Requirements Engineering II

Assignment 3

Distributed Requirements Engineering

in Social Networks

Individuals like you and me…

- – … have good ideas (e.g. how to improve existing products/services or create new products)
- – … do not have a contact person whom they could talk to

→ Ideas remain unheard to the rest of the world

Companies…

- – …seek for new innovative ideas
- – Need to know the users' requirements for the products they build
- – Have the power to implement but lack the end user's requirements

- • → both parties need a meeting point.

Social Network as meeting point

- Social networks – such as Facebook
  - link together millions of people
  - provide basic collaboration functionality (e.g. Facebook groups)…
  - … which most of the users are already familiar with
  - large companies already use Facebook for marketing purposes

Assignment 2

Goal

You as a group perform a complete **Requirements Engineering task** for a specific topic (elicitation, negotiation, prioritization, documentation).

Medium

You are using **facebook groups.**

Methodology

EasyWinWin like approach (see papers).

Stakeholders

Your **facebook friends** (those who might be interested in the topic) act as your stakeholders.

RE with Facebook: Example

the coffee machine of the future

Create group

http://www.facebook.com/groups →

Invite stakeholders

Let's design the coffee machine of the future!

Open Group

👥 2 Members   🖼 Photos   📄 Docs

💬 Write Post   🖼 Add Photo / Video   📊 Ask Question

Write something...

Let's design the coffee machine of the future! ▸ Members

Back to Wall

+ Add Friends

Add Friends to Group

Who d

Add   Close

Personal message to stakeholders

Dear …

At our university we are currently running a discussion about what people wish for in the coffee machine of the future. What functionality it should have, what design issues matter, and so on. In order for me to get new ideas that I could bring up in this discussion I would like to ask you to participate in a little brainstorming with me and some other friends.

I invited you because I think that you're generally interested in coffee machines and because you often come up with creative ideas!

I have set up a Facebook group for our discussion and already invited you to it.

Participating is fairly simple: for each of your ideas, create a wall post, in which you briefly describe your ideas. Have a look at existing posts to get inspiration and to see what other people wish for. Before you post your ideas, please check whether someone else has already posted the same idea.

Use the comment function to discuss ideas with other group members. If you like an idea or a comment, please use the like button.

I am looking forward to an interesting discussion with you!

Thanks you for your participation!

P.S. Facebook sends a notification every time someone enters a new idea. This can be changed by clicking on the "Notification" button when you visited the group.

Requirements Elicitation

Let's design the coffee machine of the future!

Open Group

👥 2 Members   🖼 Photos   📄 Docs

💬 Write Post   🖼 Add Photo / Video   ☰ Ask Question

The coffee machine of the future should automatically make coffee as soon as I wake up in the morning.

👤 | 📍 | | 🧪 Let's design the coffee machin... | **Post**

Requirements Negotiation

RamdomStakeholder
The coffee machine of the future should keep my coffee warm.

2 minutes ago · Unlike · Comment · Unsubscribe

Norbert Seyff   For how long should this be done...
a few seconds ago · Like

RamdomStakeholder An hour, at most...
a few seconds ago · Like

Write a comment...

Requirement:
The coffee machine should keep the coffee warm for one hour.
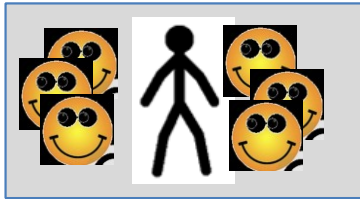
Requirements Negotiation

Requirement 1:
The coffee machine should automatically make coffee in the morning as soon as the owner wakes up.
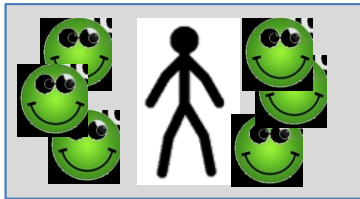
Requirement 2:
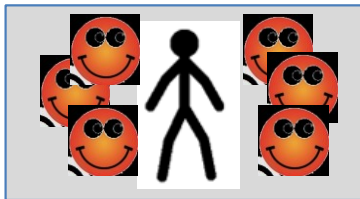The coffee machine should keep the coffee warm for one hour.

Step 1: Each group member has an own facebook group for elicitation and negotiation within their friends

Step 2: Consolidate the groups and merge all ideas in one group. Let your stakeholder prioritize their requirements
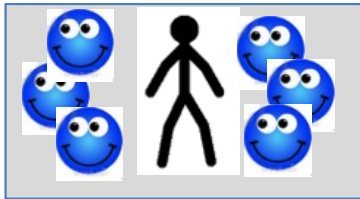
Coffee machine
– first ideas
– group 1

Coffee machine
– first ideas
– group 2

Coffee machine
– first ideas
– group 3

Coffee machine
– first ideas
– group 4

Coffee machine
– first ideas
– group 5
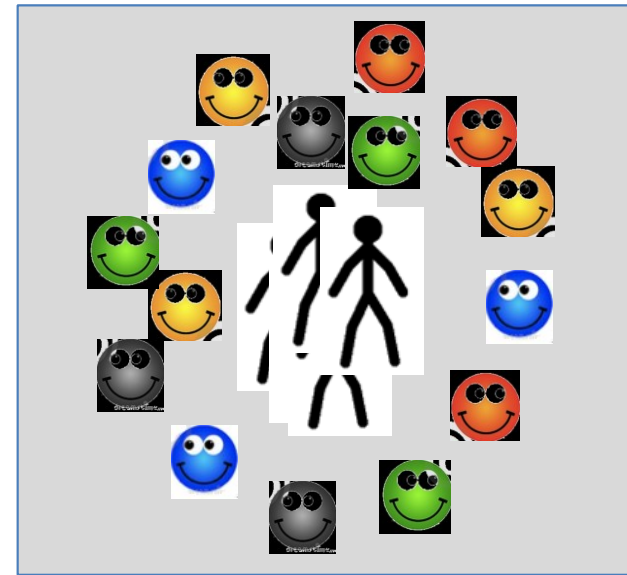
Coffee machine of the future –
consolidated results

first week (estimate)

second week (estimate)

t

Requirements Priotization

RamdomStakeholder

The coffee machine of the future should automatically make coffee as soon as I wake up in the morning.

2 minutes ago · Unlike · Comment · Unsubscribe

👍 Norbert Seyff likes this.

Your task

Step 1: Requirements elicitation and negotiation (individual task)

1. Every group chooses one topic.

2. Each group member creates a facebook group for gathering requirements in their personal circle of friends. Add our dummy user „Marcel Furrer" (reqeng2011@gmail.com) to your groups.

3. Every day, you invite (about) 3 new friends to your group. Send them a personal welcome message with instructions (see example). Do this for one week.

4. Let your friends discuss their requirements and be an active moderator (see next slide).

Your task

Step 1: Requirements elicitation and negotiation (individual task)

6. Your are the moderator of the group, which means:

   – Ask people to clarify their ideas if necessary

   – Resolve conflicting requirements: your stakeholders should agree on „win conditions" (conditions, with which every stakeholder is satisfied).

   – If a friend does not show any reaction, you can invite another one instead or contact him and ask him again (if appropriate).
   IMPORTANT: Please never say to a friend that she or he should participate because you need it for your studies!!!

   – **If a friend participates in the discussion, ask them to invite new friends to your group.**

TAILOR THE APPROCH TO YOUR CIRCLE OF FRIENDS

Your task

Step 2: Consolidation and requirements prioritization (group task)

1. You as a group, create a new facebook group,
   e.g. "the coffee machine of the future - consolidated results".

2. Each of your consolidates the requirements from your step-1-groups and post each requirement into your newly created group

   - Identify distinct requirements
   - State fully specified requirement (e.g., "The coffee The coffee machine should keep the coffee warm for one hour")
   - Post identical requirements only once (you might have duplicate requirements within the different groups)

3. Invite all of your step-1-stakeholders to your new group and ask them to "like" their favourite requirements.

4. Add our dummy user "Marcel Furrer" (reqeng2011@gmail.com) to your group!

5. **Important: After the task is done ask your friends, why they participated (or not) in the discussion/prioritization and thank them for their effort!**

Step 3: Answer these questions in written form and prepare a 15 min presentation of your results. (group task)

Use these questions as a guideline to your analysis
- for each of your **step-1**-groups (quantitative analysis):

Stakeholders

- Number of stakeholders (male / female) you invited
- Number of stakeholders (m/f) who participated in discussion (with at least 1 post/comment)
- Number of friends (m/w) that your friends invited to the group? What about their participation rate?

Requirements

- Total number of elicitation, negotiation and nonsense posts
- Number of distinct requirements
- Number of distinct requirements per post (e.g., there might be a post which then results in 2 or 3 distinct requirements)
- Number of contributions from your friends vs. number of contributions from your friends' friends
- Number of "likes"
- How did the number of elicitation and negotiation posts evolve over time (show a simple graph). How is this correlated to adding new friends?

Step 3: Answer these questions in written form and prepare a 15 min presentation of your results. (group task)

Use these questions as a guidance for your analysis
- for your **consolidated group** (quantitative analysis):

Stakeholders

- How many stakeholders (m/f) did you invite?
- How many of them used the like-mechanism at least once?
- Did your stakeholders add new requirements or continue discussing the requirements?

Requirements

- Total number of distinct requirements
- Number of "likes" per requirement
- Total number of likes
- How did the number of likes evolve over time? (e.g. "80% of the likes occurred during the first 4 hours")
- Present the rank list of requirements

Step 3: Answer these questions in written form and prepare a 15 min presentation of your results. (group task)

Answer these questions: (qualitative analysis)

1. How similar were the results from your step-1-groups? Did all your circle of friends come up with the same ideas or were the ideas completely different?
2. Did you succeed in having your stakeholders converge on win-conditions? Show examples from your step-1-groups!
3. What sort of requirements did you get?
    • Functional, non-functional, etc.?
    • Where are they on the Goal-design scale?
4. Why did your friends participate in the discussions? What did they say?
5. How do you assess the quality of the gathered requirements (i.e. are requirements complete, unambiguous, understandable, etc.)?
6. What would you change in Facebook in order to make it more suitable for RE purposes?
7. In what situations / circumstances would you use facebook (or another social network) for RE purposes?
8. What positive / negative experiences did you make while working with Facebook?
9. Show us some of your favorite requirements!

Topic 1: Smartphone of the future

Smartphones play an important role in our everyday life. A new mobile phone manufacturer would like to establish itself on the smartphone market and puts you in charge of gathering requirements for a new killer smartphone. Ask your friends, how existing smartphone functionality/design/etc. could be improved, what new features they would like to have and what other requirements they have for a smartphone.

Topic 2: Fridge of the future

Home appliances have lost quite some excitement among young people. Arguably because most of them still look the same way and provide the same functionality as they did twenty years ago.

A manufacturer for refrigerators has asked you to find out what people wish for in a refrigerator that uses computer technology in order to manage and purchase food. Try to find out, what your friends' requirements and needs are towards such a system.

Topic 3: Brainstorming

Who hasn't encountered this situation: you are a group of people working on a project where you should brainstorm ideas, discuss them and choose the best among them.

Unfortunately, however, it is not possible for you to have a face-to-face meeting. So there is a need for a system that allows brainstorming, discussing, voting and supports other necessary group tasks in a distributed asynchronous manner. Find out, what your friend's requirements are towards such a system.

Rules

What language?

Requirements elicitation and documentation in German or English. Final presentation and document should be in English.

Who to invite?

Do not invite students from Requirements Engineering Class to your groups. Try not to overload one stakeholder with too many groups.

When to start?

Start as early as possible!
First week: Step 1
Second week: Step 2 and answering questions

Moderate!

Moderation and stakeholder management is crucial for this task!

Tricks

Set up group

- Create some sample content before inviting people to your stage-1-groups. Two posts is enough such that your friends get an impression of their task.
- Use a generic version of your welcome message as group description.

Stakeholder participation

- Think of how you can best attract your friends' attention, e.g. using a personal invitation message. (Don't forget, your stakeholders do not really hold a stake. Still, they are potentially eager to contribute ideas!)
- Experiences show that group members tend to visit a group once, leave some content and never come back. So, stay in touch with your stakeholders! Motivate them to come back and participate!

Tricks

Facebook notification

Facebook has a rather moderate notification service. By default, you (and all your invited stakeholders!) get an email message every time a user writes a post or comment. You can change this behaviour by clicking on „notifications".
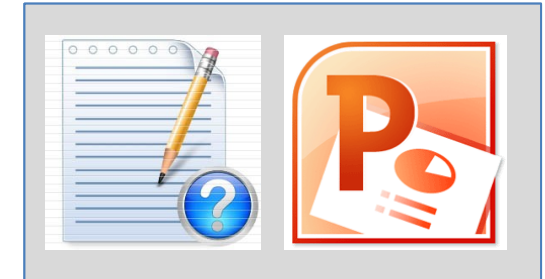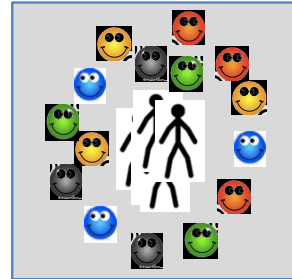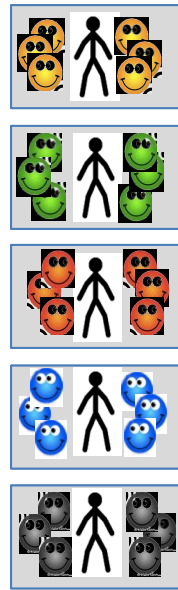
Let's design the coffee machine of the future!
🔒 Closed Group
👥 2 Members   🖼 Photos   📄 Docs

✓ Notifications ▼   ⚙ ▼

Search This Group   🔍

The experiment at a glance

Step 1: Individual task
Each group member creates an own Facebook group for discussing requirements within
their circle of friends.

Step 2: Group task
Consolidate all your requirements into one Facebook group. Let your stakeholders prioritize their ideas using "like".

Step 3: Group task
Analyze your results by answering the questions in written form. Additionally, prepare a 15 minute presentation.

first week

second week

Questions

If you have any question, you can reach us on reqeng2011@gmail.com