

# Usability testing report – high fidelity prototypes

Human-Computer Interaction Project

Team 1

- Ortega Barrios, Carolina
- Tornier, Milan
- Barbanti, Francesco
- Del Prato, Matteo

# Table of contents

1 Executive summary	1
2 Goal of evaluation	1
3 Schedule update	1
4 Information about the performed usability testing	2
4.1 Dates and places	2
4.2 Participant demographics	2
5 Effectiveness	5
5.1 Effectiveness results	5
5.2 Effectiveness analysis	9
6 Efficiency	9
6.1 Efficiency results	9
6.2 Efficiency analysis	19
7 User satisfaction: SUS questionnaire	20
7.1 SUS results	20
7.2 Analysis of SUS	22
8 User experience: UEQ questionnaire	25
8.1 UEQ results	25
8.2 Analysis of UEQ	26
9 General impressions of participants	27
9.1 What are the main problems you have found while using this prototype?	27
9.2 What is the part of the prototype that has been more difficult to understand? Why?	27
9.3 What have you liked most of the prototype? Why?	28
9.4 Can you describe your overall experience with this prototype?	28
10 Relevant observations made	28
11 Summary of usability problems	29
12 Proposals to improve the prototype	30
13 General conclusions	32
Annex A. Gathered data	33
Annex B. Detailed changes in schedule	55

# 1 Executive summary

The aim of SitDown is to match students and remote workers with their ideal working cafe. This means reliable search and reservation for customers and new ways of monetization for cafe shop owners. The map-based approach proved more promising after our initial low-fidelity prototyping iteration to determine whether to choose a social network or a map-based approach. This report deals with the high-fidelity implementation of that map-based approach to our app.

We implemented the high-fidelity prototype using the react-native library, the react-native elements library for UI components, and the react-navigation library. We also used typescript to add type safety to our implementation. The app contained all relevant screens to fulfil the tasks we had already used for our low-fidelity implementation.

We exposed the prototype to ten subjects, six of whom were students and four of whom were remote workers. They all attempted the three tasks, filled in a UEQ questionnaire, and gave qualitative feedback regarding their experience. The following chapters will outline the analysis of the data we collected and the learnings from the subjects' feedback. We will analyse effectiveness, efficiency, and self-reported user experience.

Our implementation achieved a score of 80, which we deem satisfactory. However, novelty and attractiveness were evaluated as poor. While it will be difficult to make the experience more novel, the next iteration of this project should attempt to make it more visually attractive. The analysis showed that especially the first tasks lacked efficiency and effectiveness.

## 2 Goal of evaluation

Evaluate the performance (effectiveness and efficiency) of participants when using the high-fidelity prototype. Evaluate the participants' satisfaction with the SUS questionnaire, and their user experience with the UEQ questionnaire.

## 3 Schedule update

Deviation	Aspect	Explanation
1	Change in the expected dates for the participants testing.	Due to the availability of the participants that were interviewed the expected dates had to change to fit into their schedules. The final interviews were done on: May 14, 16, 19 and 22.
2	Time used for the usability testing.	Originally the plan for the user testing was expected to be around 45 minutes but in reality the majority of the testers took less time.
3	Change in tasks	Changes are presented in Annex B.
4	Change in screens and alerts	Changes are presented in Annex B.

*Table 1. Schedule update table listing deviations from original planning*

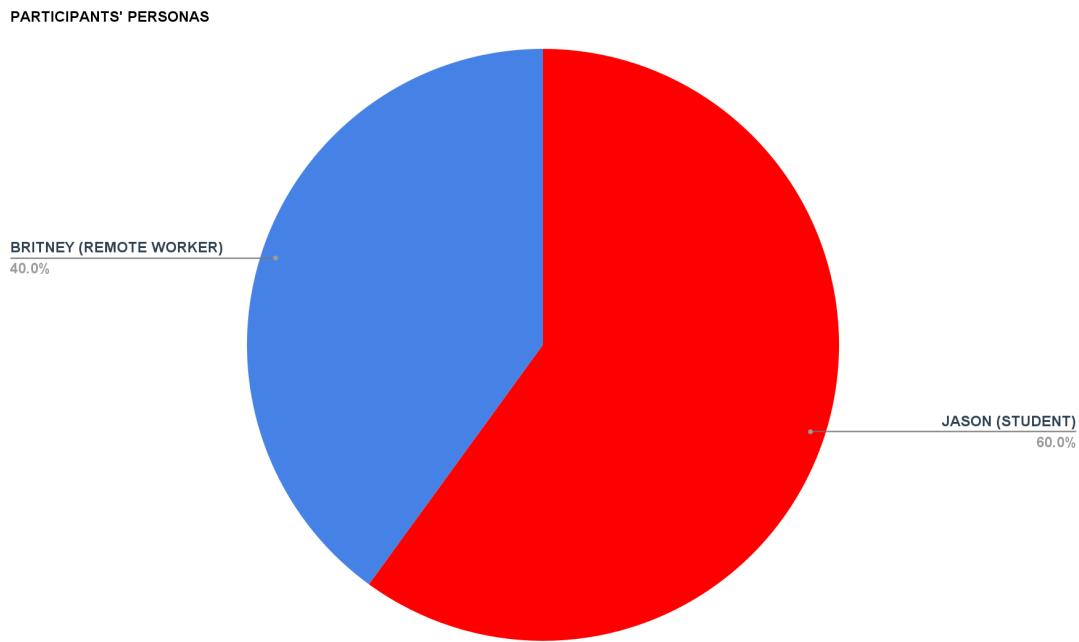
## 4 Information about the performed usability testing

### 4.1 Dates and places

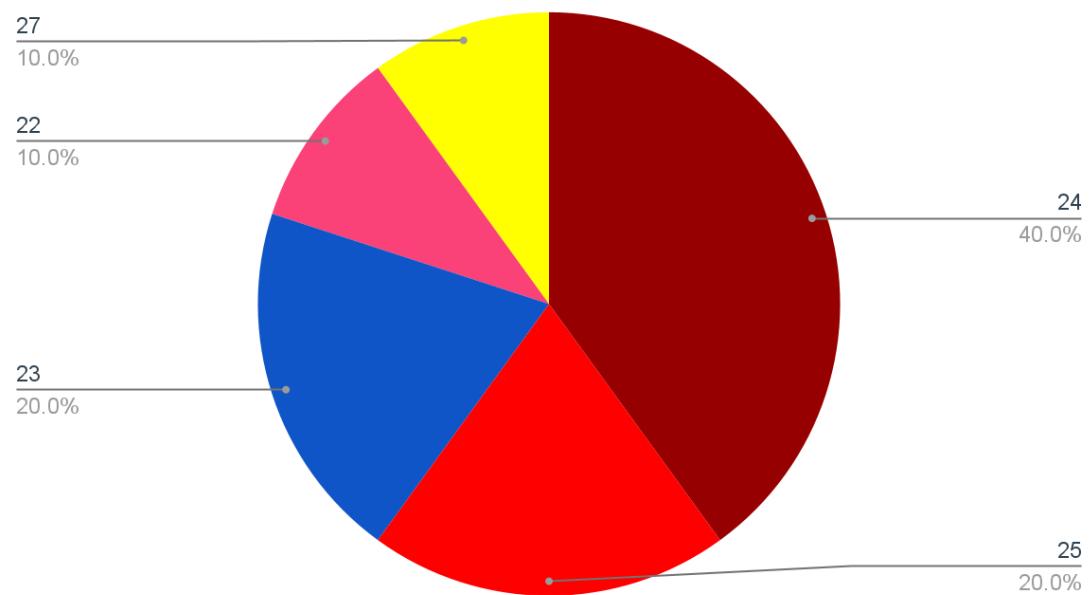
Session	Date	Place	Participants
1	14/05/2024	Imdea building, room 279	4 persona: Student (Jason) 1 persona: Remote Worker (Britney)
2	16/05/2024	Imdea building, room 279	2 persona: Student (Jason)
3	19/05/2024	Imdea building, room 279	1 persona: Remote Worker (Britney)
4	22/05/2024	Imdea building, room 279	2 persona: Remote Worker (Britney)

*Table 2. Session, dates, place and participants table for each usability test performed*

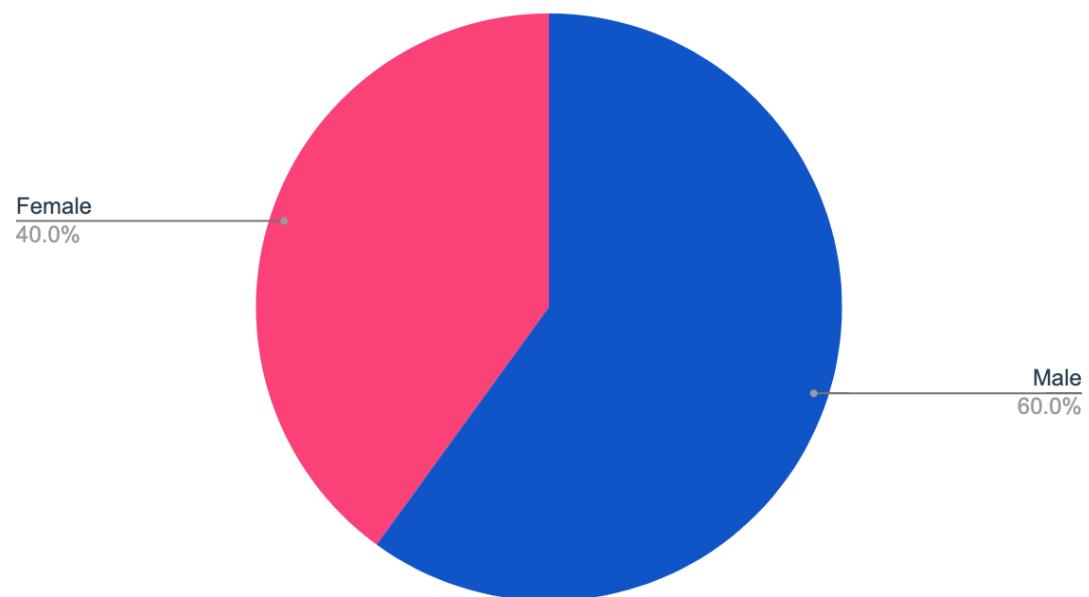
### 4.2 Participant demographics



*Figure 1. Pie chart with personas of 10 participants*

**PARTICIPANTS' AGE**

*Figure 2. Pie chart with age of 10 participants*

**PARTICIPANTS' GENDER**

*Figure 3. Pie chart with gender of 10 participants*

DAILY SCREENTIME ON PHONE (in hours)

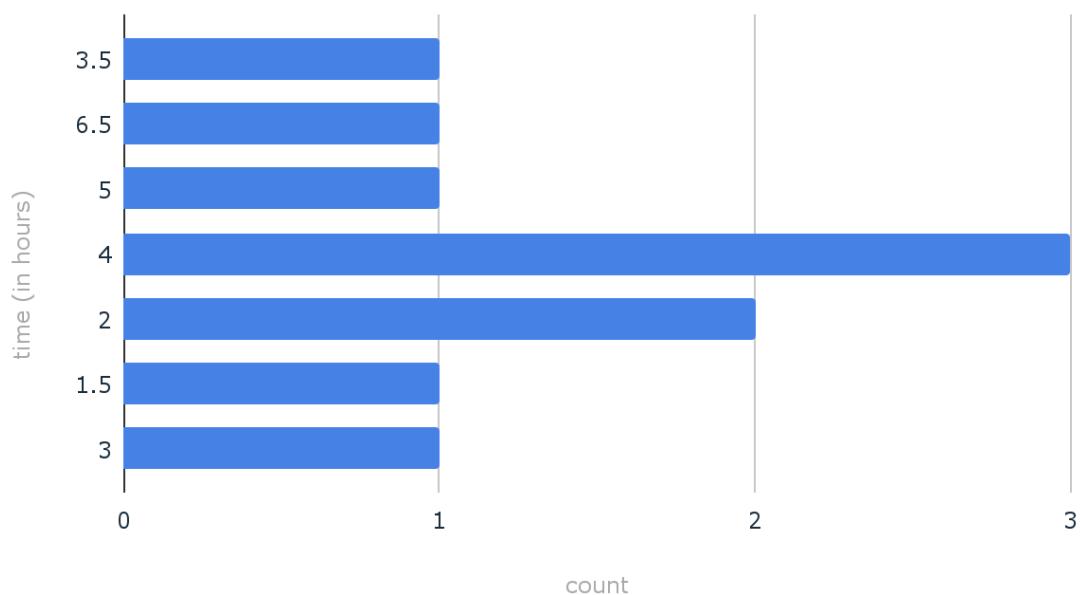


Figure 4. Bar chart with daily screen time on phone (in hours) of 10 participants

DAILY SCREENTIME ON LAPTOP (in hours)

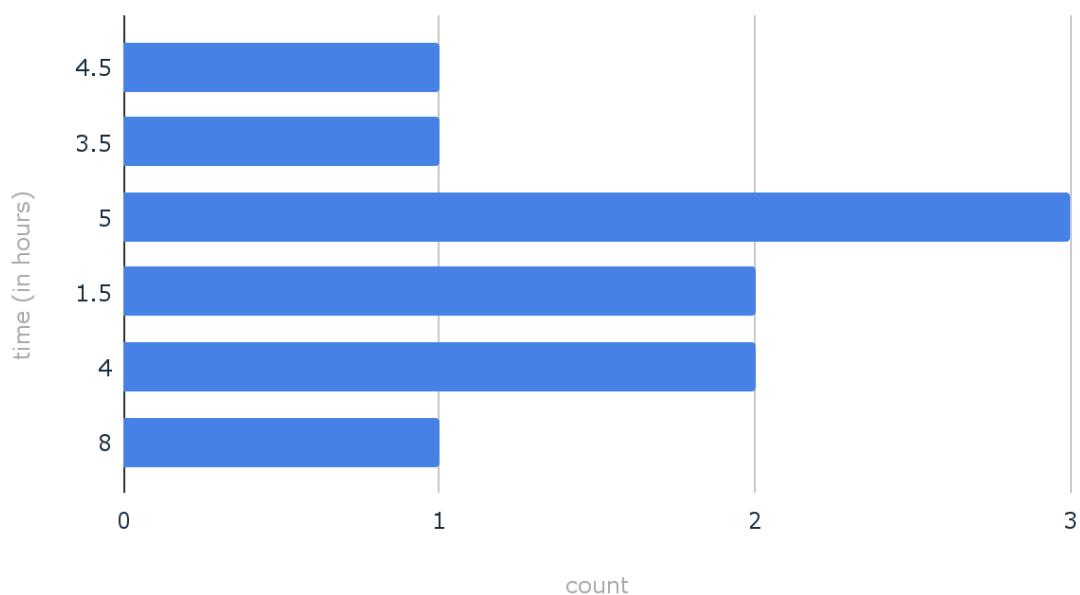


Figure 5. Bar chart with daily screen time on laptop (in hours) of 10 participants

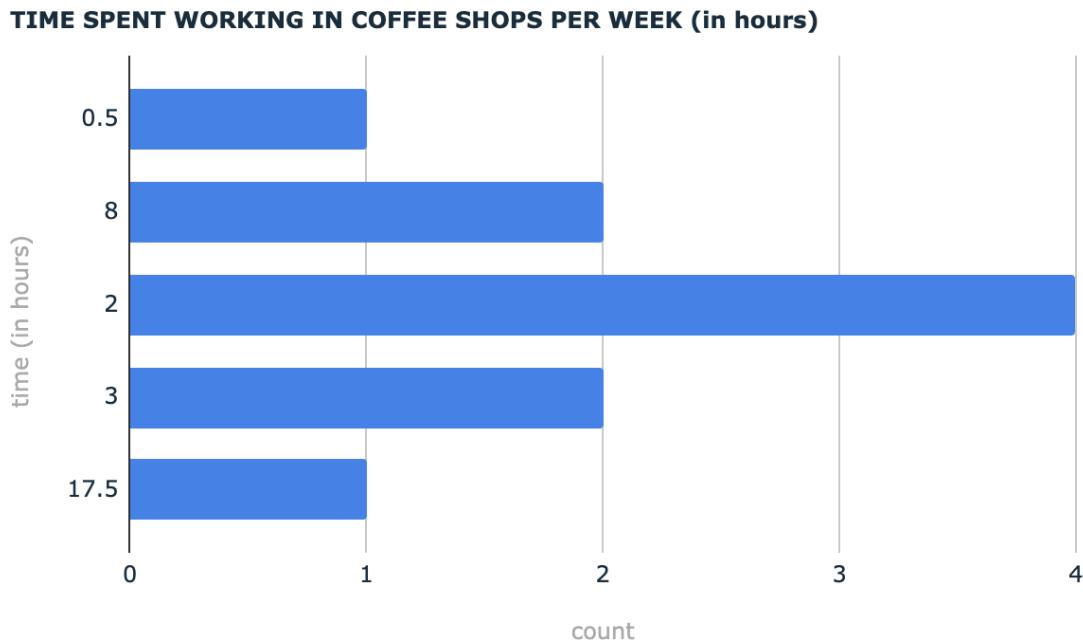


Figure 6. Bar chart with weekly time spent working in coffee shops (in hours) of 10 participants

## 5 Effectiveness

### 5.1 Effectiveness results

#### 1. Overall participants' effectiveness information

	Mistakes (average)	Mistakes (std. dev.)	Success rate
Task 1	3.4	3.64	90 % (9/10)
Task 2	2.3	1.96	80 % (8/10)
Task 3	1.1	1.18	100 % (10/10)

Table 3. Table with effectiveness information for all participants

#### 2. Jason persona (student): effectiveness information

	Mistakes (average)	Mistakes (std. dev.)	Success rate
Task 1	4	4.3	100 % (6/6)
Task 2	2	2	83.3 % (5/6)
Task 3	1.2	1.3	100 % (6/6)

Table 4. Table with effectiveness information for Jason persona (student) participants

#### 3. Britney persona (remote worker): effectiveness information

	Mistakes (average)	Mistakes (std. dev.)	Success rate
Task 1	2.5	3.6	75 % (3/4)
Task 2	2.7	2.0	100 % (4/4)
Task 3	1	1.2	75 % (3/4)

Table 5. Table with effectiveness information for Britney persona (remote worker) participants

**COMPARING AVERAGE NUMBER OF MISTAKES PER USER PERSONA ACROSS TASKS 1-3**

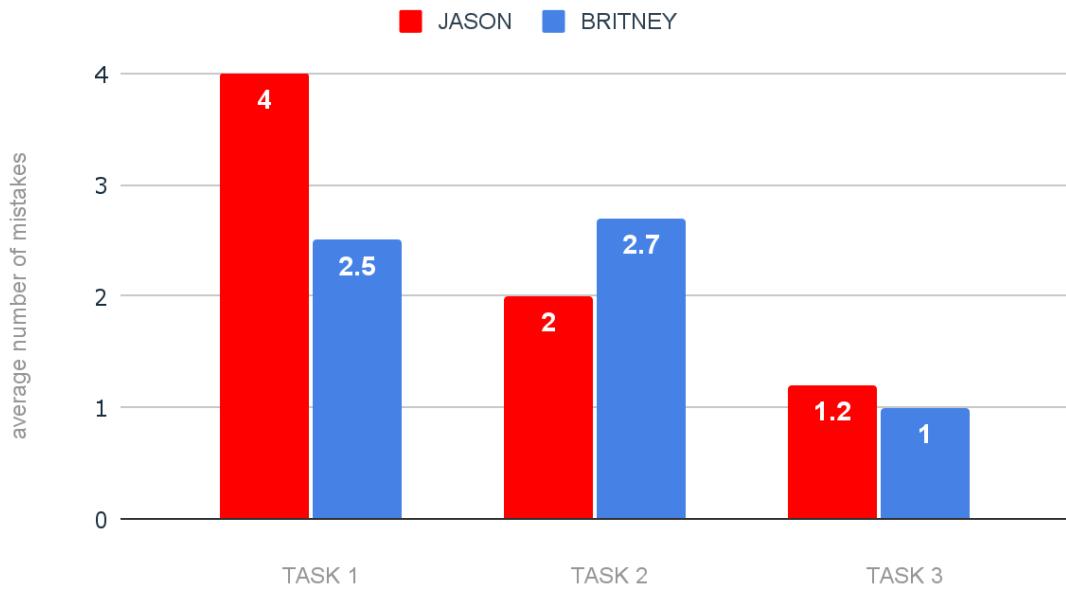


Figure 7. Bar chart comparing average number of mistakes per persona (Jason and Britney) across three tasks, from T1 to T3

**COMPARING STANDARD DEVIATION OF MISTAKES PER USER PERSONA ACROSS TASKS 1-3**

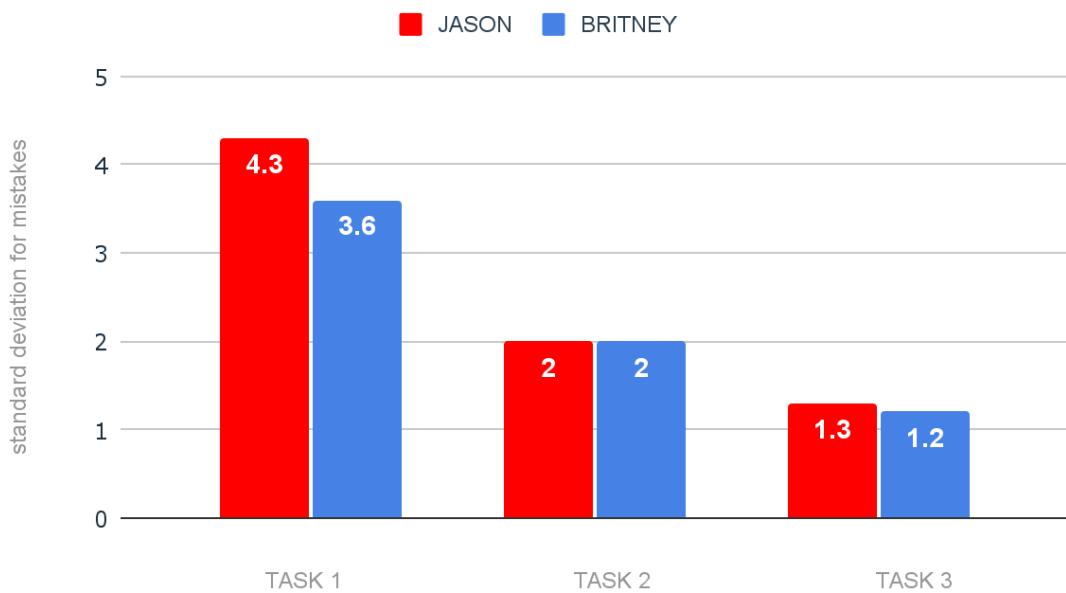


Figure 8. Bar chart comparing standard deviation of mistakes per persona (Jason and Britney) across three tasks, from T1 to T3

### COMPARING SUCCESS RATE (%) PER USER PERSONA ACROSS TASKS 1-3

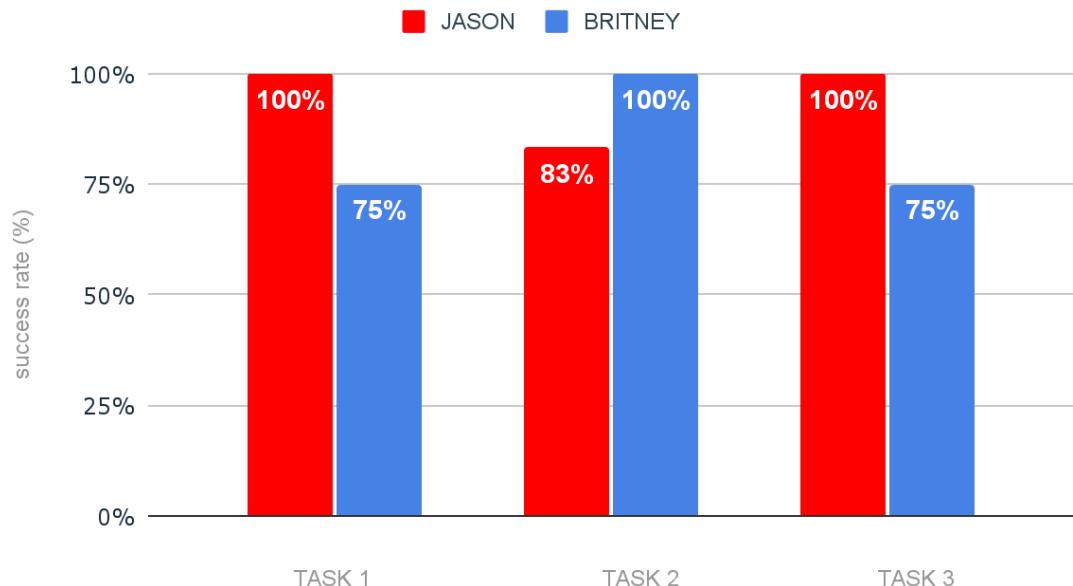


Figure 9. Bar chart comparing success rate (%) per persona (Jason and Britney) across three tasks, from T1 to T3

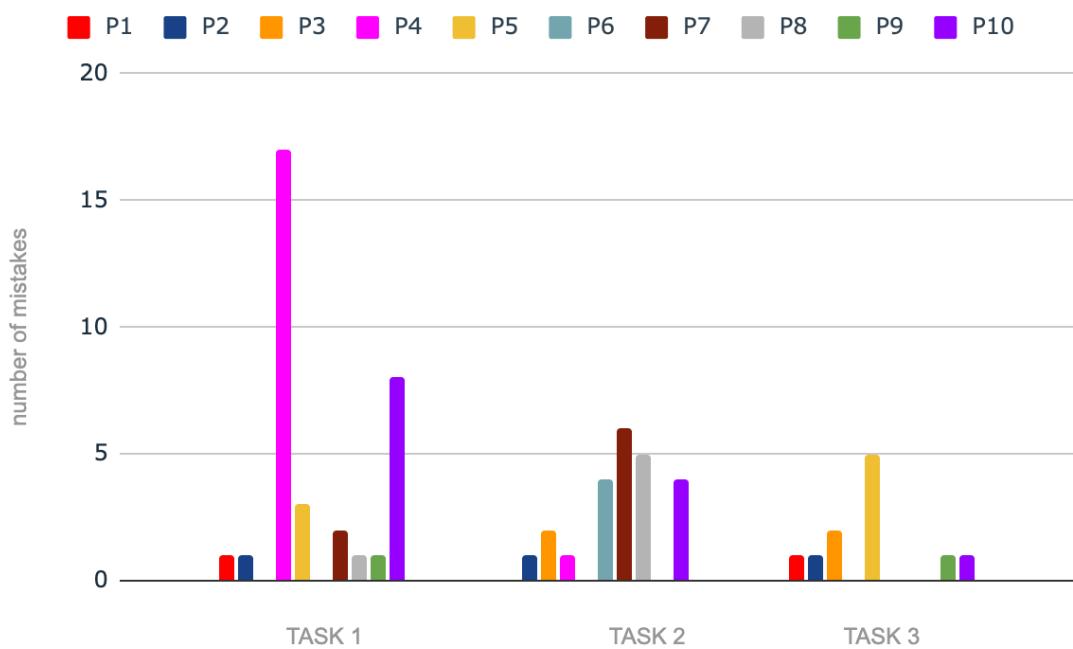


Figure 10. Bar chart with the number of mistakes (10 participants, from P1 to P10; and three tasks, from T1 to T3)

Effectiveness findings for the high-fidelity prototype:

- Finding 1: the overall success rate was 90% for task 1, 80% for task 2 and 100% for task 3. Jason personas achieved higher success rates in task 1 and 3, while Britney personas did only in task 2. This means task 1, although being the longest and the one with most requirements, wasn't as challenging as task 2; task 3 was the easiest to perform across all participants.

- Finding 2: because of an internal bug related to the feature for time setting during the booking activities, 30% of participants had a few issues at that stage, but eventually managed to keep going. This was one of the two places in our prototype with significant effectiveness issues.
- Finding 3: 50% of the participants began the research using the search bar instead of the filters. Only one of them, though, managed to succeed without the usage of filters; 3 others, after scrolling through the map, soon got to the filter section and refined the search from there. The last one kept using the search bar along with the map but failed to fulfil two tasks out of three. The search bar was the second place of the prototype with significant effectiveness issues: participants probably thought to fulfil the task requirements stage by stage, instead of setting all the parameters right from the beginning using the filter section. This behaviour was quite unexpected.
- Finding 4: one participant had to go back to the filters section to check whether he had applied date and time parameters. That is probably due to the fact that, after using filters, the system lacks reminding them to the users throughout navigation but only shows sorted outcomes.
- Finding 5: one participant typed “workplace” in the search bar to look for places where to work. Bars and cafes only showed up when their name was typed, and had no other tags to help users discover them throughout the research.
- Finding 6: P4 is an outlier (17 errors in Task 1): the participant did not read the last requirements of the task and went on using the prototype until he autonomously realised he was missing something. The comparison between average number of mistakes across user personas well depicts this phenomenon: while values being pretty tied throughout task 2 and 3, Jason outscores Britney in task 1 (4:2.5). If we look at figure 10, we can easily see the outlier P4 highlighted against all the other participants.
- Finding 7: for effectiveness, we considered participants who did not successfully complete the tasks. This resulted in having an outlier (P10) for task 1 (as can be easily seen in figure 10) as well as in task 2 (along with P7).
- Finding 8: 20% of the participants expected to see the “add to favourites” button at the end of the cafè details page.
- Finding 9: one participant expected the filter section to allow him to sort results by those liked by friends
- Finding 10: one participant expected to exit the cafè pop-up screen on the map by clicking outside of it instead of closing it from the specific button.
- Finding 11: 40% of participants used the search bar to look for a place where to leave a review, 30% started from the activity section and the remaining 30% went through friends list
- Finding 12: the review section was, at the beginning, misinterpreted by 40% of the participants. Of these, one clicked on the stars icon instead of the “leave a comment” button. Another one clicked on the reviews section thinking it would

open up; the remaining two had issues with overlaying and visibility of star icons when it came to assign a rating.

- Finding 14: 30% of participants thought that by clicking on the review item photo they could access the cafè details page (while the only working option was to click on the “visit” button). This led to an increase in the number of errors performed.
- Finding 15: 40% of participants made mistakes due to the fact that they had to manually clean filters. After launching a research using filters, if a new research has to be done, filters needed to be cleared manually.
- Finding 16: 30% of users did not find the wishlist button at first sight (they thought was down the page)
- Finding 17: 20% of users did not understand clearly where their location was by looking at the map

## 5.2 Effectiveness analysis

The low-fidelity prototype had a 100% task completion rate across the 3 tasks, whereas the high-fidelity prototype achieved 90%, 80% and 100% across tasks T1-T3 completion rate, indicating that the low-fidelity prototype had a slightly better completion rate. However, the nature of mistakes differed between the two prototypes.

In the low-fidelity prototype, users had issues with discovering filter options and made specific task-related mistakes. They also often made assumptions that were different from the intended design, such as trying to rate directly through profiles. In contrast, the high-fidelity prototype experienced significant issues due to an internal bug related to time settings and the use of the search functionality instead of filters.

Effectiveness problems of the high-fidelity prototype:

- Problem 1: an internal bug related to time setting management during the booking process caused issues for participants who were confused about the nature of the error and could not understand where it came from.
- Problem 2: searches through keywords by using the search tab were not as efficient as filtered searches through filters, leading only one participant out of three among those who actually tried this way to succeed in fulfilling the task.
- Problem 3: The system lacks visibility of status when filters are applied, failing to remind users which parameters they have chosen to sort results.
- Problem 4: the system should allow users to sort results by selecting places liked by friends in the filter section
- Problem 5: the cafès’ pop-up screen should be closed by clicking outside it (on the map) instead of using buttons.
- Problem 6: the cafè details page should be accessible by clicking on the review item picture instead of only by clicking on the visit button.

## 6 Efficiency

### 6.1 Efficiency results

#### 1. Overall participants' efficiency (time) information

	Time (avg.)	Time (std. dev.)	Optimum time	Time ratio
Task 1	120.1	43.9	80	1.5
Task 2	34.5	14.5	25	1.3
Task 3	36.1	14.9	40	0.9

Table 6. Table containing information about time to perform tasks for all participants

#### OPTIMUM TIME VS AVERAGE TIME

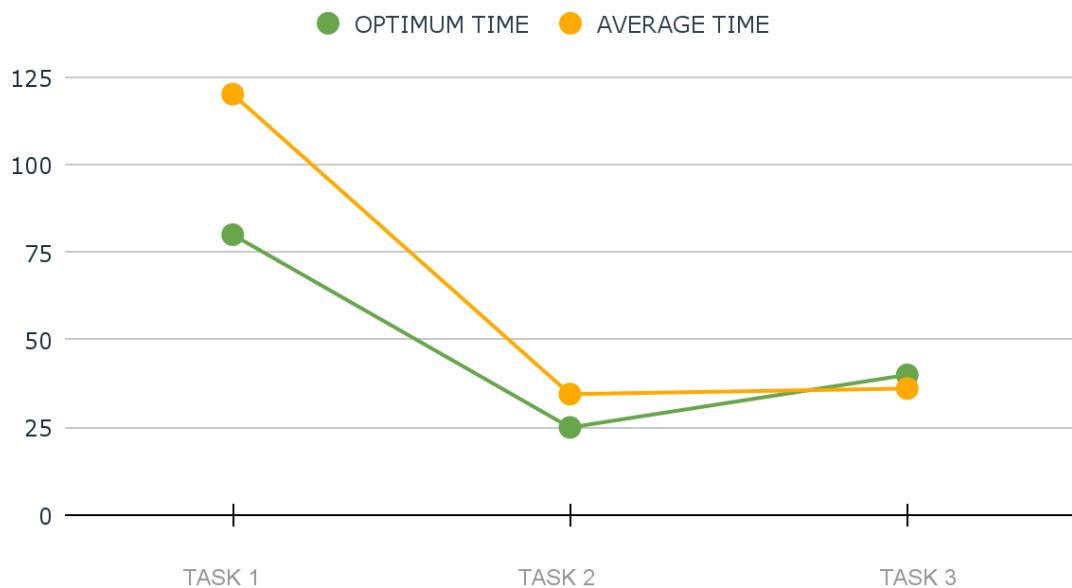


Figure 11. Line chart comparing optimum time vs average time to complete three different tasks (from T1 to T3) across 10 participants (P1-P10)

#### 2. Jason persona (student): efficiency (time) information

	Time (avg.)	Time (std. dev.)	Optimum time	Time ratio
Task 1	127.3	42.4	80	1.6
Task 2	30	12.8	25	1.2
Task 3	41.8	16.5	40	1.0

Table 7. Table containing information about time to perform tasks for Jason persona

#### 3. Britney persona (remote worker): efficiency (time) information

	Time (avg.)	Time (std. dev.)	Optimum time	Time ratio
Task 1	105.6	46.8	80	1.3
Task 2	42	13.3	25	1.6

Task 3	27.7	7.1	40	0.7
--------	------	-----	----	-----

Table 8. Table containing information about time to perform tasks for Britney persona

COMPARING AVERAGE TIME TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3

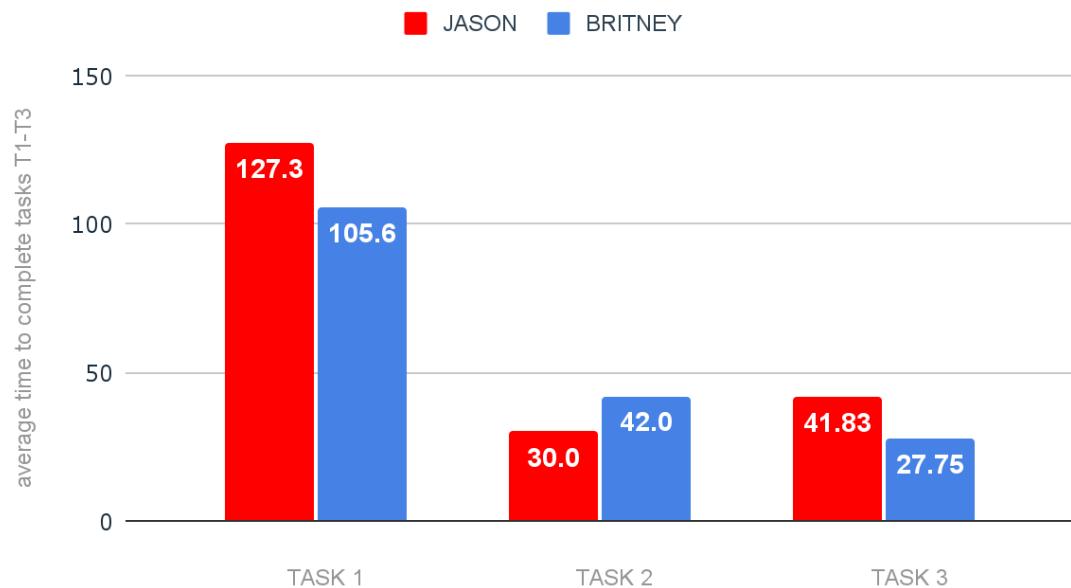


Figure 12. Bar chart with average time to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

COMPARING STANDARD DEVIATION OF TIME TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3

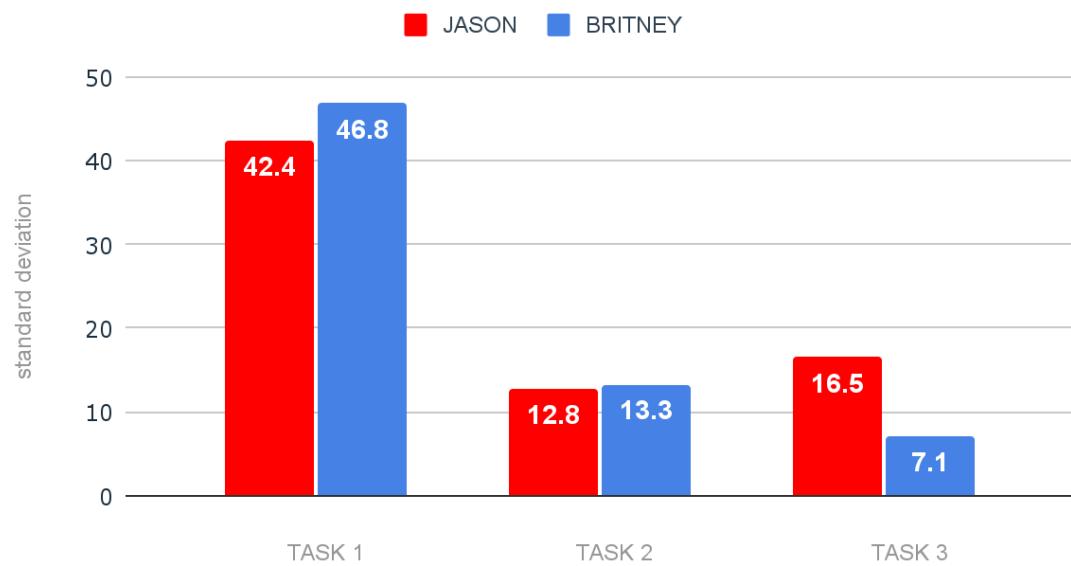


Figure 13. Bar chart with standard deviation of time to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

#### COMPARING TIME RATIO TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3

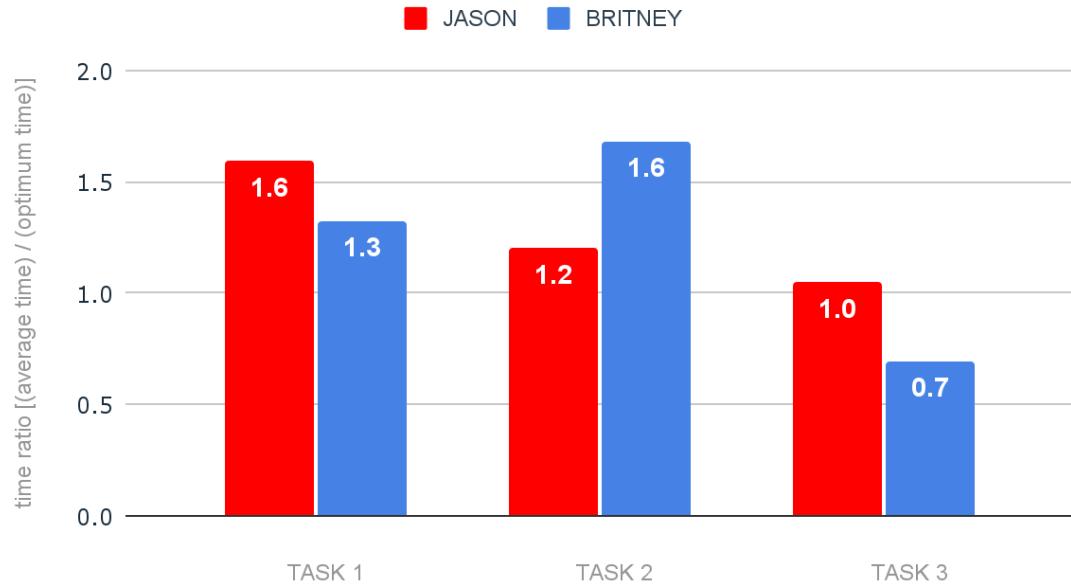


Figure 14. Bar chart with time ratio to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

#### OPTIMUM TIME VS AVERAGE TIME

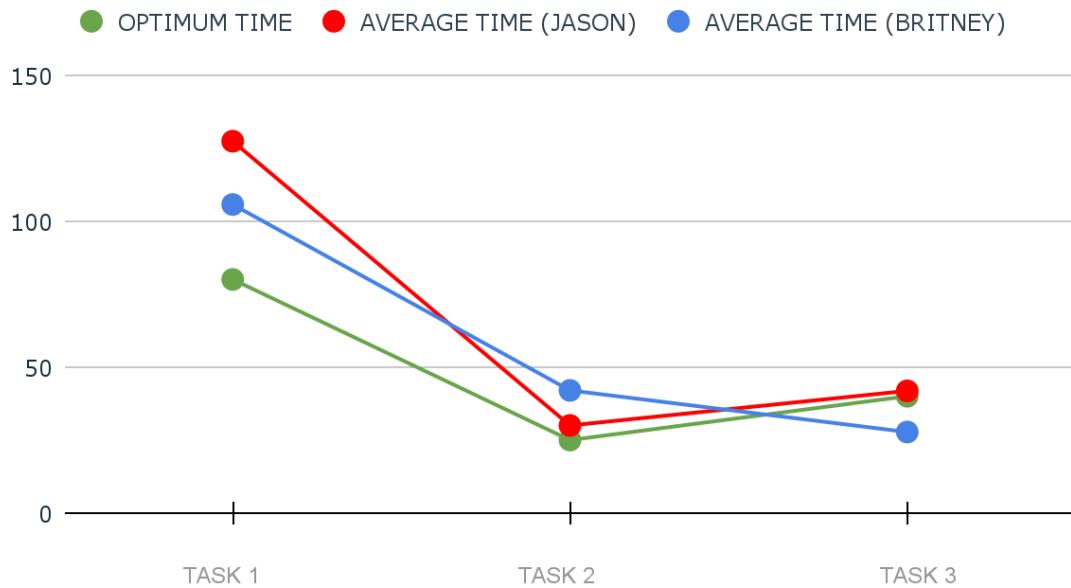


Figure 15. Line chart comparing optimum time vs average time to complete three different tasks (from T1 to T3) per user personas (Jason, Britney)

#### 1. Overall participants' efficiency (actions) information

	Actions (avg.)	Actions (std. dev.)	Optimum number of actions	Actions ratio
Task 1	21	7.3	14	1.5

Task 2	6.6	2.3	4	1.6
Task 3	8	2.8	8	1

Table 9. Table containing information about actions to perform tasks for all participants

#### OPTIMUM NUMBER OF ACTIONS VS AVERAGE NUMBER OF ACTIONS

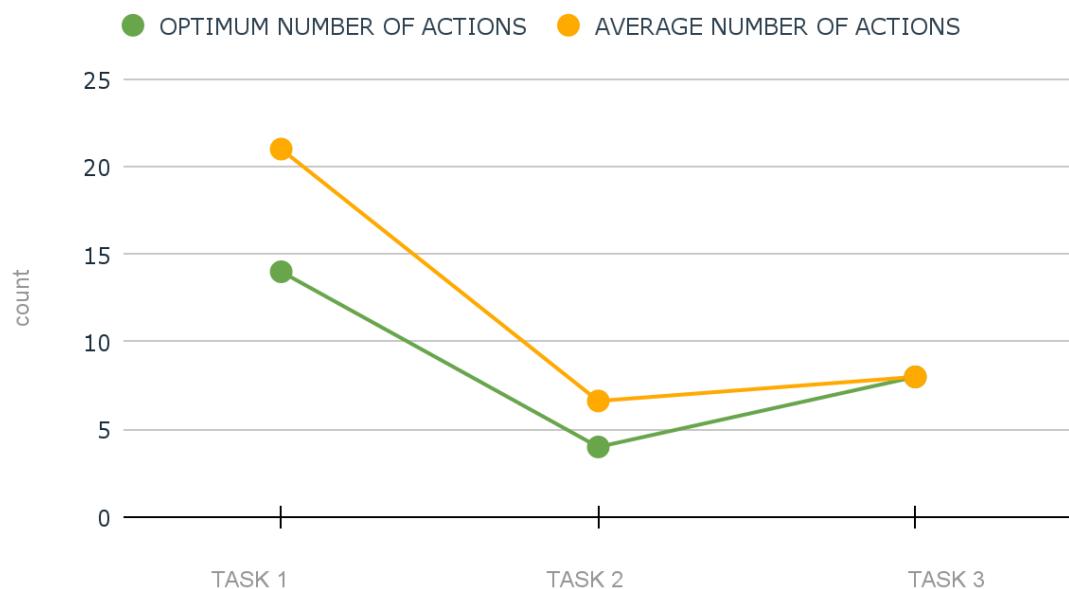


Figure 16. Line chart comparing optimum number of actions vs average number of actions to complete three different tasks (from T1 to T3) across 10 participants (P1-P10)

#### 2. Jason persona (student): efficiency (actions) information

	Actions (avg.)	Actions (std. dev.)	Optimum number of actions	Actions ratio
Task 1	24.2	8.5	14	1.7
Task 2	6.5	2.6	4	1.6
Task 3	9.6	2.8	8	1.2

Table 10. Table containing information about actions to perform tasks for Jason persona

#### 3. Britney persona (remote worker): efficiency (actions) information

	Actions (avg.)	Actions (std. dev.)	Optimum number of actions	Actions ratio
Task 1	14.6	4.4	14	1.0
Task 2	6.6	1.7	4	1.6
Task 3	5.5	0.7	8	0.6

Table 11. Table containing information about actions to perform tasks for Britney persona

**COMPARING AVERAGE NUMBER OF ACTIONS TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3**

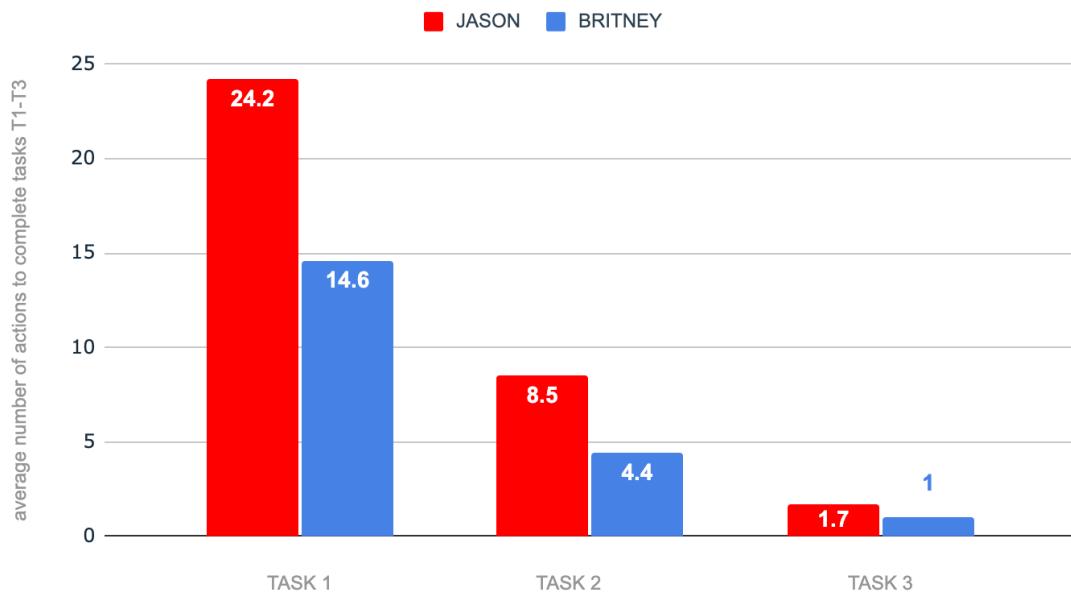


Figure 17. Bar chart with average number of actions to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

**COMPARING STANDARD DEVIATION OF ACTIONS TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3**

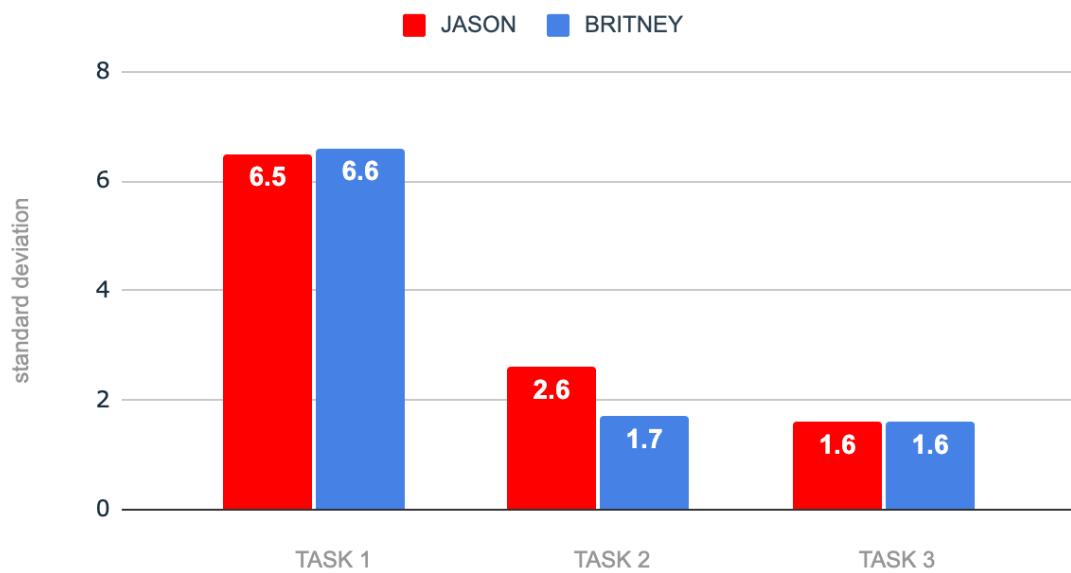


Figure 18. Bar chart with standard deviation of actions to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

#### COMPARING ACTIONS RATIO TO COMPLETE TASKS PER USER PERSONA ACROSS TASKS 1-3

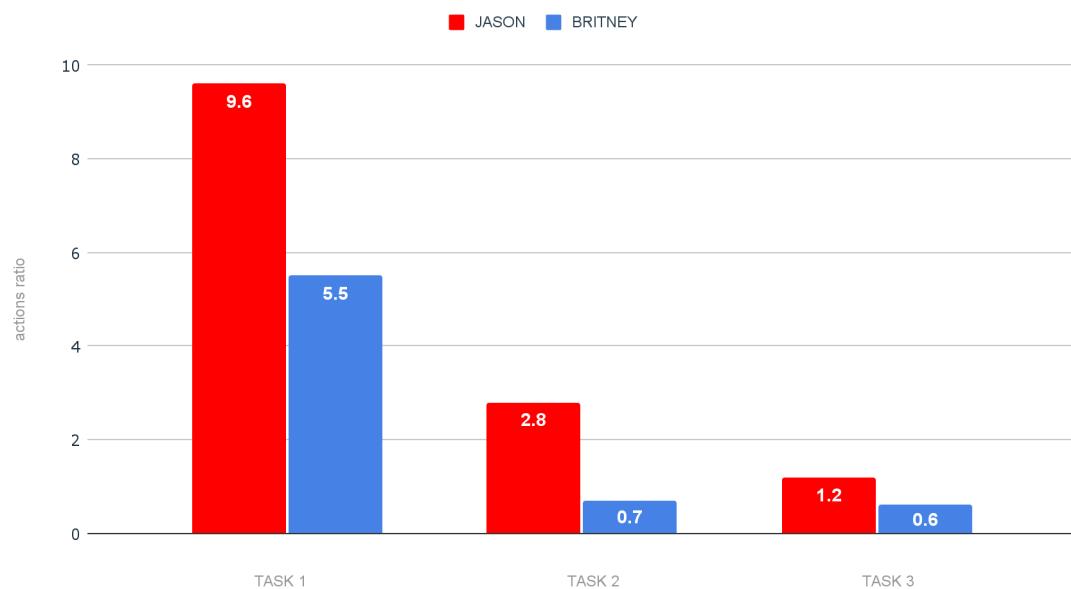


Figure 19. Bar chart with action ratio to complete tasks per persona (Jason and Britney) across three tasks, from T1 to T3

#### OPTIMUM NUMBER OF ACTIONS VS AVERAGE NUMBER OF ACTIONS

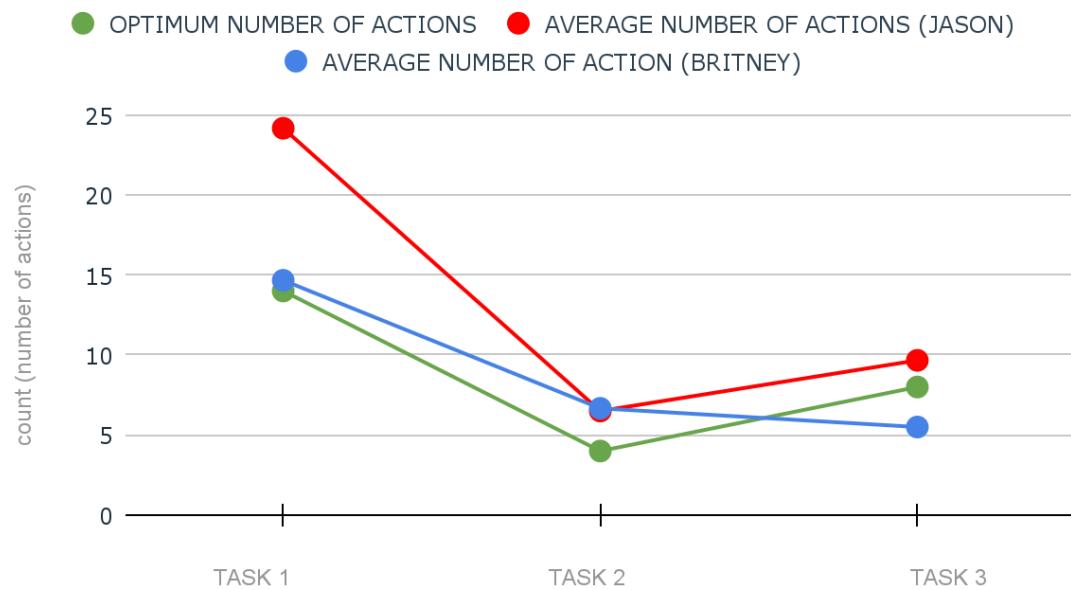


Figure 20. Line chart comparing optimum number of actions and average number of actions per persona (Jason, Britney) to complete tasks across three tasks, from T1 to T3

## TIME PER TASK AND PARTICIPANT

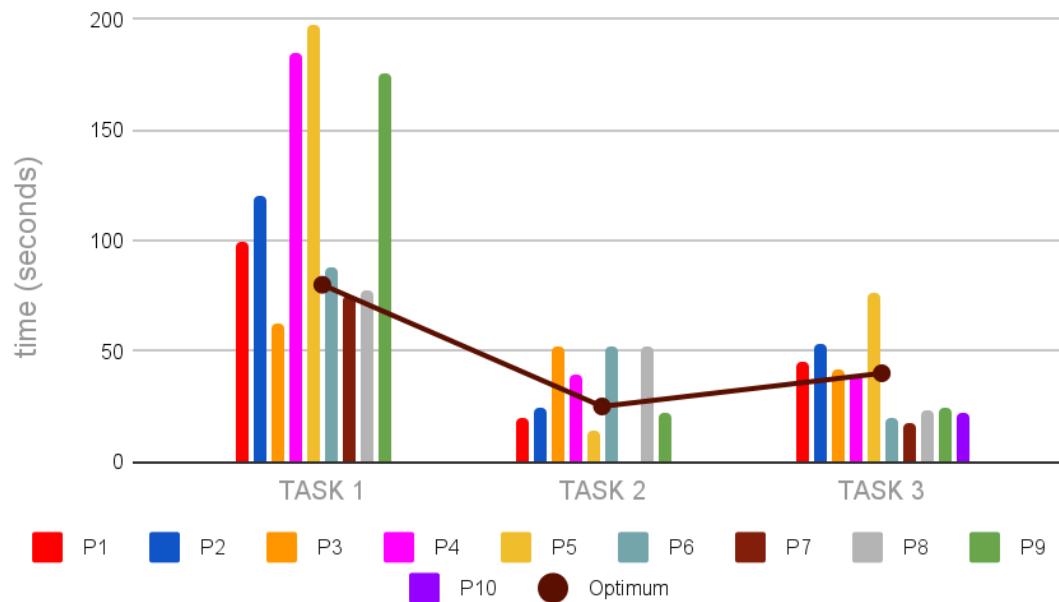


Figure 21. Bar chart with the time to complete the task (10 participants, from P1 to P10; and three tasks, from T1 to T3), compared to optimal value

## NUMBER OF ELEMENTAL ACTIONS PER TASK AND PARTICIPANT

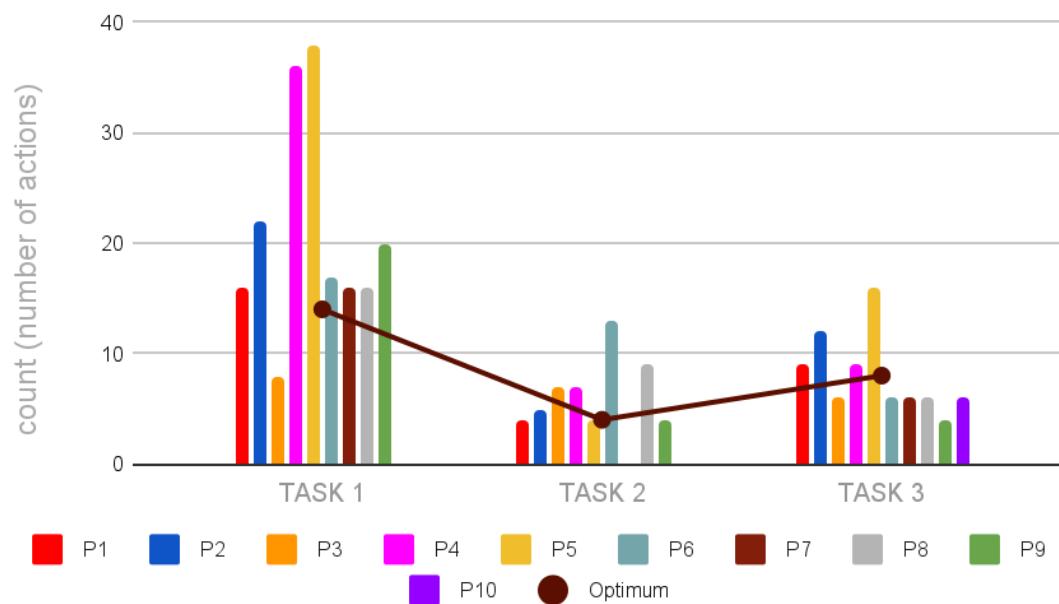


Figure 22. Bar chart with the number of elemental actions to complete the task (10 participants, from P1 to P10, and three tasks, from T1 to T3)

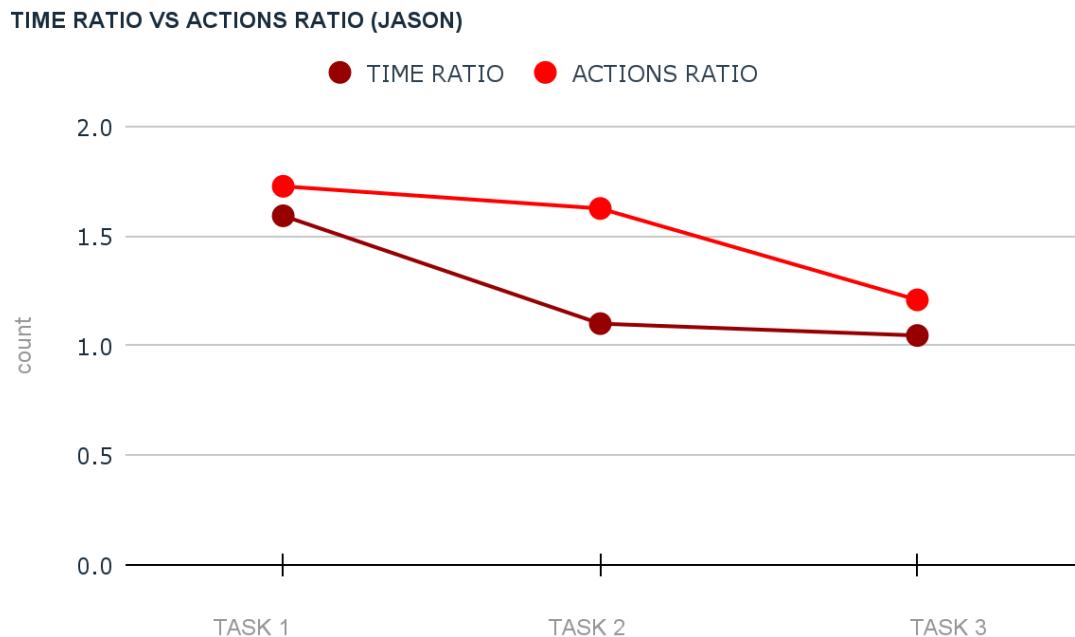


Figure 23. Line chart comparing time ratio vs actions ratio performed by Jason personas to complete three tasks, from T1 to T3

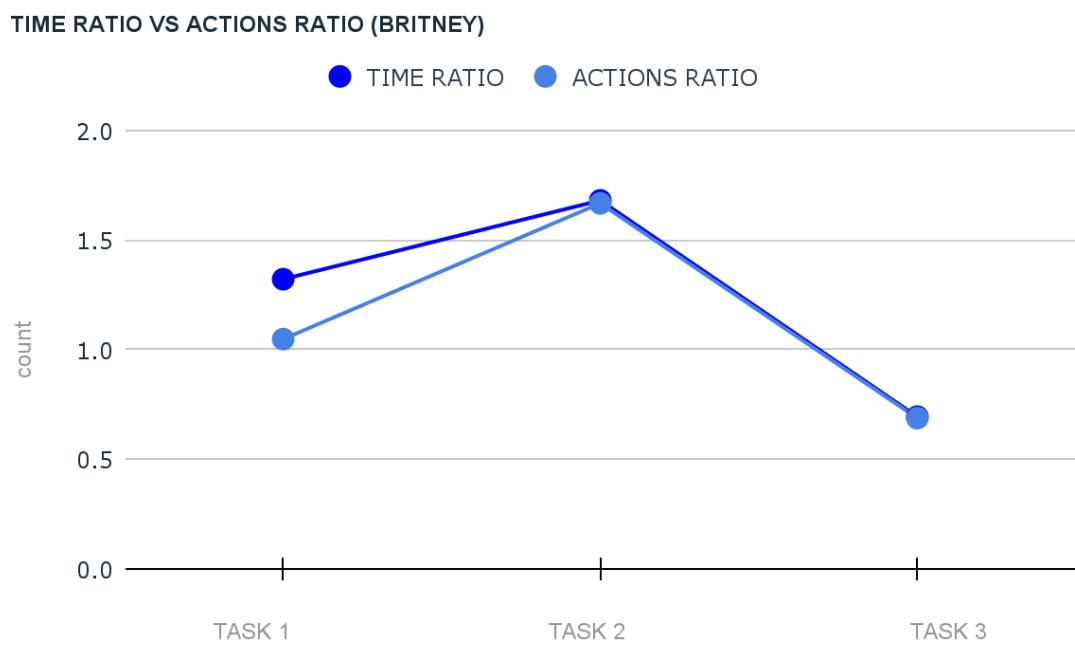


Figure 24. Line chart comparing time ratio vs actions ratio performed by Britney personas to complete three tasks, from T1 to T3

Efficiency findings for the high-fidelity prototype:

- Finding 1: Average time across all participants was higher than optimum time expected for task 1 and 2 but lower for task 3. This means users progressively understood quickly how the system works and managed to speed up their workflow. Although 40% of the users misinterpreted the “leave a review” feature

in task 3, they recovered pretty quickly from errors and managed to complete the task faster than expected, highlighting the overall learnability attribute of the system.

- Finding 2: Although in the first task Jason personas recorded higher average time than Britney personas and optimum time value (due to the fact that P4 is an outlier), the pattern changed significantly for task 2 and 3: in these two average time nearly matches optimum time. Britney personas recorded higher average completion times than optimum values during task 1 and 2, but had a lower value than the optimum in task 3. Time ratio well depicts this behaviour as well: while being higher for Britney personas only in task 2, it is outscored by the one recorded by Jason personas in task 1 and 3. This is mainly due to the fact that task 1 turned out to be longer than expected for all personas, having the majority of efficiency issues.
- Finding 2: 50% of the participants spent too much time trying to use the search bar when looking for the right places. The other half of the participants, who used the filter section from the beginning, recorded lower completion times.
- Finding 3: two outliers were not considered for efficiency analysis: P10 (who failed task 1 and 2) along P7 (who failed task 2). Time performance, along with the number of actions taken, were not taken into account when calculating values for the tasks they failed. P4 is an outlier but was considered since he completed the task.
- Finding 4: P4 successfully understood all the requirements of task 1 after 105 seconds after he had already started. This outcome affected time performances of both overall participants as well as Jason personas.
- Finding 5: P10 (although was not considered in the efficiency analysis) only used the search bar along with the map: it took her 209 seconds to complete task 1 (+89 seconds compared to average completion time) and 67 seconds to complete task 2 (+32.5 seconds compared to average completion time). This performance clearly explains how the search bar was not as efficient as the filters section.
- Finding 6: Participants took more time than expected throughout the booking process due to an internal bug related to time setting management.
- Finding 7: 30% of participants thought that by clicking on the review item photo they could access the cafè details page (while the only working option was to click on the “visit” button). This resulted in an increase in time spent on the screen along with an increase in actions taken.
- Finding 8: one participant expected to scan cafes liked by friends from the filter option instead of going through friends list, leading to an increase in performance time and number of actions occurred.
- Finding 9: misinterpreting how the “leave a review” feature works resulted in an increase in time performance and actions taken for 40% of the participants.
- Finding 10: the overall average number of action across all participants was higher than the optimum number for tasks 1 and 2, while the two values matched precisely in task 3. This shows how issues related to search bar performances affected outcomes in task 1 and how it took more actions than expected for participants to learn how to benefit from the friends section in task

2. Although 40% of the users misinterpreted the “leave a review” feature in task 3, they recovered pretty quickly from errors and managed to complete the task taking the same number of actions as the optimum value was.
- Finding 11: Jason personas’ average number of actions never matched optimum value. They were definitely higher in task 1 (due to the presence of an outlier, P4) and were the same as Britney personas’ for task 2. Britney personas’ average number of actions nearly matched optimum values in task 1 and was even lower than optimum number of actions in task 3. The graph comparing average number of actions as well as action ratio well depicts this pattern as well. If compared to the overall participants average vs optimum number of actions graph, we can see how task 2 was the one which required less actions, while task 1 has a great gap between values due to efficiency issues.
  - Finding 12: Throughout the three tasks, only Britney personas achieved a time ratio lower than one (task 3), along with action ratio of 0.7 (task 2) and 0.6 (task 3).
  - Finding 13: P5 and P6 took longer than expected to understand the filter section, which resulted in a higher completion time in task 1. Only P5 though recorded an increase in actions taken if compared to the average (for the same task).
  - Finding 14: when comparing efficiency per personas (time ratio vs actions ratio), we can see how values recorded by Jason personas never went below threshold value 1, while this happened for Britney persona: the graph shows how the system performed better in terms of efficiency for the latter personas than the first ones.
  - Finding 15: manually cleaning filters resulted in an increased number of time and actions for 40% of participants.
  - Finding 16: looking for the wishlist at the bottom of the page resulted in an increased time for 30% of users.
  - Finding 17: for 20% of users not clearly understanding where their location was in the map resulted in increased time and number of actions.

## 6.2 Efficiency analysis

The high-fidelity prototype showed how it took participants more actions than the optimum number, while the low-fidelity prototype showed that all users could finish the tasks close to the optimum amount of actions expected by the designers, despite having outliers in each task.

In the low-fidelity prototypes a few participants did not use the filters section as intended, and recorded notable differences in actions performed due to the visibility of the filter section and their expectations of finding significant features like Wi-Fi and laptop allowance icons in the café pop-ups or lists of offers. The participants who took fewer actions in Task 1 either found alternate paths or skipped steps, such as checking restrictions, which were considered important. On the café profiles screen, participants

often tried to interact with non-clickable items like stars and had difficulty differentiating between buttons and information chips.

In the high fidelity prototype initial tasks took longer than expected due to a lack of effectiveness of the search bar and an internal bug related to time setting during booking; despite this, users quickly recovered from mistakes, indicating good learnability. The high-fidelity prototype demonstrated a more pronounced learning curve and greater complexity, which led to variability in user performance and efficiency.

Overall, the high-fidelity prototype showed better effectiveness in real-world scenarios but revealed critical areas for improvement. In terms of efficiency, the high-fidelity prototype had more fluctuations and required more actions due to a richer functionality and initial usability challenges, whereas the low-fidelity prototype was more straightforward, leading to a more consistent but less informative performance evaluation.

Efficiency problems of the high-fidelity prototype:

- Problem 1: the search bar was not as an efficient tool as the filter section. Participants took longer time and more actions to carry out tasks by firstly relying on this feature (since it was the most intuitive) but eventually switching to filters.
- Problem 2: understanding which kind of requirements the task required and adjusting filters setting accordingly resulted in a significant increase of time spent to perform this action.
- Problem 3: an internal bug related to time setting management resulted in an increase of time spent by users trying to understand the nature of the error.
- Problem 4: learning how to use the friends section took users more time than expected. If the filters section allowed a “liked by friends” filter, it probably would have resulted in lower time rates.
- Problem 5: the “leave a review” section was misinterpreted by a few participants, resulting in higher time spent and number of actions occurring to perform the third task.
- Problem 6: manually removing filters increased participants frustration, since it took them longer to perform tasks and had to perform more actions than expected
- Problem 7: some features were hard to find: the wishlist button, as well as current location on the map, required users to spend more time and carry out more actions than we thought they would.

## 7 User satisfaction: SUS questionnaire

### 7.1 SUS results

SUS score: 80.5

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
-------------------	----------	---------	-------	----------------

1	1	2	4	2
3	5	1	1	0
0	0	1	6	3
9	1	0	0	0
0	1	3	0	6
7	1	1	1	0
1	1	0	4	4
6	3	0	1	0
0	1	2	4	3
9	1	0	0	0

Table 12. Results of the SUS questionnaire

SUS findings for the high-fidelity prototype:

- Finding 1: 20% of participants indicated they might use the system only occasionally, giving neutral scores. This suggests that the system does not fully meet the needs of all users, potentially due to varying personal habits or preferences.
- Finding 2: 10% of users found the system unnecessarily complex, while another 10% were neutral. This complexity likely stems from the restrictive navigation options, such as the requirement to use the filter section instead of the search bar for certain tasks and having to manually clean it. Additional complexity was noted in finding places liked by friends. One user said "It doesn't show the time I selected" when setting time during the booking process.
- Finding 3: 10% of participants did not find the system easy to use, and another 10% gave neutral scores. Two participants were unable to complete all tasks, highlighting potential usability issues that hindered a smooth user experience for everyone. The fact that users had trouble finding their position on the map, along with issues in identifying the wishlist button, are hint to that. One user asked "does the rating matter ?" and "does the time matter?" when applying filters.
- Finding 5: 10% of participants disagreed, and 30% were neutral regarding the integration of various functions. This suggests that some features might not have been as accessible or intuitive as expected, such as sorting places liked by friends or removing manually filters."Is there a filter with friends?"
- Finding 6: 10% of participants found the system inconsistent, and another 10% were neutral. Inconsistencies could be due to the differing functionalities and paths needed to complete tasks, such as the lack of a "liked by friends" filter, the search bar used to look for terms like "halal" and "vegan" (attributes), which disrupted the expected workflow.
- Finding 7: 20% of participants disagreed that most people would learn to use the system quickly. This highlights issues with the learning curve, as some

users struggled to complete tasks and learn the system's features, reflecting a need for more intuitive design and better onboarding. One participant did not understand whether filters were applied: "is the filter selected?" he commented

- Finding 8: 10% of participants found the system cumbersome, while another 10% were neutral. This discomfort may be attributed to the differences in feature performance and the lack of a seamless task flow, requiring users to navigate different paths to achieve different goals. One participant, when applying filters, asked: "what day is it... should I know that? Should I look for this day specifically?".
- Finding 9: 10% of participants did not feel confident using the system, and 20% were neutral. This lack of confidence likely stems from the difficulty some users had in completing tasks and learning the system, as well as the need to shift from the search bar to filters for better results. One user, when trying to fulfil task 3, landed in the profile section and commented: "there's nothing here, am I stupid?"

## 7.2 Analysis of SUS

The SUS score of the high-fidelity prototype is good because it gained a score of 80.5, showing that the system fulfils usability requirements, although not being excellent.

SUS score for low-fidelity prototype: 84.1.

The low-fidelity prototype achieved a SUS score of 84.1, indicating a higher level of user satisfaction compared to the 80.5 score of the high-fidelity prototype. Users might have found the low-fidelity prototype simpler and more straightforward, which could lead to a perception of higher usability. In contrast, the high-fidelity prototype, while more feature-rich and detailed, might have introduced complexities and usability issues that affected the overall user experience. Despite the high-fidelity prototype's more advanced features, the higher SUS score of the low-fidelity prototype indicates that the simpler design was more intuitive and easier for users to navigate.

I think that I would like to use this system frequently					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	1	1	2	4	2

For this sentence, the prototype had received mixed feedback because 20% of participants gave lower scores, probably due to their habits or personal needs; 20% gave a neutral answer, mainly because they might use it only from time to time and not often. The remaining 60% would be an active user of the system, since it satisfies their needs.

I found the system unnecessarily complex

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	3	5	1	1	0

For this sentence, the prototype had received good feedback because only 10% of users found the system complex, and another 10% gave a neutral score. The issues may be linked to the fact that to successfully fulfil task 1 requirements users had only one way to do it (through filter sections and not through search bar). Some concerns were raised also when trying to find places liked by friends (task 2). The remaining 80% didn't find the system complex, meaning they were able to navigate through it pretty easily.

I thought the system was easy to use					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	0	0	1	6	3

For this sentence, the prototype had received good feedback because only 10% of the participants were neutral, meaning the system somehow did not seem to be easy to use for everyone, especially if we consider that two participants did not manage to complete all tasks. The other 90% agrees with the sentence, indicating the majority did not have issues using the app.

I think that I would need the support of a technical person to be able to use this system					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	9	1	0	0	0

For this sentence, the prototype had received great feedback because 100% disagrees with the sentence: this means the systems did not integrate features that were too difficult for users to understand how to use.

I found the various functions in this system were well integrated					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	0	1	3	0	6

For this sentence, the prototype had received mixed feedback because 10% of the participants disagreed and 30% answered in a neutral way: this was probably because some features should have been accessible through different ways (for example, sorting places liked by friends was expected to be a filter option). The remaining 60% thought functions were overall well integrated in the app.

I thought there was too much inconsistency in this system.					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	7	1	1	1	0

For this sentence, the prototype had received good feedback because only 10% of the participants answered in a neutral way and another 10% agreed with the sentence. This was probably because some features felt inconsistent with some others, for example the fact that the filter section did not provide a “liked by friends” sorting options, but users had to follow on a completely different path to fulfil the task. The remaining 70% believed the system was overall very consistent.

I would imagine that most people would learn to use this system very quickly					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	1	1	0	4	4

For this sentence, the prototype had received good feedback because only 20% disagreed with the statement, highlighting how some participants had issues in completing tasks and learning their way around the system (2 participants did not manage to complete all the tasks). The remaining 80%, though, did not find the system hard to learn.

I found the system very cumbersome to use					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	6	3	0	1	0

For this sentence, the prototype had received mixed feedback because only 10% of the participants agreed with the sentence, highlighting how the overall flow turned out to be uncomfortable for someone. This is mainly due to the fact that some features worked better than others and provided more detailed results (search bar vs filter section), as

well as using different paths to fulfil different tasks instead of making a seamless flow. The other 90% did not find the system uncomfortable to use.

I felt very confident using the system					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	0	1	2	4	3

For this sentence, the prototype had received mixed feedback because 10% of the participants disagreed with the statement, while 20% answered in a neutral way. This is mainly due to the fact that not all of the participants managed to complete the tasks, as well as it took some time for users to learn how to use features and navigate the system (as can be seen in graphs comparing average values vs optimum values); for instance, 40% of the participants began by exploring search bar function and progressively shifted to filters. The remaining 70% felt confident using the system.

I needed to learn a lot of things before I could get going with this system					
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Number of replies	9	1	0	0	0

For this sentence, the prototype had received good feedback because 100% of the users disagree with the statement, highlighting the system's learnability attribute.

Tables 13-22. Information of the replies to all (10) of the SUS sentences

SUS problems of the high-fidelity prototype:

- Problem 1: The search bar is not as efficient as the filters selection because it lacks sufficient information to help users fulfil task requirements. Many users even used it to search for attributes and common names but ended up with nothing.
- Problem 2: The absence of a "liked by friends" sorting option in the filter section causes inconsistency and forces users to take alternative, less intuitive paths to find this information.
- Problem 3: Some features in the system are not immediately accessible or intuitive, as evidenced by users having difficulty finding and using specific functions like sorting and filtering effectively.
- Problem 4: The overall flow of the app is uncomfortable for some users, especially when transitioning between different features that do not provide a seamless experience (like having to manually clean filters).
- Problem 5: some features were hard to understand and find, like the wishlist at the top of the cafè detail page and current location of users on the map.

## 8 User experience: UEQ questionnaire

### 8.1 UEQ results

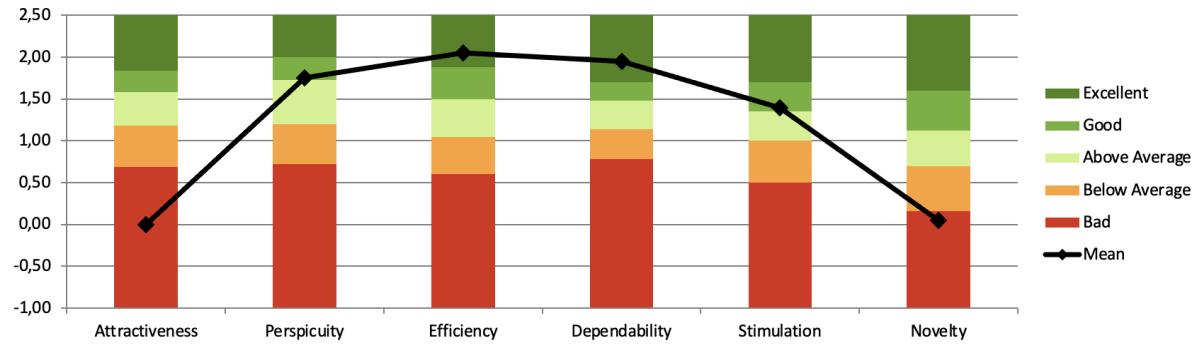


Figure 25. UEQ results

UEQ findings for the high-fidelity prototype:

- Finding 1: Some users appreciated the prototype layout and visual elements, while others found it lacking in appeal. This is mainly due to personal taste and the fact that the prototype still needs aesthetic refinement.
- Finding 2: the majority of users did not find the prototype attractive, indicating that it may lack interactive or innovative features. The prototype works with basic features and has no ground breaking ones to showcase; most of the features presented were relatively simple and already exploited in many other digital products.
- Finding 3: most participants found the system easy to understand and navigate, suggesting that they could quickly understand how to use the system without extensive learning. This is mainly because, although features may not be cutting edge, they are easy to use and to learn. Relying on well-known features helps users learn how to use the system way faster.
- Finding 4: users felt the system was efficient, allowing them to complete tasks quickly and without unnecessary delays. Participants managed to understand how the overall system works and managed to navigate it effectively throughout the tasks (success rates explain this).
- Finding 5: the system was seen as reliable and consistent by most users, which built their confidence in its performance. This is probably due to the fact that users found the system efficient, therefore reliable.
- Finding 6: some users did not perceive the system as innovative, feeling that it lacked unique or surprising elements. The system mainly relies on already known features and functionalities (maps, filter section, friends list, booking process...) and does not showcase any innovative element.
- Finding 7: Although the system was easy to use and learn, some users were not initially attracted to it and found it less engaging over time. This is probably due to the fact that, across tasks, functionalities to be used do not vary too much.

## 8.2 Analysis of UEQ

- **Attractiveness:** the high-fidelity prototype obtains a bad result because the system lacks visual appeal or an engaging interface. Users disliked it probably because the prototype still needs a lot of aesthetic refinement, and because it did not display innovative functionalities.
- **Perspicuity:** the high-fidelity prototype obtains a good result because most participants found the system clear and easy to understand. The learnability curve of the prototype shows how participants progressively gained familiarity with the system, making its functionalities easy to understand, straightforward and already known from other products.
- **Efficiency:** the high-fidelity prototype obtains an excellent result because the majority of users rated the system as efficient, indicating that once users understood how to navigate the system they could perform tasks quickly and effectively, demonstrating that the system's functionalities are well-optimised for performance. The prototype displayed only features useful to complete the tasks and nothing useless or counterproductive.
- **Dependability:** the high-fidelity prototype obtains an excellent result because users felt confident that the system was reliable and performed consistently without significant errors. The features deployed - although not being innovative - were easily predictable, ensuring a safe and secure interaction throughout the whole system.
- **Stimulation:** the high-fidelity prototype obtains an average result because participants probably found the system less engaging or exciting, likely due to a lack of interactive or innovative elements. The prototype does not display any groundbreaking features and fails to surprise users, making the process less exciting and motivating. The aim of the app itself, along with its tasks, are not so exciting and motivating overall.
- **Novelty:** the high-fidelity prototype obtains a bad result because users did not find the system innovative or new, possibly because the features and design are too conventional and do not offer unique or surprising elements that stand out from other systems. The system is not creative at all, and showcases already known features and flows, failing to grasp users' attention.

UEQ problems of the high-fidelity prototype:

- Problem 1: the high fidelity prototype is not attractive to users.
- Problem 2: the high-fidelity prototype is not creative enough and fails to catch users' interest.

## 9 General impressions of participants

### 9.1 What are the main problems you have found while using this prototype?

Findings on main problems

- Finding 1: 50% of the testers found the prototype confusing due to the buttons and labels and also due to the elevated number of actions to possibly be taken.

- Finding 2: 30% complained about the visibility of system status after the reservation, expecting a message of booking confirmation, the possibility to see past and future reservations and content changing after filtering.
- Finding 3: 30% of the testers found problems related to position and clarity of buttons or labels.
- Finding 4: 10% looked for a connection between friends and the cafes shown in the map.
- Finding 5: 10% of users found no problems with the prototype.

## 9.2 What is the part of the prototype that has been more difficult to understand? Why?

Findings on parts of the prototype more difficult to understand:

- Finding 1: 30% found the pop-up information not enough to perform the first task. In particular related to the date and time, they expected to see from the pop-up if the place was available for the indicated period.
- Finding 2: 10% had problems with the navigation in the map and the filtering.
- Finding 3: 10% stated a problem related to the activity section. They expected to find more activities than just the reservations such as the action to leave a review.
- Finding 4: 10% of users found difficulties with the functionalities not related to the map. This user, more than others, tried to use almost only the app to do every action to be performed for every task.
- Finding 5: 10% of users think that the bottom navigation bar was not enough visible.

## 9.3 What have you liked most of the prototype? Why?

- Finding 1: 40% of users liked the map and its functionalities.
- Finding 2: 20% of users found the filter section useful and complete.
- Finding 3: 20% of users liked that they could do the tasks in different ways.
- Finding 4: 10% of users liked the friend feature to see the recommended places.
- Finding 5: 10% of users found the bottom menu intuitive and well organized.

## 9.4 Can you describe your overall experience with this prototype?

Findings on the overall experience:

- Finding 1: 90% of users found the prototype usable and learnable. They liked its functionalities.
- Finding 2: 20% of users disliked the style and aesthetic of the prototype.
- Finding 3: 10% of the users asked for more visibility of system status. The user complained about the lack of reaction to every action in the prototype.

# 10 Relevant observations made

Insights after observing how the high-fidelity prototype was used:

- Insight 1 (negative): to search a place, instead of using the filter section as expected, users tried to search directly from the search bar.
- Insight 2 (positive): once the users found the filter section they learned how to use the search functionality.

- Insight 3 (negative): the implementation of the cards, in particular the cafe's detailed ones in the friend's profile, were not clickable. Users expected to click the image to access the detail page, but only the name was clickable.
- Insight 4 (negative): users expected to exit from the pop-up of cafes in the map just by clicking outside it instead of having only the "Close" button.
- Insight 5 (negative): users didn't know how to find the friend who was recommending the halal place. They just did it randomly and only because of the content of the friends recommendation screen they could complete task 2. One of the users suggested adding a filter in this section to find the right friend recommendation.
- Insight 6 (positive): most of the users had no trouble leaving a review, they did it very quickly and confidently. The problem here was mostly about the style of the page that would hide some important actions to perform the task (such as selecting the 5 stars). Anyway, these can be considered small mistakes.
- Insight 7 (negative): in some cases users preferred the search directly from the map. We expected them to search more directly from filters.
- Insight 8 (negative): users wanted to find more information in the pop-up of the cafe's details in order to take more consciously the decision of where to book.
- Insight 9 (positive): the fact that to accomplish a task there were different paths was appreciated by most of the users.
- Insight 10 (negative): users asked for more visibility of system status. This means that more actions need to have a reaction to be shown to the users. Sometimes in the prototype after an action there was no corresponding feedback and this confused some users (for example when filtering halal in the map doesn't change what it is shown).

## 11 Summary of usability problems

High-fidelity prototype	Problem	Severity (cosmetic, minor, major, catastrophe)
Problem 1	Filters Reload	Major. One of the major things in the high-fidelity prototype is that we didn't implement a "Clean Filters" button so the users didn't realise that they still had the filters of the last task.
Problem 2	Filters Button	Minor. The filters button was not used by some of the users, which could mean that it was not visible or clear enough that it was a filter button.
Problem 3	Search Bar Navigation	Minor. The search bar on this prototype just filters the list of cafes available,

		some of the users tried to look for requirements from the cafes typing words like “vegan”, “wifi” and expected to have an automatic filter of the cafes available with these requirements.
Problem 4	Friends Review	Minor. Users expected to see their friends' reviews appear in the reviews shown at the cafe profile, as another pathway to follow.
Problem 5	Map Navigation	Cosmetic. In this prototype it was not always clear to the users where their current location was and they were not sure at first in what area they should look 2 km away from. Users were expecting that when they were in the pop-up by clicking the map the pop-up would close.
Problem 6	Wishlist Button	Cosmetic. Some of the users scrolled down the page profile to look for the wishlist, it could be beneficial to highlight the wishlist button more.

## 12 Proposals to improve the prototype

Improvement	Problem(s) addressed	Description of improvement
Improvement 1	Search Bar <b>Problem 3</b>	Add more functionality to the search bar by having the possibility of not only searching for names, but also key words of requirements and have the results shown automatically.
Improvement 2	Filters <b>Problems 1 and 2</b>	Even though the button says “Filters” specifically, for the next iteration we can try to change the font size or the overall colour of the button so it is noticed by the users. Implement a “Clean Filters” button in the filters page so that the users can reload them with one click.
Improvement 3	Reviews <b>Problem 4</b>	Implement that at the top of the reviews shown in the cafe profile, you can see what your friends let for review in that

		specific cafe and what google users left for review.
Improvement 3	Aesthetics of the prototype  <b>Problems 5 and 6</b>	Overall implement more UI libraries like bootstrap in order to change the aesthetics of the prototype to elements and icons that are more attractive to the users. Have a clear design and implement a colour palette, font and high-resolution images that the developers need to follow throughout the design for consistency.
Improvement 4	Prototype for Android and IOS  <b>Problems 3, 5 and 6</b>	Take into account that users have different OS and the app needs to be developed and prepared for users with both Android and IOS, so Sitdown is a success and adapts to different expectations from users.

### Improvement 1:



Figure 26. Improvement 1

### Improvement 2:

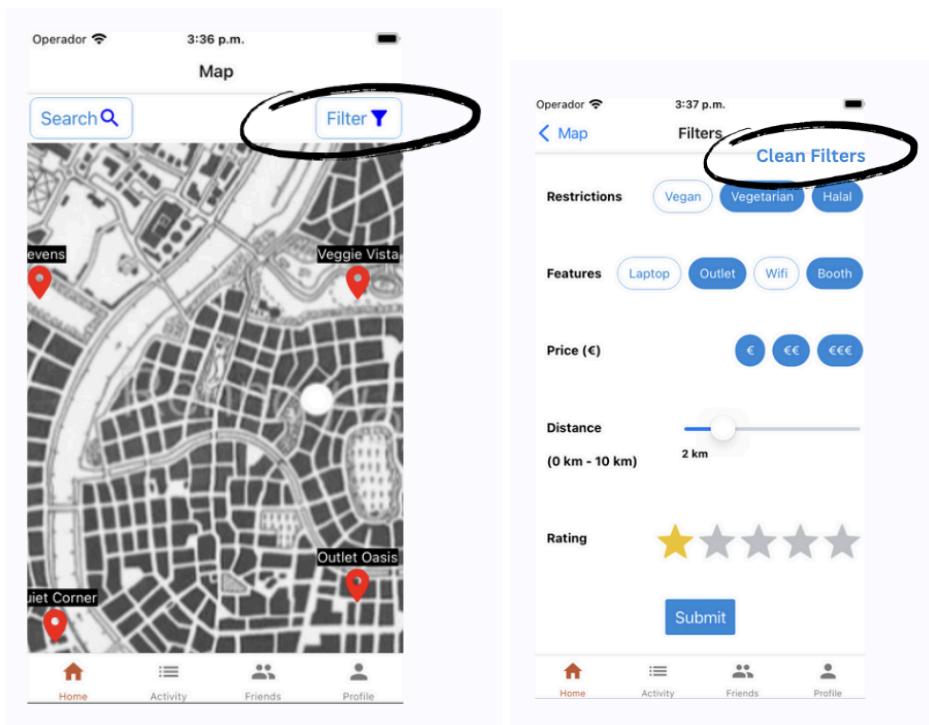


Figure 27. Improvement 2

### Improvement 3:

Day	Hours	Affluence
Monday	9.00 - 20.00	Not crowded
Tuesday	9.00 - 20.00	Not crowded
Wednesday	9.00 - 20.00	Crowded
Thursday	9.00 - 20.00	Not crowded
Friday	9.00 - 22.00	Crowded
Saturday	9.00 - 14.00	Crowded

*Figure 28. Improvement 3*

## 13 General conclusions

The HCI project challenged us to develop a business idea from value proposition to a high-fidelity prototype. For our team's participants, this was their first experience developing an idea from scratch to such a high level of detail. The many challenges we faced along the way will help us avoid making similar mistakes in the projects ahead of us.

The three iterations of this research project, namely Context of Use analysis, Low-fidelity prototyping, and High-fidelity prototyping, all posed different challenges and provided valuable learnings as a result.

During the Context of Use analysis, we learned that the original questionnaire template has to be improved according to the findings you made during your interviews. Some questions become abundant while new ones arise. For the Low-fidelity Prototyping, we used a cutout screen to create a more realistic experience with the prototype. This approach led to a lot of difficulties during the testing because a lot of individual parts had to be moved. In the future, we could print the individual screens with phone frames. We learned to be more pragmatic when prototyping. In this setp users that participated during the testing sessions were often confused with some screens and the thinking aloud technique had to be sometimes reminded by the evaluators.

The main challenge for the high-fidelity prototyping was the coordination of the team. The time pressure made us jump into the implementation prematurely before specifying elaborately. This proved to cost more time than it saved in the end. We learned that time spent early can save time in the long run. Having a template and a clear plan about the coordination of this step would have proved more effective and it would have been more clear for the developers to follow it.

Regardless of the challenges, we created a prototype that was perceived as valuable by our subjects. Every iteration of this project tested new hypotheses and created new insights. We believe that further iterations of this research could help design a solution that would benefit remote workers, students, and coffee shops alike.

Our HCI Project was successful and provided many tools for future projects. Mistakes were made, but they all proved valuable learning experiences. Most of them can be reduced to assumptions made based on our understanding, making the significance of a human-centered design approach the most important learning of this project.

## Annex A. Gathered data

- 1. Notes taken by the evaluators during user tests.**
  - a. Link to the full template: [Usability Questionnaire Template](#)

DEMOGRAPHICS												
Date of test:		May 14	May 14	May 14	May 14	May 14	May 16	May 16	May 19	May 22	May 22	
Time of test:		12:36	13:18	14:01	14:58 PM	15:15 PM	13:00 PM	13:47 PM	16:30	13:00	13:30	
Age:	24	24	25	23	25	25	22	27	24	24	23	
Gender:	Male	Female	Female	Male	Male	Male	Male	Male	Female	Female	Female	
Occupation:	Student	Student	Remote worker	Student	Student	Student	Student	Student	Remote worker	Remote worker	Remote worker	
Daily Screenetime on Phone (in hours)	3.5	6.5	5	4	2	2	1.5	3	4	4	4	
Daily Screenetime on laptop (in hours)	4.5	3.5	5	1.5	4	5	4	1.5	5	5	8	
How much do you work in coffee shops per week? (hours)	0.5	8	2	2	2	2	3	3	17.5	8		
TASKS												
Objective Measurements:	Explanation:											
<b>TASK 01</b>	Optimum # of actions: 14											
Time:	1:39	2:00	1:03	3:05	3:17	1:28	1:15	1:18	2:56	3:29		
Actions:	16	22	8	36	38	17	16	16	20	20		
Mistakes:	1	1	0	17	3	0	2	1	1	1	8	
Success:	Yes/no (whether the participant succeeds)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
Comments:	Comments said by the participants											
Observations:	Any relevant observations that you make											
	tried to filter via search, but recovered and went to filters	Bug with booking times	She selected only from and no to (schedule). Didn't use the filters	Didn't read the task complete. Restarted the task at 1:45. After reading it he followed the correct path.	Goes back to the filters to see if he had to apply date and time	/	searched for "workspace" in the search bar, had some issues when setting the time	First went to search section before going to filters one. Scrolls the map	She clicked vegetarian instead vegan but if it vegan it should also show up as vegetarian right?			

Figure 29. Usability Questionnaire Template 1

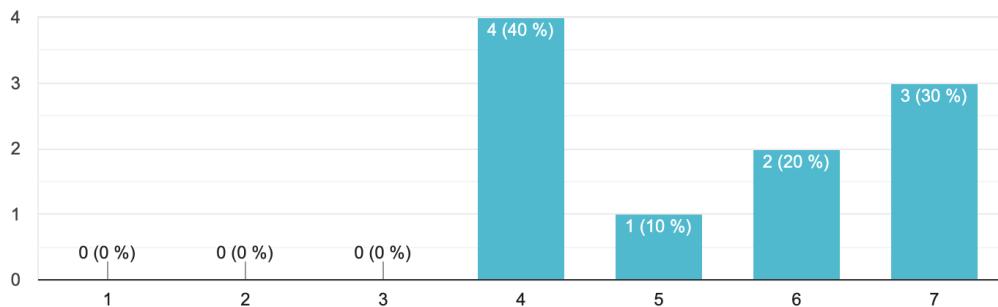
TASK 02												
Optimum # of actions: 4												
Time:	0:20	0:24	0:52	0:40	0:14	0:52	0:40	0:52	22			
Actions:	4	5	7	7	4	13	6	9	4	10		
Mistakes:	0	1	2	1	0	4	6	5	0	4		
Success:	Yes/no (whether the participant succeeds)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No		
Comments:	Comments said by the participants											
Observations:	Any relevant observations that you make											
	"Nothing happened"	clicked on photo of the review item	clicked on photo of the review item instead of visit, scrolled down the page because she expected to see the "add to favourite" button at the end of the page, and didn't see it at the top	Scrolled through mates' cafes, looked for the whitest scrolling down the profile.	clicked on photo of the review item	At the beginning he expected to find the "liked by friends" among the filters in the homepage (filter section)	He expects a good rating from the place (says good food in the task description), he added Halal House, he searched for it from the search bar. Didn't read the task correctly	First filtered by "Halal" and clicked on one option on the map. Tried to exit from the pop up of the cafe by clicking outside it. (maybe it is logic if we add this possibility) . Scrolls a lot the various sections (in particular the cafe profile one).				
TASK 03												
Optimum # of actions: 8												
Time:	0:45	0:53	0:42	0:39	1:16	0:20	0:17	0:23	24			
Actions:	9	12	6	9	16	6	6	6	4	6		
Mistakes:	1	1	2	0	5	0	0	0	1	1		
Success:	Yes/no (whether the participant succeeds)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Comments:	Comments said by the participants											
Observations:	Any relevant observations that you make											
	went to activity, searches on map, clicked on stars before entering "leave a comment" section	clicked on the reviews section because she thought it would open up	Clicked directly from the map. Finds leave a review immediately.	Go to carts list, types suki in the friends tab, clicked "book now" to submit	/	/	Searched from the search bar in their homepage.	Didn't see at first the possibility to leave 5 stars because it was not visible (he had to	Didn't put starts, because the overlay didn't show as expected			

Figure 30. Usability Questionnaire Template 2

## 2. UEQ Questionnaire

10 respuestas

 Copiar



10 respuestas

 Copiar

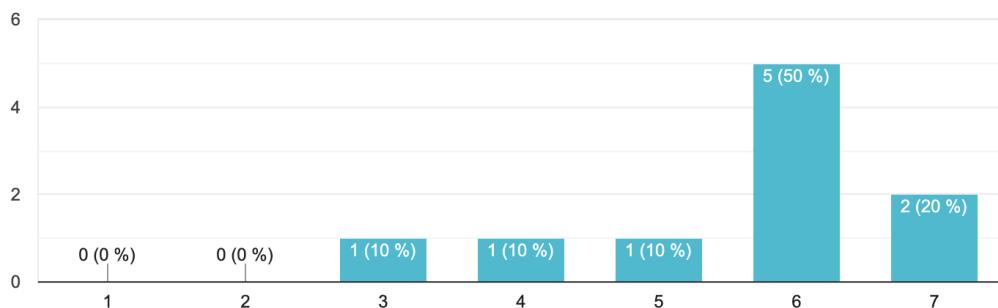
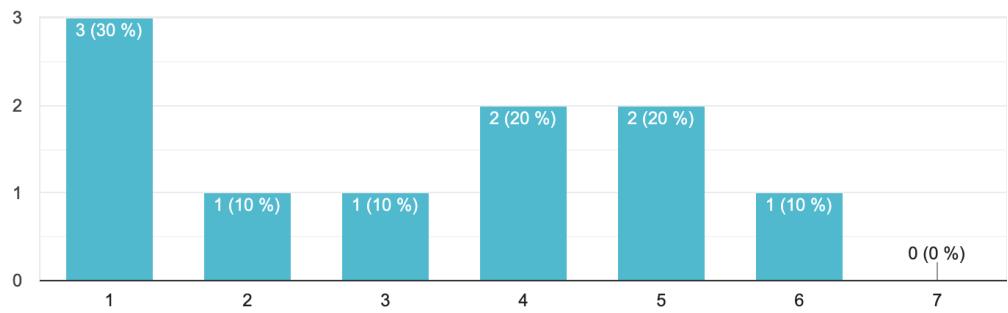


Figure 31. UEQ Questionnaire Answers 1

10 respuestas

 Copiar



10 respuestas

 Copiar

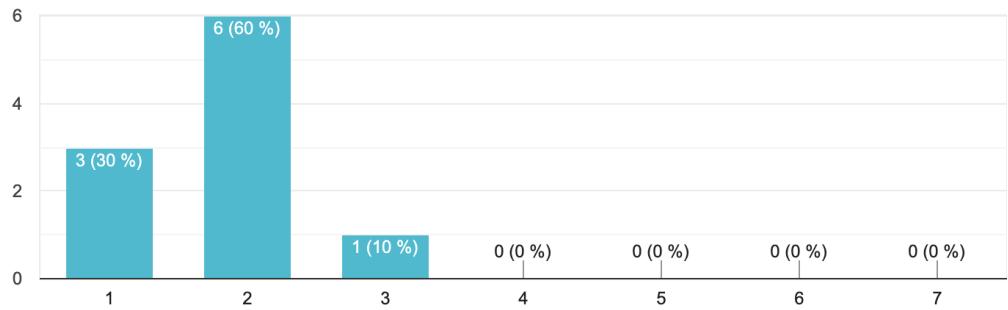
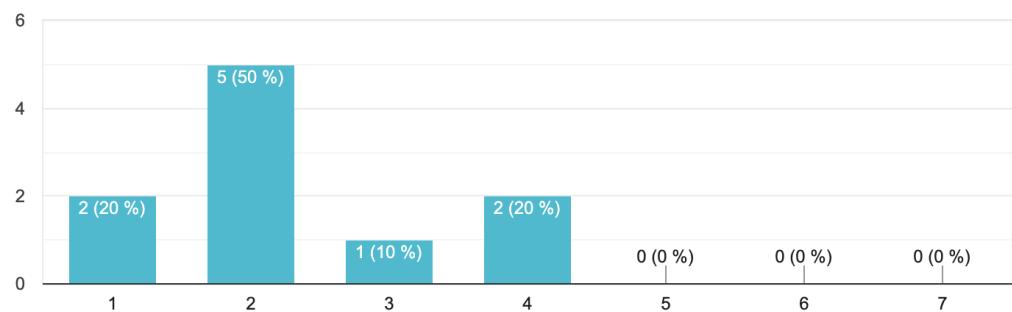


Figure 32. UEQ Questionnaire Answers 2

10 respuestas

 Copiar



10 respuestas

 Copiar

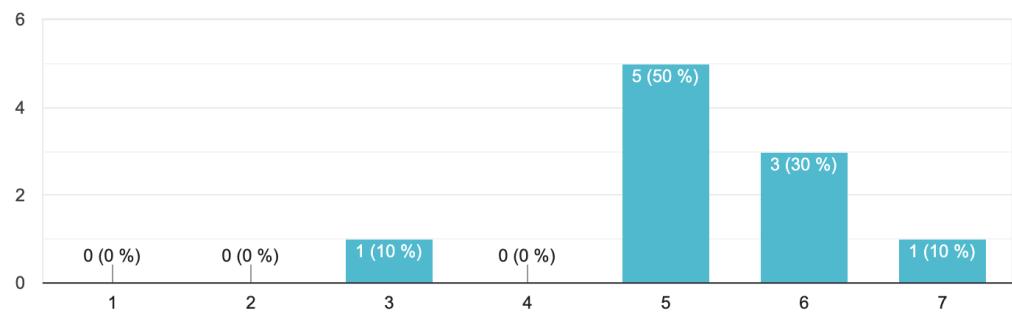
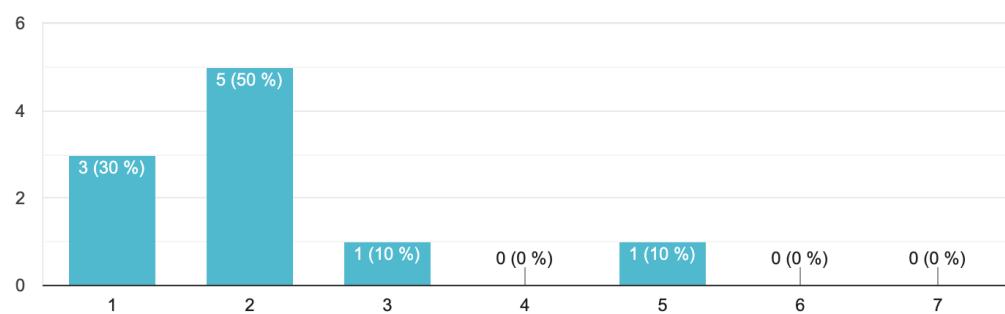


Figure 33. UEQ Questionnaire Answers 3

10 respuestas

Copiar



10 respuestas

Copiar

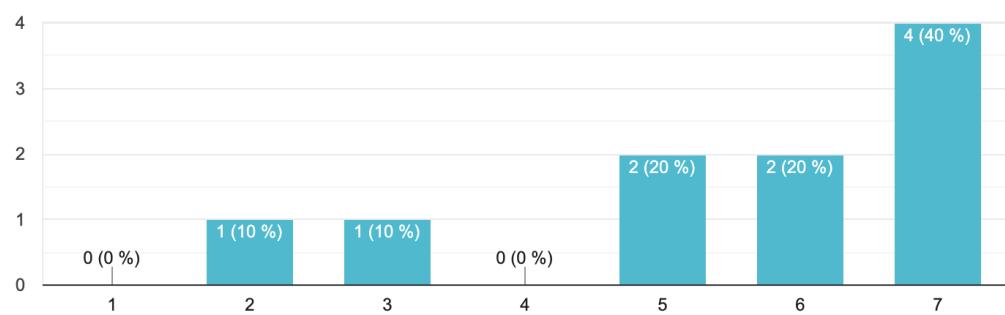
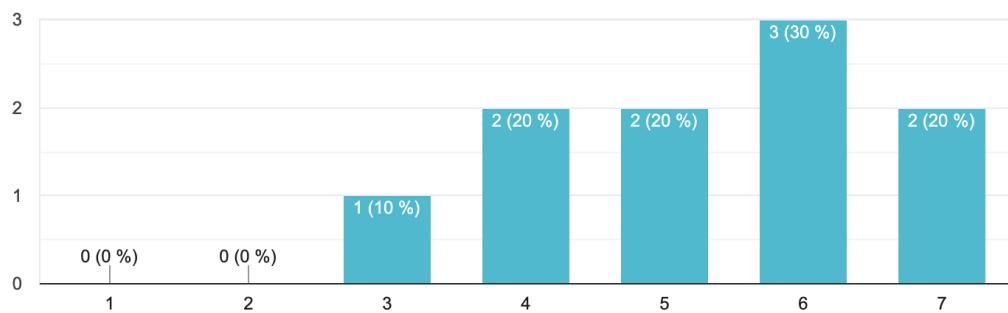


Figure 34. UEQ Questionnaire Answers 4

10 respuestas

 Copiar



10 respuestas

 Copiar

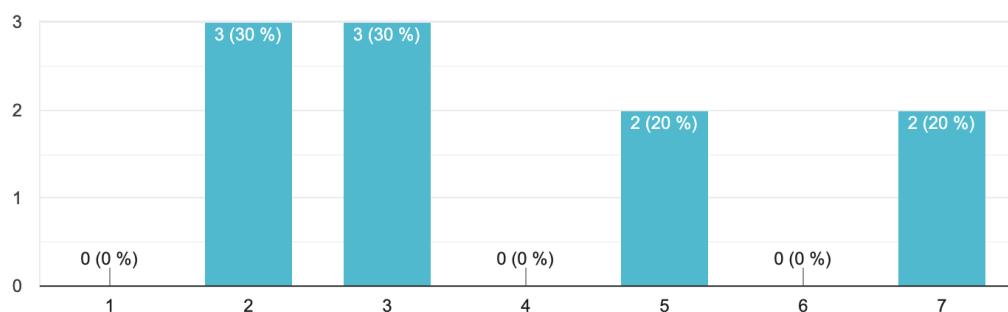
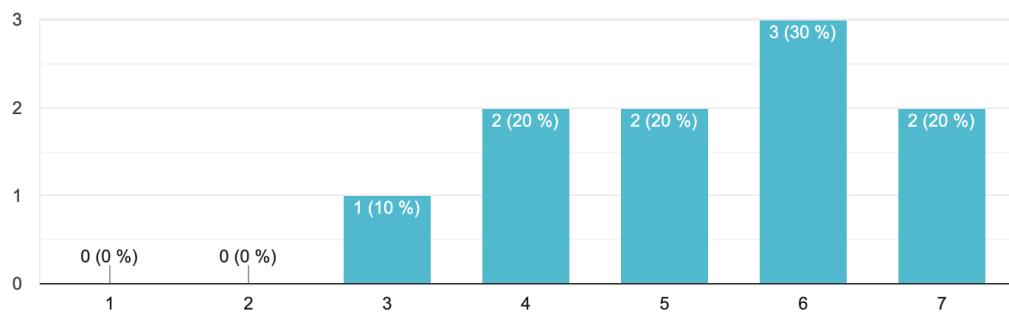


Figure 35. UEQ Questionnaire Answers 5

10 respuestas

 Copiar



10 respuestas

 Copiar

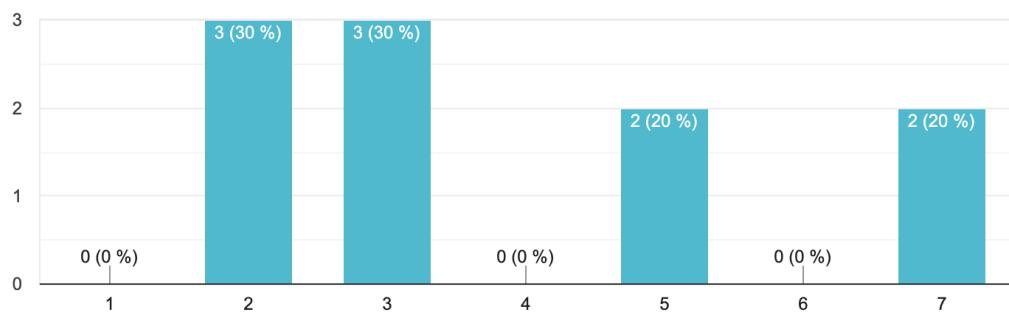
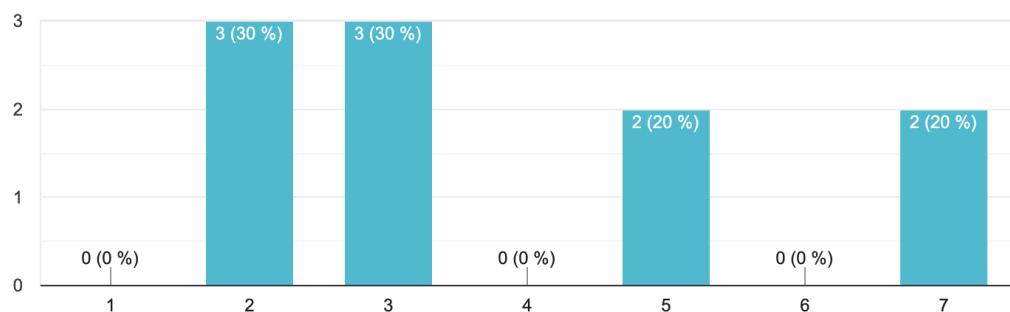


Figure 36. UEQ Questionnaire Answers 6

10 respuestas

 Copiar



10 respuestas

 Copiar

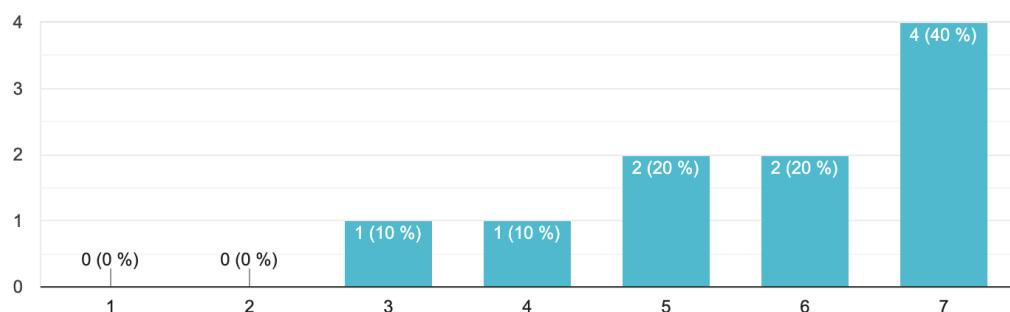
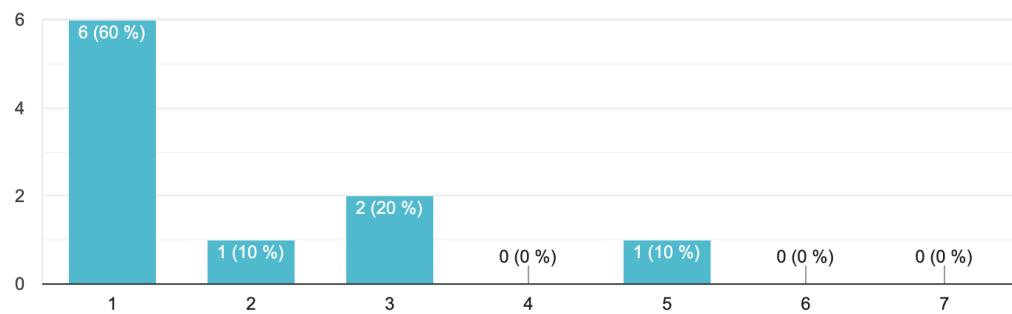


Figure 37. UEQ Questionnaire Answers 7

10 respuestas

 Copiar



10 respuestas

 Copiar

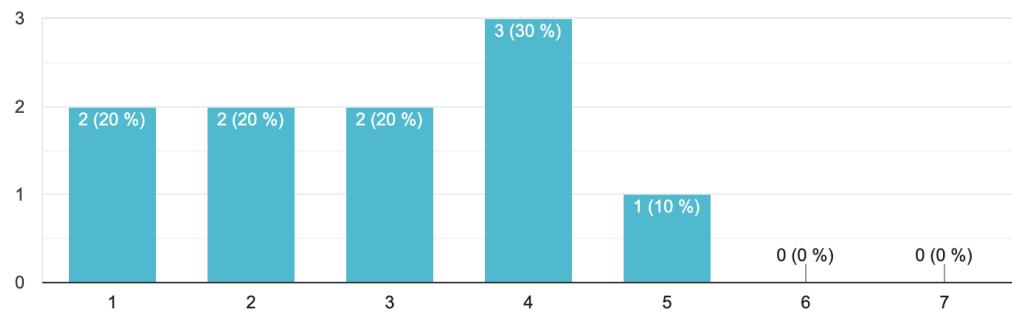
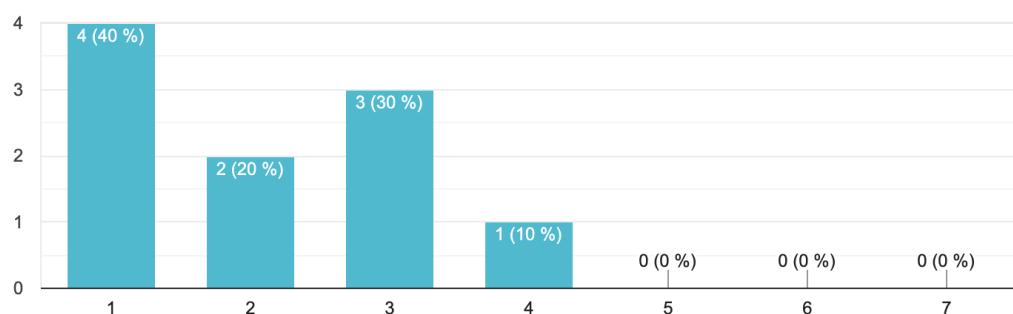


Figure 38. UEQ Questionnaire Answers 8

10 respuestas

 Copiar



10 respuestas

 Copiar

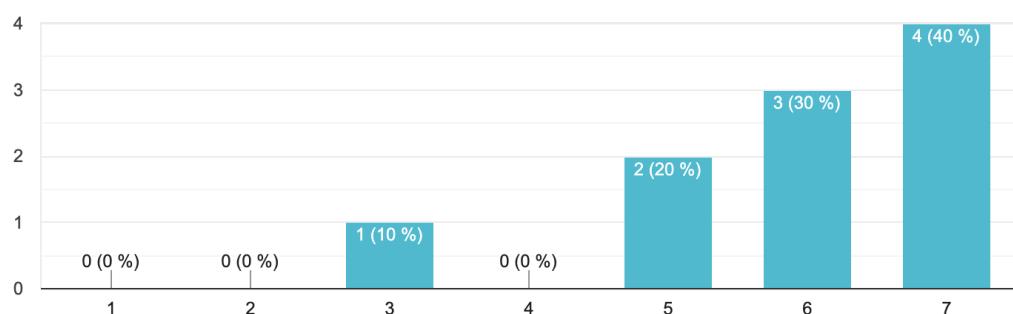
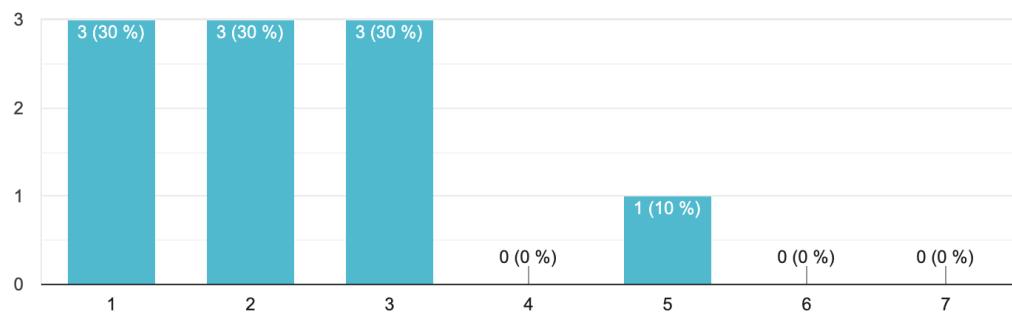


Figure 39. UEQ Questionnaire Answers 9

10 respuestas

 Copiar



10 respuestas

 Copiar

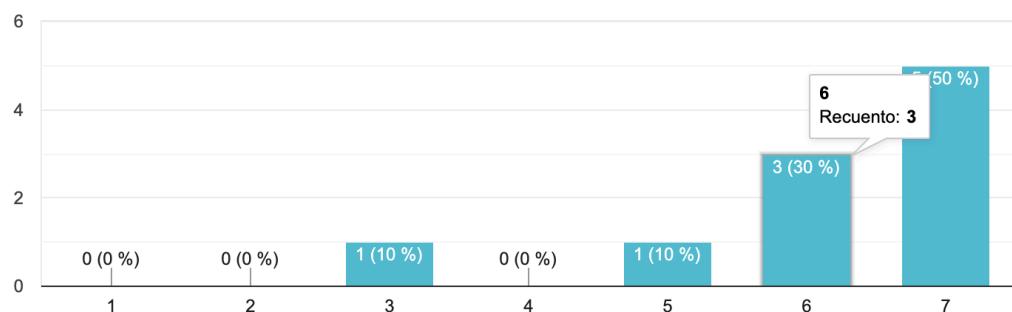
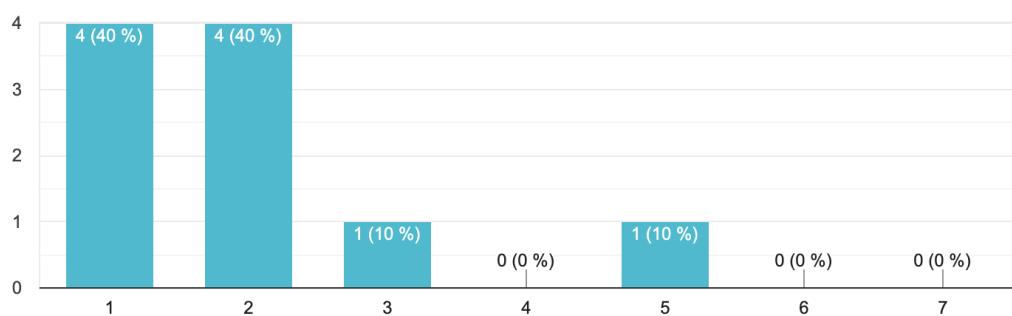


Figure 40. UEQ Questionnaire Answers 10

10 respuestas

 Copiar



10 respuestas

 Copiar

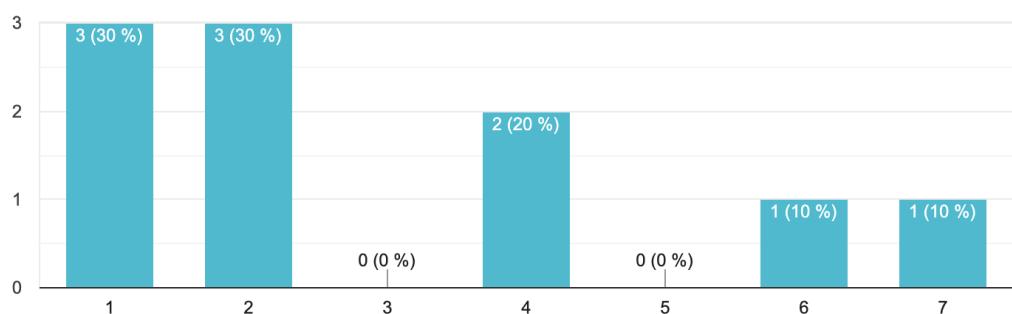
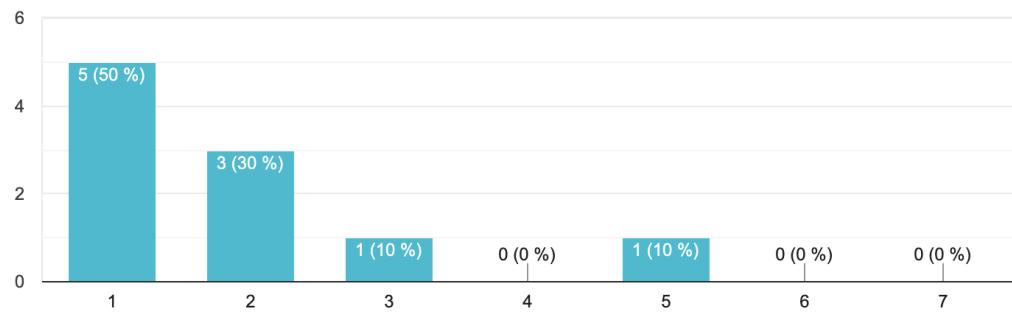


Figure 41. UEQ Questionnaire Answers 11

10 respuestas

 Copiar



10 respuestas

 Copiar

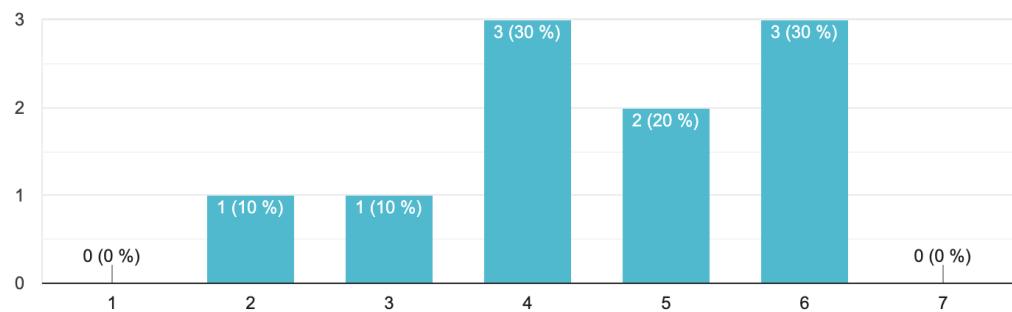


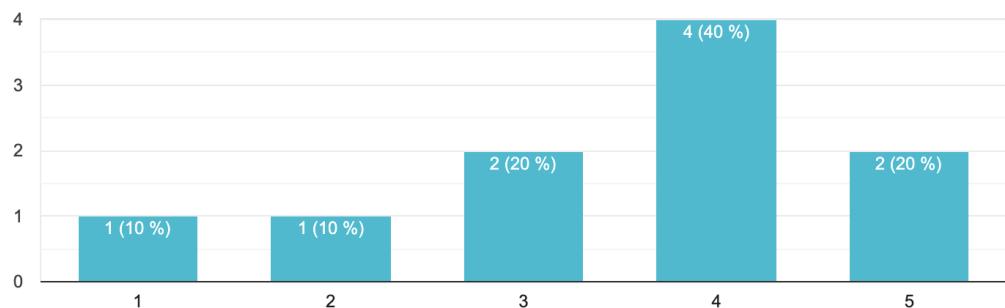
Figure 42. UEQ Questionnaire Answers 12

### 3. SUS Questionnaire

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

 Copiar

10 respuestas



2. I found the system unnecessarily complex.

 Copiar

10 respuestas

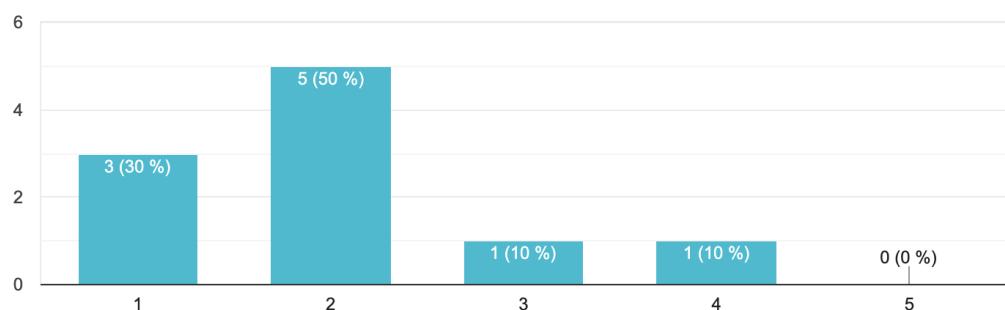
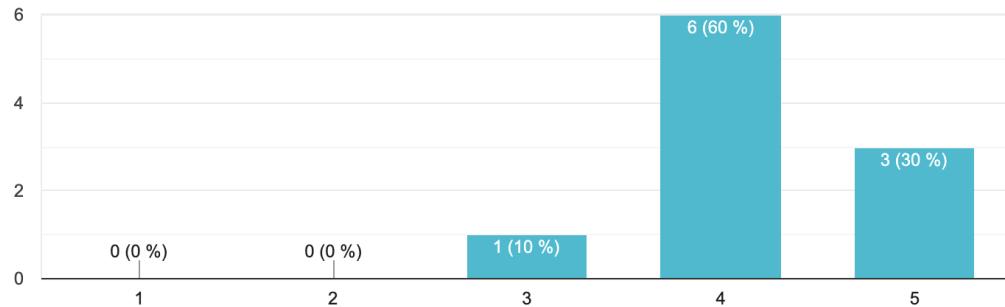


Figure 43. SUS Questionnaire Answers 1

3. I thought the system was easy to use.

 Copiar

10 respuestas



4. I think that I would need the support of a technical person to be able to use this system.

 Copiar

10 respuestas

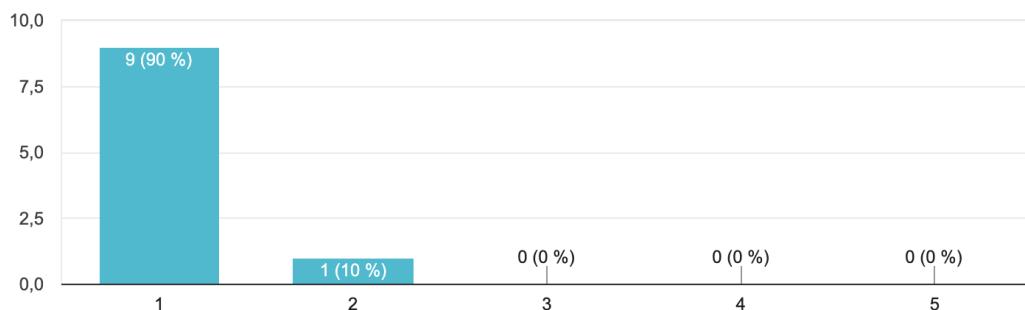
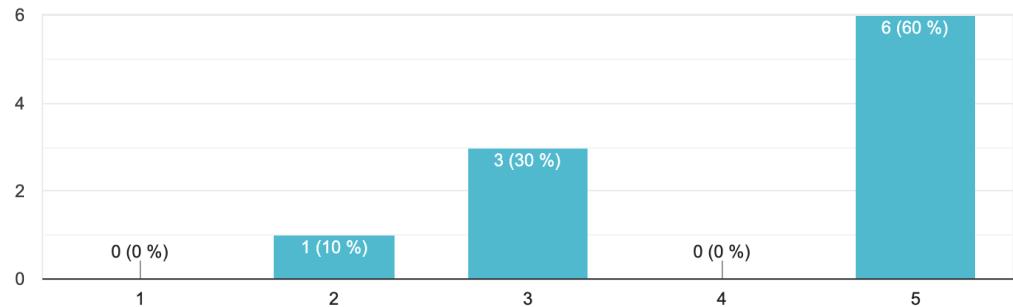


Figure 44. SUS Questionnaire Answers 2

5. I found the various functions in this system were well integrated.

 Copiar

10 respuestas



6. I thought there was too much inconsistency in this system.

 Copiar

10 respuestas

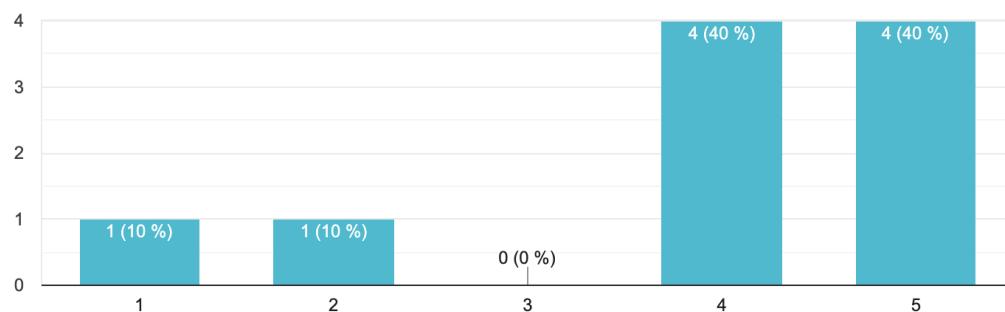


Figure 45. SUS Questionnaire Answers 3

7. I would imagine that most people would learn to use this system very quickly.

 Copiar

10 respuestas



8. I found the system very cumbersome to use. (Cumbbersome = hard to handle)

 Copiar

10 respuestas

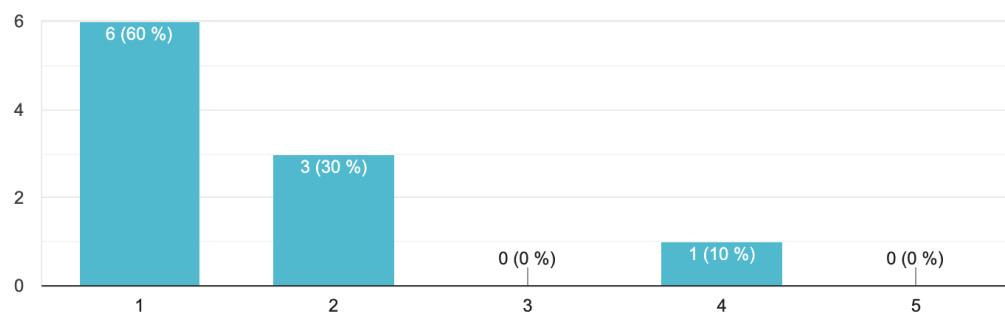
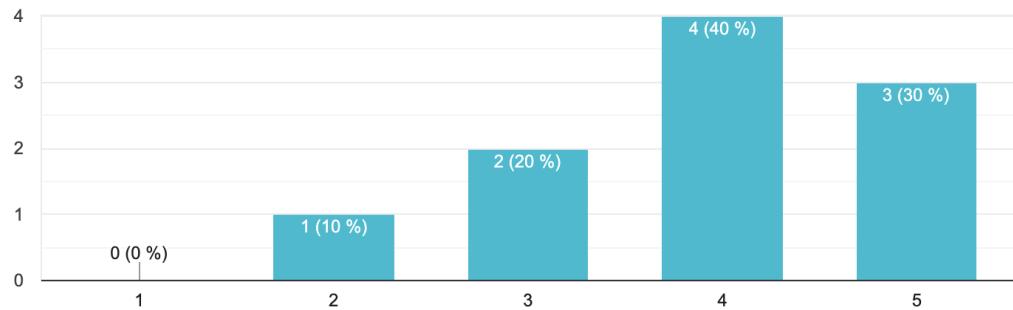


Figure 46. SUS Questionnaire Answers 4

9. I felt very confident using the system.

 Copiar

10 respuestas



10. I needed to learn a lot of things before I could get going with this system.

 Copiar

10 respuestas

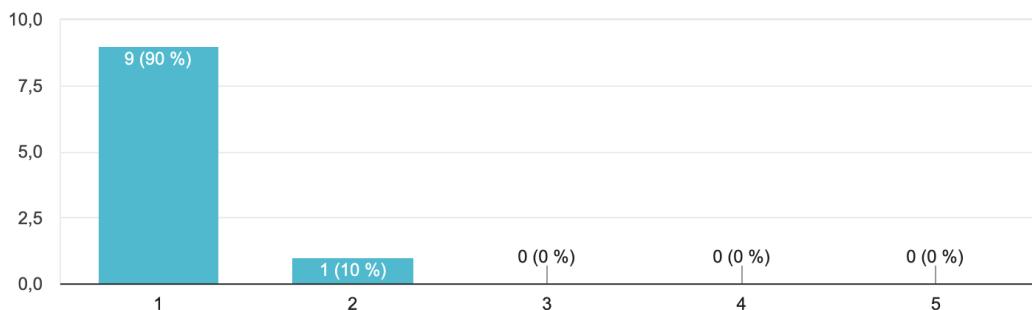


Figure 47. SUS Questionnaire Answers 5

#### 4. General Impressions Questionnaire

2. What is the part of the prototype that has been more difficult to understand? Why?

10 respuestas

Straight forward, same thing about the state. Easy to navigate.

Searching for the place (can i book there for 2 hours? this information is missing before the search) because it was part of the task and she didn't know if she could accomplish the task before being in the booking page

How to book a place for a coffee shop there were some little things that took me longer to get.

The description of the places in the pop-up, he was expecting less information, more organized. The transparency of the pop-up looked confusing for him, because it was like somewhere you weren't supposed to click.

How the process of booking (again date). Expected to select the dates in the filters and not just when about to book. Because the task description stated that he needed the time and day. Also in other booking platform you can select the date and time in advance.

Lower bar, not enough visible

*Figure 48. General Impressions Questionnaire Answers 1*

2. What is the part of the prototype that has been more difficult to understand? Why?

10 respuestas

The description of the places in the pop-up, he was expecting less information, more organized. The transparency of the pop-up looked confusing for him, because it was like somewhere you weren't supposed to click.

How the process of booking (again date). Expected to select the dates in the filters and not just when about to book. Because the task description stated that he needed the time and day. Also in other booking platform you can select the date and time in advance.

Lower bar, not enough visible

nothing

A part from the problem stated before, the activity tab seems just as a collection of reservations while I expected more activities, for example if I leave a review I expect to see it here

Navigation in the map and filtering

the functionalities not related to the map

*Figure 49. General Impressions Questionnaire Answers 2*

### 3. What have you liked most of the prototype? Why?

10 respuestas

Very simple, intuitive so he didnt need to know the app top guess where to click.

lot of freedom, felt like there were different path to do each task

The map and the pins that were clickable and contained all the information.

The map, and to explore it. Well integrated with the filters so intuitive and fast to not have to change between a lot of screens.

The menu at the bottom, well organized and intuitive.

Interactivity/Efficiency

filter section

The possibility to filter by a lot of things and needs. And the fact i can see my friends recommendation. Because it gives many ways to reach the main purpose.

*Figure 50. General Impressions Questionnaire Answers 3*

### 3. What have you liked most of the prototype? Why?

10 respuestas

The map and the pins that were clickable and contained all the information.

The map, and to explore it. Well integrated with the filters so intuitive and fast to not have to change between a lot of screens.

The menu at the bottom, well organized and intuitive.

Interactivity/Efficiency

filter section

The possibility to filter by a lot of things and needs. And the fact i can see my friends recommendation. Because it gives many ways to reach the main purpose.

the map view that lets me see where the cafes are

from the map it was clear to understand what each place was offering

*Figure 51. General Impressions Questionnaire Answers 4*

4. Can you describe your overall experience with this prototype?

10 respuestas

Smooth easy :)

Felt really good, lot of really good feature. Felt freedom using it

Overall I liked the prototype and it was very easy to learn and useful.

Complicated to understand the information displayed, the friends tab he was expecting something more attractive like images in the list of friends. In leave a review, the button moves and he almost clicked the wrong one, not appealing.

It was nice, all functionalities expected were there. No surprises, all where there, the app did its job.

It was easy to use and fulfilled its needs, I'm satisfied, but in the way the task was proposed 'a place that one of your friends likes', looked more like a filter (similar to linkedin) than a different section of the app. Anyway it was all clear other than that

useful, simple and accesible

Figure 52. General Impressions Questionnaire Answers 5

4. Can you describe your overall experience with this prototype?

10 respuestas

Complicated to understand the information displayed, the friends tab he was expecting something more attractive like images in the list of friends. In leave a review, the button moves and he almost clicked the wrong one, not appealing.

It was nice, all functionalities expected were there. No surprises, all where there, the app did its job.

It was easy to use and fulfilled its needs, I'm satisfied, but in the way the task was proposed 'a place that one of your friends likes', looked more like a filter (similar to linkedin) than a different section of the app. Anyway it was all clear other than that

useful, simple and accesible

It is usable. I have some dislikes regarding the aesthetic, but it is not a real problem. It would be better if any information reacted to my actions. I can feel to much that it is just a prototype

I like this prototype. I found it very useful and easy to use

it was good for me but I didn't understand the full potential

Figure 53. General Impressions Questionnaire Answers 6

Final Video of the High-Fidelity Prototype

## Annex B. Detailed changes in schedule

### 1. Change in the tasks given to the users

<b>Task</b>	1
<b>Title</b>	Find a place with requirements
<b>Starting situation</b>	You're at home and are looking for a place to work on your laptop. You open the SitDown App.
<b>Task instructions</b>	<p>Find a place for laptop work for the 27th of May, where you can study 2 hours.</p> <p>It should allow laptop work, have wi-fi, provide vegan lunch and be no farther than 2km from your place.</p> <p>Book two seats for you and a friend from 12:00 -14:00</p>

<b>Task</b>	2
<b>Title</b>	Add a cafe to your wishlist
<b>Starting situation</b>	Your friend Matteo just told you about a halal place that has good food. You open the sitdown app to add it to your wishlist.
<b>Task instructions</b>	Look for a place that is halal and that one of your friends likes. Add this place to your wish list.

<b>Task</b>	3
<b>Title</b>	Leave a review for "Sukis Cafe"
<b>Starting situation</b>	You are at home after coming back from working at Sukis Cafe, you liked it so much that you want to leave a positive review online.
<b>Task instructions</b>	You went to Sukis cafe and want to leave a review. Give it a rating of 5/5 and write "Amazing Coffee".

### 2. Addition of a “Booking Page” to the prototype

So it would be more clear to the users of the high-fidelity prototype that they were making a booking to a cafe, we added before the tests a Booking Page that appears after clicking “Book Now” in the button that appears in the cafe profile. We got rid of the process of booking in the pop-up that appears after clicking a cafe in the map and limited it into only containing the information of each cafe.

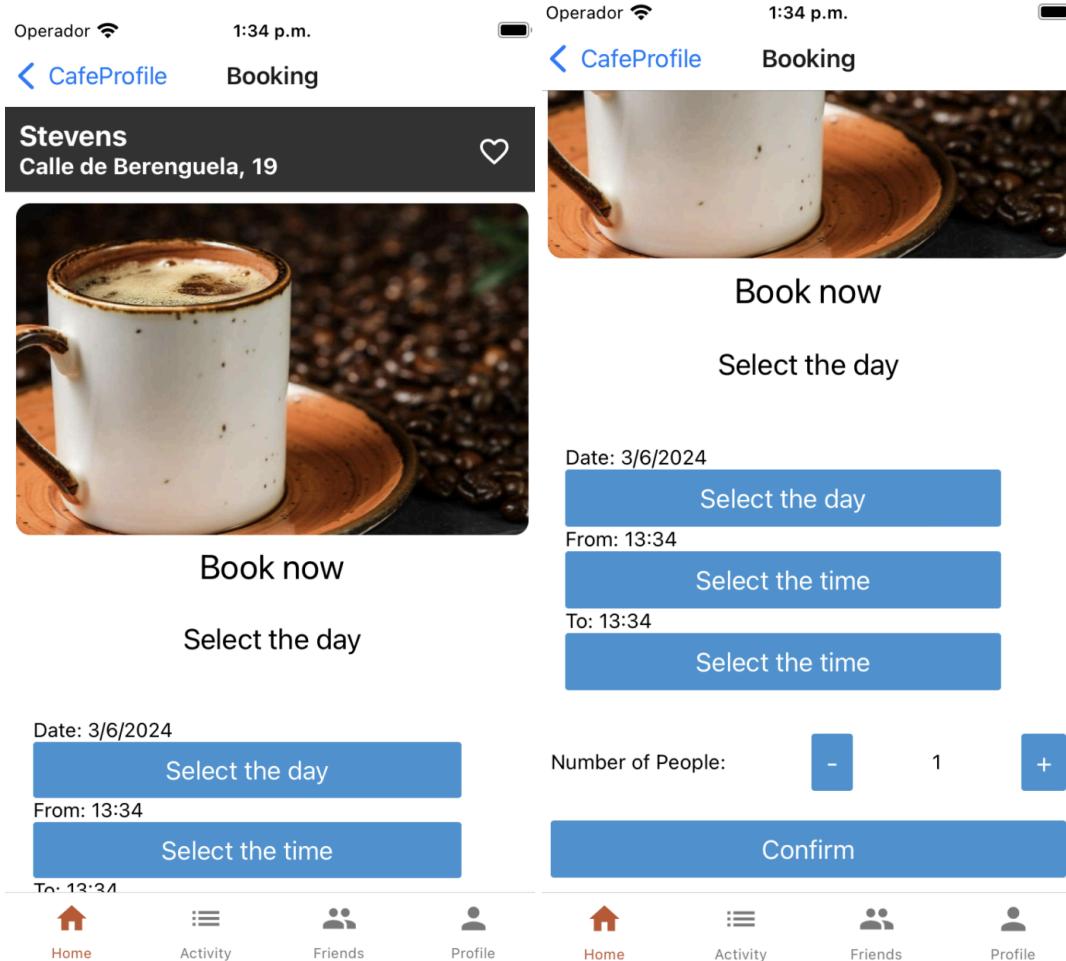


Figure 54 & 55. New Booking Page

### 3. Alert added (Booking Page)

Alert added after clicking “Confirm” button in the Booking Page for consistency and visibility of the status of the booking for the users.

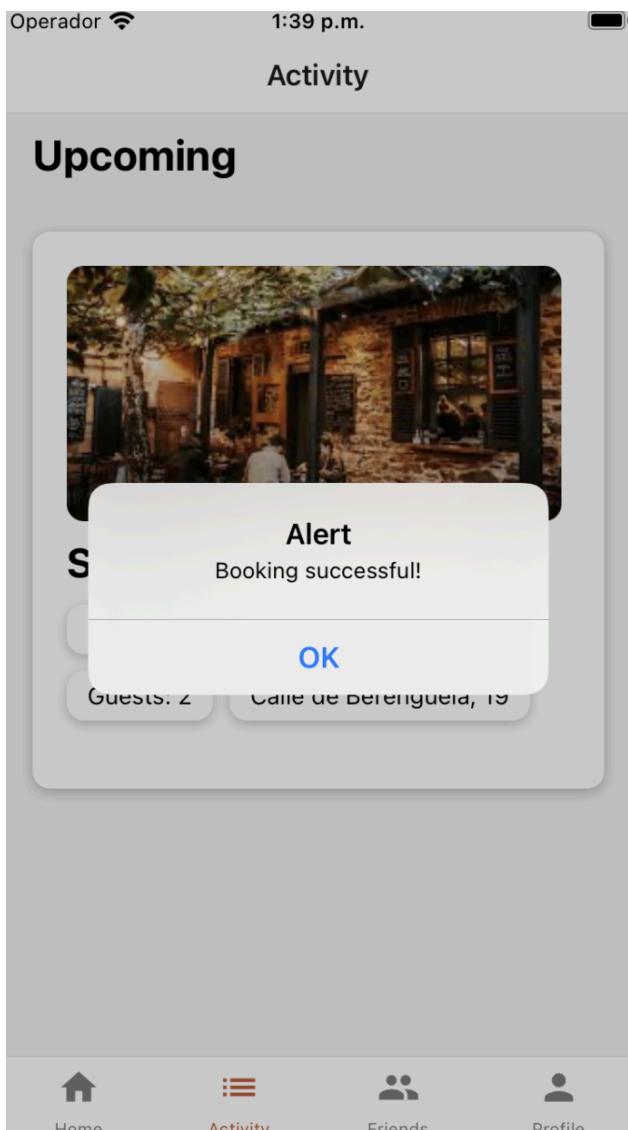


Figure 56. New Alert (Booking Page)

#### 4. Alert added (Review Page)

Alert added after clicking “Submit” button in the Leave a Review screen for consistency and visibility of the status of the review for the users.

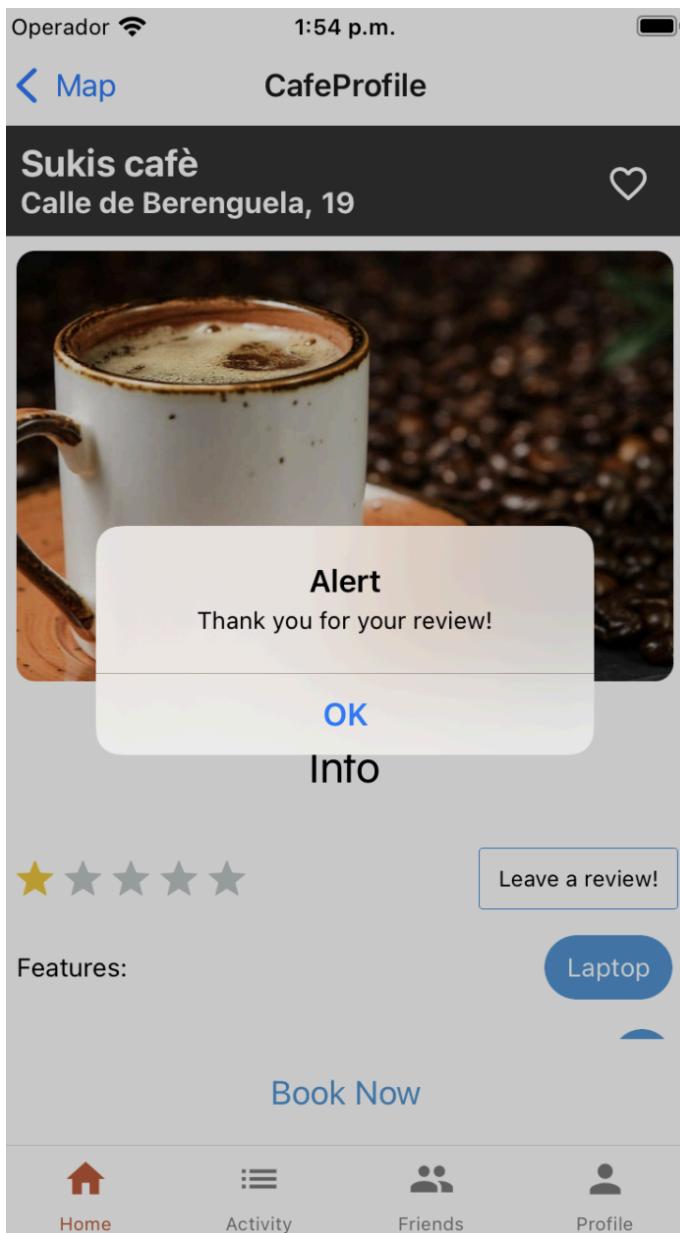


Figure 57. New Alert (Review Page)