7)', 'Prozesse integrieren (2)', 'Socialising (3)', 'Sonstiges (2)', 'Wissen sichern und teilen', and 'Zusammenarbeiten (4)'.
- A1**: A close-up of the sidebar menu, showing the 'Suche nach Thema ...' search bar and the list of themes. The 'Inhalt und Funktionalität (27)' category is highlighted.
- B0**: A screenshot of the 'Schlagwörter' (Keywords) section. It shows a search bar, a list of keywords (Button, Design, Inhalte, Metadaten, filter, personalisiert, zuordnung), and checkboxes for 'Definierte' and 'Undefinierte'. A text box contains the sentence: 'Jemand richtet etwas auf eine Person oder Personen aus (statt auf die Sache)'.
- B1**: A close-up of the 'Schlagwörter' section, showing the 'Suche nach Schlagwort ...' search bar and the list of keywords. The 'personalisiert' keyword is highlighted.
- C0**: A screenshot of the 'Neue Anforderung' (New Requirement) form. It shows the 'Titel' (Title) field with the text 'Personalisierter Zugriff', the 'Beschreibung' (Description) field with the text 'Inhalte sollen personalisiert zugreifbar sein. Jeder Nutzer kann eigene Regeln festlegen, nach denen jemand richtet etwas auf eine Person oder Personen aus (statt auf die Sache)', and the 'Thema' (Topic) dropdown menu set to 'Inhalt und Funktionalität (27)'. The 'Schlagwörter' (Keywords) field contains the keyword 'personalisiert'.
- C1.1**: A close-up of the 'Neue Anforderung' form, showing the 'Schlagwörter' field with the keyword 'personalisiert'.
- C1.2**: A screenshot of the 'Ähnliche Anforderungen' (Similar Requirements) section. It shows a list of requirements with their titles and descriptions. The first requirement is 'Ranking (Bewertung) von Inhalten' with the description 'An einer gut sichtbaren Stelle wird ein Ranking von Inhalten...'. The second requirement is 'Aktualität der Inhalte im zentralen Infobereich sicherstellen' with the description 'Höhere Aktualität der Inhalte gewährleisten, lieber keine...'. The third requirement is 'Personalisierung' with the description 'Individuelle Benutzeroberfläche Personalisierter Bereich ...'. The fourth requirement is 'Inhalte für Rollen oder Gruppen bereitstellen' with the description 'Inhalte explizit bestimmten Rollen, z.B. Projektleitern, ode...'. The fifth requirement is 'Aktualität der Inhalte gewährleisten' with the description 'Es muss sichergestellt werden, dass die verfügbaren Inhalte...'.

What activities are supported

	WinWin	Winbook	SoftWiki
Elicitation	X	X	X
Analysis/Negotiation	X	X	X
Specification	(x)	(x)	(X)
Modeling			
Validation	X	X	X
Management	(X)	(X)	(X)
Management (Traceability)	X	X	X

Social Software for RE

Potential benefits

- Lots of users are familiar with social software like Facebook.
- Users may be motivated to participate because of the social interaction.
- Users feel more attached to the systems to build because of participation.
- More users, maybe even end users of commercial systems to build can be involved.
- Social methods of requirement elicitation are usually very effective.
- Such software can be used in a distributed setting.
- Software can be used asynchronously: Busy stakeholders can participate better.

Limitations and things lacking to support Requirements Engineering?

- Current social software are “general-purpose” tools without specific requirements abilities.
- Lacks structure, hard to keep the overview.
- Lacks a capability or rights-management for different roles.
- Often not hosted in-house: confidentiality not given.
- Features can change if the software is not in house.
- Moderator may be biased or perceived as biased.

Discussion: Questions

What experience do you have?

- collaboration/agreement within your work
- ... or even for requirements engineering?
- Tools?

Discussion: Questions

Are such tools replacing the Requirements Engineer's role?

If not: what is his/her future role?

Discussion: Questions

We still should reach/involve all the stakeholders.

What problems might we have with such tools?

How can such problems be solved?