

Usability Testing - Protocol

FR1: A donor must be able to donate in the platform via online payment or oxxo.

Non-Functional Requirements

NFR1.1. The donation process must be completed within an average of one minute.

NFR1.2. The donation process must be easy to perform.

NFR1.3. The donation process must be intuitive.

NFR1.4. The user must be able to donate from any device.

NFR1.5. The donation process must be trustable.

NFR1.6. The donation process must meet the user's expectations.

Usability Attributes

As described above, the usability attributes we are considering in the non-functional requirements and will be primary focus of the usability test are:

- Efficiency
- Satisfaction
- Credibility

We are defining credibility as how the user perceives the trustworthiness of the scholarship program and the organization behind provided by the site.

Test Planning

<i>Test Scenario</i>	Provide 15 meals to the students at the university using any payment method you like.	
<i>Tasks involved and estimated time</i>	Find the donation page	15 seconds
	Fill the donation information (Number of meals, recurrent payment)	8 seconds
	Fill personal information	10 seconds
	Make the payment process (PayPal or Oxxo)	8 seconds
<i>Participants</i>	8 users matching the donor Persona	
<i>Artifacts</i>	Survey: System Usability Scale Survey: SUPR-Q Testing template User Testing Non-Disclosure Agreement	

Usability Metrics

1. Efficiency

To test the efficiency of the donation process, a couple of metrics will be considered:

1.1. Overall Relative Efficiency

We are using this metric to measure each step in the donation process (4) in order to get a percentage of the overall efficiency in every step.

$$\text{Overall Relative Efficiency} = \frac{\sum_{j=1}^R \sum_{i=1}^N n_{ij} t_{ij}}{\sum_{j=1}^R \sum_{i=1}^N t_{ij}} \times 100\%$$

Where:

N = The total number of tasks (goals)

R = The number of users

n_{ij} = The result of task i by user j; if the user successfully completes the task, then $N_{ij} = 1$, if not, then $N_{ij} = 0$

t_{ij} = The time spent by user j to complete task i. If the task is not successfully completed, then time is measured till the moment the user quits the task

Considerations:

- We are considering a *task (goal)* as a step in the donation process.
- The maximum time for a user to complete each task will be of 3 minutes. Afterwards the task will be marked as incomplete.
- In this case, $N = 1$ because we will always be measuring one task.

1.2. Time Based Efficiency

This metric will be used to get a bigger picture in terms of completion time by the users.

$$\text{Time Based Efficiency} = \frac{\sum_{j=1}^R \sum_{i=1}^N \frac{n_{ij}}{t_{ij}}}{NR}$$

Where:

N = The total number of tasks (goals)

R = The number of users

n_{ij} = The result of task i by user j; if the user successfully completes the task, then $N_{ij} = 1$, if not, then $N_{ij} = 0$

t_{ij} = The time spent by user j to complete task i. If the task is not successfully completed, then time is measured till the moment the user quits the task

Considerations:

- We are measuring the whole donation process composed of its tasks.
- The maximum time for a user to complete the task will be of 5 minutes. Afterwards the task will be marked as incomplete.
- In this case, $N = 4$ because we are measuring the three tasks that compose the donation process.

2. Satisfaction & Credibility

For these attributes we are going to use surveys and questionnaires which will provide us insights about the user experience. These will be performed after the testing phase.

The questionnaires and surveys being used are:

2.1. **System Usability Scale**

The users will be asked to score the questions using the following scale:

Strongly disagree					Strongly agree
1	2	3	4	5	

Questions:

1. *I think that I would like to use this system frequently.*

2. *I found the system unnecessarily complex.*
3. *I thought the system was easy to use.*
4. *I think that I would need the support of a technical person to be able to use this system.*
5. *I found the various functions in this system were well integrated.*
6. *I thought there was too much inconsistency in this system.*
7. *I would imagine that most people would learn to use this system very quickly.*
8. *I found the system very cumbersome to use.*
9. *I felt very confident using the system.*
10. *I needed to learn a lot of things before I could get going with this system.*

Scoring

- For each of the odd numbered questions, subtract 1 from the score.
- For each of the even numbered questions, subtract their value from 5.
- Take these new values which you have found and add up the total score. Then multiply this by 2.5.
- This will result in a score out of 100 and is not a percentage.

Considerations:

- The 'system' in this context is referring to the donation process and all the paths that lead to the completion of that goal.

2.2. SUPR-Q

This is a short questionnaire which is structured around 4 factors: Usability, Credibility, Appearance and Loyalty. We will be able to have an insight for each of these factors.

The users will be asked to score the questions using the following scale:

Strongly disagree					Strongly agree
1	2	3	4	5	

Questions:

1. *The website is easy to use. (Usability)*
2. *It is easy to navigate within the website. (Usability)*
3. *I feel comfortable making payments on the website. (Credibility)*
4. *I will likely return to the website in the future. (Loyalty)*
5. *I find the website to be attractive. (Appearance)*
6. *The website has a clean and simple presentation. (Appearance)*
7. *How likely are you to recommend this website to a friend or colleague? (Loyalty)*
8. *The information on the website is credible. (Credibility)*
9. *The information on the website is trustworthy. (Credibility)*

Scoring

- Average the scores of each category.
- We can obtain each category average and a global average as well.

Considerations:

- The 'website in this context is referring to the donation process and all the paths that lead to the completion of that goal.
- We have modified the narrative of some questions to adapt them to our goals.

Acceptance Levels

	<i>Excellent</i>	<i>Acceptable</i>	<i>Unacceptable</i>
<i>Overall Relative Efficiency</i>	Over 95%	70% - 95%	Under 70%
<i>Time Based Efficiency</i>	Over 6.25 goals per minute	4.5 – 6.25 goals per minute	Under 4.5 goals per minute
<i>System Usability Scale</i>	Over 80	65 - 80	Under 65

<i>SUPR-Q (Global)</i>	Over 4.5	3.5 – 4.5	Under 3.5
<i>SUPR-Q (Usability)</i>	Over 4.6	3.8 – 4.6	Under 3.8
<i>SUPR-Q (Appearance)</i>	Over 4.3	3.4 – 4.3	Under 3.4
<i>SUPR-Q (Loyalty)</i>	Over 4.7	4.0 – 4.8	Under 4.0
<i>SUPR-Q (Credibility)</i>	Over 4.9	4.5 – 4.9	Under 4.5

Resources

<https://www.interaction-design.org/literature/topics/credibility>

<https://fuzzymath.com/blog/suprq-design-metric/>

<https://cxl.com/blog/website-credibility-checklist-factors/>

<https://usabilitygeek.com/how-to-use-the-system-usability-scale-sus-to-evaluate-the-usability-of-your-website/>

<https://usabilitygeek.com/usability-metrics-a-guide-to-quantify-system-usability/>