

# Software Testing

## Lesson 4 Requirements Quiz V1.0

Uwe Gühl



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# 1 Task Requirements

- You would like to schedule appointments with your friends using a nice web tool.
- You think about requirements:  
What should the tool be able to do?

## Tasks:

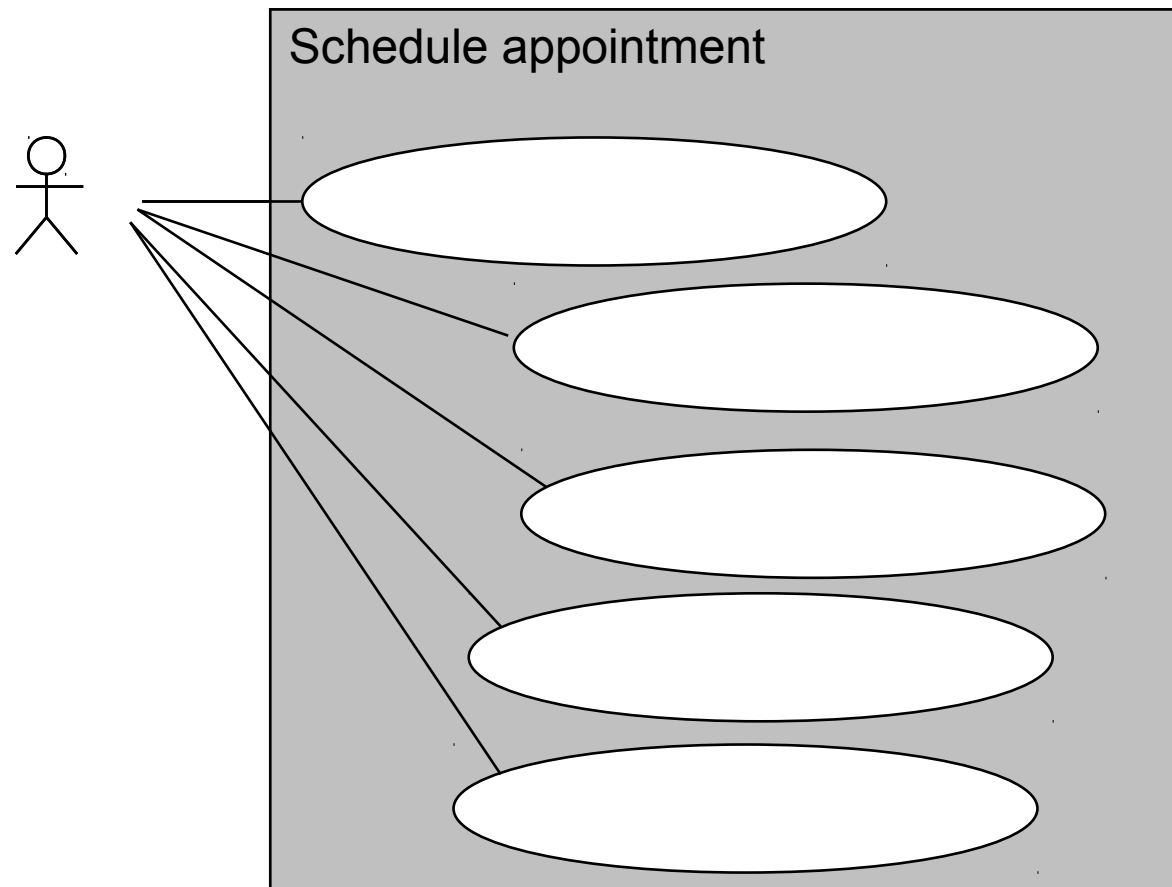
1. Write down your requirements
2. Get requirements from a friend and formulate them either as
  - a) User Stories or as
  - b) Use Cases

# 1 Task Requirements User Stories



As a <type of user>	I want <some goal>	so that <some reason>

# 1 Task Requirements Use Cases



# 1 Proposal Requirements User Stories



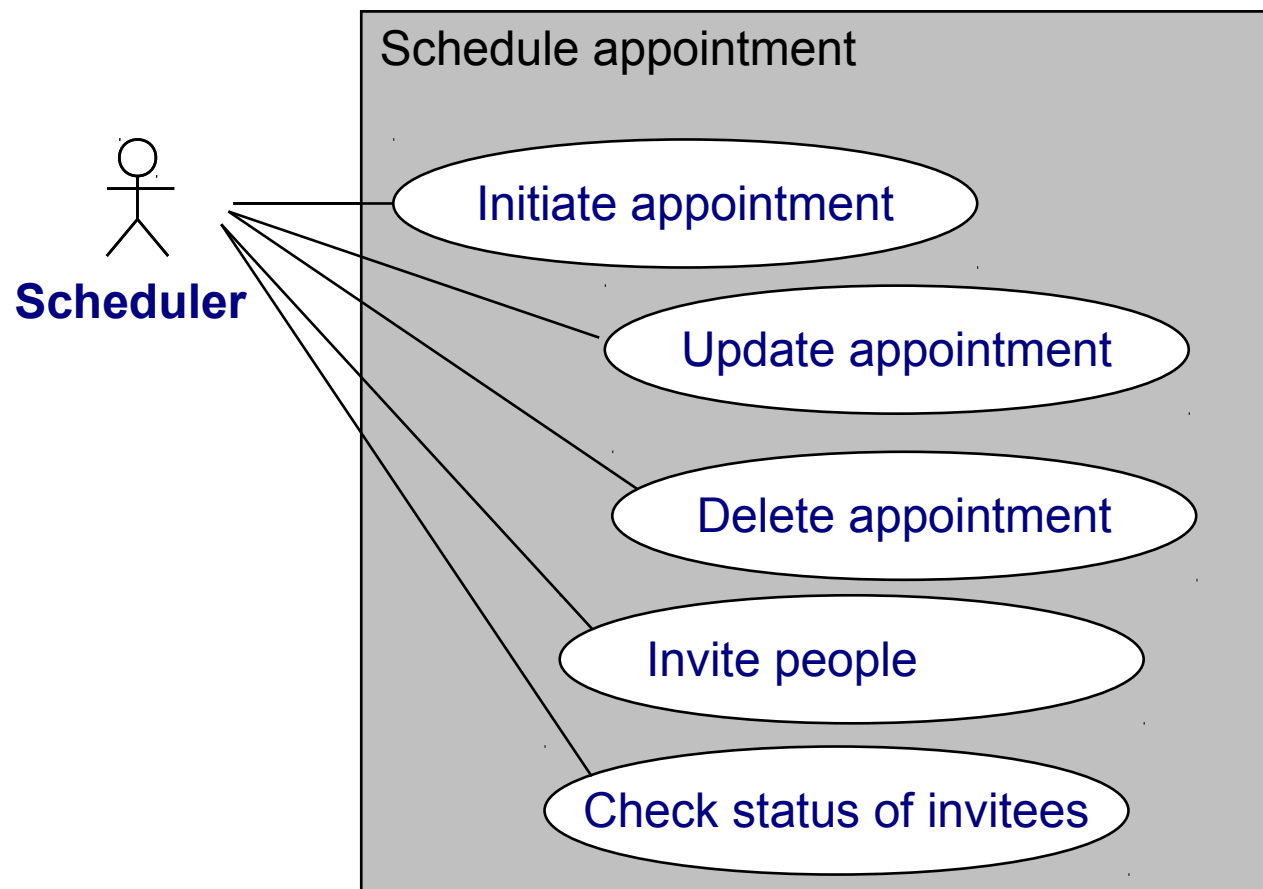
<b>As a &lt;type of user&gt;</b>	<b>I want &lt;some goal&gt;</b>	<b>so that &lt;some reason&gt;</b>
Scheduler	to initiate an appointment	the best fitting appointment date could be determined
Scheduler	to invite people	the best fitting appointment date could be determined
Scheduler	to update a given appointment	I could add another / delete given date
Scheduler	to delete a given appointment	I don't have to give a party
Scheduler	to check a given appointment	I could see the status of the invitees
Scheduler	to finalize a given appointment	I could invite all the guests

# 1 Proposal Requirements User Stories

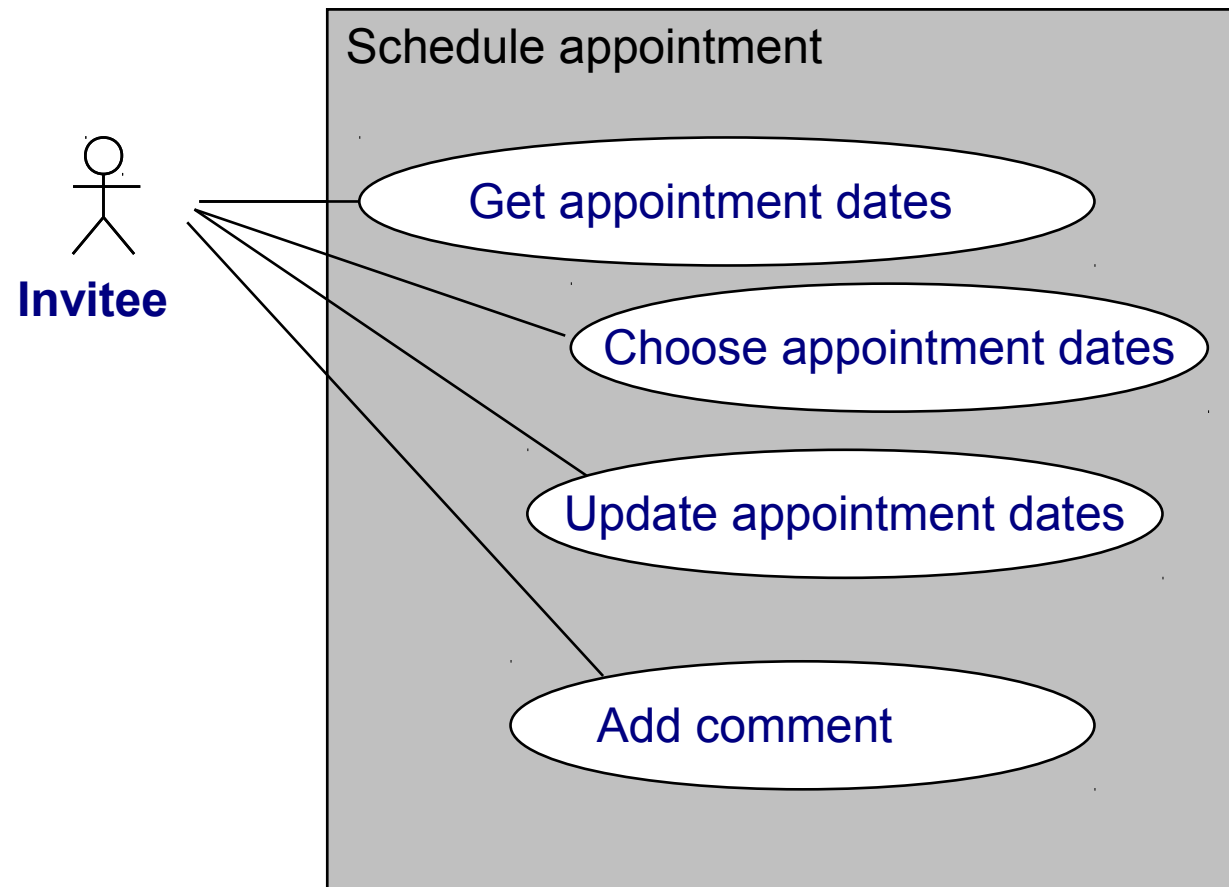


As a <type of user>	I want <some goal>	so that <some reason>
Invitee	to get an invitation to an appointment	determine the dates fitting best to me
Invitee	to choose appointment dates	the best fitting date could be found
Invitee	to update appointment dates	the updated dates are visible to all other related people
Invitee	add comments	I could express additional ideas, requests

# 1 Proposal Requirements Use Cases



# 1 Proposal Requirements Use Cases





# 2 Task Requirements Review



"The product shall provide status messages at regular intervals not less than every 60 seconds."

- **Problems?**

Please describe problems you see in the given requirement.

- **Proposals?**

Please phrase proposals, how the requirement could be improved

## 2 Proposal Requirements Review



"The product shall provide status messages at regular intervals not less than every 60 seconds."

- **Incomplete:**
  - What are the status messages and
  - how are they supposed to be displayed to the user?
- **Several ambiguities:**
  - What part of "the product" are we talking about?
  - Is the interval between status messages really supposed to be at least 60 seconds, so showing a new message every 10 years is okay?

## 2 Proposal Requirements Review



"The product shall provide status messages at regular intervals not less than every 60 seconds."

- Several ambiguities (cont.):
  - Perhaps the intent is to have no more than 60 seconds elapse between messages; would 1 millisecond be too short?
  - The word "every" just confuses the issue.
- Verifiable:
  - As a result of these problems, the requirement is not verifiable.

## 2 Proposal Requirements Review



"The product shall provide status messages at regular intervals not less than every 60 seconds."

**Proposal**

### 1. Status Messages.

1.1. The Background Task Manager shall display status messages in a designated area of the user interface at intervals of 60 plus or minus 10 seconds.

1.2. If background task processing is progressing normally, the percentage of the background task processing that has been completed shall be displayed.

1.3. A message shall be displayed when the background task is completed.

1.4. An error message shall be displayed if the background task has stalled.

# 2 Proposal Requirements Review



## Assessment

- Splitting into multiple requirements
  - Each will require separate test cases
  - Each will be separately traceable.
- If several requirements are strung together in a paragraph, it is easy to overlook one during construction or testing.

# 3 Task Requirements Review



"The HTML Parser shall produce an HTML markup error report which allows quick resolution of errors when used by HTML novices"

- Problems?
- Proposals?

# 3 Proposal Requirements Review



"The HTML Parser shall produce an HTML markup error report which allows quick resolution of errors when used by HTML novices"

- Incomplete
  - What goes into the error report?
- Ambiguous:
  - What is "quick"?
- Verifiable:
  - How to find someone who calls herself an HTML novice and see if she can resolve errors quickly enough using the report?

# 3 Proposal Requirements Review



"The HTML Parser shall produce an HTML markup error report which allows quick resolution of errors when used by HTML novices"

Proposal

"The HTML Parser shall produce an error report that contains the line number and text of any HTML errors found in the parsed file and a description of each error found.

If no errors are found, the error report shall not be produced."



# 3 Proposal Requirements Review



## Assessment

- Defined: What needs to go into the error report, Benefit: Designer decides what the report should look like.
- Plus: An exception condition is defined: If there aren't any errors, don't generate a report.

# 4 Task Requirements Review



Following requirement could be found in a specification:

- KUClock should be able to display the flag picture for every clock that is displayed on the main page.
- For example, Bangkok and Berlin time is displayed. These two flag pictures should be displayed:



- User can show/remove this function by an easy control.

Which questions would you like to ask so that you could test this requirement?

Please add for each question a reasonable assumption as proposal.

# 4 Proposal Requirements Review



How should a flag picture be connected to a clock?

- Manually – how should it work?
- Automatically?
- **Proposal:** The connection should be established automatically. Additionally it should be possible for an user to exchange an image.

# 4 Proposal Requirements Review



What means “Bangkok time” and “Berlin time”?

- Proposal: Basic of the displayed times are Time Zones. A user could choose
  - a specific Time Zone.
  - cities (mapped directly to a Time Zone)
  - a country with only one Time Zone (mapped directly to a Time Zone)
  - a country with more than one Time Zone (e.g. Russia with nine Time Zones, USA eleven, Australia eight, Brazil four and Mexico three). The user could choose corresponding city / Time Zone.

# 4 Proposal Requirements Review



Where and how should the flag pictures be displayed?

- Proposal: The flags should be displayed above the displayed time

# 4 Proposal Requirements Review



What about the size of the flag pictures?

- Proposal: A minimal flag size should be displayed, it should be about 160 x 100 pixel

# 4 Proposal Requirements Review



What should happen, if a flag gets removed concerning the size of a clock?

- Proposal: If the displaying of flags gets disabled, the clock should resize.

# 4 Proposal Requirements Review



What means easy control?

How should the function of showing / removing of images work?

- Proposal: The displaying / enabling functionality should be accessed in three ways with maximal two steps: Right mouse click, Menu (high level), function key