

## Usability Evaluation for Efficient Navigation.

### ***Product or Interface Description:***

The product is a web platform designed to help teachers create and access dynamic educational activities for children with ADHD in the classroom. The interface includes features for searching, browsing, and organizing activities, as well as interactive tools for learning and progress tracking. The main goal is to provide an efficient browsing experience that allows teachers to quickly find the right activities for their students.

### ***Objectives:***

- ✓ Evaluate the ease of use and efficiency of navigation on the web platform.
- ✓ Identify possible obstacles or problems that hinder efficient navigation.
- ✓ Collect comments and suggestions from users about the usability of the platform.
- ✓ Obtain information to improve navigation and user experience.

### ***Roles and Responsibilities:***

- Facilitator: The person who provides the main instructions to the users, hands out the tasks to be performed on a sheet, and oversees each participant.
- Observer: Records the completion time for each task and the overall time for completion.
- User: Performs the tasks assigned by the facilitator.

### ***Participant Selection Criteria:***

- Teachers with experience teaching children with ADHD.
- Familiarity with the use of web platforms.
- Variety in terms of age, gender and level of experience with the platform.

### ***Test Duration:***

The expected duration for the test is a total of 5 minutes, with a maximum of 10 minutes.

### ***Equipment and Software:***

*The software we will use includes:*

- ✧ Web browser
- ✧ Figma web version

*The hardware:*

- ✧ Laptop
- ✧ MacBook

### ***Resources and Materials:***

- Prototype created in Figma
- Printed sheet with the tasks to be done
- Observer sheet to take notes and record task completion times
- Opinion poll created in Google Forms

Evaluation method:

- Direct observation
- Opinion survey
- Task completion times
- Number of clicks used for each task

**Data Recording:**

- Data will be collected by an observer who will record the times at which each task is completed. Necessary notes will be made after each test with each user. In some cases, screen recordings may be used to ensure the accuracy of the observer's data.

**Metrics and variables to measure**

- Task completion time:  
Metric: Average time participants take to complete each task.

**Usability levels:**

Unacceptable: Participant takes more than 3 minutes to complete all tasks

Acceptable: Participant takes 2-3 minutes to complete tasks

Excellent: Participant takes 2 minutes or less to complete tasks

- Number of clicks:  
Metric: Number of clicks participants make to complete each task.

**Usability levels:**

Poor: Participant needs more than 15 clicks to complete all tasks

Acceptable: Participant needs between 11-13 clicks to complete all tasks

Excellent: The participant needs less than 11 clicks to complete all the tasks

- **User satisfaction:** measures the participants' opinion of the application and its graphical interface. Questionnaires or interviews are used to gather this information. Teachers are asked what they thought of the application, whether they found it easy to use, whether they found the information they found in it useful, etc.

**Usability Levels:**

*Unacceptable:* No participant is satisfied with the application

*Acceptable:* The majority of participants are satisfied with the application

*Excellent:* All participants are satisfied with the application

**Testing Environment:**

The test should be done in a distraction-free environment, such as an unoccupied room. Alternatively, it can be carried out in a place with stable internet connectivity.

**Scenarios and Tasks:****Scenario 1:** Find information about ADHD

- ✓ Task 1: Find information on the characteristics of ADHD in the resources section of the website (Estimated time: 30 seconds, Target number of clicks: 3 clicks.)

**Scenario 2:** Finding Activities to Work with Children with ADHD

- ✓ Task 1: Find a specific activity to improve attention skills in children with ADHD using the search function and browsing the structure of the web page. (Estimated time: 30 seconds, Target number of clicks: 2 clicks.)

**Scenario 3:** Find the "register student"

- ✓ Task 1: Find the section to register the student profile. (Estimated time: 30 seconds, Target number of clicks: 3 clicks.)

#### **Scenario 4: Find the "activity log"**

- ✓ Task 1: Find the section to register an activity carried out by the student in the application (Estimated time: 30 seconds, Target number of clicks: 3 clicks.)

#### **Testing Protocol:**

##### *Introduction*

- Greeting and introduction of the facilitator.
- Explanation of the purpose of the test and its importance in improving the application.
- Ensure that the participant feels comfortable and without distractions during the test.

##### *Participant Information*

- Record the participant's name, age range, and any previous experience with similar applications.

##### *General instructions*

- Explain that the participant will be presented with a series of tasks and the goal is for the participant to find the sections described in the task.
- Make it clear that there are no right or wrong answers, and that your comments and opinions are valuable.
- Mention that the completion time of each task will be measured, as well as the number of clicks used. Similarly, it is important to mention that a satisfaction evaluation will be requested at the end of the two tests.

##### *Specific tasks*

- Introduce each scenario and briefly describe the assigned task.
- Start a timer to record the time spent on each task.
- Allow the participant to interact with the web app prototype in Figma.
- Record the time for each task, the number of clicks, and any observations.

##### *End of test*

- Ask the participant to complete the satisfaction form.
- Thank the participant for their time.

#### **Data analysis plan:**

##### *Data collection:*

- Record the time it took each participant to complete each task and the number of clicks used. We use a data sheet to record the times in minutes, as well as the number of clicks.
- Use a satisfaction scale, such as a Likert scale from 1 to 5, for participants to rate their satisfaction with the ease of use and intuitiveness of the app. Record the responses of the participants.

##### *Quantitative analysis:*

- Calculate the average time required to complete each task by adding the times of all participants and dividing by the total number of participants.

- Analyze individual task times to identify patterns or significant discrepancies. If some participants took much longer to complete a specific task, investigate why.
- Calculate the average number of clicks needed used by the participant to complete the task: Record the number of clicks each participant makes to complete the task. Add up all the clicks made by the participants. Divide the sum total by the number of participants tested.

#### *Qualitative analysis:*

- Review additional feedback provided by satisfaction survey participants. Identify common patterns in feedback to understand the app's perceived strengths and weaknesses.
- Carry out a thematic analysis of the comments to identify recurring themes or issues mentioned by the participants. This can help to get more detailed information about the specific challenges that users faced during the test.

#### *Report generation:*

- Prepare a report summarizing the findings of the quantitative and qualitative analysis.
- Highlight the average times for each task, the number of clicks and the average overall satisfaction.
- Describe the key themes identified in the qualitative analysis and provide examples of participant feedback.
- Provide recommendations based on usability test results to improve the intuitiveness and usability of the application.

#### ***Ethical Considerations:***

- ◆ Maintain anonymity and image protection for teachers who wish to remain anonymous.
- ◆ Only note the name if the teacher gives permission to do so.
- ◆ Remind the participant that their data will be used solely for analysis purposes.

#### ***Risks and Limitations:***

- ◆ One of the main limitations is the availability of time for participants. It can be challenging to find mutually convenient time slots, which may affect the testing process.
- ◆ Another limitation is that we will only be using laptops, which might pose difficulties for individuals who are not accustomed to using them.

#### ***Action Plan and Follow-up:***

##### *Analysis of results:*

- ✧ Carefully review the quantitative and qualitative results of the usability test.
- ✧ Identify the key strengths and weaknesses of the application in terms of intuitiveness, efficient navigation, task completion time, task search, and user satisfaction.
- ✧ Group problems and comments into categories to facilitate understanding and future action.

##### *Problem prioritization:*

- ✧ Rank identified issues based on their impact on the user experience and frequency of mentions.
- ✧ Establish a list of priority issues that require immediate attention.

##### *Action plan:*

- ✧ For each priority problem, establish specific actions to take. Possible actions may include:
- ✧ Improve the user interface to make it more intuitive and easier to use.
- ✧ Insert a search bar with autocomplete and suggestions: Implement an autocomplete and suggestion's function while users type in the search field. This helps streamline your search and provides relevant options.
- ✧ Adjust the navigation flow to reduce the time required to complete certain tasks.
- ✧ Add clarity to the information provided in the "ADHD Information" section.
- ✧ Improve the functionality of recording observations about students to make it more accessible and efficient.
- ✧ Review and improve the descriptions of activities and techniques to make them more understandable and useful for teachers.
- ✧ Assign clear responsibilities to team members for implementing each action.

*Implementation of Improvements:*

- ✧ Work with the development team to implement the identified improvements and solutions.
- ✧ Conduct internal testing to ensure improvements effectively address identified issues.

*Monitoring and evaluation:*

- ✧ Perform a second round of usability testing with the updated application to verify if the improvements have had the desired impact.
- ✧ Collect time and satisfaction data from participants in the second round of testing.
- ✧ Compare the results of the second round with the initial results to assess whether the improvements have had a positive effect.
- ✧ Make additional adjustments as necessary and repeat the cycle of tests and improvements until the desired results are achieved.