

TICKET MACHINE DESIGN

GROUP 6

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Personas

Our Method

The task of the assignment was to construct **Personas** for a ticket machine with the intended user audience being those who use the **Kista** tube station.

In our group only one of us had used ticket machines before so we decided to analyze existing **ticket machines in Stockholm**. Therefore we paid a visit to the Central Station in Stockholm. Rather than asking users directly what they need we realized that it is more effective to **observe** them using ticket machines. This experimental data complimented the next phase of our ethnographical study - **Interviews**. Note that we constructed the interviews after we accomplished one observation session.

Observation

Our observation criteria were a set of generalized factors: age, gender, time spent using the machine, success rate and reasons for failing to use the machine.

We observed that most users were able to successfully use the machines. The people who were not successful were from the older age group (more than 60 years) and those people who were unfamiliar with computers. Younger users and people experienced with using the machines spent less time than others. Also those users who were unable to trace the instruction steps of getting a ticket would resort to taking help from counters. We also got some data from the Information Center Desk and according to them generally users were satisfied with the machines. Occasionally the users had problems in the Payment step, due to connection issues with the machine. Also the people at the **Info Center** were of the opinion that the machines are user friendly yet some older users were hesitant and nervous about using the machine. Overall they gave us a 60% usage figure for users while the other 40% are buying tickets from the counter.

Interviews

Choosing the right individuals to design for is the most crucial part of constructing Personas. Designing a product that pleases everyone is impossible. But our project is a social design that is going to be used by every Stockholm resident that uses the transportation system. Hence we cannot exclude or ignore any type of users while designing the system.

We took a total of five interviews covering different user categories.

Given below is the questionnaire and a summary of the answers:

1) What is your Age?

Two young user of age 17 years and 23 years, a two middle aged 31 years and 35 years, and one old aged of 56years.

2) What is your Occupation?

Two Students, Three working professionals.

3) Have you used ticket machines before?

All users have used some kind of ticket machines before.

4) If yes, have you faced any problems?

Four users didn't have any problem with the machines, except the older aged person. He said that he experienced navigation problems, was afraid of doing mistakes and felt nervous. He also said that all these new technologies are novel to the older generation and they don't have the frame of mind to use machines that are technologically advanced.

5) How often have you used the ticket machines?

Frequency of using machines varies from twice a month to twice a year.

6) Are you familiar with computers?

All the users were computer literate, but the old man was not comfortable using computers.

7) How would you like to enter information/give input on the machine (touch screen/keyboard)?

Three users prefer to use keyboard, for one it hardly matters either keyboard or a touch screen, one of the user was comfortable with touch screens.

8) Would you like to buy SL tickets from the machine?

All the users would like to have SL tickets from the machine.

9) Where would you like the machine to be placed?

The response was mixed, two users were very particular about having the machine at station, rest of them were emphasizing that machines should be near public places like ATMs, supermarkets etc.

10) Would you like to pay by cash or credit card/debit card?

All except one wants to pay using credit cards.

11) Do you want to see any additional features (Maps, Wizards) in ticket machines?

All except one don't want any additional help features in the machine, the reason they give was that it will add to the delay for using the machine. One subject suggested having two separate machines; one for information and one for purchase of tickets.

Behavioral Patterns

1. All have used ticket machines before.

2. No major problems in using ticket machines, although technological barriers may exist.

3. Computer Literate

4. Prefer Keyboard as the medium of input.

5. Would like SL tickets to be purchased from the machine.

6. Where to place the machine was more of an accessibility issue. Machine should be easily accessible.

7. Payment by Credit Card.

8. Satisfied by the current level of information and features provided by the machines.



Calle Andersson

Details

Age : 35

Occupation : Planning Management

Technology : High

Description

Description : Calle works as a consultant in a multi national agency. He uses the SL Transportation system daily to reach his office. He uses the monthly SL card because he is a frequent traveler. Like most of Swedish people, Calle has hands on experience with technological devices and is comfortable with new artifacts. Since every second is important for both his job and family, Calle prefers not to spend too much time on the queue for buying SL Card since he loves to spend his time with his family at weekends. Calle prefers not to carry too much cash and uses his credit card for most transactions. His Computer Skills are fairly proficient and is at ease with using keyboards in fact he is a good typist. He prefers to get his ticket not only in stations but also in other public places. However Calle does not want the machine to be too distant from the Kista Station and wants the machine to be easily accessible.

Personal Goals

To access the SL tickets as quick as possible and anytime

User Requirements

Requirements are statements about an intended product that specifies what it should do or how it should perform. Our aim is to make the requirements as specific, unambiguous and as clear as possible.

In order to extract the requirements we have used **interviews**, natural **observations** and studied the documentation of **various ticket machines** available throughout the world. We chose interviews because interviewer can guide the interviewee and vice versa. Natural observation provides us with insight about the system that other techniques may not give. By studying the documentation of various available ticket machines we have gathered background information about the system.

The next step in the design process is Brain Storming. Using the two techniques of Brain Storming; **Random words** and **Six Thinking Hats** we generated a number of ideas that will be used for the requirements phase.

After collecting the data and ideas from the above techniques the interpretation and analysis part begins. We classify the requirements as functional, data, environmental.

In environmental requirements we have further sub categories: physical, social and technical.

After environmental requirements we have user requirements. In the end we have usability requirements.

1. Functional Requirements

The machine should be able to provide the user with various types of tickets.

2. Data Requirements

A database of tickets such that each ticket has the following attributes ticket number, price, zone information, ticket type, validity in terms of time period and any other additional comments.

3. Environmental Requirements

- *Physical:*

- a. The machine must be robust in nature preferably having a metallic covering to protect from vandals.
- b. The covering must also provide protection from vagaries of the climate such as dust, snow, moisture and rain.
- c. Most likely the machine will be placed in a noisy setting. Therefore sound feedback must be used carefully.

- Technical:

- a.** Secure and Efficient connection with the appropriate bank for transactions by credit card.
- b.** To assist the user in times of confusion provide the facility of customer support via a push and call mechanism. To facilitate communication with the call center provide a headset having microphone and headphones.

4. User Requirements

- a.** The intended user audience is the entire population of Stockholm, most of whom are comfortable in using technology as part of their daily life.
- b.** The interface must be bilingual, supporting both English and Swedish speaking residents.
- c.** Dynamic help must be provided to the users in form of wizards.

5. Usability Requirements

- a.** Keyboards are more adaptable and easier to use than touch screens.
- b.** The machine must be quick and simple to use.
- c.** The Graphical User Interface must be user friendly.
- d.** Secure Authorization with the appropriate bank for transactions by credit card.
- e.** Special Screen Designs for visually impaired users.
- f.** Optimal Physical design for handicapped users.