USABILITY EVALUATION

Task 2.8

GOALS

- Perform analytical usability evaluation
- Perform empirical usability evaluation

TEAM

Oleksii Kyrylchuk 223224
Paulina Binas 220641
Tenzin Choewang 218890

Table of Contents

Analytical Usability Evaluation

We have decided to use cognitive walkthrough and GOMS as our analytical usability evaluation methods.

Cognitive walkthrough

Goal: To inform their group members about their progress

Task description:

1. **What does the user want to achieve?**

   Write a message to the members about their completed chores.

2. **Will the correct action be made sufficiently evident to the user?**

   There is one possible correct action – press the “menu” button and then press the “group” button inside the “menu”. After that, the user’s message should be typed into the input field and confirmed with enter button.

3. **Will the user connect the correct action’s description with what he or she is trying to do?**

   Yes, the naming of the buttons, especially the “group” button will enable the user to identify it as a method of contacting his/her group.

4. **Will the user interpret the system’s response to the chosen action correctly, that is, will the user know if he or she has made a right or wrong choice?**

   When the user clicks the “menu” button, the system will respond by showing the pop-up menu and then after pressing the “group” button, the user will be presented with the group chat page. After typing in the messages and pressing enter, the user will see his/her messages in the chat box

GOMS Family of Methods

Goal

To create an account and log into the system

Notes

Username length

The username length was taken from Twitter data analyzed by the following source:
http://www.adweek.com/digital/twitter-username-length/

(avg. over the years is 10.02 characters)

Password length

The average password length was taken from the following source:
http://resources.infosecinstitute.com/beyond-password-length-complexity/

("Most of the passwords are either 8 or 9 characters long")

Email length

The email length was taken from the following source:

http://www.freshaddress.com/fresh-perspectives-blog/long-email-addresses/

(mode is 20 characters)

Competent performer

Calculations

#	Task description	Action type	# repeats	Total time
1	Initiate the registration (Decide to do the task)	M	1	1.35
2	Point to the "register" button	P	1	1.1
3	Click the "register" button	K	1	0.2
4	Wait for the browser to load the page	R	1	t
5	Point to the "username" field	P	1	1.1
6	Click on the "username" field to start writing	K	1	0.2
7	Move hands to the keyboard	H	1	0.4
8	Type in the username	K	10	2
9	Use tab to switch between inputs	K	1	0.2
10	Type in the password	K	8	1.6
11	Use tab to switch between inputs	K	1	0.2
12	Type in the email address	K	20	4
13	Move hands to the mouse	H	1	0.4
14	Point to the "create" button	P	1	1.1
15	Click on the "create" button to create the account	K	1	0.2
16	Wait for the browser to load the page	R	1	t
17	Point to the "username" input	P	1	1.1
18	Click on the "username" input	K	1	0.2
19	Move hands to the keyboard	H	1	0.4
20	Type in the username	K	10	2
21	Use tab to switch between inputs	K	1	0.2
22	Type in the password	K	8	1.6
23	Move hands to the mouse	H	1	0.4
24	Point to the "login" button	P	1	1.1
25	Press the "login" button	K	1	0.2

Table 1 - Operational sequence (competent performer

Action	Time
M	1.35
P	1.1
K	0.2
H	0.4
R	t

Table 2 - Time per action (competent performer)

Results

Total time for a competent performer: 21.25s + 2*t

Expert

Calculations

#	Task description	Action type	# repeats	Total time
1	Initiate the registration (Decide to do the task)	M	1	1.35
2	Point to the "register" button	P	1	1.1
3	Click the "register" button	K	1	0.12
4	Wait for the browser to load the page	R	1	t
5	Move hands to the keyboard	H	1	0.4
6	Press tab to select the "username" field	K	1	0.12
7	Type in the username	K	10	1.2
8	Use tab to switch between inputs	K	1	0.12
9	Type in the password	K	8	0.96
10	Use tab to switch between inputs	K	1	0.12
11	Type in the email address	K	20	2.4
12	Press enter to create the account	K	1	0.12
13	Wait for the browser to load the page	R	1	t
14	Press tab to select the "username" input	K	1	0.24
15	Type in the username	K	10	1.2
16	Use tab to switch between inputs	K	1	0.12
17	Type in the password	K	8	0.96
18	Press enter to log in the app	K	1	0.12

Table 3 - Operation Sequence (expert)

Action	Time
M	1.35
P	1.1
K	0.12
H	0.4
R	t

Table 4 - Time per action (expert)

Results

Total time for an expert: 10.53s + 2*t

Empirical Usability Evaluation

Usability criteria and measures

Effectiveness

Percentage of tasks completed on first attempt.

Efficiency

Time taken on first attempt. Relative efficiency on first attempt

Satisfaction

Rate of voluntary use

Test Users

User 1

Age: 38

Occupation: Instructor

Gender: Male

Notes: User is not a proficient English speaker

Performance of tasks

Scenarios

Task 1 – Login into the GamePlan

Task 2 – Edit today's event – change its repeating days and add description

Task 3 – View today's tasks and add "wash the dishes" task to be done today

Task 4 – Buy a smile emoji from the shop

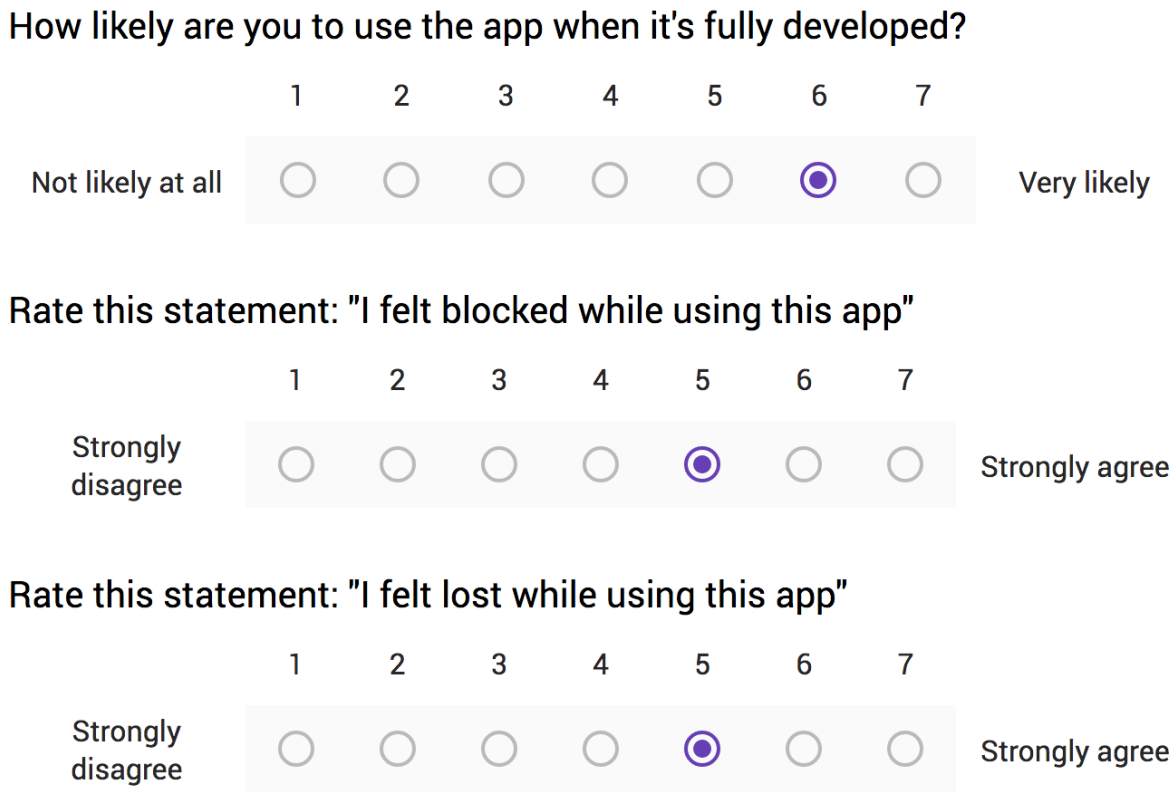
Task 5 – Send a message to your group about having washed the dishes

Task 6 – Add your sister to the group chat

Results

<Video>

Analysis of results and comparison with the criteria



Potential Problems and Solutions

Problems found by us:

1. The form inputs placeholders are not sufficiently visible due to low contrast
2. The register and login links are too small and not so visible especially to the older and novice users
3. Novice users might have problems finding the links to the components of the system since they are displayed only after clicking the menu button
4. The input field in group chat does not indicate its purpose, that is, typing in the message since there is no placeholder and no distinct background color.

Solutions:

1. Increase the contrast of login and register form placeholders
2. Increase the font-size of the register and login links
3. Give color contrast to the menu button, and also display the components in the navigation bar
4. Add a placeholder and give color contrast to the input field in the chat component

Problems encountered by user:

1. Difficulties in finding the menu
2. Router links loading forms incorrectly (labels were overlapping placeholders in inputs)
3. No interaction when day in calendar was clicked – the user expected to be taken to day view
4. No interaction with the date in the day view – the user wanted to access calendar
5. Delete button in add task was confusing to the user
6. Manual inputs for calendar and date picker – rendering problems in implementation
7. Small font for the calendar events – user had problem finding it
8. Chat text input is not prominent for the user

Solutions:

- Changed the router links into href's, because they load the forms correctly (2)
- Link to calendar added when date in task view is clicked (4)

- Removed delete buttons form the add task form (5)
- Added a placeholder to the chat input (8)