Translated English version of the online questionnaire (control group)

This document is part of the dataset for the paper "Using GUI Test Videos to Obtain Stakeholders' Feedback", which has been accepted at the 17th International Conference on Software and System Processes.[1] The authors of this paper are: Jianwei Shi, Jonas Mönnich, Jil Klünder, and Kurt Schneider. The experiment in which this questionnaire was used was conducted online in October 2022.

---

[1] https://conf.researchr.org/home/icssp-2023

Declaration of consent

Dear Participant,

Thank you for your interest in participating in this study.

The subject of this questionnaire are different methods for collecting customer feedback in the context of software development.

This survey is created as part of a master's thesis at the Leibniz University Hannover. The data can be accessed by the supervisor or the assessors of the scientific work for the purpose of performance evaluation. The collected data may be stored for an unlimited period of time in accordance with *Art. 89 Abs. 1 DSGVO*.

- Participation in the study is voluntary. You can cancel the questionnaire at any time and without giving reasons.

- Your participation is anonymous, which means that your answers cannot be traced back to you. This also means that your personal personal data record is not identifiable for us. A subsequent deletion of your data is therefore not possible.

- Your data will be used exclusively for scientific purposes. The research does not follow any commercial interest.

- Your data will be treated confidentially and will be protected from unauthorized access. For the time of the evaluation the data will be stored on an internal server. The completely anonymized data set will be made available with the thesis.

Cons1 **I hereby confirm that I am at least 18 years old and have read and understood the declaration of consent:**

☐ I agree to participate.

Gherkin tutorial

In order to participate in this study, it is necessary that you know the basics of *Gherkin*. These basics will be explained to you below.

Gherkin is a description language used by software developers to describe how software behaves in certain situations. Gherkin provides a set of keywords to structure this description. For each aspect of software behavior, a so-called scenario is documented. The set of all scenarios determines the behavior of the software. In the following you see an example scenario, with which we explain the basics of Gherkin. The software to which this scenario refers is a website for selling movie tickets.

```
Scenario: Successful movie ticket sale
    Given I am on the shopping cart page
    And I have a movie ticket worth 15 euros in my shopping cart
    And I have 20 euros in credit
    When I select "Buy now"
    Then I see the notification "Thank you for your purchase. Enjoy the movie."
    And my new credit is 5 euros
    And I receive an email with the ticket attached as a PDF file
```

Apart from the title, which is marked by the keyword `Scenario`, a scenario consists of three parts: initial context, event, and outcome. These three parts are marked by the Gherkin keywords `Given`, `When` and `Then`.

- The initial context (`Given`) describes the state in which the software is at the beginning of the scenario.

- The event (`When`) describes an interaction that is performed by the user of the software.

- The outcome (`Then`) describes how the software should react to the event.

The keyword `And` can be used to repeat the previous keyword.

If extensive information is to be presented clearly, data tables can be used. The following example shows how an initial context can be structured using a data table.

```
Given the following offers are shown on the start page:
    | Movie     | Ticket price | Date     |
    | Inception | 15 euros     | 20.12.22 |
    | Titanic   | 10 euros     | 21.12.22 |
```

The first row of a table consists of the column headings. The subsequent rows contain the values. In this example, row 2 and row 3 of the table would therefore each represent an offer that is displayed on the start page.

To confirm that you have read the text carefully, please answer the following questions. The study will continue when you have answered the questions correctly.

Compr1 **Which of the following keywords are always included in a scenario (according to the text above)?**

☐ Then

☐ Given

☐ And

☐ When

Compr2 **Which of the following statements is/are correct?**

☐ A scenario describes how a software behaves in a certain situation.

☐ An initial context is introduced by the keyword `When`.

☐ Several scenarios are usually created for a software.

☐ The software's reaction is described after the keyword `Then`.

Instructions

In this study you will be introduced to two "versions" of a software:

- Version 1: You will read an excerpt of the requirements. The requirements describe how the software is supposed to behave.

- Version 2: You will see 10 scenarios that show how the software actually behaves.

You will be asked to check if there are any inconsistencies between requirements and scenarios.

Requirements

In the following you will read an excerpt of the software requirements. The requirements specify how the software should work. The excerpt will be displayed to you again as required during the course of the study.

The software is a social network where users can rate movies. In this section of the requirements, however, only the account management functions are considered.

The software is to be implemented as a website so that it can be used on PCs, smartphones and tablets. Overall, the website should make a friendly impression.

In order to use the software, a user account must be created. To do this, users enter an email address, a user name and a password. In addition, they must accept the "Terms of Use" and the "Privacy Policy". To ensure that the user account is created by a real person, an image-based CAPTCHA must be solved. After the account creation is completed, users are automatically logged in.

To log in regularly, users must enter their username and password. After logging in or out, they are always redirected to the home page, where they can see currently popular movies. If users forget their password, they can request a password reset on the login page. For this purpose, the email address must be provided.

Users are supposed to personalize their profile. They can change their avatar by uploading a profile picture. If a user has not uploaded their own profile picture, a default picture (blue person outline) is displayed. Users can delete an uploaded profile picture so that the default avatar is displayed again. Users can also display their top 3 favorite movies on their profile. To add a movie as a favorite, users can use a dedicated search function and then select the movie from a poster preview.

If users no longer wish to use the software, they can deactivate their user account via the profile settings. To do this they must enter their password and explicitly agree to the deactivation.

Important inputs and actions should be designed in such a way that they avoid accidental irrevocable mis-entries and mis-actions.

If a password entry fails, an error message should be displayed before the inputs are removed and the interaction can be executed again.

For all actions, users should be explicitly informed whether the action was successful or failed (for example, by displaying a temporary notification).

To confirm that you have read the text carefully, please answer the following question. The study will continue when you have answered the question correctly.

Compr3   **Which of the following statements is/are correct?**

☐ The text above describes all the requirements for the software.

☐ The text above describes some requirements for the software.

☐ The software allows users to rate movies.

☐ The requirements in the text refer to the rating of movies.

Scenarios

On the following pages you will be presented with 10 scenarios. You are asked to decide whether there are any inconsistencies between the scenarios and the requirements.

Please note the following:

- You will find a recap of the requirements before each scenario.
- You can return to previous scenarios by using the buttons at the bottom of the page.

Scenario 1

Click here to see the requirements.

```
Scenario: Create account
    Given I am on the account creation page
    When I enter the following data:
        | Email                 | Username   | Password | Terms of use | Privacy policy | CAPTCHA |
        | maxi.muster@gmail.com | MaxiMuster | P4ssw0rt | Accepted     | Accepted       | Passed  |
    And I submit my input
    Then I am logged into a new account
    And I am redirected to a page that shows a friendly welcome message
```

Diff1   **Does scenario 1 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert1   **How certain are you on answering the last question?**

Very uncertain   ○   ○   ○   ○   ○   ○   ○   ○   Very certain

Scenario 2

```
Scenario: Unsuccessful login
    Given I am on the login page
    And the following account exists:
        | Email                  | Username   | Password |
        | maxi.muster@gmail.com  | MaxiMuster | P4ssw0rt |
    When I enter the following data:
        | Username/Email | Password |
        | MaxiMuster     | 12345678 |
    And I submit my input
    Then I am neither logged in, nor redirected to another page
    And a notification shows that the login was unsuccessful
```

Diff2 **Does scenario 2 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert2 **How certain are you on answering the last question?**

Very uncertain   O   O   O   O   O   O   O   O   Very certain

Scenario 3

Click here to see the requirements.

```
Scenario: Successful login
    Given I am on the login page
    And the following account exists:
        | Email                  | Username   | Password |
        | maxi.muster@gmail.com  | MaxiMuster | P4ssw0rt |
    When I enter the following data:
        | Username/Email | Password |
        | MaxiMuster     | P4ssw0rt |
    And I submit my input
    Then I am logged in
    And I see my profile page
```

Diff3   **Does scenario 3 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert3   **How certain are you on answering the last question?**

Very uncertain   ○   ○   ○   ○   ○   ○   ○   ○   Very certain

Scenario 4

Click here to see the requirements.

```
Scenario: Reset password
    Given I am on the login page
    And the following account exists:
        | Email                  | Username   | Password |
        | maxi.muster@gmail.com  | MaxiMuster | P4ssw0rt |
    When I select "Reset"
    And I enter my email "maxi.muster@gmail.com"
    And I submit my input
    Then I am redirected to the start page that shows currently popular movies
```

Diff4 **Does scenario 4 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert4 **How certain are you on answering the last question?**

Very uncertain   O   O   O   O   O   O   O   O   Very certain

Scenario 5

Click here to see the requirements.

```
Scenario: Add profile picture
    Given I am on the account settings page
    When I drag an image into the selection field
    And I confirm the image selection
    Then a notification shows that the profile picture was changed successfully
    And the uploaded picture is shown as my current profile picture
```

Diff5 **Does scenario 5 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert5 **How certain are you on answering the last question?**

Very uncertain   O   O   O   O   O   O   O   O   Very certain

Scenario 6

Click here to see the requirements.

```
Scenario: Delete profile picture
    Given I am on the account settings page
    And I previously added a custom profile picture
    When I delete my profile picture
    Then a notification shows that the profile picture was deleted successfully
    And the default profile picture is shown as my current profile picture
```

Diff6   **Does scenario 6 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert6   **How certain are you on answering the last question?**

Very uncertain   ○   ○   ○   ○   ○   ○   ○   ○   Very certain

Scenario 7

Click here to see the requirements.

```
Scenario: Add favorite movie to profile
    Given I am on the account settings page
    When I open the favorite movies search
    And I search for "Django Unchained"
    And I select "Django Unchained" from a list of search results
    Then "Django Unchained" is added as one of my favorite movies
```

Diff7 **Does scenario 7 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert7 **How certain are you on answering the last question?**

Very uncertain ○ ○ ○ ○ ○ ○ ○ ○ Very certain

Scenario 8

Click here to see the requirements.

```
Scenario: Logout
   Given I am logged in with the following account:
       | Email                  | Username  | Password |
       | maxi.muster@gmail.com  | MaxiMuster | P4ssw0rt |
   And I am on my profile page
   When I log out of my account
   Then I have no access to my account settings
   And I see the login form
```

Diff8 **Does scenario 8 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert8 **How certain are you on answering the last question?**

Very uncertain　　○　　○　　○　　○　　○　　○　　○　　○　　Very certain

Scenario 9

Click here to see the requirements.

```
Scenario: Unsuccessful deactivation of account
    Given I am logged in with the following account:
        | Email               | Username  | Password |
        | maxi.muster@gmail.com | MaxiMuster | P4ssw0rt |
    And I am on the account settings page
    When I select "Deactivate account"
    And I enter the following data:
        | Password | Consent |
        | 12345678 | Yes     |
    And I submit my input
    Then a notification shows that the password was incorrect
```

Diff9 **Does scenario 9 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert9 **How certain are you on answering the last question?**

Very uncertain   ○   ○   ○   ○   ○   ○   ○   ○   Very certain

Scenario 10

```
Scenario: Successful deactivation of account
   Given I am logged in with the following account:
       | Email                  | Username   | Password |
       | maxi.muster@gmail.com  | MaxiMuster | P4ssw0rt |
   And I am on the account settings page
   When I select "Deactivate account"
   And I enter the following data:
       | Password | Consent |
       | P4ssw0rt | Yes     |
   And I submit my input
   Then I am logged out of my account
   And I see a friendly farewell message
```

Diff10   **Does scenario 10 match the requirements?**

If the scenario matches the requirements, please write "Matches all (Stimmt überein)". Otherwise, describe all inconsistencies that you notice.

Cert10   **How certain are you on answering the last question?**

Very uncertain   ○   ○   ○   ○   ○   ○   ○   ○   Very certain

Process evaluation

ProcEval1   **Overall, how difficult was it to recognize inconsistencies?**

Very easy   ○ ○ ○ ○ ○ ○ ○ ○   Very difficult

ProcEval2   **After showing you ten scenarios: How do you assess your understanding of the functionality and usage of the presented functions?**

Very limited   ○ ○ ○ ○ ○ ○ ○ ○   Very extensive

Demographics

Dem1   **What gender do you identify as?**

○ Female

○ Male

○ Diverse

Dem2   **How old are you?**

I am   _____   years old.

Dem3   **What is the highest educational qualification you have?**

○ Still in school

○ Finished school without graduation

○ Hauptschulabschluss

○ Realschulabschluss

○ Vocational baccalaureate diploma (Fachabitur)

○ A-levels (Abitur)

○ Bachelor's degree

○ Master's degree

○ Ph.D.

Dem4   **How much programming experience do you have?**

○ No experience

○ Limited experience (student, hobby programmer etc.)

○ Extensive experience (professional software developer, research assistant, etc.)

Dem5   **How familiar are you with the concept of behavior-driven development (BDD)?**

○ I am unfamiliar

○ I know a little

○ I know a lot

Closing questions

Please answer the following questions honestly - the answers have no consequences for you!

SelfAssess1   **Did you answer the questions in this study seriously?**

○ Yes, I have answered all questions seriously. My information can be used for the evaluation.

○ No.

SelfAssess2   **Were you able to complete the questionnaire without being distracted?**

○ Yes, I paid full attention to the study and worked through it in one sitting.

○ I was briefly distracted by my environment (people, smartphone, etc.) once.

○ I was distracted by my environment (people, smartphone, etc.) several times.

SelfAssess3   **Were you able to complete all tasks as indicated in each instruction?**

○ I completed all tasks as indicated in the instructions.

○ I sometimes did not understand the instructions.

○ I often did not understand the instructions.

SelfAssess4   **Do you have any additional comments?**

Did you notice anything negative while taking this survey? Were the questions not clear at any point or were you uncomfortable answering them?