Multimedia Lab

Faculty of Engineering University of Porto

Social Interaction Project

Lab Hope - Group 12

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1. Context

“7 SECONDS” is an interactive installation where two users interact with each other by answering questions or guessing the answer of their opponent, comparing both the truth and the judgment. This was a project developed for the master’s on Multimedia and on Electrical and Computer Engineering and its main focus is to confront users with their judgments and reality.

2. Goals

According to Linda Blair, a clinical psychologist : "(...) 'It takes only seven seconds for us to judge another person when we first meet them,", She further explains this behavior goes back to our "(...) primitive roots when we couldn't afford to make wrong decisions." Our main objective is, therefore, to confront users with the existence of judgment and how far it could be from reality.

With the use of an interactive installation, we want users to answer questions based on Myers-Briggs Type Indicator. The test was divided in 3 different rounds, with specific goals and emotional impacts on the users. The answers were based on the Likert scale since it’s a type of rating scale often used in personality types and forms that tell how people feel about something specific. In the first round, the goal is to make users judge one another based on a first impression without the fear of judging. The second round goal is to confront users with a new set of questions in which they have to judge their opponent and answer about themselves. Here the answers will be shown and the objective is to confront users with their judgments and reality. The final round will be based on the first set of questions of the first round, in which the goal is to understand if the users changed their opinion, because, by now, they will have a better idea of the personalities of one another. The goal of the overall experience is to create a discussion between users in order to make them understand that, even though judgement is impossible to avoid, we need to try to put it aside and meet people before making bad assumptions.

3. Double diamond process description

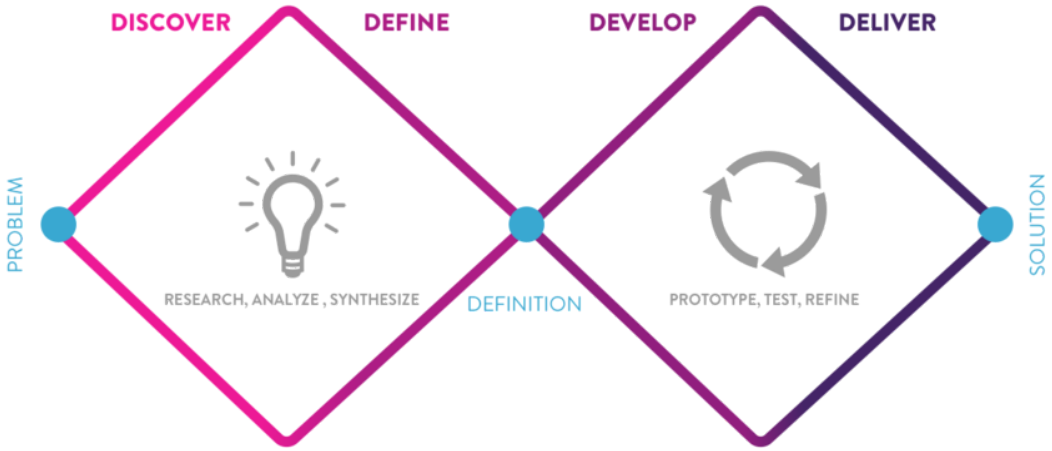


Figure 1. Double diamond process

In order to make our project a reality it was vital to define a methodology capable of guiding us through the development of all the components needed and, at the same time, take advantage of the group's multidisciplinarity. For that we were asked to use a double diamond methodology approach defined with 4 main stages (discover; define; develop; deliver). (Figure 1)

3.1 Discover

In this first phase the group was in charge of researching and brainstorming a theme for the project. Different ideas were discussed, like a cooperative game about the conflict between mind and heart, an app for guessing other human emotions, a game to diffuse a bomb etc. But, in the end, we opted to develop an interactive experience that could explore human emotions and judgment. In order to do so, we then decided to explore how we could apply this concept in an appealing and understandable way. First we researched about judgment, which helped us find some interesting articles and information useful for sustaining our concept. We discovered that Humans are able to make impressions of others in seconds, 7 seconds to be exact, with presumably stable characteristics such as trustworthiness and competence based on facial appearances and other simple behaviours (ex: if someone takes an elevator for just one floor, people may infer that he/she is lazy). Just with a face people can define 3 universal qualities:

attractiveness, trustworthiness and dominance. Other aspects that interfere with our impressions are goals, values and beliefs of others.(Irmak Olcaysoy Okten, 2018).
But as professor Alexander Todorov, author of Face Value: The Irresistible Influence of First Impressions and an academic at Princeton University, states: “A first impression could be misleading,”, “Trying to figure out what a person is like from a simple exposure is basically ridiculous. We only make first impressions about strangers. So naturally they are superficial.” (William Park, 2019).

3.2 Define

Now it was time to define our experience, how we could transfer these concepts and ideas using a social interactive project, and what message or emotions we wanted to convey. We decided to inspire ourselves in a social experience named “Middle Ground” created by an youtube channel named “Jubellee”, its objective was to confront people with different opinions/judgements about a specific theme in order to find a “middle point” in which they could agree. Another reference suggested by the teachers was the Voight-Kampff Test from the movie “Blade Runner”. These references were useful for the overall emotional experience of our project. An experience in a somewhat private space/area that could give users freedom to debate without fear of being judged, as in “Middle Ground” and an experience that could somehow replicate an unusual test like the Voight-Kampff Test giving users smoking of excitement.
In the end we decided to create an interactive installation where two strangers could face each other consciously judging one another. The experience would be conducted by a computer, and each user would have to evaluate another based on a first impression using a potenciometre based on the likert scale. The questions would be based on C. Jung and I. Briggs Myers Type Theory.

3.3 Develop

In this phase we divided each component of the project through the different members of the group. Each component was transformed into different tasks that each and one of us had to conclude : Website, processing code, arduino code, hardware, design, documentation, etc. First, we decided to define a brand for our project that could guide us with the visual aspect of the overall interface. We designed a logo representing a clock with the name “7 SECONDS”. Everything would be on black and white to simulate the 2 users on the experience. Then some mockups were created for the interface. We opted for very simple and straightforward visuals to

convey a somewhat formal and serious ambience. A teaser video was also developed with motion graphics and a dramatic feel to create excitement and curiosity on spectators. The development of the program itself was divided into 2 main parts, the visual part with processing and the functional part with arduino code. All the questions were divided in each round and users would have 7 seconds to answer. The short time was important to us since we believed that if users had a lot of time they would change their opinion consistently in each question. We considered using recorded voice for the questions as it could help with the understandability of questions but the idea was discarded since we didn't have the necessary equipment or time to record all of them. Later on we opted for the inclusion of music and sounds in order to make the experience more interesting.

3.4 Deliver

Our project was then delivered and presented at room I-105. During the assembly of the material needed for the project, we chose to use the computer itself instead of the projection. This decision was made since we thought that the projection would not bring anything new or important to the user experience. We even considered that the projection could somehow compromise the results of round 2 since outside observers could inhibit users.

We believe that everyone who tried it was able to understand the objective of the project and seemed to be excited and interested. Some negative aspects that we took into account were the fact that the experiment took a long time and that the questions and results were presented for a short time. This added to the user's stress, prompting them to make decisions in a hurry without often understanding the whole question. In the development phase, we considered that the time should be short so that users wouldn't change their opinions, but in fact the reduced time also had its impact.

4. Innovation points

We believe to have created an innovative project since we managed to make an interactive social experience capable of showing how judgmental humans can be. With the use of a computer mediator, we managed to make users feel less nervous, since both of them would be in the same position. Users were able to understand their judgments by themselves with the experience, without any help from a mediator or any kind of bad outcome. It's an experience that entices argumentation and understandability. With the use of different rounds of questions we intended to divide the experience, providing different emotional responses. Users were able to know each other and understand each point of view.

5. User experience

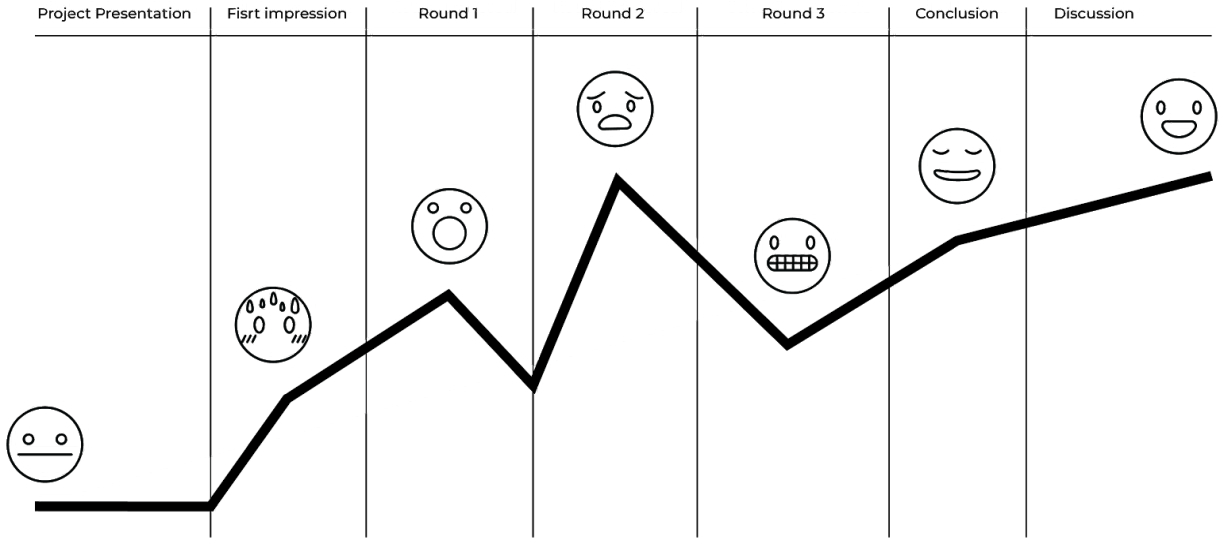


Figure 2. User experience

The experience begins with two users entering a somewhat private space with two chairs facing each other, a computer and two evaluating devices. After being seated, the computer will guide the users and explain the experience (Project Presentation), making them look at each other for 7 seconds (First impression). These 2 initial phases will increase users' expectations and excitement. Once they sit down and a first round of questions begins:

Round 1 - In the first round users will first judge each other based on a first impression. All the questions will be based on C. Jung and I. Briggs Myers Type Theory. Questions will be anonymous.

Round 2 - In the second round, users will have to answer about themselves and guess the answer of the other. This time answers will be shown and users will have to reflect on them and see if their first assumption was correct. The questions on this phase will be in some way related to the first round, but will be more unconventional and may cause some discomfort.

Round 3 - At the final round users will have to answer the same questions of the first round. In this round they will probably change their answers about one another. If they changed, it shows how bad their judgments can be, if not, they might be good at judging people.

The experience will then conclude giving users an important message about human judgment (Conclusion), and entice them to discuss with each other (Discussion), making them understand how we should never use our first impressions to judge others.

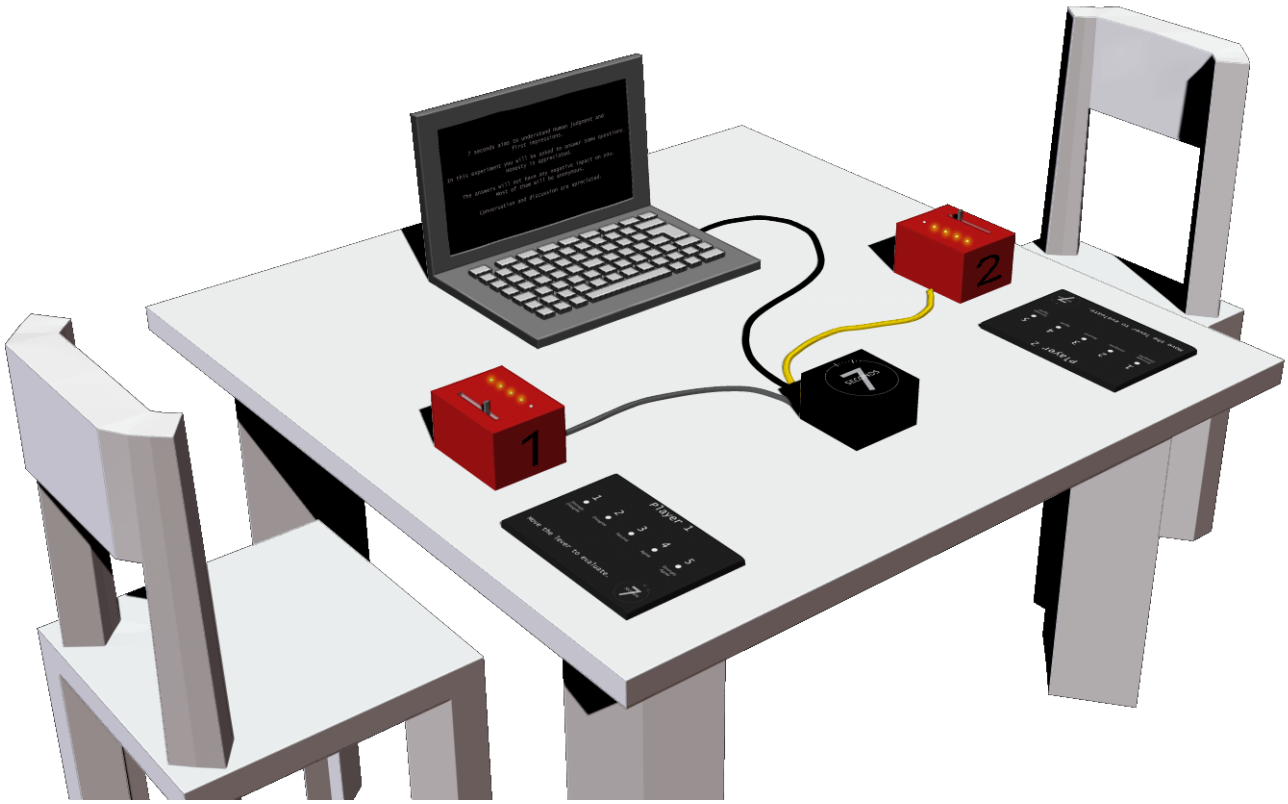
6. Technology and interface specifications

The interface of the project itself consists on :

- 1 table with 1 chair in each side
- 2 potentiometers
- 1 Arduino Uno
- 10 leds
- 1 Computer

In order to make this project come true, we had to design a hardware setup and then programm it according to the functionalities we had previously determined.
Starting with the hardware component of the project first, we connected an Arduino uno to 2 different potentiometers and 10 leds, having each box (which will be used by one of the participants) 1 potentiometer and 5 leds. Both the potentiometers and the leds were connected to the analog pins.
Writing the arduino code was the following step so that we could analyse the inputs, identify the values of the potentiometer and then send them to processing through serial communication. As a side note, we mapped the potentiometer values that are in the interval [0; 1023] to [0; 100] and then divided that by 5 in order to have 5 intervals, corresponding to the ones of the Likert scale. The number of those intervals are the parameters sent to processing.
As far as the processing part is concerned, we had to code everything that the users could see. We received the values from arduino and had to correspond them to their user, round, etc. Apart from that, we programmed everything always having in mind the timeline of the experience and the timing of each question of each rond.
It is relevant to mention that all the data of each experience is exported from processing to a **.txt** document so that a further analysis could be made after, comparing results of different experiences.

Figure 3. Illustration of experience



7. Conclusions and future work

In the end we were very satisfied with the final result. We had a lot of feedback from both our colleagues and professors. We considered that the objective of the project was accomplished, since users were able to know each other and discuss their judgments and opinions. Participants were intrigued and excited about the overall concept of the experience and considered that it had a lot of potential.

We also believe we could improve our project in a lot of aspects. Questions should be narrated by a voice in order to avoid misunderstandings and stress on users that had to read the questions without exceeding the time established. The results on round 2 should be presented in a clearer and more user friendly way. Even though all the answers were recorded by the computer on a separate file for our analisis, we weren't unable to present them with the use of graphics and tables directly on the program. But, futurly, we could implement that functionality and analyze the results of all sessions of the experiment. It could also be interesting, based on these results, to find people with similar ideas and perspectives. Find a percentage system of similarities and make these people contact each other. It could also be interesting for users to only see each other for 7 seconds or only to look at a photograph and then, during the experiment, they wouldn't have access to any image or the person itself.

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