# Craftive App: The creative Craftsman – IPP Presentation M4

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Munich, 19.01.2022

*Source:* Mann Für Mit Tools Stockfoto und mehr Bilder von Handwerker - iStock (istockphoto.com)

# Content

1. Improvements

2. Demonstration of HiFi Web App

3. Experimental Design



*Source:* Mann Für Mit Tools Stockfoto und mehr Bilder von Handwerker - iStock (istockphoto.com)
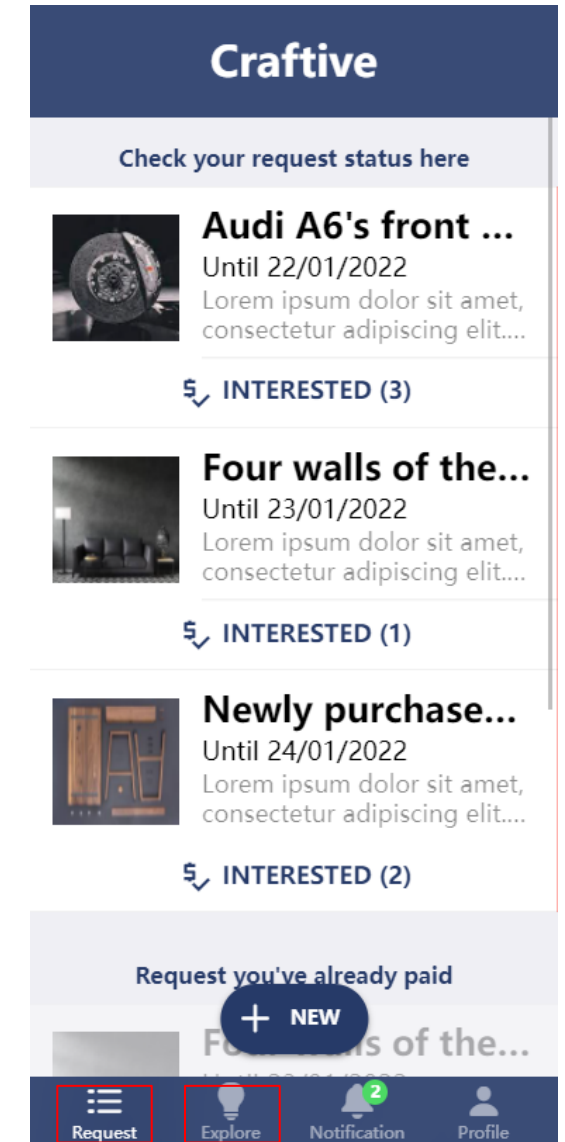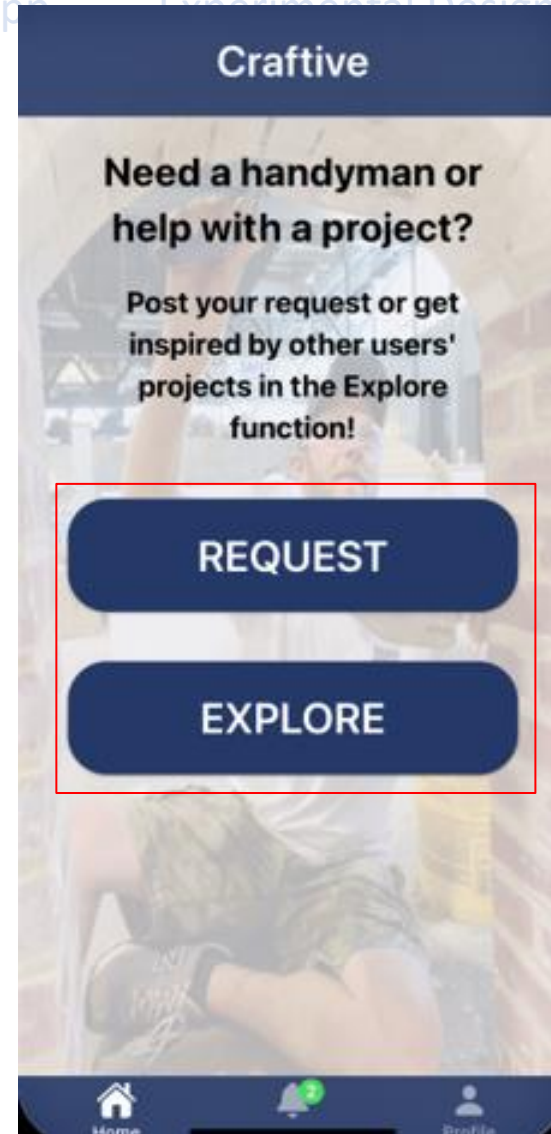
# Improvements

- Continue to improve the user flow

- Add Payment page

- Add function of deleting request

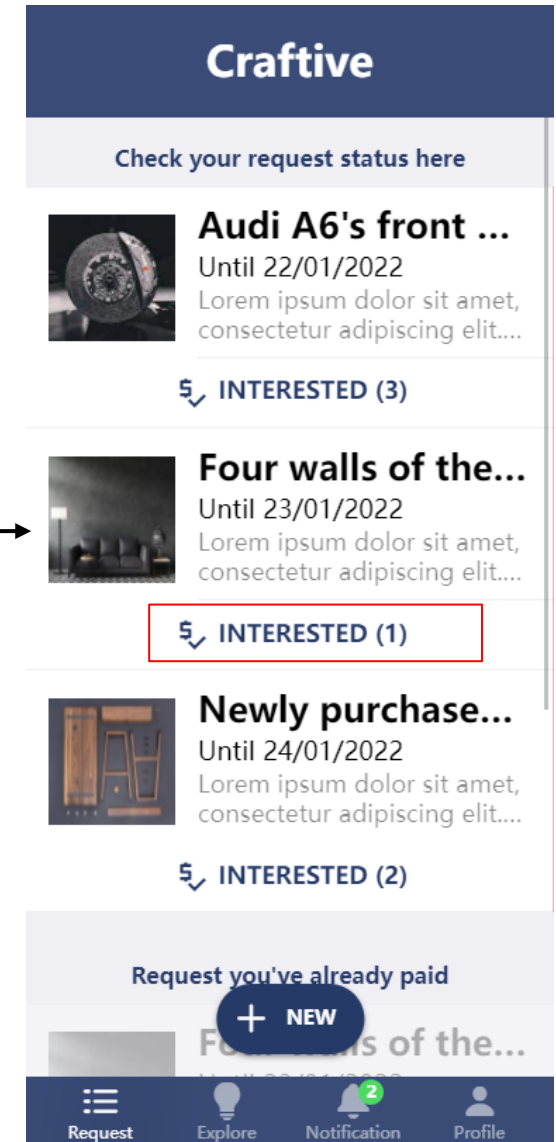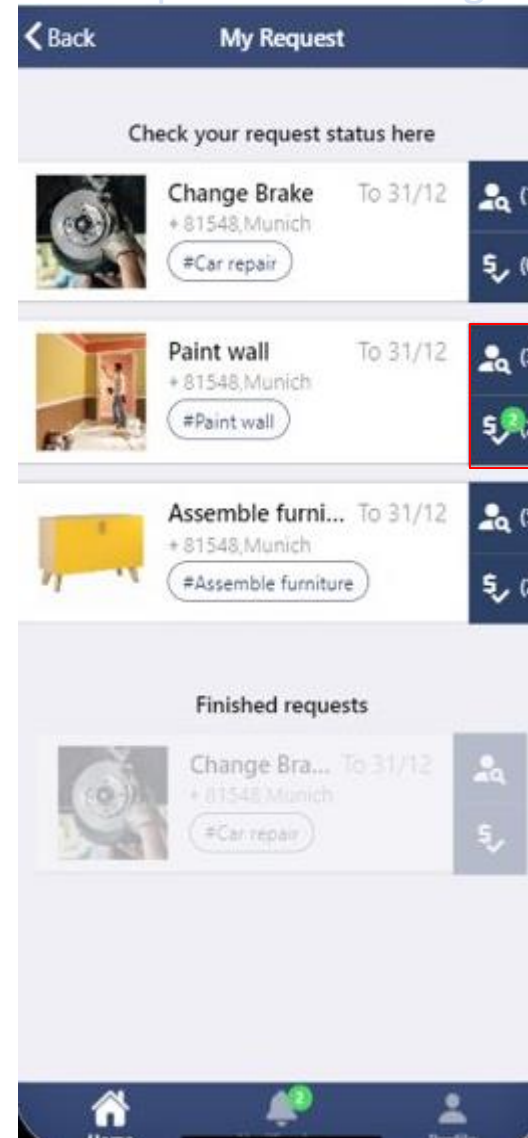- Change some aesthetic designs of App

# User flow

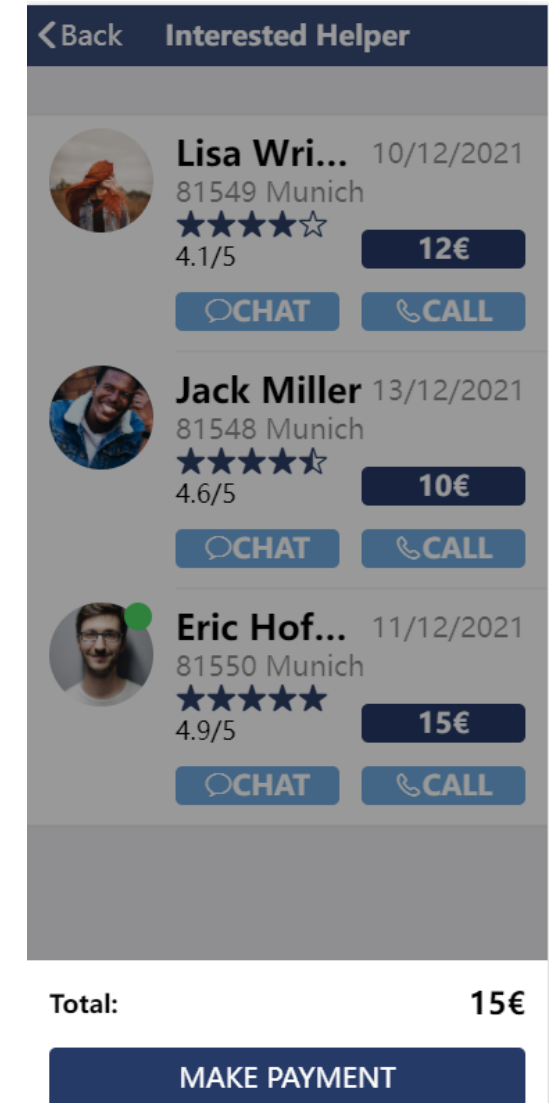- Make 'Home' icon divided into 'Request' and 'Explore' icon
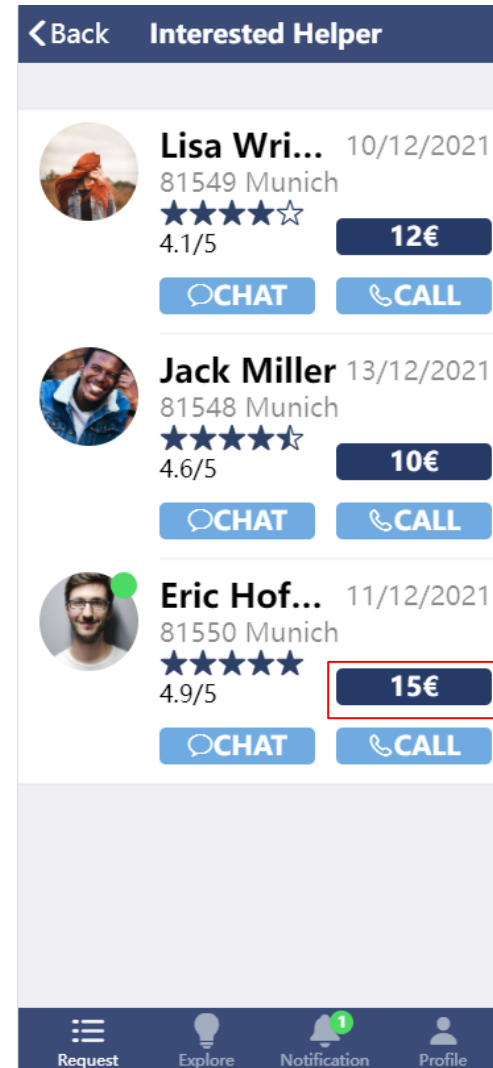
# User flow

- Don't let information overflowed

# Payment function

- User can directly pay for request

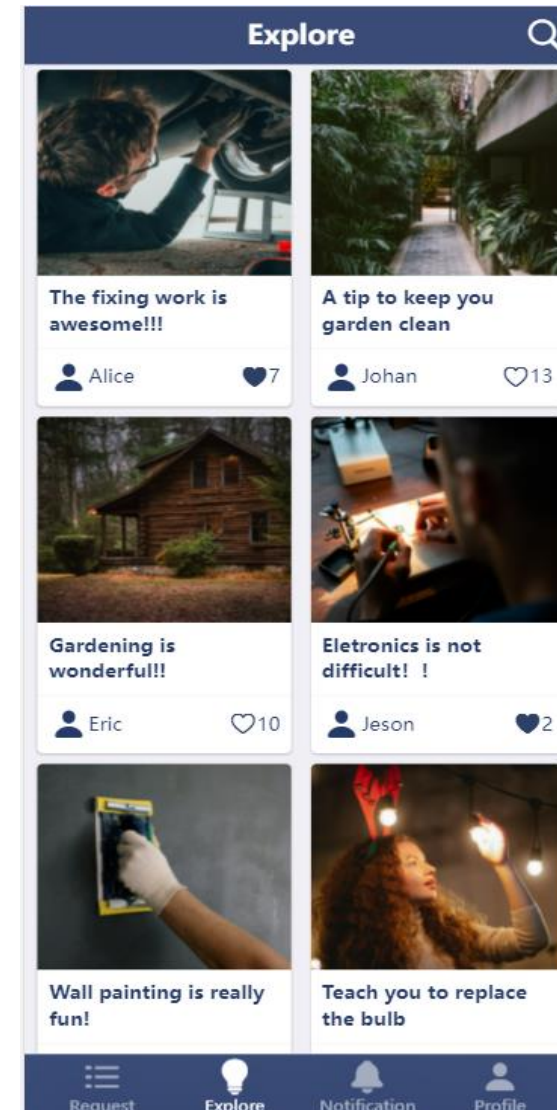# Delete request

- Add function of deleting request
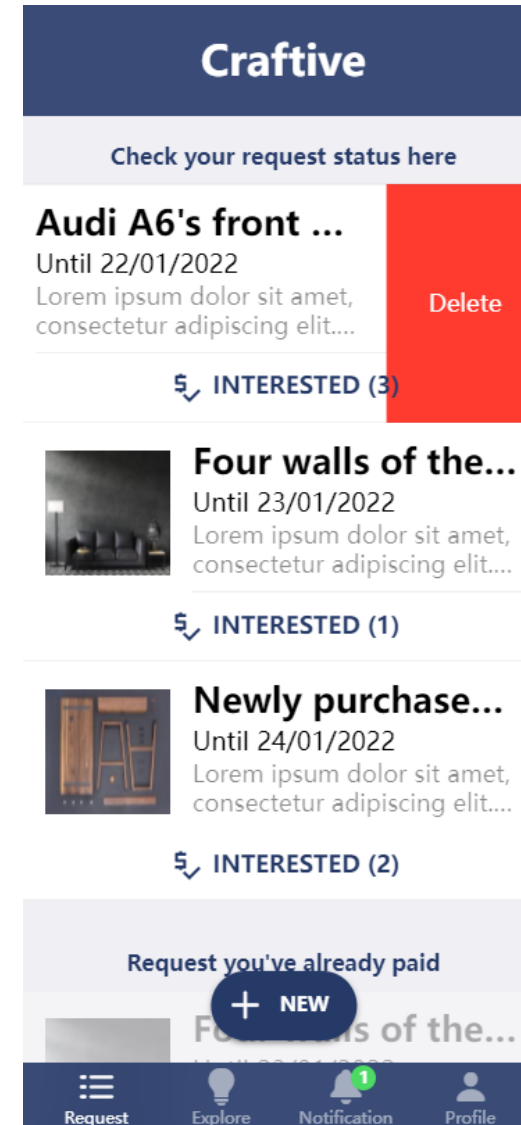
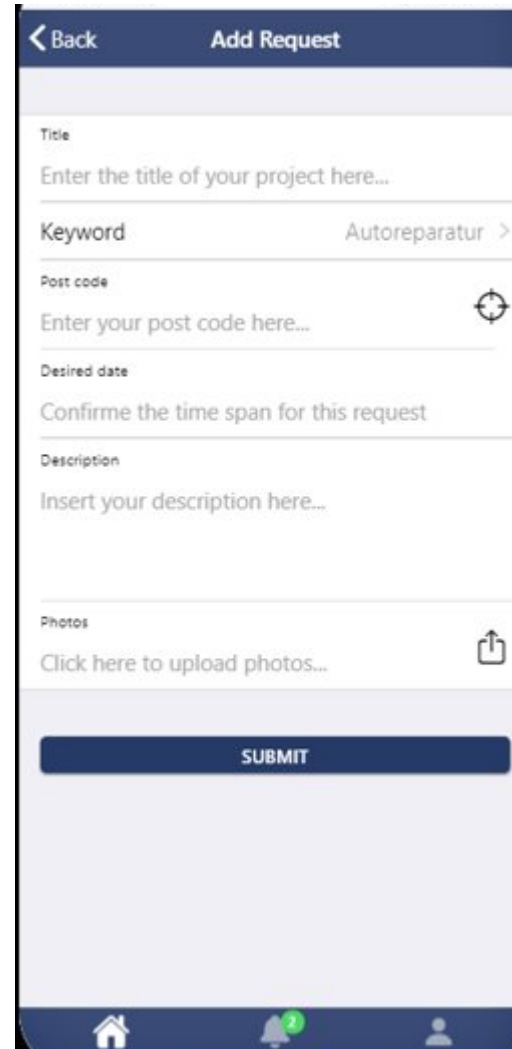# Aesthetic designs

- New design for 'Explore' page
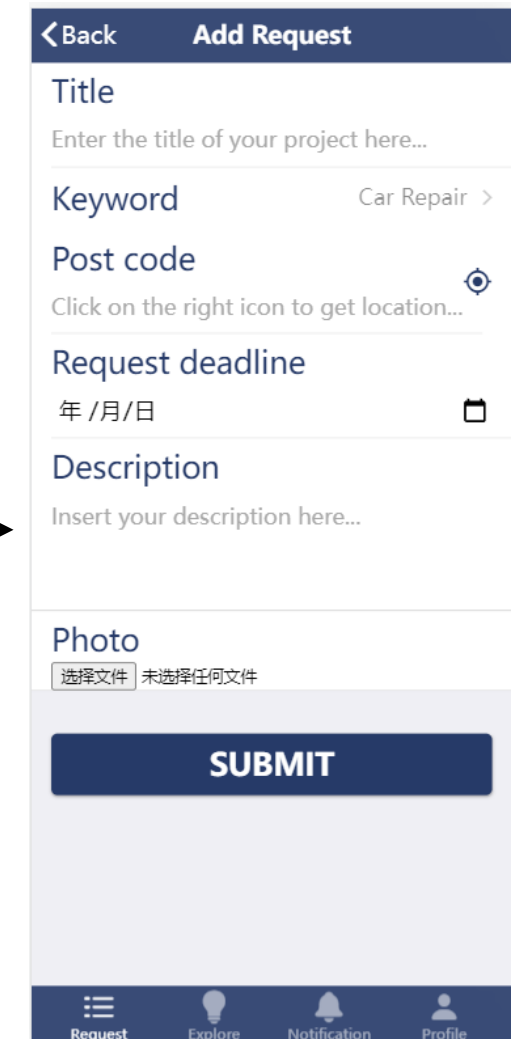
# Aesthetic designs

- Change some icons

- Change font-size

- Change color of buttons

- …

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# Demonstration of HiFi Web App

Link to the web prototype:

http://192.168.2.214:3000/
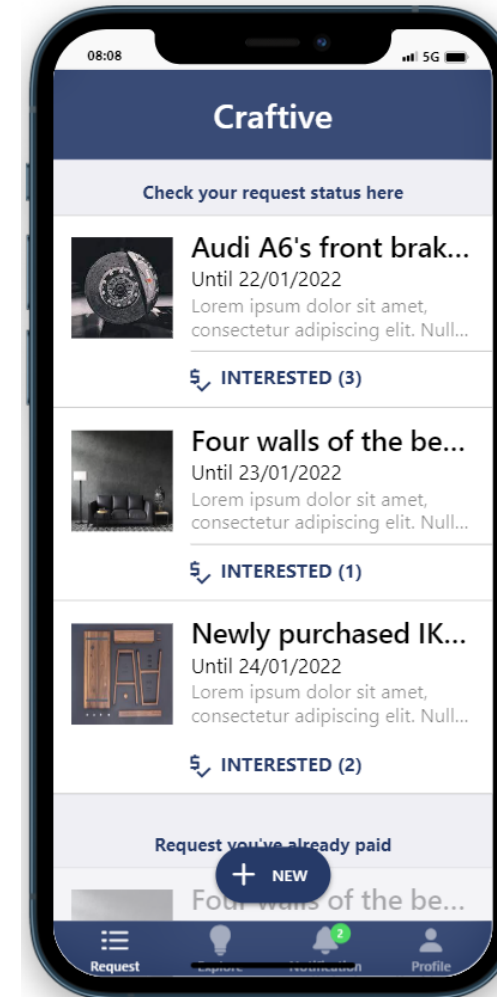


Homepage of the APP

# Experimental Design



Camera

Link to open the App
(http://192.168.2.214:3000/)

Chat with tasks

Test user shares his/her
screen on Zoom

Link to LimeSurvey
questionnaire
(SUS)

Microphone
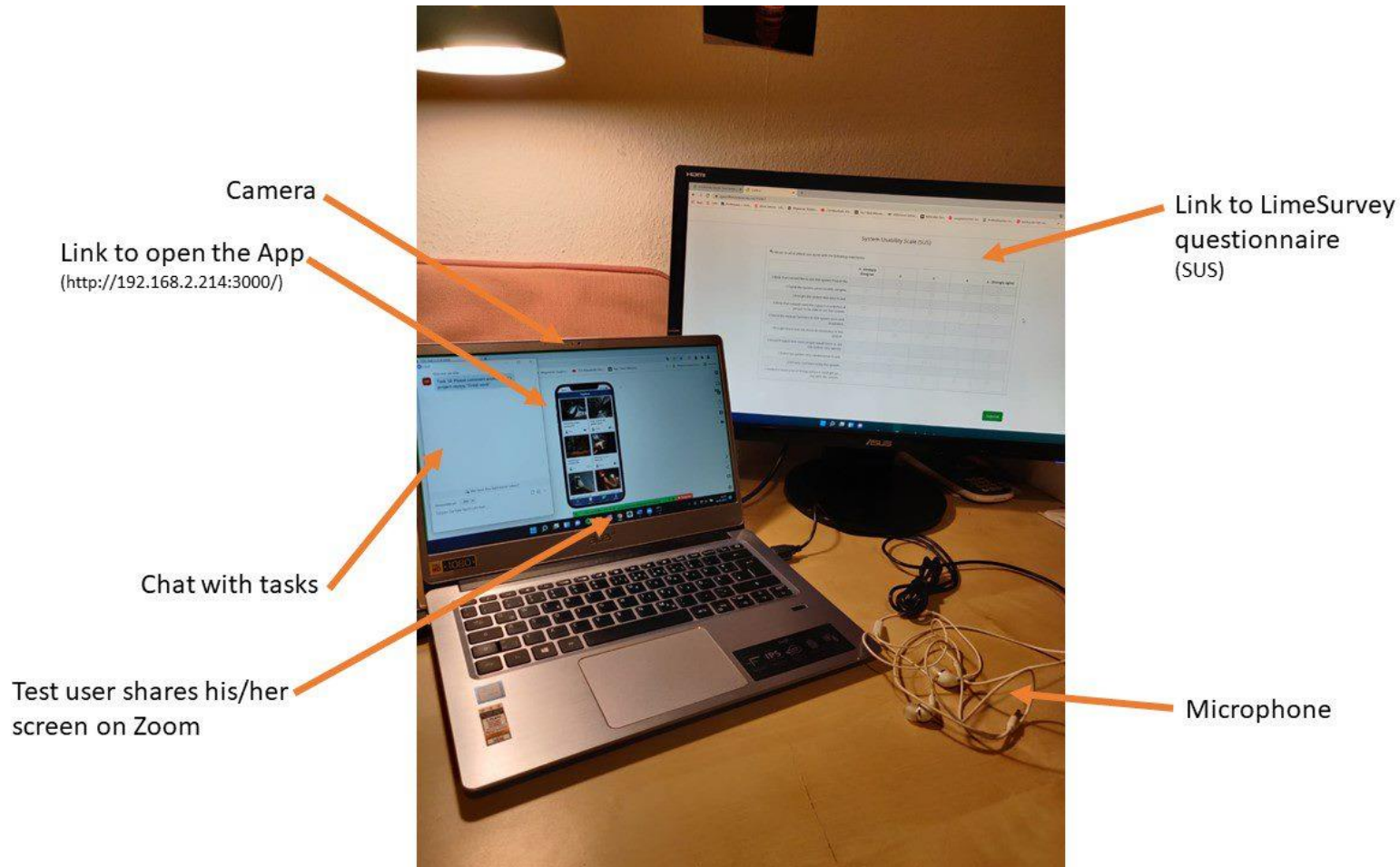
**Experimental Procedure-Part 1**

- 30 minutes per session, 10 test users
- Experimenter not allowed to help
- Experiment Setup
- Starting point: opening the app by the test user
- Test user will get the **tasks** via the chat function & will be read out loud

# Experimental Design – Hypothesis & Metrics

| Component | Hypothesis Example | Objective measures |
|---|---|---|
| **1. Learnability** | **1.2** The user can complete the creation of a second request faster than the creation of the first request. | The ratio between the number of cases in which the statement is true and the number of cases in which it is false. (No =0, Yes = 1) |
| **2. Effectiveness** | **2.2** At least 78% of the test persons manage the task of deleting a request. | The ratio between the number of tasks completed successfully and the total number of tasks undertaken. |
| **3. Efficiency** | **3.1** The average time of creating a new request (high level performance task) does not exceed 100 seconds. | The time users take to complete a specific task. |

# Quantitative Evaluation – Hypothesis & Metrics

| Component | Hypothesis Example | Objective measures |
|---|---|---|
| **4. Memorability** | **4.1** 60% of the test persons can remember the steps to fulfill the task of texting a possible helper during a debriefing after the test. | Ratio between the number of users who can remember the steps for fulfilling a specific task and the number of users who cannot. |
| **5. Errors** | **5.1** At most 70% of the test persons will make an error while commenting a specific project on the first try. | Ratio between the users who will make an error fulfilling a task and the users who will not. |
| **6. Subjective Satisfaction** | **6.1** The prototype achieves at least a rating of 6 out of 10 on average. | Rating number |

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# Experimental Design – Test cases

| Task | Instruction |
|------|-------------|
| **Task 2** | Please release a request with the following dates:<br>☐ Title: Paint walls of my kitchen<br>☐ Keyword: Painting works<br>☐ Post Code: 80995<br>☐ Request deadline: 02.02.2022<br>☐ Description: Can someone help me painting the walls in my kitchen?<br>☐ Photo: you don´t have to select one |
| **Task 4** | Please select one person to help you with the problem of Audi A6´s front brakes and fulfill the steps to enter into the deal |
| **Task 8** | Please check the rating of a user´s profile |
| **Task 10** | Please comment another user´s project saying "Great work" |
| **Task 11** | Please have a look at the amount of projects you liked with your own profile |
| **Task 14** | Please name as many system features (functionalities) of the app that you remember. You have 30 seconds to do this. |

# Experimental Design



Camera

Link to open the App
(http://192.168.2.214:3000/)

Chat with tasks

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screen on Zoom

Link to LimeSurvey
questionnaire
(SUS)

Microphone
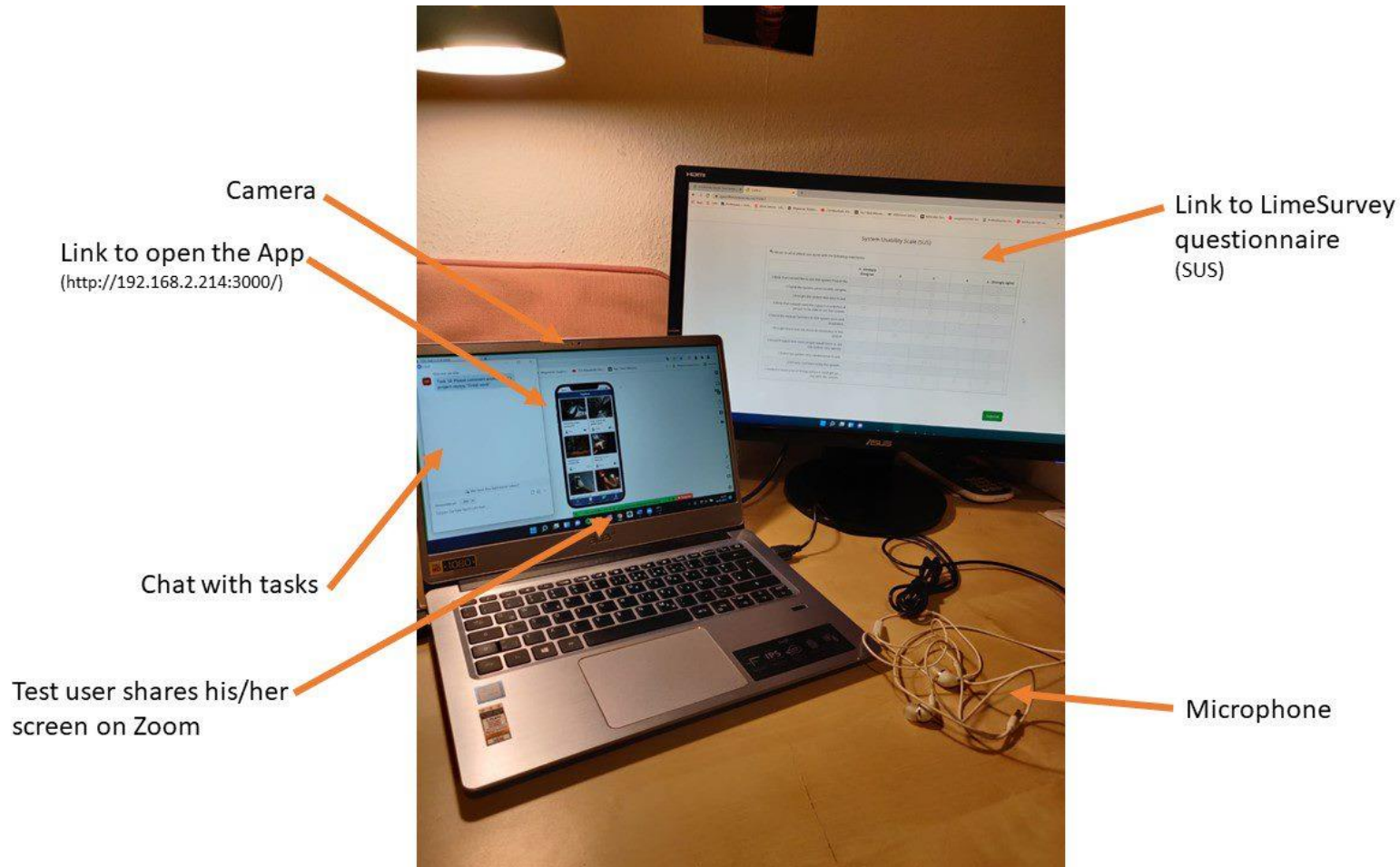
## Experimental Procedure - Part 2

- Test user will get link to LimeSurvey questionnaire (SUS)
- Experiment will be video recorded
  --> data collection afterwards
- Data collection: speech observation, time measurement, counting events
- Compiling data in Excel and analyzing with SPSS

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# Experimental Design - Metrics

System Usability Scale (SUS)

*Indicate to what extent you agree with the following statements.

| | 1 - Strongly disagree | 2 | 3 | 4 | 5 - Strongly agree |
|---|---|---|---|---|---|
| I think that I would like to use this system frequently. | ○ | ○ | ○ | ○ | ○ |
| I found the system unnecessarily complex. | ○ | ○ | ○ | ○ | ○ |
| I thought the system was easy to use. | ○ | ○ | ○ | ○ | ○ |
| I think that I would need the support of a technical person to be able to use this system. | ○ | ○ | ○ | ○ | ○ |
| I found the various functions in this system were well integrated. | ○ | ○ | ○ | ○ | ○ |
| I thought there was too much inconsistency in this system. | ○ | ○ | ○ | ○ | ○ |
| I would imagine that most people would learn to use this system very quickly. | ○ | ○ | ○ | ○ | ○ |
| I found the system very cumbersome to use. | ○ | ○ | ○ | ○ | ○ |
| I felt very confident using the system. | ○ | ○ | ○ | ○ | ○ |
| I needed to learn a lot of things before I could get going with this system. | ○ | ○ | ○ | ○ | ○ |

**Subjective measures**

- System Usability Scale (SUS) by Brooke (1996)
- Advantages
  - Simple and short questionnaire; not too in-depth
  - Can be used on small sample sizes with reliable results

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# Experimental Design - Quantitative Criteria

| Hypothesis Example | Objective measures | Quantitative Criteria (Treshold value) |
|---|---|---|
| **1.2** The user can complete the creation of a second request faster than the creation of the first request. | The ratio between the number of cases in which the statement is true and the number of cases in which it is false. (No =0, Yes = 1) | **Number ≥ 60%**<br><br>--> subjective estimate (above-average) |
| **2.2** At least 78% of the test persons manage the task of deleting a request. | The ratio between the number of tasks completed successfully and the total number of tasks undertaken. | **Ratio (Effectiveness) ≥ 0.78**<br><br>--> Basis: Literature: average task completion rate is 78% |
| **3.1** The average time of creating a new request (high level performance task) does not exceed 100 seconds. | The time users take to complete a specific task. | **Time ≤ 100 seconds**<br><br>--> Basis: Test run |
| **5.1** At most 70% of the test persons will make an error while commenting a specific project on the first try. | Ratio between the users who will make an error fulfilling a task and the users who will not. | **Ratio (Errors) ≤ 0.7**<br><br>--> Basis: Literature: average number of errors per task is 70% |

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# THANK YOU!

# And looking forward to your FEEDBACK!