

# USER STUDY

Group II

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UNCOVERING MENTAL MODEL

USER 1: DIANA  
AGE: 26



- **Can you describe what you see in every visual?**
- Yes, easily.
- **Is there any task that you can't perform?**
- None. It's well-thought and easy to decipher. I would only need to understand better how the QR-CODE works.
- **What did you like the most?**
- The idea of the screen after the validators, it's also a second confirmation of the validation of the ticket.
- **What do you think is the best way to get a ticket, cash or QR-CODE?**
- QR-CODE.

- **What tasks need to be redesigned?**
- What if the security man cannot reach the person with the square red light while he is climbing down the stairs just before arriving to the station? Is it easy to find his square red light in the middle of the crowd down in the metro station?
- **Are there any problems using the system?**
- The security guards reaching on time to the people with the square red light, before they enter the metro. Also, if they can identify the person when they arrive next to her, since there is no red light without the screens, in real life.
- Can the thermal cameras show people as they are, or sense only the heat of the body, not recognizing the faces making it difficult for the security guards to identify people's faces?
- **Is this design useful for users, making them always pay the ticket?**
- Yes, it makes an impact on people's consciousness.
- **Other Observations:**
- It would avoid lines in the ticket machines, the QR-CODE idea.

## USER 2: NATÁLIA

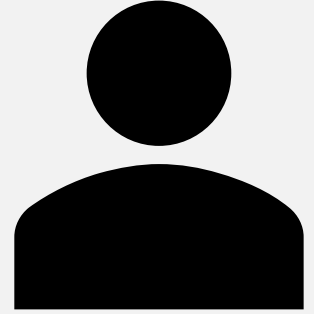
AGE: 22

- **Can you describe what you see in every visual?**
- No. What is the QR-CODE? Is the green light the one that detects people on the validator? Does the screen show real people or is it in black and white?
- **Is there any task that you can't perform?**
- Yes. How does the QR-CODE task work? Where can you get it from? How is your ticket card connected to the QR-CODE?
- **What did you like the most?**
- It makes an impact on people's conscience that they are being watched.
- **What do you think is the best way to get a ticket, cash or QR-CODE?**
- I would rather validate my ticket using the QR-CODE than the ticket card.



- **What tasks need to be redesigned?**
- Use validators with QR-CODE only. Only by arriving to the metro station and having the ticket already paid, makes this process easier.
- **Are there any problems using the system?**
- In the rush hours, the system would have to be very good to detect everyone. The system would have to make sure that everybody would pay the fine.
- **Is this design useful for users, making them always pay the ticket?**
- By having a new system detecting everything to make sure everyone pays, I would go back and pay my ticket.
- **Other Observations:**
- Change tickets for commercial adds is a good idea. If you really want to use the system and have no possibilities how, you won't mind watching commercial adds.

**USER 3: ALEXANDRE**  
**AGE: 30**



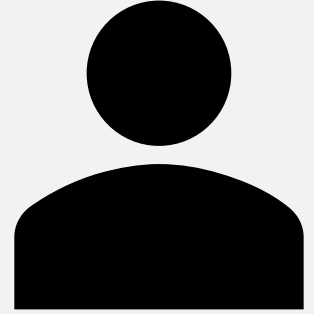
- **Can you describe what you see in every visual?**
- Yes, the stories are very self-explanatory.
- **Is there any task that you can't perform?**
- No.
- **What did you like the most?**
- The possibility of getting tickets through the APP.
- **What do you think is the best way to get a ticket, cash or QR-CODE?**
- With the QR-CODE using the APP.

- **What tasks need to be redesigned?**
- The first control area shouldn't be so close to the validators in order to give enough time to those more careless to notice that they forgot to validate the ticket.
- But, on the contrary, it shouldn't be so far that could avoid immediate action by Metro officers.
  
- **Are there any problems using the system?**
- The system might fail if there's a lot of people passing without validating.
  
- **Is this design useful for users, making them always pay the ticket?**
- This design will keep the same efficiency for those who already use the system correctly and will probably influence those who may try to cheat it, making them go back and get a valid ticket.



## USER 4: FREDERICO

AGE: 31



- **Can you describe what you see in every visual?**
- Yes, it's not difficult.
- **Is there any task that you can't perform?**
- No.
- **What did you like the most?**
- The detection of the invalid users with the thermal cameras.
- **What do you think is the best way to get a ticket, cash or QR-CODE?**
- QR-CODE is more interesting, but both should be kept. I think that the possibility to pay using a debit/credit card is missing.

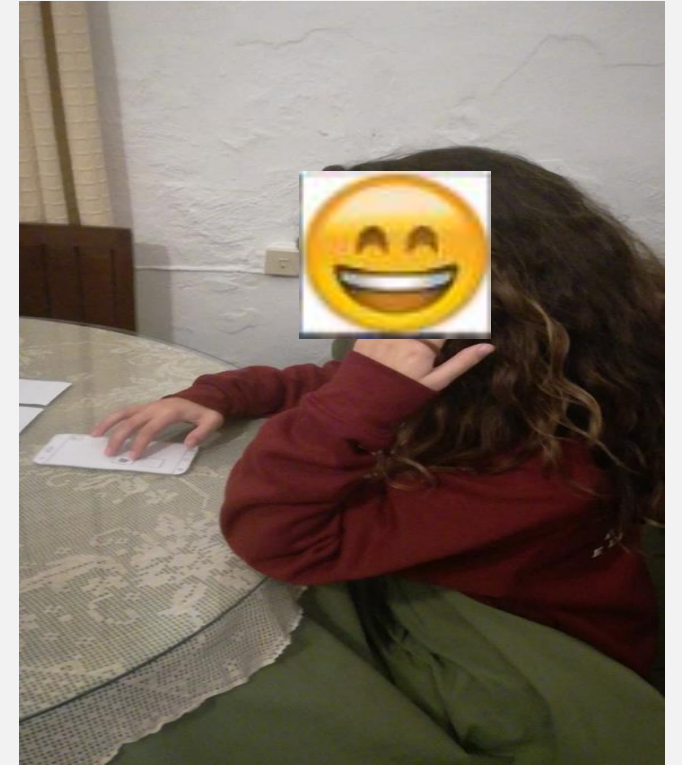
- **What tasks need to be redesigned?**
- Put signals indicating that the Metro officers are close by.
- **Are there any problems using the system?**
- Imagine there's a problem with the detection because the thermal cameras are not working as expected and a valid user appears red in the monitor?
- **Is this design useful for users, making them always pay the ticket?**
- Yes, because of the shame factor when detected.
- **Other Observations:**
- If the person doesn't see the monitor, how he/she will know he/she is an invalid user? Maybe adding a light signal next to the validators.

THINK ALOUD

## USER 5: BEATRIZ

### AGE: 22

- **Frequency of use of the Metro?**
  - Every day.
- **The user reached the goal?**
  - Yes.
- **What was the main problem?**
  - The screen to select what ticket she wanted.
- **Will you use our app to exchange tickets for commercial ads?**
  - Depends on how many ads we need to see to receive a monthly pass.



## USER 6: VASCO

### AGE: 18

- **Frequency of use of the Metro?**
- Rarely.
- **The user reached the goal?**
- Yes.
- **What was the main problem?**
- Did not realize that the button for QR-CODE was to see the QR-CODEs that he already had. He thought it was to scan a QR-CODE.
- **Will you use our app to exchange tickets for commercial ads?**
- Yes, because he only uses the subway a few days a year and so he will travel free without having to see many ads.



# ANALYZING RESULTS

## **After the tests we could understand:**

- Users using our solution detected a problem in the rush hours.
- We can use QR-CODE to validate tickets.
- Users couldn't understand how the QR-CODE system will work, and how it will connect the ticket to the user.
- Not changing too much the way how people use the system is a good approach.
- Showing those who don't pay in a visible to everyone display/monitor is a good way to reduce the number of customers that don't pay because of the shame factor.
- In general the users like to use our app.
- We need to improve the design of the screen to select what ticket the user wants.
- We need to improve the design of the QR-CODE screen

# DESIGN IMPLICATIONS

- We need to review the APP design
- We need to review how the mechanism of the validator will work and how everyone will understand the system without fails
- We need to review the QR-CODE system and how he can improve our solution
- We need to think in a way how the fiscals can identify everyone in the rush hours.