IT Quality and Software Test

Lesson 3
Testing in Software Life Cycles
Quiz
V1.0

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Winter 2011/ 2012

1. Test Types
Non-Functional Testing

Which statement below BEST describes non-functional testing?

a) The process of testing an integrated system to verify that it meets specified requirements.

b) The process of testing to determine the compliance of a system to coding standards.

c) Testing without reference to the internal structure of a system.

d) Testing system attributes, such as usability, reliability or maintainability.

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2. Testing in Software Life Cycles

What is important to do when working with software development models?

a) To adapt the models to the context of project and product characteristics. ○

b) To choose the waterfall model because it is the first and best proven model. ○

c) To start with the V-model and then move to either iterative or incremental models. ○

d) To only change the organization to fit the model and not vice versa ○

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3. Testing in Software Life Cycles

Which of the following characteristics of good testing apply to any software development life cycle model?

a) Acceptance testing is always the final test level to be applied.

b) All test levels are planned and completed for each developed feature.

c) Testers are involved as soon as the first piece of code can be executed.

d) For every development activity there is a corresponding testing activity.

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4. Maintenance Testing

For which of the following would maintenance testing be used?

a) Correction of defects during the development phase.

b) Planned enhancements to an existing operational system.

c) Complaints about system quality during user acceptance testing.

d) Integrating functions during the development of a new system.

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5. Test Levels

Which of the following comparisons of component testing and system testing are TRUE?

a) Component testing verifies the functioning of software modules, program objects, and classes that are separately testable, whereas system testing verifies interfaces between components and interactions with different parts of the system.

b) Test cases for component testing are usually derived from component specifications, design specifications, or data models, whereas test cases for system testing are usually derived from requirement specifications, functional specifications or use cases.

c) Component testing focuses on functional characteristics, whereas system testing focuses on functional and non-functional characteristics.

d) Component testing is the responsibility of the technical testers, whereas system testing typically is the responsibility of the users of the system.

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6. Test Types
Regression Testing

Which of the following statements are TRUE?

a) Regression testing and acceptance testing are the same.

b) Regression tests show if all defects have been resolved.

c) Regression tests are typically well-suited for test automation.

d) Regression tests are performed to find out if code changes have introduced or uncovered defects.

e) Regression tests should be performed in integration testing.

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7. Test Types
Non-Functional Testing

Non-functional system testing includes

a) testing to see where the system does not function properly

b) testing quality attributes of the system including performance and usability

c) testing a system feature using only the software required for that action

d) testing a system feature using only the software required for that function

e) testing for functions that should not exist

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8. Test Types
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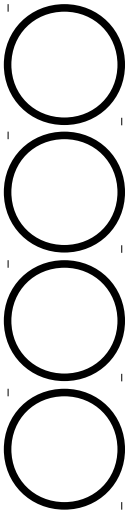
Which of the following are non-functional testing methods?

a) System testing

b) Usability testing

c) Performance testing

d) Test coverage measurement



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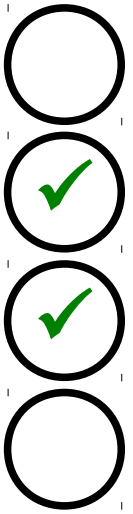

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9. Test Types
Non-Functional Testing

Which of the following is NOT part of performance testing?

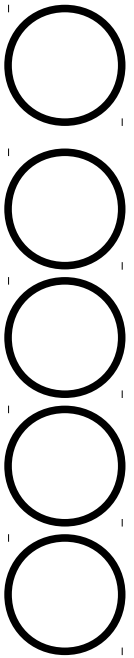
a) Measuring response time

b) Measuring transaction rates

c) Recovery testing

d) Simulating many users

e) Generating many transactions



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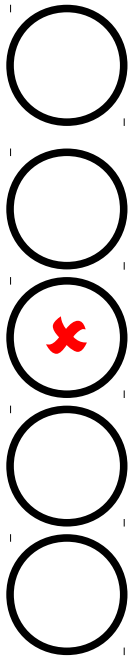

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10. Test Types
Non-Functional Testing

Which of the following are non-functional requirements?

a) Mamegoma Mark 2 robot should clean sofa, bed, and bin

b) The new cipher machine model should encrypt 1500 messages per hour

c) The Protoss Zealot is only able to attack unit on the ground

d) The command “get ready” should be given to 1,000 soldiers in 5 minutes

e) The command “next” will change the state of the canvas object to the next color.

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11. Test Levels
Integration Testing

Which of the following is the main purpose of the integration strategy for low-level integration testing (component integration testing)?

a) to ensure that all small modules are tested adequately

b) to ensure that the system interfaces correctly to other systems and networks

c) to specify which modules to combine when and how many at once

d) to ensure that the integration testing can be performed by a small team

e) to specify how the software should be divided into modules

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12. Test Levels
Acceptance Testing

What is true about Beta testing?

a) Performed by customers at their own site

b) Performed by customers at their software developer's site

c) Performed by an independent test team

d) Useful to test specially developed software

e) Performed as early as possible in the lifecycle

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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?

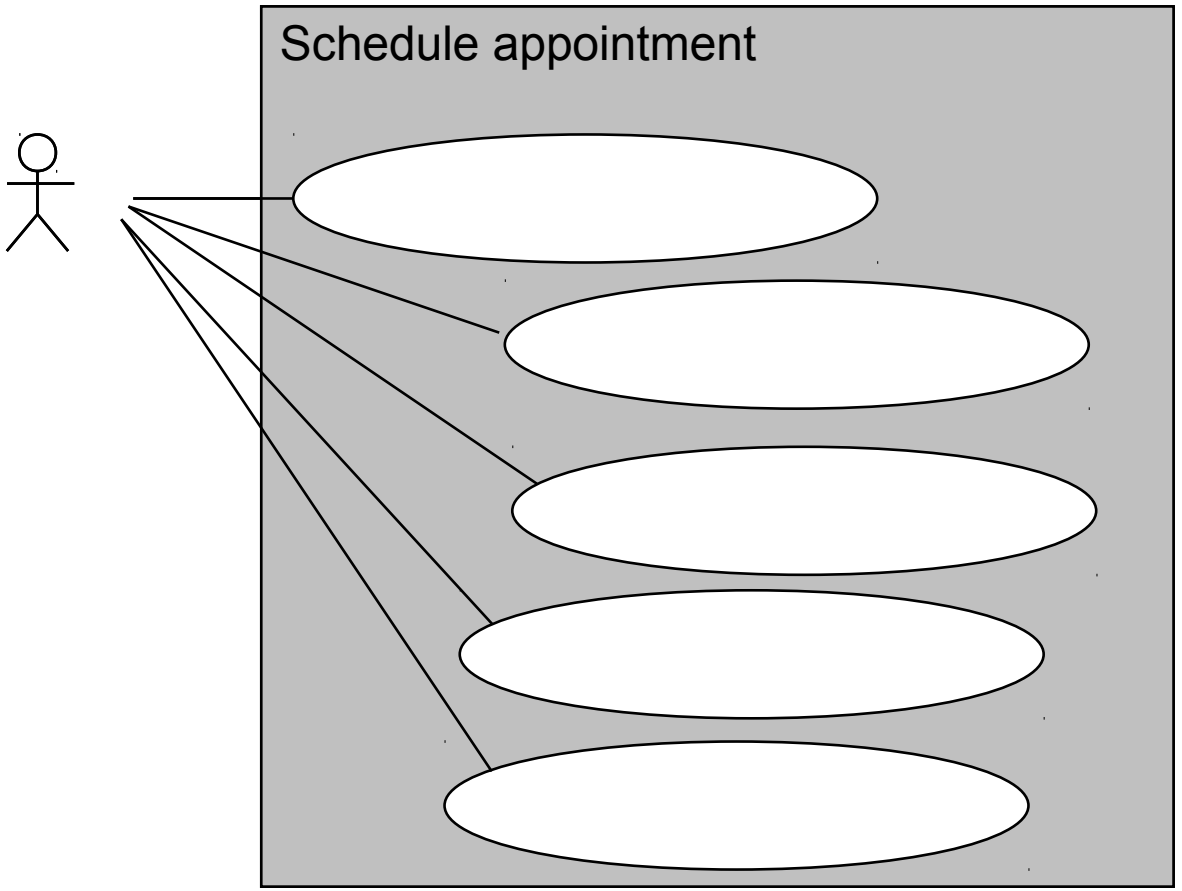
  Tasks:

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

Task Requirements
User Stories

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

Task Requirements
Use Cases



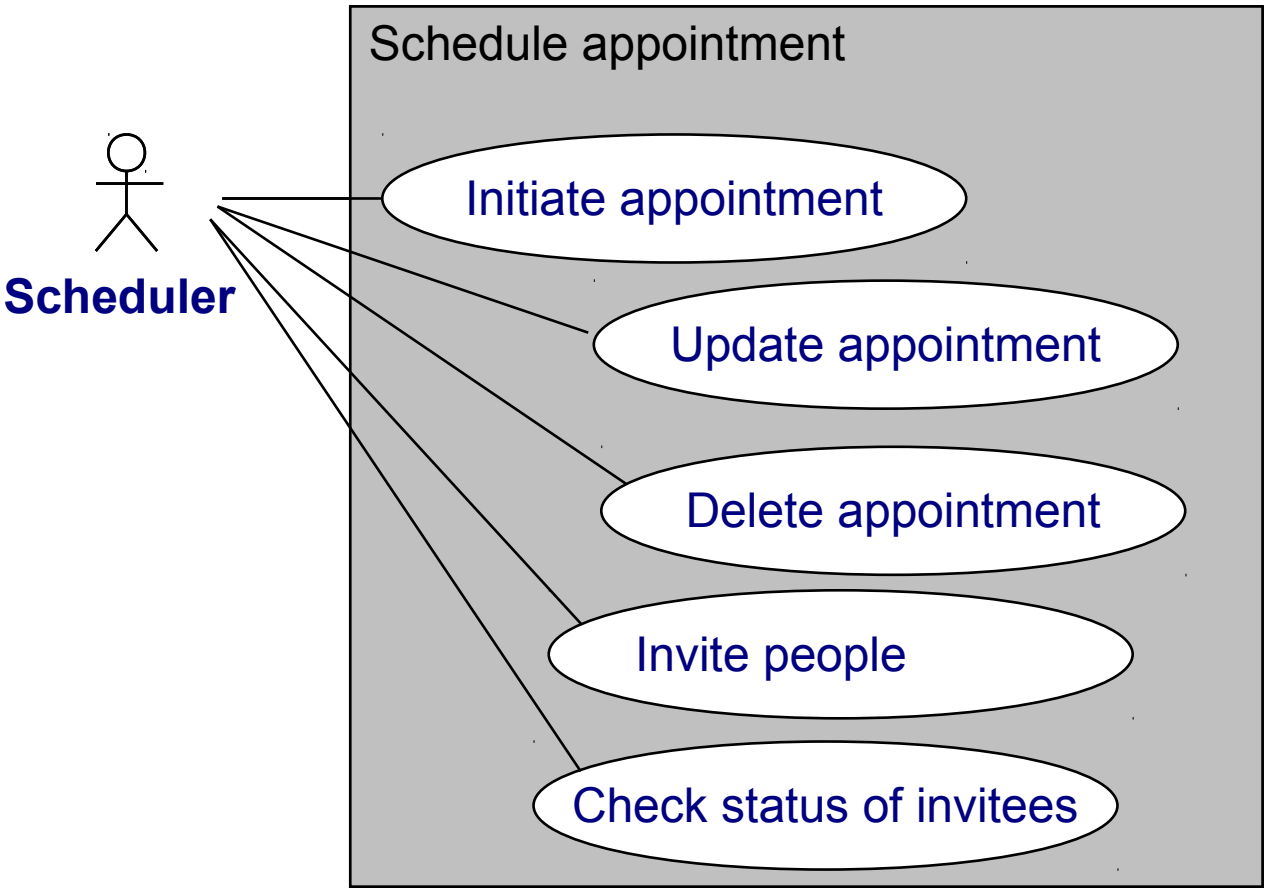
Proposal Requirements User Stories

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

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	
Invitee	add comments	I could express additional ideas, requests

Proposal Requirements Use Cases



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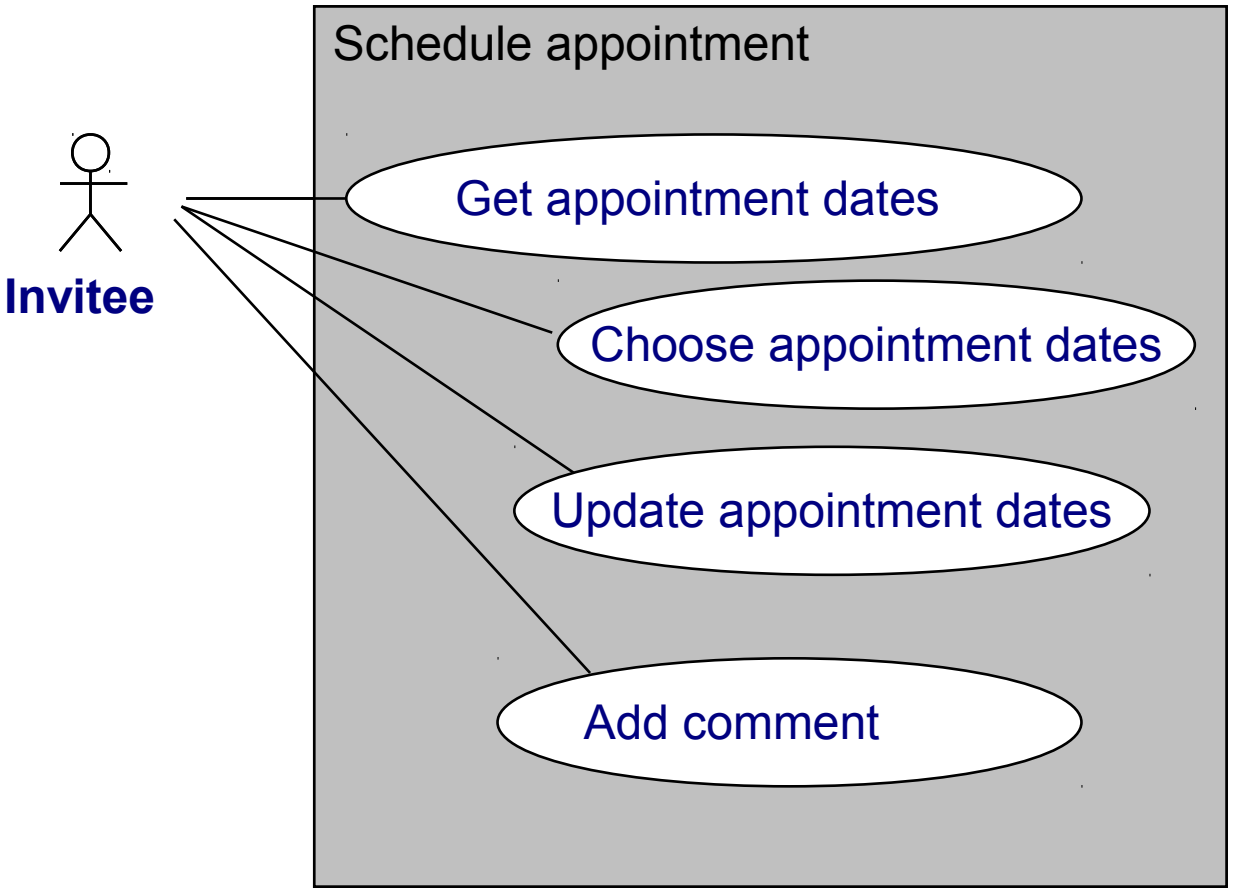

Task Requirements Add-on

- Possible tools (extract)
  - http://doodle.com/?locale=en
  - http://www.scheduleonce.com/
  - http://www.meetifyr.com/
  - https://dudle.inf.tu-dresden.de

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.

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.

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 (Russia with nine Time Zones, Canada and USA five, Brazil four and Australia and Mexico three). The user has to decide, which city / Time Zone to choose

Proposal Requirements review

Where and how should the flag pictures be displayed?

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

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

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.

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