

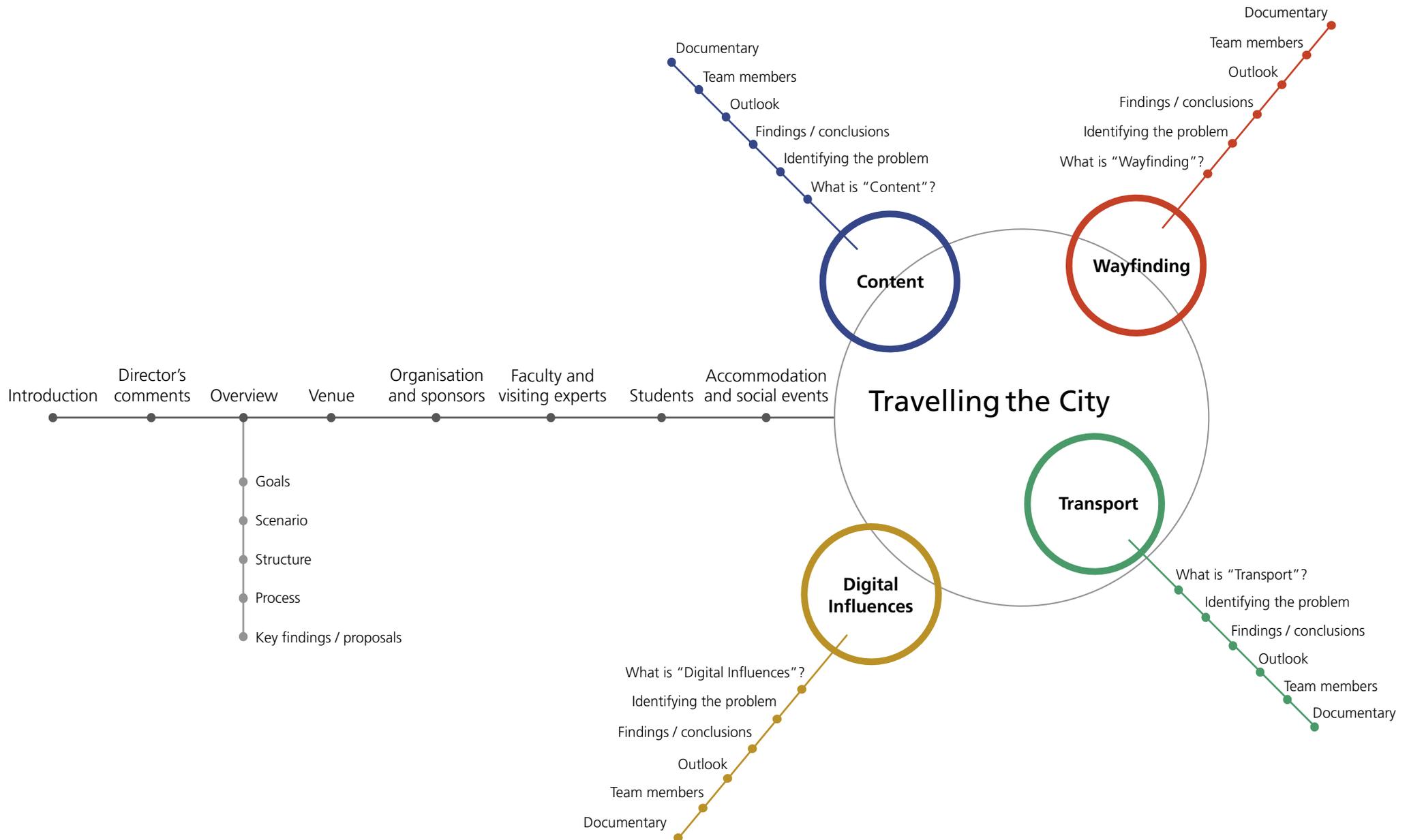
Information Design Summer Academy

Travelling the City

Vienna, 8 – 27 July 2002

An international and multi disciplinary
program to examine information,
wayfinding, transportation, and digital
influences that make travelling in the
city a better experience.

Travelling the City



Introduction

IIID



The summer academy project was originally conceived as an initiative within IIID's Information Design University project and as a first step in building up competence in information design in Vienna.

To achieve optimum results IIID teamed up with the School of Design at Carnegie Mellon University, Pittsburgh, USA.

The Austrian Computer Society, the International Information Centre for Terminology INFOTERM and VIW e-Business Austria declared themselves ready to act as co-organisers.

The summer academy's focus on tourism was welcomed even beyond immediately related institutions.

Our special thanks go to the City of Vienna, the Vienna Tourist Board, the Schloss Schoenbrunn GmbH, the Federal Ministry for Economy and Labour, the Federal Chancellery, Vienna Transport Corporation, TAXI 40100 Taxifunkzentrale GmbH, Forster Verkehrs- und Werbetechnik GmbH and those

corporations and institutions who assisted with student scholarships and support "in kind". Their generosity enabled IIID to apply horizontal information design thinking to the concrete information needs of visitors to a city like Vienna. Applicants from nine countries from as far away as California and India were accepted.

This documentation indicates the wide scope of the subject, it shows the many ideas generated at the summer academy and underlines the need to develop professionalism in designing and operating public information systems. IIID, in close co-operation with concerned authorities and corporations, will take continued interest in the subject.

DI Peter Simlinger
IIID Director



Director's Comment

Carnegie Mellon



Welcome to the first IIID Information Design Summer Academy. The idea of such an academy was envisioned more than three years ago and with the current support of dedicated sponsors it has finally been realized. It is part of the mission and goals of the International Institute for Information Design, Vienna, and has been organized in cooperation with the School of Design at Carnegie Mellon University, Pittsburgh, Pennsylvania, USA.

The vision for the academy has been an initial step in the realization of the Information Design University (IDU), which aims to provide a semi virtual university based on the competence of some of the most renowned educational institutions, research laboratories and design consultancies. The Information Design University has also been authorized under the auspices of UNESCO.

The goals of the academy have been to expose students to principles and issues of information design in the context of real world problems. Students have

investigated, evaluated and modeled conventional and digital information for visitors as they moved around the city of Vienna on foot or by using public transportation. The theme: "Travelling the City" produced four working groups:

1. Content (analysing the vast amount and kinds of information available to the tourist and recommending new ways to understand this information).

2. Wayfinding (analysing how tourists find their way through the city more effectively).

3. Transport (examining the structure of the transportation system and how the tourist understands it).

4. Digital Influences (examining the power and influence that digital information and technology can have for the tourist and the tourist industry).

The academy is made up of a rich and culturally diverse group of students from nine countries located half way around the world. The students range in age

from early undergraduate education, through post graduate education to those in the middle of their careers. Their chosen professions are as varied: graphic designers, writers, engineers, product designers, interior architects and user interface engineers to name a few. This has been a unique opportunity for such a culturally rich group of students to come to Vienna. They are also tourists and well qualified as a user group to understand the issues of Travelling the City.

Lastly, this academy could not have been realized without the support of all the sponsors. Our thanks to them, the IIID, Carnegie Mellon and especially to the students for their spirit and dedication.

Robert O. Swinehart, Professor
Director, Summer Academy



Overview

Goals

- Exposing students to principles and issues of information design in the context of real world problems
- Investigation and evaluation of conventional and digital information for visitors, examining the visitor's experience in a new environment
- Modelling of future scenarios and solutions based on the findings of the investigation



Overview

Goals

Scenario

Structure

Process

Key findings / proposals



Overview

Scenario



Based on data about typical visitors to Vienna and their path through the city we developed a scenario. This helped to focus investigations and served as a common thread for all four groups.

Scenario description:

A professional couple in their mid-forties, he is in Vienna for a conference, his wife joins him with the children (3, 7 and 10 years old) before they leave for their holidays together.

Mom visits Schönbrunn Zoo with the children while Dad goes to the final conference session.

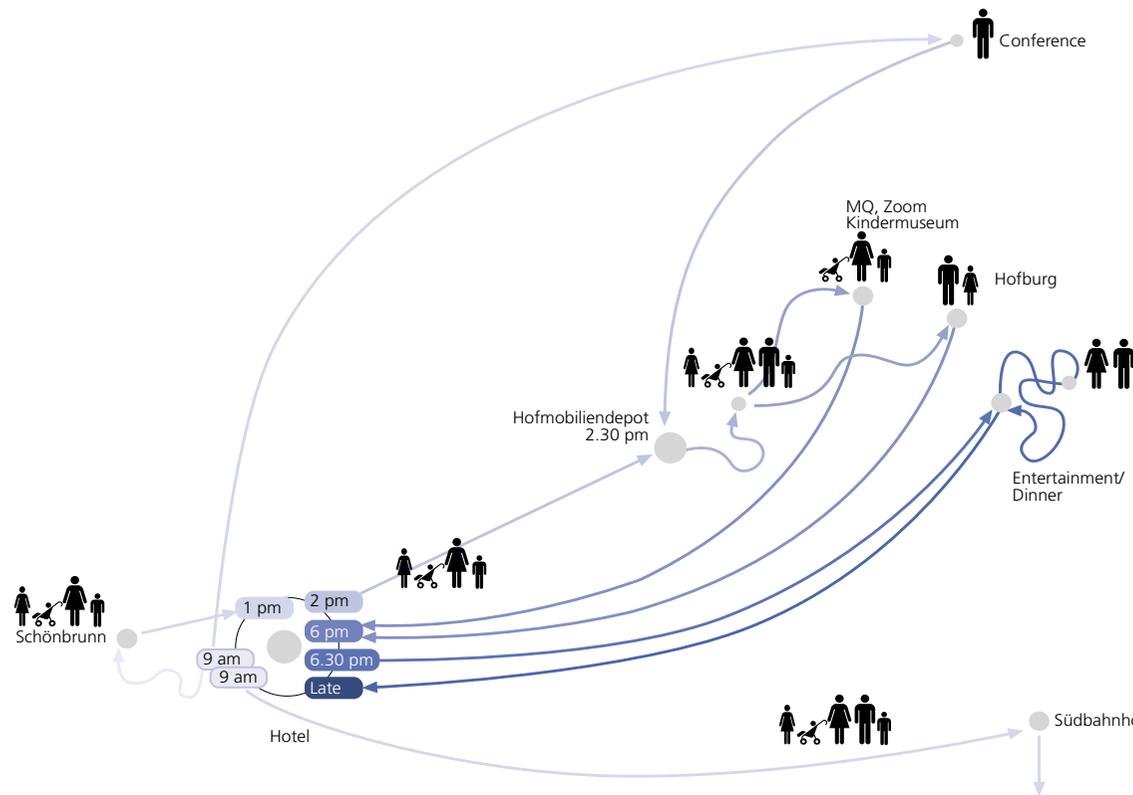
Later in the afternoon they all meet at the Hofmobiliendepot (furniture museum).

They split up: Dad goes to the Spanish Riding School with the 10 year old daughter, Mom goes to the "Zoom" childrens' museum in the Museumsquartier.

They make their way back to the hotel separately.

We assume that they were able to organize baby sitting for the evening and Mom and Dad go back into town for entertainment and dinner.

Next morning the family goes to Südbahnhof to catch a train to Italy.



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Structure

The Summer Academy was divided into four working groups: Content, Wayfinding, Transport and Digital Influences, (briefly defined in the Director's introduction). Each of these groups was to share their work with the class as a whole or with particular groups when appropriate.

The working process was divided into three stages, each lasting a week:

1. Information gathering/research

The initial stage was information gathering/research where the students spent much of this stage "in the field" (the city), observing, taking digital photographs, interviewing pedestrians, travellers, and professionals working in the transportation and tourist industry. They collected primary information, (which they observed/collected) and secondary information, (print or other information produced for commercial purposes).

2. Formulating an information problem

The second stage was to synthesize their information and formulate an information problem or projects that could be modeled as a recommendation in the final presentation. Some of these issues were shared with another group or passed off to other groups for development.

3. Prototyping

The final stage was devoted to prototyping their information proposals for the final presentation to Summer Academy sponsors and invited guests.

The faculty and visiting experts conducted daily reviews and critiques of the entire class to provide feedback and keep everybody abreast of the current situation.

Guest presentations were scheduled strategically throughout the three-week academy.



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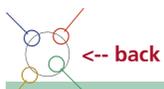
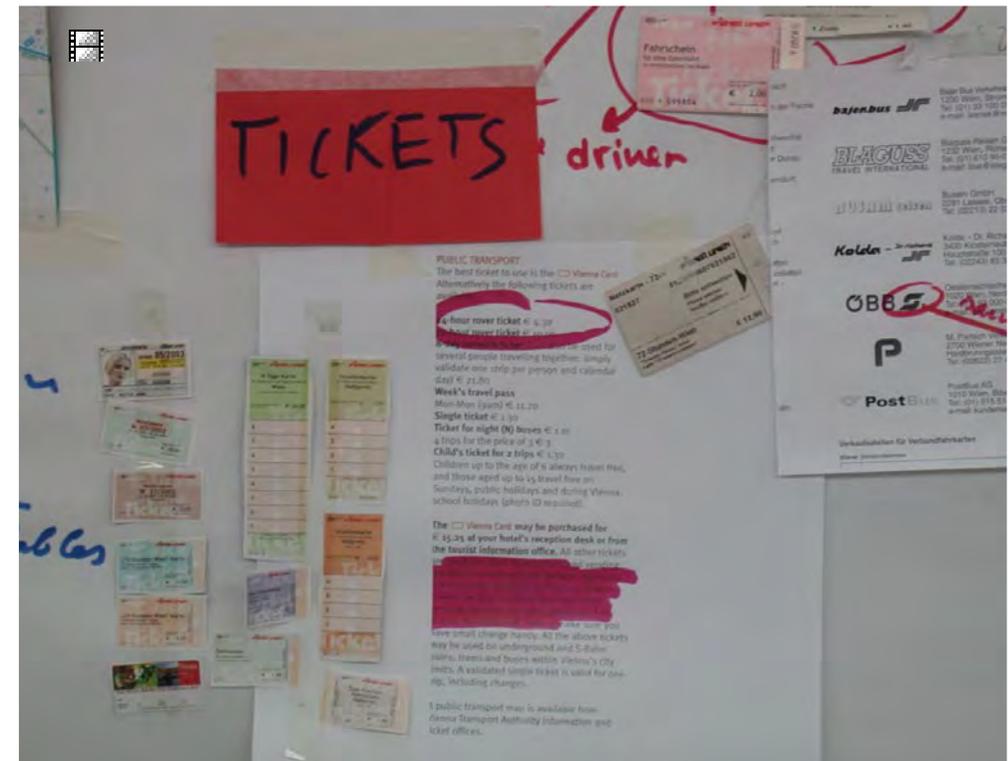
Process

Each group was provided a dedicated working space where they could spread their research on tables for evaluation and discussion. They were required to use large scrolls of white paper, (an endless supply was insured) for their work, discussion and analysis. All of their collected work was intended to be taped to the scroll and their collective analysis was recorded with markers and pens.

Models of their ideas and concepts were generated on these scrolls. Some marker drawings and pictographs were part of the process. The scrolls were mounted onto the walls so they could have a dialogue about their work. The scrolls became a public form for their process work and permitted the other groups to have input and understand their work.

As groups, they divided smaller tasks among themselves, visiting different sights in no-less than pairs so they could discuss their process. Their group process discussions ran through a range of emotions, yet the students bonded well in their groups and as a class.

The work that came out of this process was a group effort that could not have been accomplished by any one individual.



Overview

Key findings: Content Group

The Content group looked at all information by common and clear criteria. They found, that the quality, rather than the form of the information is important. After sifting through and analysing a lot of material they discovered five content principles:

Content must be:

1. Relevant

Content must anticipate and meet the needs of the user.

2. Structured

Content must be well structured and logically organized for the user.

3. Accessible

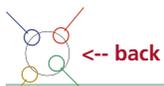
Content must be understandable and easily seen or read.

4. Timely

Content must be accurate and timely and reflect recent information.

5. Complete

Content must be complete and provide information at the level of detail the user needs.



Overview

Proposals: Content Group

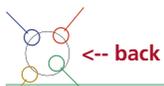
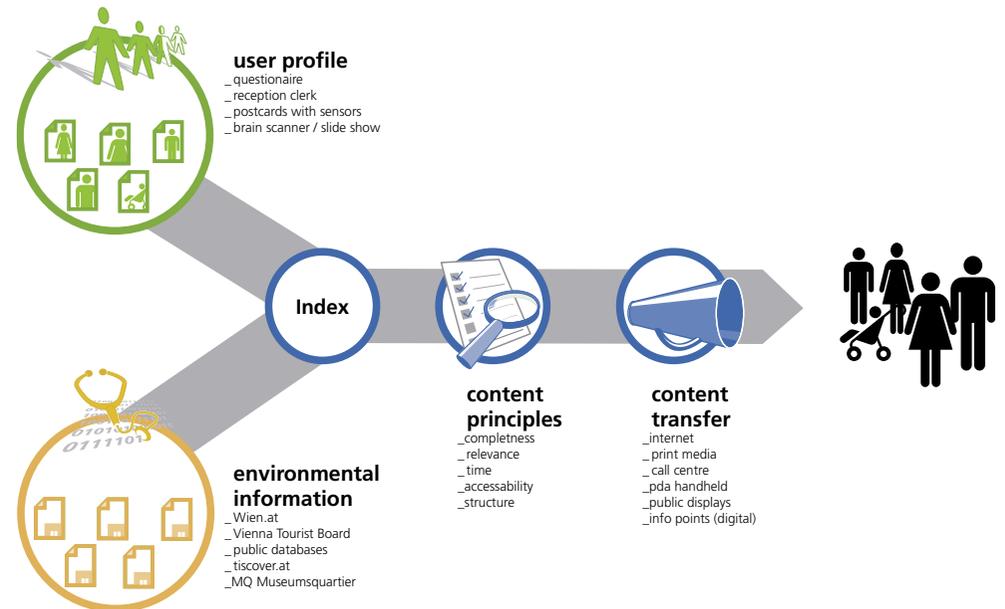
1. A joint public information system

All Input from diverse sources is filed into a central index and structured according to the five content principles (relevant, structured, accessible, timely, complete).

The result is output in various forms of filtered information that is usable content for the user/visitor.

2. An "Opportunity Map"

The map shows information that is relevant to the current time and current location in the city.



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Key findings: Wayfinding Group

The Wayfinding group looked at the different ways a person would use the city, going beyond the usual itinerary of visiting "sites".

They might look for the "everyday" interests that they enjoy at home and want to experience the city a living space rather than a museum piece.

In this context, proximity emerged as the common theme to all issues.

> Proximity

People make choices based on knowledge of where they are, what's close by, available, and personally desirable.

What needs to be in place to provide the basis for a valid choice?

Illuminate

Displays in the transit system, enabling people to take note of things they would otherwise pass by without mention.

Integrate

The attractions remind the user where they are located. The city says "I am here." One learns how the city locates itself around the user. One can decide to follow it or not.

Indicate

Creating maps based on a specific user activities within an area allowing the tourist to find the city's attractions on a more local level.

Illustrate

Colour coding the transit system allows the user to feel relaxed in a consistent system and enjoy the journey.

Infiltrate

Creating activity-based mapping of the city so that all of your activity needs can be met within a certain proximity.



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Overview

Proposals: **Wayfinding Group**

1. The “Proximity Matrix”

When travelling, the map is the first orientation in a city, it takes a while to convert the distance on paper to the actual physical space.

The Matrix

- creates a travel time conversion
- suggests routes and tells the approximate travel time
- helps access the city distances and shows where things are in relationship to each other

2. Creating sequential intuitive wayfinding

Giving people a sense of distance and time while they travel through the city helps lessen any sense of anxiety that is involved in wayfinding.

3. Visions of the city

The environment is under-used in the transit system for identifying place and activity. Integrated ubiquitous designs can fill the platform with interesting things to look at and events while waiting for the train to arrive.

4. Transforming transit space

Consistent and much more obvious colour coding

5. Ring maps: was ist um die Ecke?

A map system that identifies all the activities available within a given proximity for one specific user type.

6. Mosaic Quik Pick

When you don't know what you want, only how you feel: Searching by the kind of mood or non-activity you want.

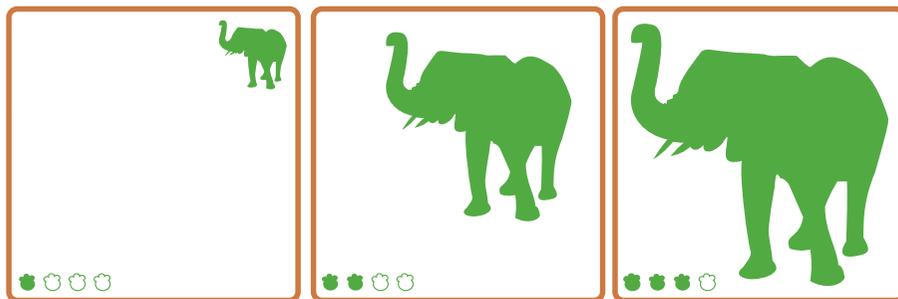
7. Twin Cities: a mental model for activity-based travel

This helps to get a quick idea of a new place. The twin city model overlaps a city the user knows onto the unknown city and allows a comparison. This creates a sense of familiarity and allows visitors to get their bearings.

8. V find: A database for search criteria and technology

This should be:

- Interactive
- User-centered
- Interconnected
- Consistent in voice and content
- Expansive



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Key findings: Transport Group

The Transport group examined the relationship between different transport systems and how the user would move through them. They concentrated particularly on the maps provided for the various modes of transport.

Badner-Bahn and S-Bahn lines are always shown in the U-Bahn maps, and the user assumes that they have an equal status to the U-Bahn.

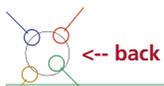
There are maps from different providers that show the same information but displayed differently.

Some maps confuse the user because of the large amount of information that they contain.

There are no maps that clearly show the bus and tram network

The interface to the Vienna transport system needs:

- More consistency between modes of transport
- Better usability (ticket machines, signage, maps)
- Linking of the different transport systems



Overview

Proposals: Transport Group

On the basis of the findings in the research phase, the Transport group developed a new set of maps for the City of Vienna.

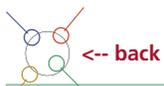
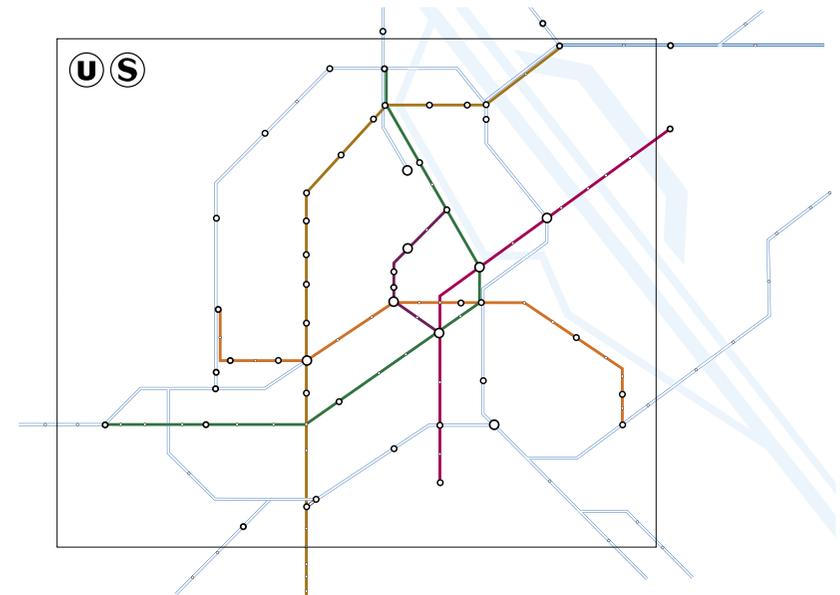
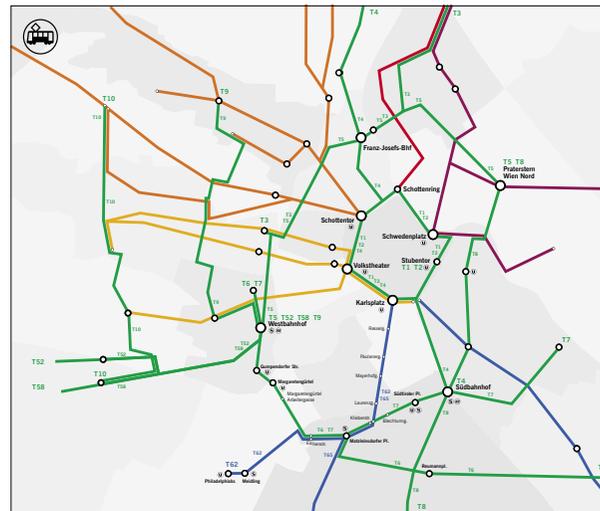
1. Separate tram and U-Bahn maps based on the same pattern

- Tram and U-Bahns share the location of major stations.
- Strong distinction between the most important stations and other stops.
- Tram lines are grouped according to stations where they terminate and the area they cover within the city.

- Clear differentiation between S-Bahn and U-Bahn lines. They are different in character and this should be clearly visible in a map.
- A re-naming of tram lines will facilitate understanding and bring the naming in line with the U- and S-Bahn, and buses (i.e. U1, S1, T1).

2. Consistent visual language throughout the transport system

This reassures travellers, gives them confidence in the system.



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Key findings: Digital Influences Group

How do digital devices influence the experience of the city?
Do existing devices provide an improved experience?
How can current applications of digital technology be improved?

Besides looking into the possibilities of future technology, the group also analyzed two existing devices:

U-Bahn ticket machines

- Problems identifying type of ticket.
- Information interface for tickets is not helpful.
- Misleading terminology for tickets.
- Credit card interface is problematic.
- Current interface does not use the full potential of digital technology.

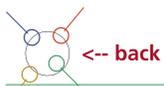
The Info Kiosk “Vienna City Terminal”

- They are often located in less frequented places.
- Information seems to be selected randomly.
- Functionality differs from terminal to terminal.
- Some terminals are broken or badly maintained.

Existing tools and content do not satisfy the travellers’ needs.

Improvement on the graphic user interface of ticket machines should be implemented as soon as possible.

The info kiosk currently in use have potential, but at the moment they create confusion.



Overview

Proposals: Digital Influences Group

Extended kiosk functionality

1. Vienna Card Plus

Combined with a complete visitor's package the current Vienna Card could be the „passport“ for the visitor. The card would be upgraded to a chip card and a bonus system similar to air miles could be attached to its use.

The Vienna Card gives access to the kiosk and unlocks its potential.

2. Map printouts

When the information has been found, it can be printed

3. Museum/event/cinema tickets

When the user has found an interesting event, the ticket can be bought at the kiosk.

4. Public transport tickets

Why not link the possibility to buy tickets for the transport system?

5. Internet access

Increasingly people seek the possibility to access the internet while travelling to just quickly check on e-mail. No need to go find an internet cafe.

6. Download of data to the PDA

Kiosk and PDA could interface via wireless technology, the user could download all relevant information.

7. Upload of PDA data to the kiosk

The user can give a restaurant rating or write recommendations for other city visitors



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Venue

Schloss Hetzendorf, Vienna

The academic home of the “Modeschule Wien” (Fashion School Vienna) provided spacious studios and a very well equipped computer lab.

A conference and freeflow area with a patio that opens out to the park and gardens was also a central space of work and activity. It was a beautiful location and a perfect choice for the Summer Academy.

We would like to thank the staff of the school for their help throughout the event, especially Hubert Micheluzzi for his untiring IT-support.



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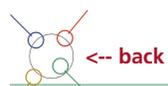
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Accommodation and Social Events

The students were accommodated together in the "Gasometer", an urban renewal project comprising shopping, business, and housing, occupying old city gas works.

Initiated by the students themselves they took turns to cooperatively cook meals from one of the students' homeland. Faculty and other guests were invited to share in these festive meals.

IIID organized a sponsored boat trip on the river Danube and a ride on the historic Wiener Riesenrad (ferris wheel).

Gasometer



Vienna Ferris Wheel



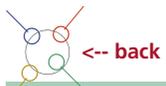
Boat Trip on the Danube



What is “Content”?

Knowledge is reality,
which is viewed from a certain angle.
By changing the angle,
we create new knowledge.

Nonaka



Content

What is “Content”?

Identifying the problem

Findings / conclusions

Outlook

Team members

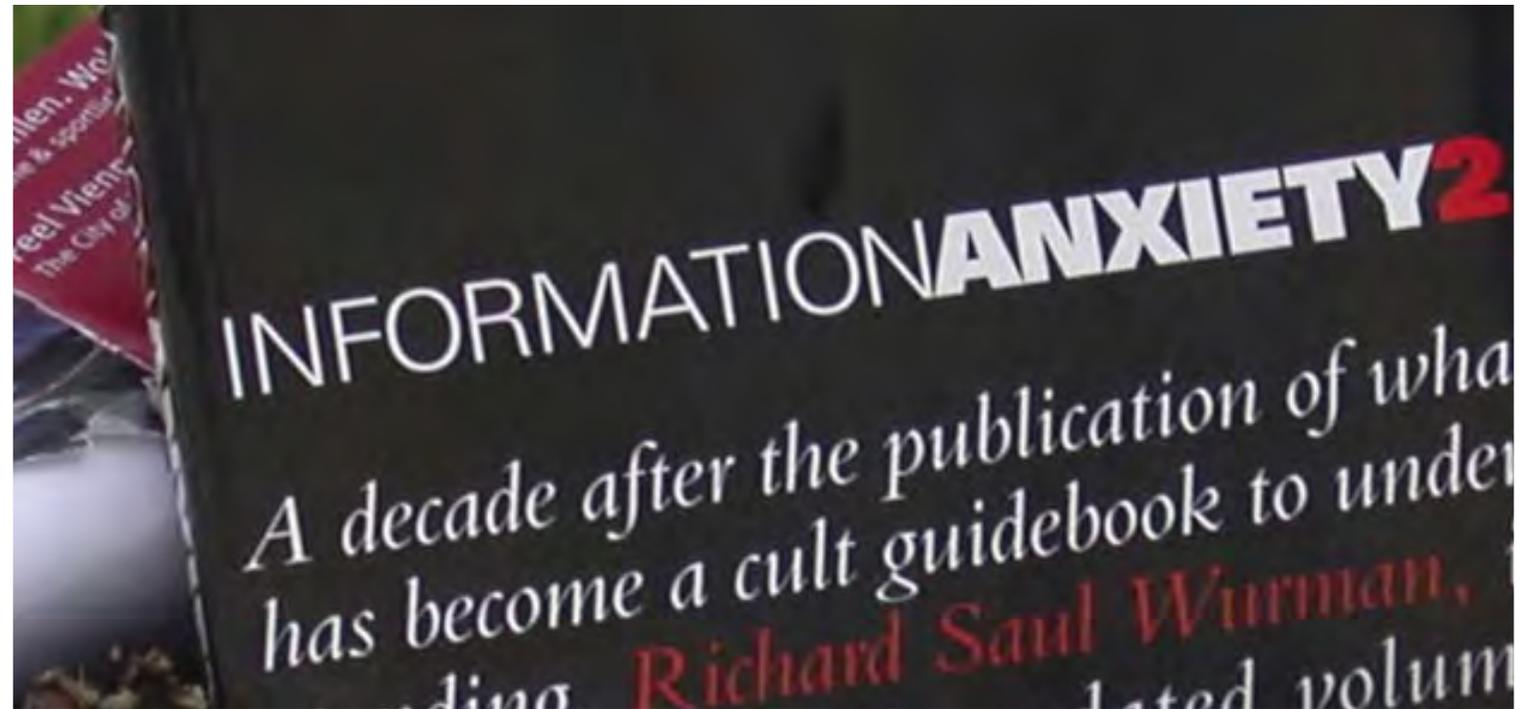
Documentary

What is "Content"?

Our task as the Content group was to conduct field research on Vienna. We started by going out into the city and gathering free information that a visitor would encounter.

At the end of this phase, we were left with piles and piles of brochures, a seemingly endless amount of information.

Richard Wurman calls this state of mind "information anxiety". We know exactly what he means.



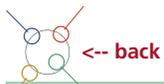
What is "Content"?

Information becomes Content when it is placed in the context of a situation.



We found that information exists around the visitor in many forms, whether it is visual (maps, diagrams, text, photographs), auditory (pre-recorded audio tapes, conversation), or even tactile (the raised patterns on the pavement at a traffic light). Information is delivered in a variety of ways: via the Internet, printed brochures (as mentioned before), video, signage, public announcements, post, e-mail, and so on.

What matters, though, is not necessarily the form or the medium of the information, but the quality. Ultimately it comes down to how does the information apply to the user? We deduced that information must meet certain qualifications in order to be utilized and applicable to the visitor.



Identifying the problem

From **i** information to **C** content

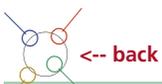


All four groups within the Summer Academy used a common scenario to further explain their findings and solutions.

It was the model of an English-speaking family of five, which consisted of a Father (an engineer in town for a conference), a Mother (a teacher), and their three children (two girls, aged 10 and 3; one boy, aged 7).

We also were given a schedule of events of what a typical day of activity would consist of for this family. By using this scenario, it gave the groups a realistic basis for our research and work.

We applied theories and more abstract ideas to this concrete example. Thus we were required to approach our work always keeping in mind individuals with real needs, thoughts, interests, and opinions.



Content

What is "Content"?

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Documentary

Findings

Form follows quality

The Content group deduced that the form of information is not as important, but rather the quality of that information. We discovered five principles when studying our collected content.

Content must be:

- 1) Relevant
- 2) Structured
- 3) Accessible
- 4) Timely
- 5) Complete



Content

What is "Content"?

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Documentary



1. Relevant

Content must anticipate and meet the needs of the user



The Mother wants to take her three children to a playground, so she first consults maps and brochures to find where one is located. When this method fails, she proceeds to ask the clerk at the hotel front desk. He directs her to the nearest playground.

2. Structured

Content must be well structured and logically organized for the user

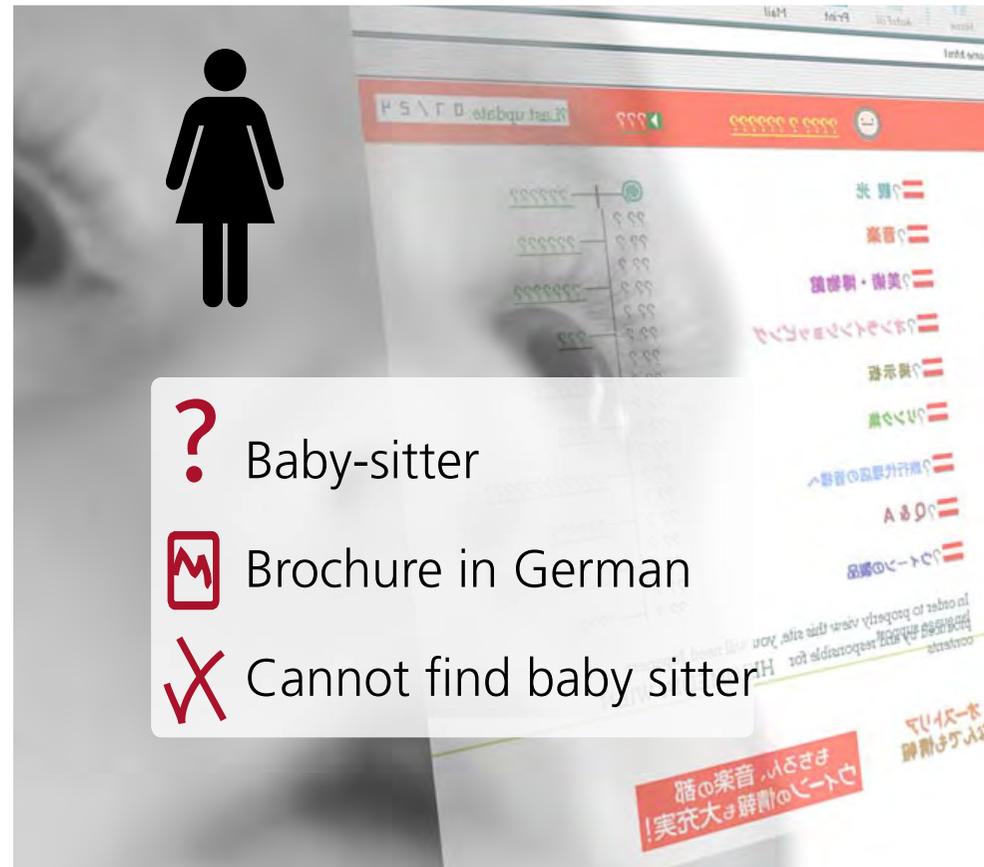


The Mother wants to take her three children to the MQ childrens' museum. Because of the organized and unified system of signage and map guides in place for the MQ, they easily make their way to the childrens' museum.



3. Accessible

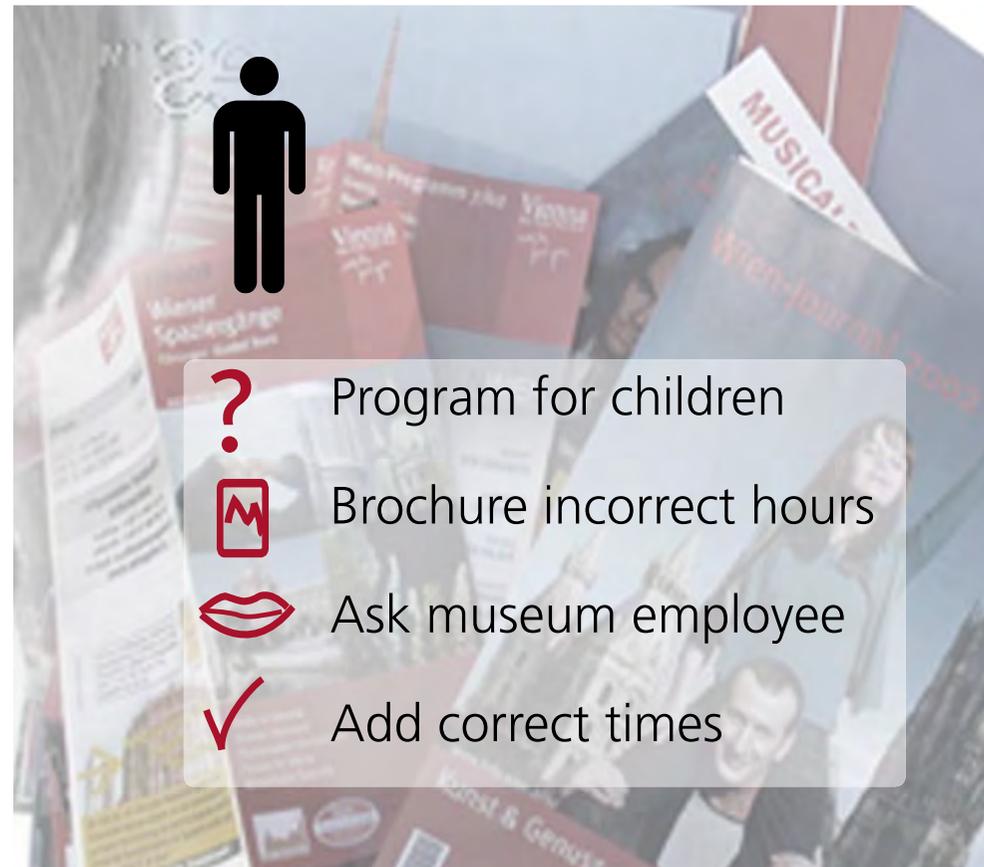
Content must be understandable and easily seen or read



The Mother needs to find a baby-sitter for the evening. She finds a brochure that seems to have the relevant information, but it is in German. She is unable to find a baby-sitter.

4. Timely

Content must be accurate and timely and reflect recent information



The Father wants to find a program specifically for children. He consults a museum brochure. The incorrect hours of operation are printed in the brochure. He asks a museum employee, who in turn writes down the correct times.



5. Complete

Content must be complete and provide information at the level of detail the user needs



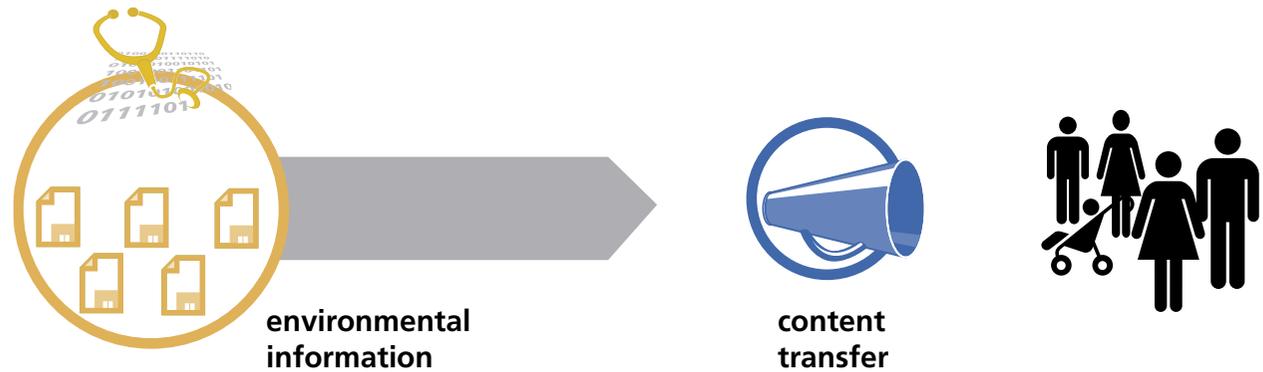
The Father wants to take his 10-year-old daughter to the Riding School Museum. When they arrive, they consult the signage available in front of the museum — the museum appears to be closed. Actually, the Riding School Museum is not closed, but they leave again because the signage is unclear.



Possible Solutions

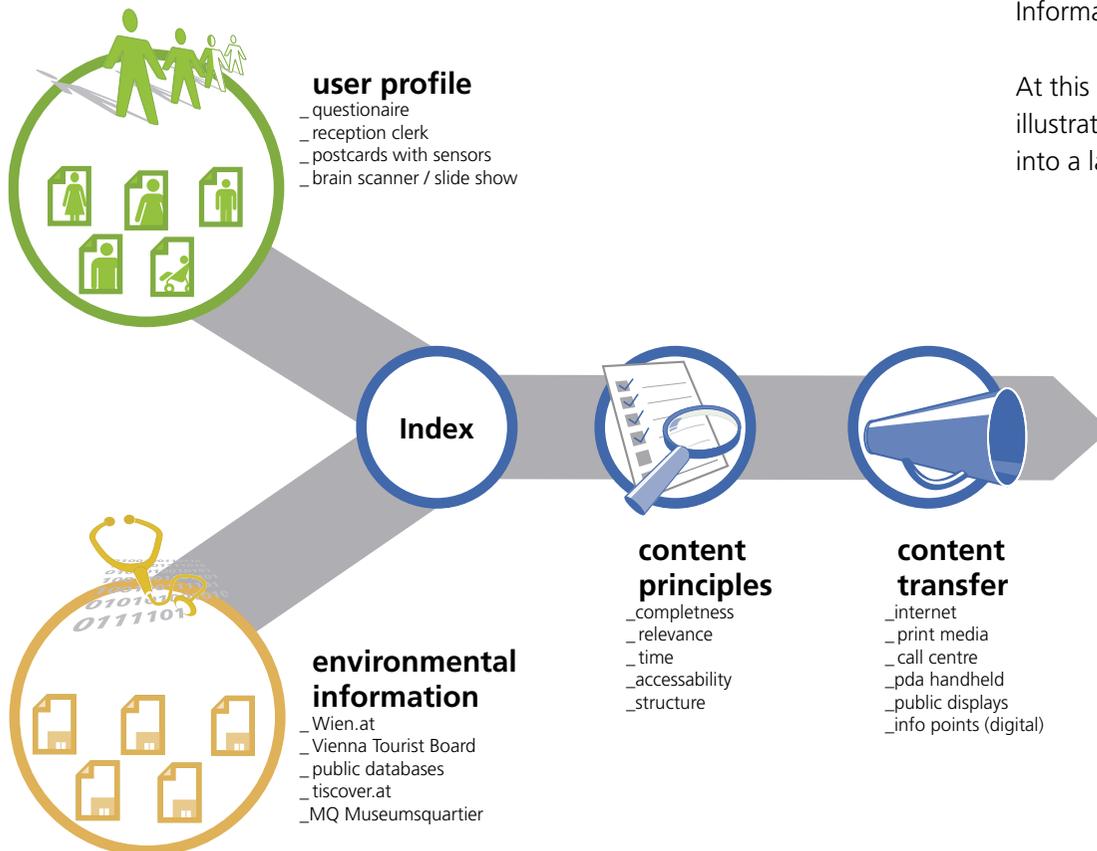
The current understanding of providing content

Environmental information provided by city organizations, such as Wien.at, the Vienna Tourist Board, public databases, tiscover.at, etc.



Possible Solutions

The future: a joint public information system



Our group developed two possible solutions that reflect our Content observations, the first being the Vienna Information System (VIS):

At this stage, it is basically a diagram that illustrates how the Content principles fit into a larger scheme.

The system starts with the input:

User profile (Relevant Content):

Information collected about the user from various sources, such as questionnaires, reception clerks, postcards with sensors, and so on.

Environmental information (Timely Content):

Information provided by city organisations, such as Wien.at, the Vienna Tourist Board, public databases, tiscover.at, and the MQ (Museumsquartier).

All Input is filed into a central index.

This is where the five content principles (relevant, structured, accessible, timely, complete) come into play.

The result is output in various forms of filtered information that is usable content for the user/visitor.

Content transfer:

Examples of access are the internet, printed media, call centers, PDAs and other handheld devices, public displays, and information points (digital devices found in the environment).

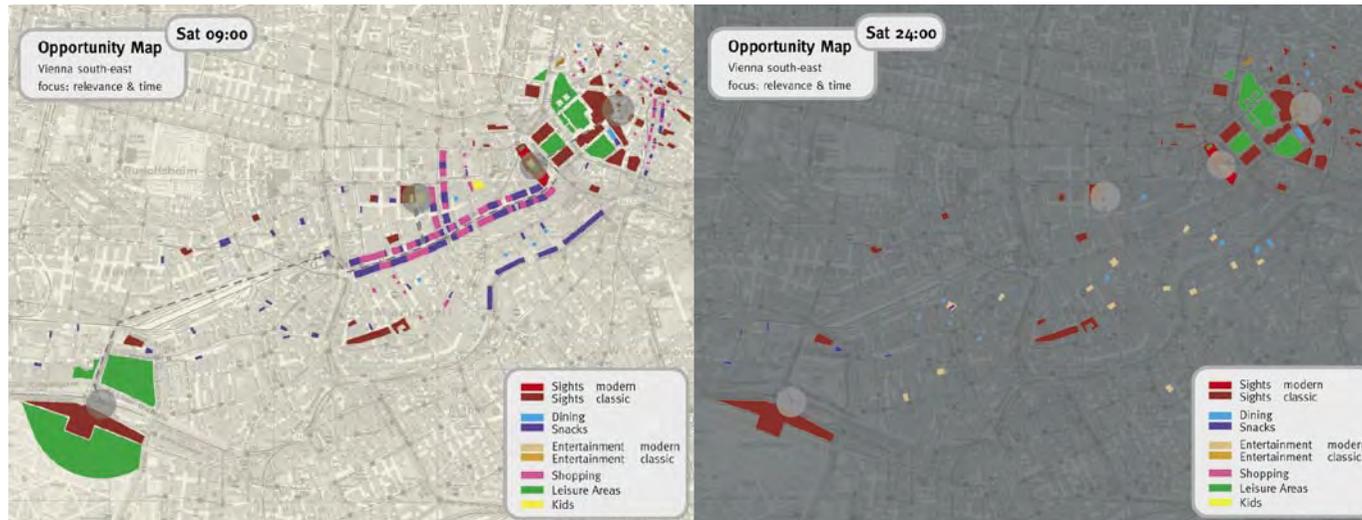
The users receive the information they require.



Possible Solutions

The "Opportunity Map"

The map can be utilized in both a static and dynamic form.



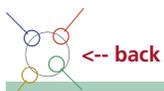
Static:

This form of the map shows information that is relevant to your current location in the city (i.e. use of color coding shows that there are restaurants and souvenir shops in the vicinity).

Dynamic:

This form of the map shows information that is timely. It shows a progression of maps, where the location shown is stable, but the level and types of opportunities in the area change depending on what time of day it is (by the hour).

For example, again with the use of color coding, at 10:00 in the morning there might be a number of clothing shops open, whereas on the same street at 11:00 in the evening the shops are now closed and there are a number of nightclubs and bars open.



Content

What is "Content"?

Identifying the problem

Findings / conclusions

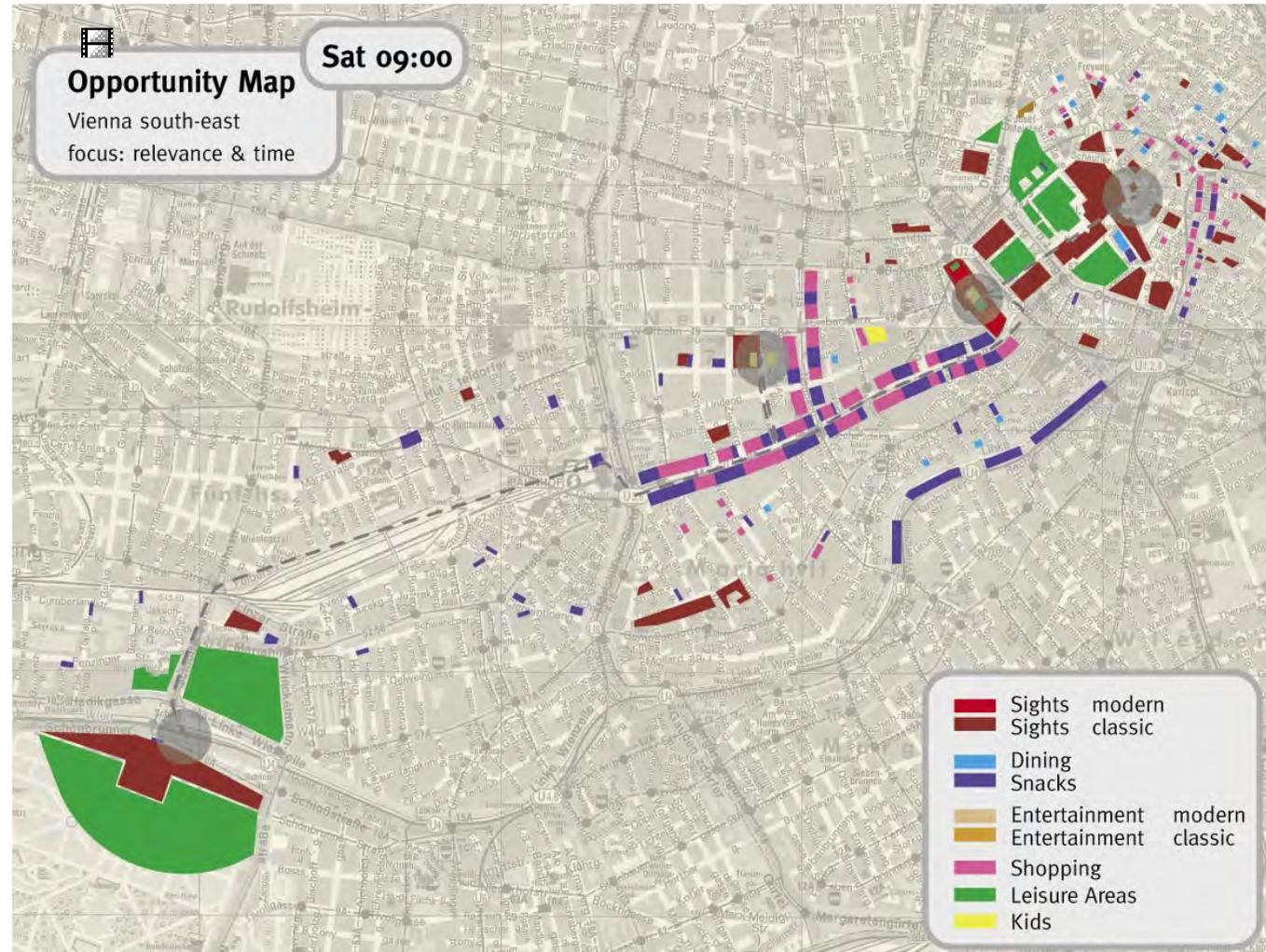
Outlook

Team members

Documentary

Possible Solutions

The dynamic “Opportunity Map”



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Outlook

Our outlook from here on is that the use of the scenario is merely a method of research and development of ideas.

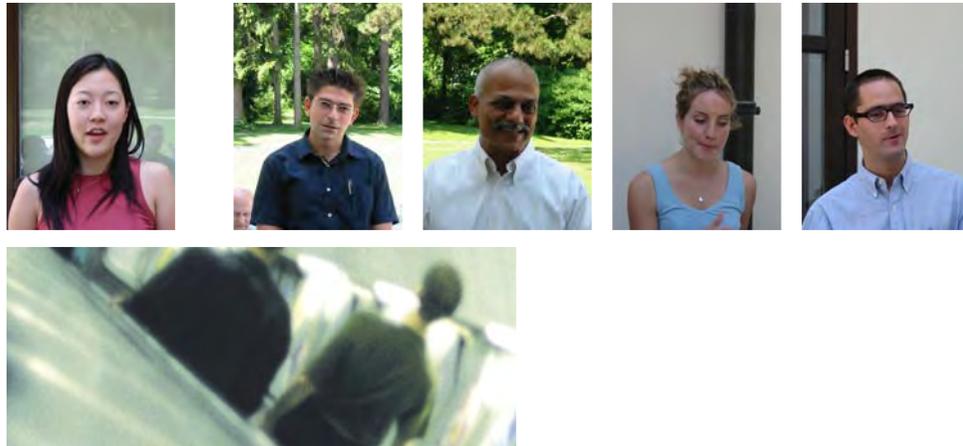
One of the next steps would be the use of other scenarios.

We understand that the principles we have introduced are subjective. They helped our group to understand some of the problems that exist in the transfer of information into usable Content for visitors to Vienna.

We think that a system like VIS can help to bring together the different components and organizations that exist in Vienna. It would help to form better communication between organizations about what information they are putting out there for tourists. Very importantly, the user should not be aware of the disparate parts, but rather one functional system that allows him to get the most out of his limited time in Vienna and of what the city has to offer.



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Content Documentary



Content

What is "Content"?

Identifying the problem

Findings / conclusions

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What is "Wayfinding"?

Where will you go? How will you get there? What will it look like? What should I bring?



Modes of Wayfinding:

- Research at Home
- Internet
- Books
- Friends (word of mouth)
- Environment you encounter
- Transit system
- Signage
- Events/Advertising

Wayfinding is the process people go through to acclimate themselves to new surroundings.

From home one can do research on the internet, read books and ask friends what they know about the city.

Once you arrive, the colors of the transit lines are aids to wayfinding. These environmental clues allow one to find or identify on a large scale and develop a vocabulary to work one's way toward a specific destination or information.

Finding your way around a city is just one scenario in which people develop wayfinding skills and look for existing wayfinding clues. Wayfinding systems create an interface for people to take in information, be reminded of locations, and come to understand, in this case, how a city identifies itself.

Cultural calendars and advertisements aid in letting people know what is going on in the city and reaffirm locations of permanent sights.

Burrowing down and looking at a map is a common sight in a city of tourists, guided tours solve the problem of individuals finding their own way. General signage and information helps you find your way but none of these address the personal journey that each individual can experience while travelling in Vienna.



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Wayfinding

What is "Wayfinding"?

Identifying the problem

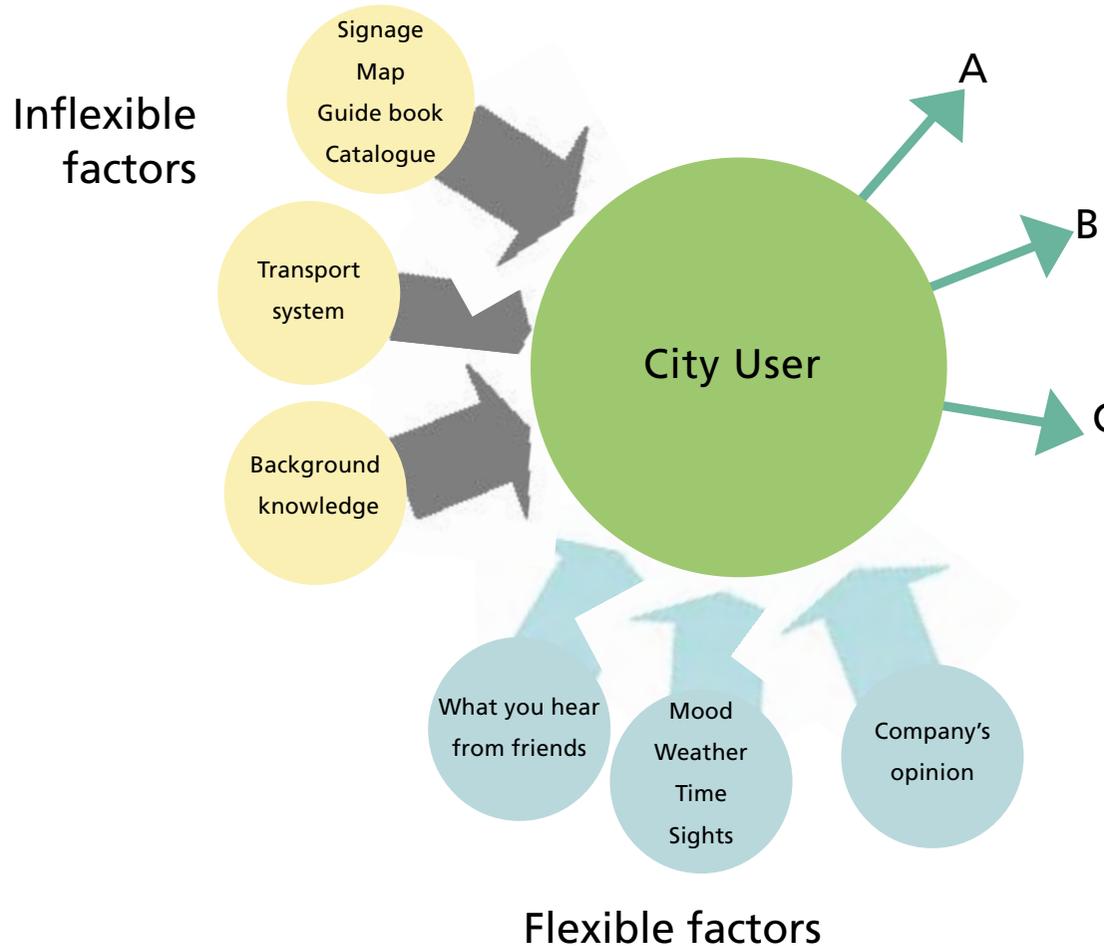
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Influential factors for city user's decision making process



Definition: wayfinding

way: noun

a thoroughfare for travel or transportation from place to place, an opening for passage, the course traveled from one place to another, a course (as a series of actions or sequence of events) leading in a direction or toward an objective.

find: verb

to come upon often accidentally, to come upon by searching or effort, to discover by study or experiment, to obtain by effort or management.



Identifying the Problem

I have often amused myself with thinking how different a place London is to different people. They whose narrow minds are constrained to the consideration of some one particular pursuit, view it only through that medium ... But the intellectual man is stuck with it, as comprehending the whole of human life in all it's variety, the contemplation of which is inexhaustible.

John Boswell 1791

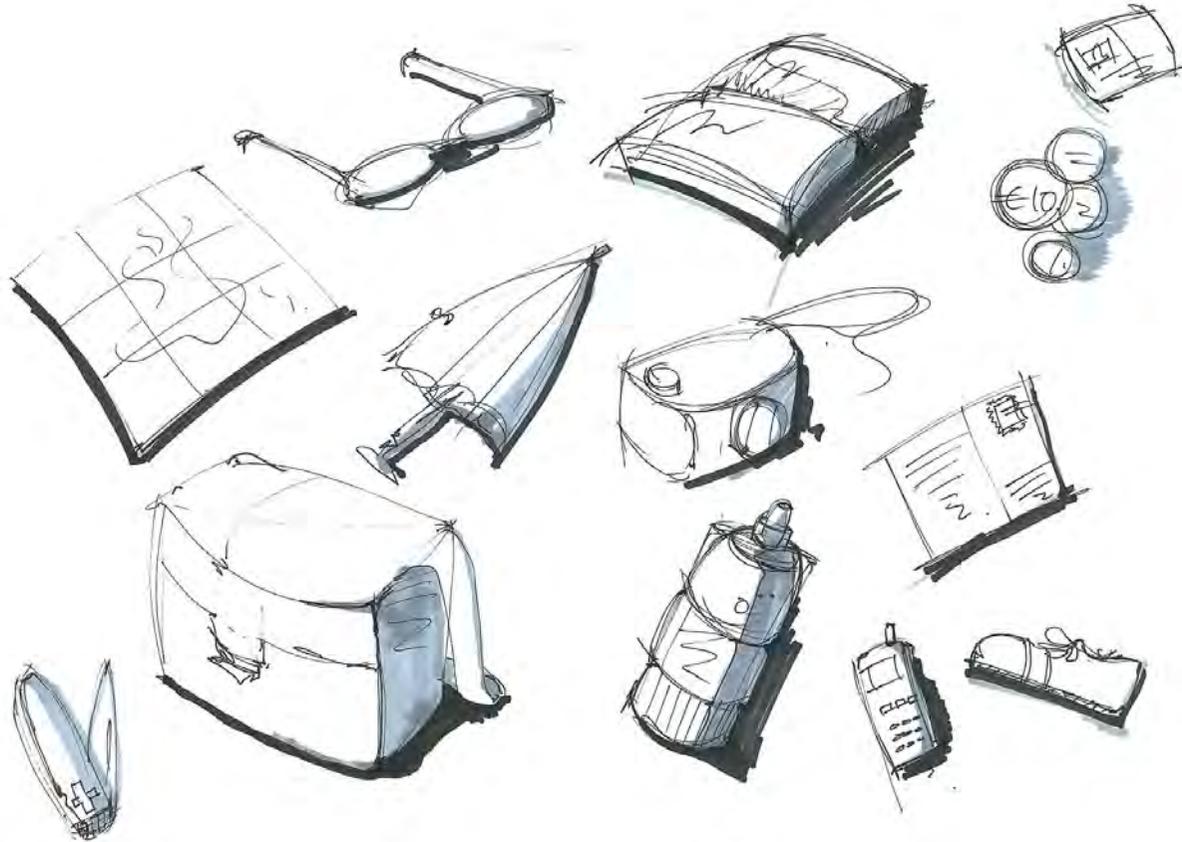
When people live in a city they create systems of wayfinding on a personal level. People have ways of using the cities in which they live, asking many different people in a single city, where to go, you would receive many different responses. This diversity is what is vibrant about the city, it is not themed like an amusement park, one is not guided through to see each planned activity. Finding one's way is part of the experience of a city.

When travelling, each person wants to make sense of the cities they visit in their own way. Activities and interests are one aspect of people's lives that define how they use the city. When people travel they search out cultural events and historical sights that fit their interests, but they are not necessarily aware of the location, in the new city, of the "everyday" interests that they enjoy at home .

For example, people travelling with children need to pursue child-friendly environments and child focused activities. Finding these in a seamless way, with integrated signage and user specific maps, can turn a destination-finding search into an activity filled journey through the city. You don't have to wonder if you've missed anything or if your kids would have had more fun "if only..." because you have wayfinding solutions that are consistent, familiar, seamless, integrated, friendly, creative, and activity based.



What do you carry when you travel?



Identifying what resources people bring with them or need to search out when travelling, helped us to identify issues that may come up for the user while traveling the city.



People: Searching

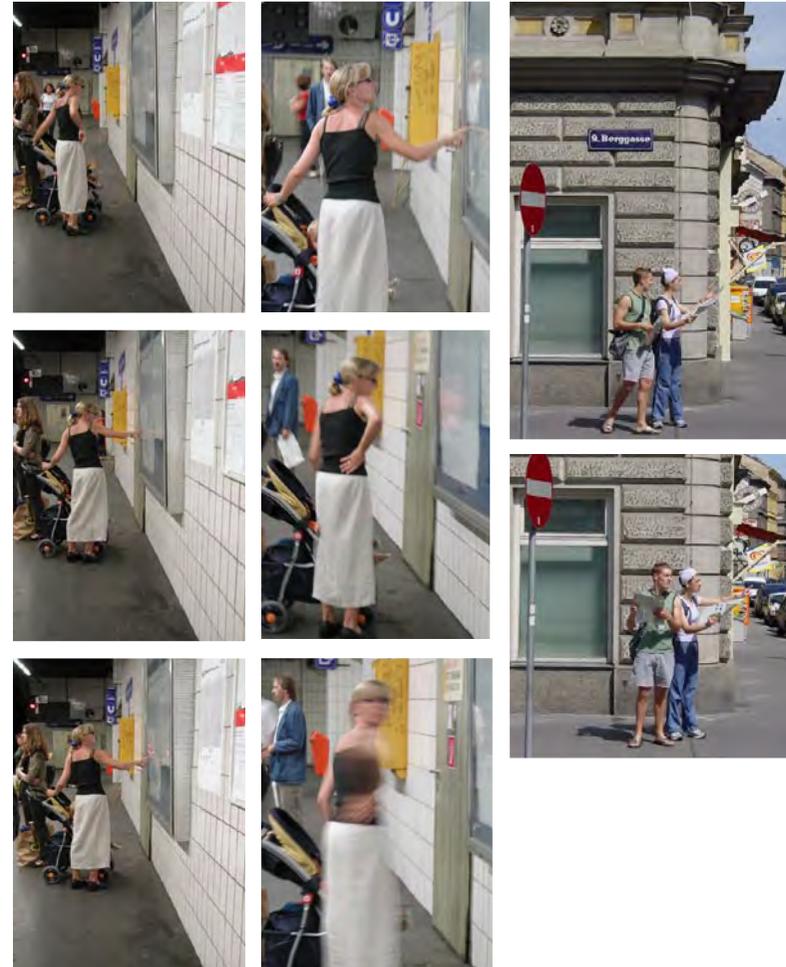
Environment

People look to their environment to perceive information to find their destination and indicators that will guide them to either the most direct or most desired route. Maps and signage that have been placed in and around the system work together with monuments and landmarks to indicate one's location and orient the user to the proper direction and route to proceed.

Finding one's way in and out of the transportation system and having a sense of where you are before you arrive is influenced by how information integrates the city and the transit system.

Giving the user a sense of where they are in the city while underground or aboard a tram or bus and conversely, giving a cohesive sense of where the system exists when one leaves attractions and events, can create a seamless experience of "getting to and from."

Information in the environment lets users know what attractions exist at which stations and creates a vocabulary for what one can expect from their environment.



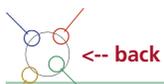
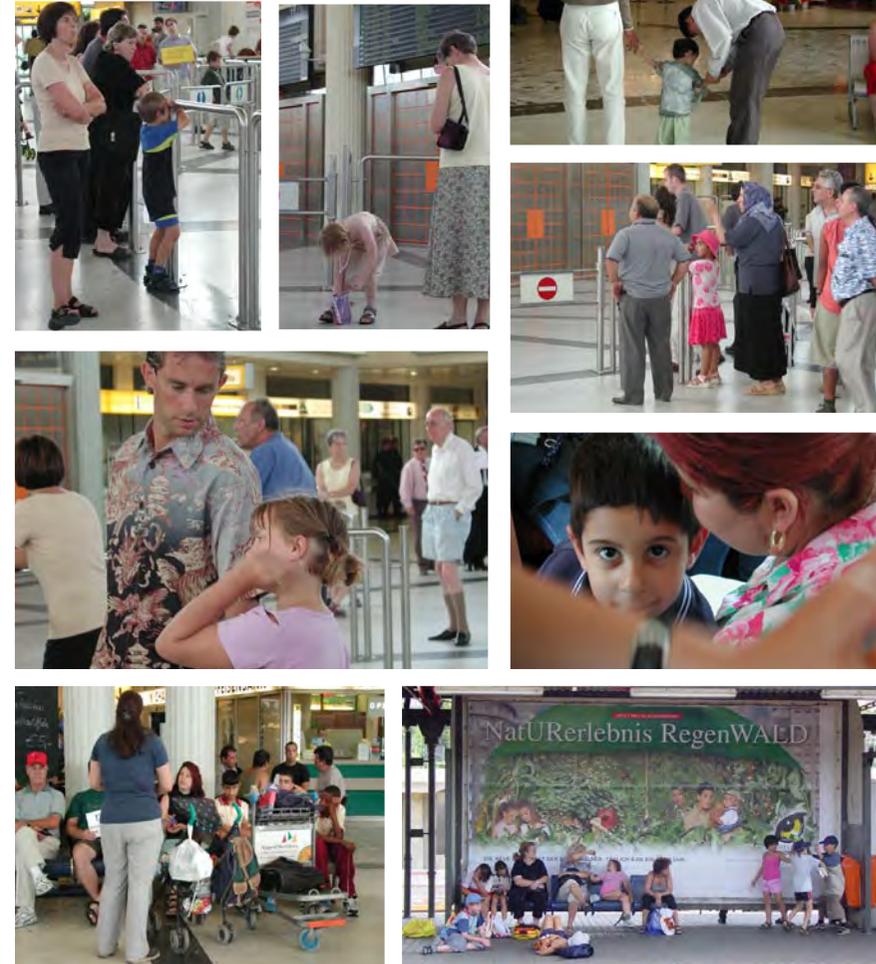
People: Waiting

Interaction



While trying to find their way and see the city during travel, people encounter lapses in their activity. Adults are accustomed to waiting for trains and stop lights and acclimate themselves to this "downtime." Children, on the other hand, can't necessarily tell the difference between a delay and standard waiting times. There is a substantial amount of downtime that takes place at every stage of the journey that is touring the city.

Waiting for luggage at the airport, or waiting for a train or bus to arrive is time that could be spent finding more and new information about your journey. These pauses create opportunities to stop and take a look around without adding time to the journey. Integrating time tables that express in distance or time how far you are from your destination both by train and by foot when you arrive can influence how a traveller plans the day. Providing this information while in the act of transit creates a dynamic character to this decision making process. The same way that if computers are alerted to traffic jams on the highway commuters will choose an alternate route, tourists can be alerted to preferred directions and traffic flow that is created by special events or construction.



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Wayfinding

What is "Wayfinding"?

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People: Waiting

Objects

Adults customarily have objects with which to fill the idle time while in transit. Newspapers are often available in and around transit systems. The availability of cellular phones and instant messaging means that people can use their time in transit as "active downtime," finishing tasks, contacting people and finding out about how their day will proceed.

Late appointments, cancellations and opportunities are communicable through these tools.

Travelling on the train is a static time when tourists can absorb information if presented with things to read or with which they can interact. Creating interest in events and places in the city can take

place on the transport system, children can be drawn to events that their parents may not have thought of to entertain and engage them. The activity of learning about the city can inform and influence the travel by having material and objects to interact with while in transit.

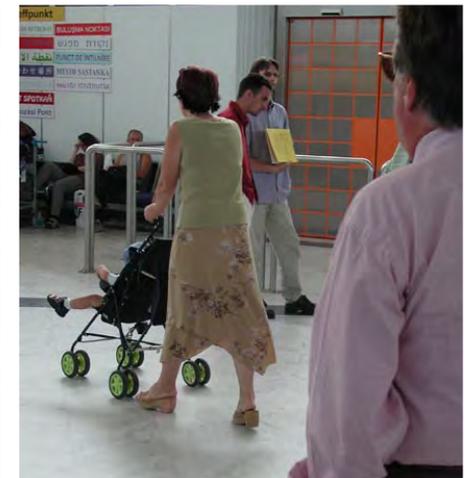


People: On the Move

Activities

In the Vienna transit system, people are active in pursuit of their daily tasks and navigation of the city. For some, that means traveling to and from work on a regular path. For others, like our designated Tourist Family, it means finding one's way through the city, by foot, rail and tram, to known and still to be discovered destinations.

Part of traveling the city for tourists is taking in the sights as you go and learning the relative position of one attraction or event to another. This experience creates one's reading of the city and influences one's perception of how a city works and creates a tone for the trip as well.



People: Kids Like to be Active

Users

With our Tourist Family as a model, one becomes aware that a significant number of transit users are children and adults traveling with children, yet there are many considerations left unexplored in terms of the Tourist Family.

There are no outlets or communication devices to keep children engaged and active during their travel. For a child traveling the city, for the first time or on an everyday basis, the journey is part of the destination. The trip on the train could be as interesting and fun as the museum or attraction they are on their way to visit.

The transportation system makes convenient travelling with kids in that it indicates where stroller entrances are for ease of entry and provides elevators at stations. However, the choice of route is not considered in terms of this traveler. Perhaps finding the most interesting route or the one with the least transfers is more valuable to the family travelling than the most efficient or speediest route.



Environment

Rediscovering communication devices from the past and making plans for the future.

The environment can provide clues and tell stories that can help the traveller or commuter use the city more efficiently, more pleasantly and in a more familiar way.

Creating integrated signage such as colour coding that reflects both the line on which you are travelling and the destinations that await you on street level, creates a seamless world of information and environment



Wayfinding

What is "Wayfinding"?

Identifying the problem

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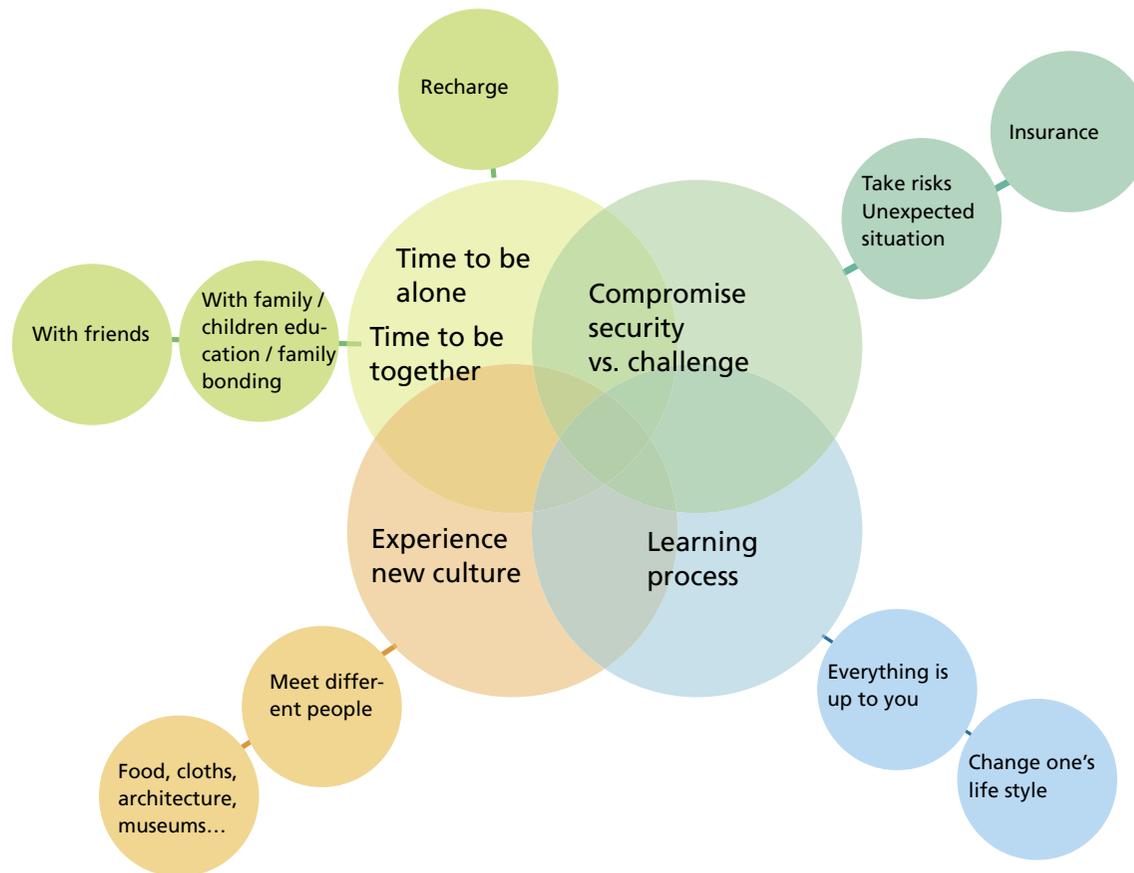
Team members

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The Meaning of Travelling

Factors for complete and successful travel

People consider all kinds of character of activity when considering what they want to experience during a trip or vacation.



Wayfinding Discussions

Proximity

Through observation of users and the city we developed a scenario of use to describe the character of activities and the kinds of challenges that visitors to Vienna bring with them and encounter once they arrive. Through this family model and the schedule of events that they participate in while in the city, specific issues came to light that otherwise may have remained hidden.

The issue of proximity is one that we defined through this project. Knowing how close you are at a given moment to something that you may desire, knowing where in the city you are while in the transit system, what localities are hidden from view. Identifying that people make choices based on knowledge of what's available, close by and personally desirable allowed us to approach information in several different ways that pertain to proximity.

Illuminate

Displays in the transit system that bring the attractions of the city closer to you, whether or not you are stopping there. All transit becomes tourism and information gathering, enabling people to take note of things they would otherwise pass by without noticing.

Integrate

Displaying attractions at intervals throughout the city so that the attractions seem closer, the attractions remind the user where they are located. This is the city's twist on "You are here". Instead the city says "I am here". One learns how the city locates itself around the user. One can decide to follow it or not.

Indicate

Creating maps based on a specific user activities within an area informs the user of the range of activities that are nearby. No reason to go back to the hotel for a swim when there is a park around the corner. Thus, allowing the tourist to find the city's attractions on a more local level.

Illustrate

Color coding the transit system allows the user to feel a consistent system in which they travel. Knowing that you will be reminded which line you are traveling on and easily identifying the station by its color and markings, allows users to feel a sense of confidence. Then they can relax and enjoy their journey.

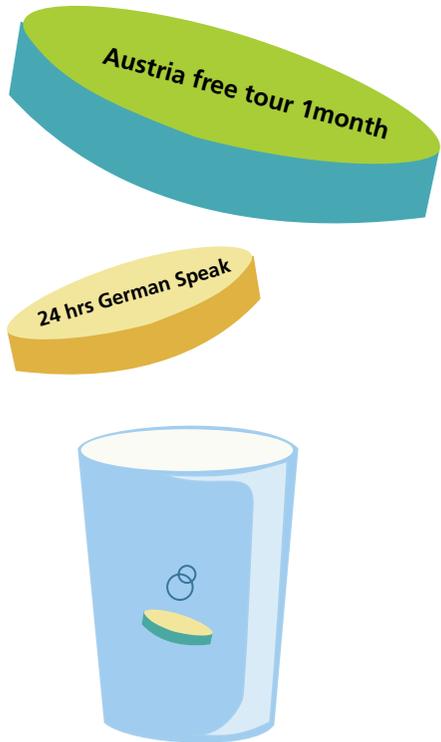
Infiltrate

Creating activity-based mapping of the city rather than identifying geographically, various kinds of activities become more apparent. The activities are represented within areas so that all of your activity needs can be met within a certain proximity. "While you are here, don't miss this attraction."



What if?

When people live in a city they create systems of wayfinding on a personal level



The "Wayfinding Pill"

Communication is an important part of the journey.

Options:

- Take the Pill and gain the knowledge to get to the Zoo
- 24 hour German speak pill
- 1 month Austria Tour pill/ never get lost

Finding your way as a part of the travelling experience

Q: You don't move but the zoo moves to you?
A: You'll lose the **exciting part** of getting there.

Q: Can you speak German for 24 hours by taking this pill?
A: I can make **Austrian friends**.

Q: Travelling is a **game** that I can get points for every time I do something on the list?
A: **Wow**, I want to win the prize.

Q: Signage talks to you, asks you questions?
A: It'll be **fun**.

Q: I can just tell my magic ball where I want to go and it shows me the way?
A: Well, it's like having a perfect guide and being **independent** at the same time



Metaphor: Cooking and Travelling



Creating metaphors of other activities that people experiment and are successful with, helped to break the experience of traveling into parts, and enabled us to see particular issues as separate and distinct.

Cooking your very first pasta:

Enjoy each step, each ingredient. Share it with your friends / family. Cook it with your friends / family. Ask other's opinion. Refer to a recipe book, TV shows etc. Learn it from someone you know. Eat while you're cooking. Love the food/ smell it, feel it. Eat while you're cooking. Do something creative. Listen to fun music. Follow what you have seen. Act like an Italian. Don't be afraid of failure. Be experimental. Reward your self.

Travelling Vienna

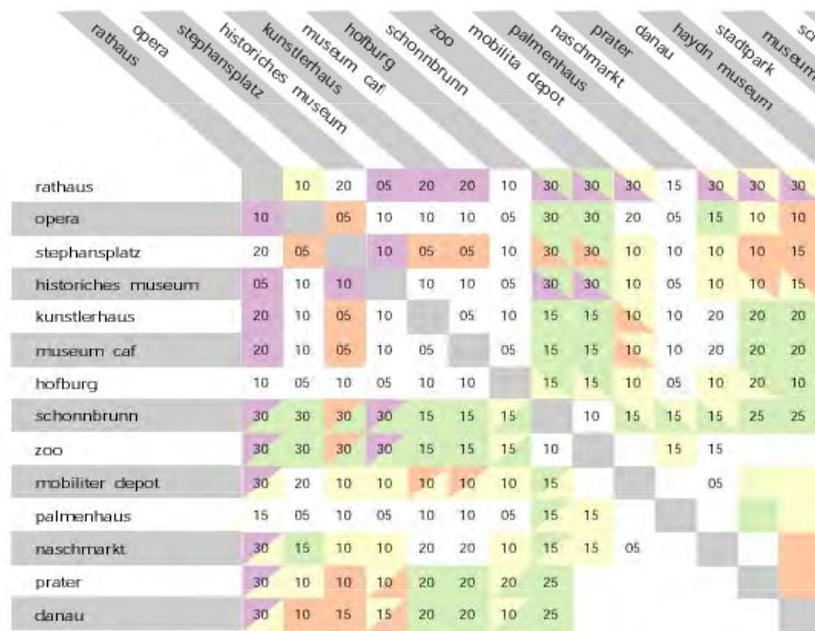
Ask other people's opinion. Customize your trip. Enjoy the process of way finding. Get involved in the city. Experience harmony between Viennese & Tourists

Travel the city and cook your first tomato sauce and spaghetti in a fun way. This thought process enables you to view one area with a different point of view by looking at one familiar area, analyzing the experience and applying it to the other area. How would you start and what would you do to have a fun time cooking your pasta?



Environmental Solutions

Matrix: proximity by the minute



When you are travelling, the map is your first orientation to a city, it takes a while to convert the distance on paper to the actual physical space. Several of our solutions involve letting you know what is outside, or nearby, showing you what you can't see.

The Matrix:

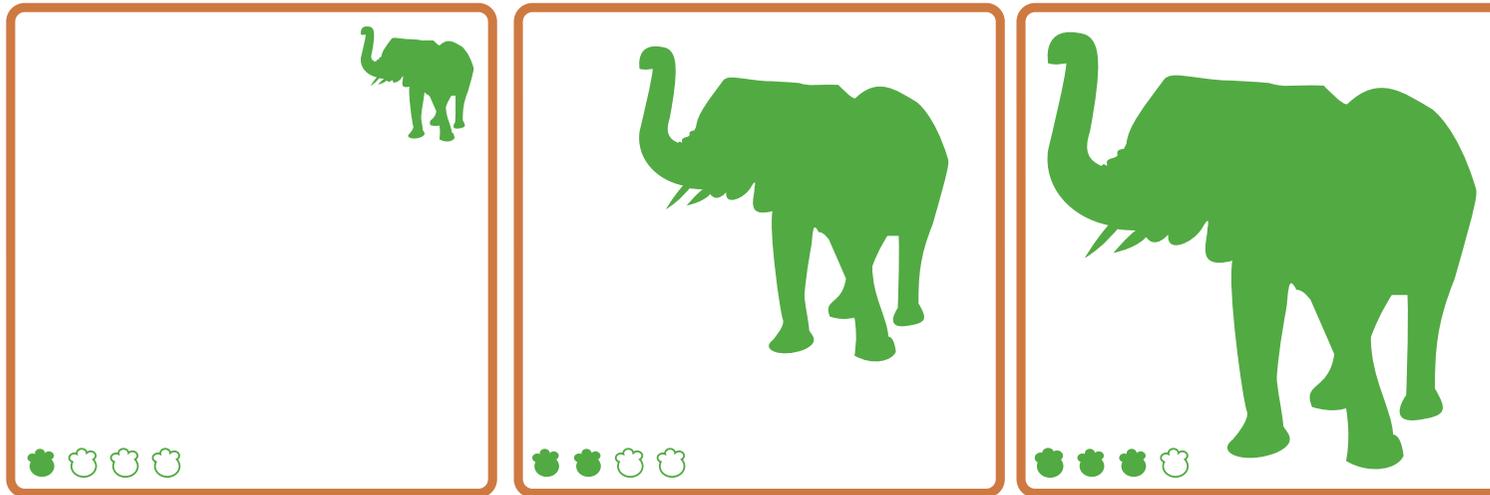
- creates a travel time conversion, instead of visualizing where something is and calculating how long it will take to get there.
- suggests routes and tells you the approximate travel time so that you can base your decision of what is next in your trip by how much time you have to spend. Something that is physically further away may take less time to get to because there are direct routes to arrive there.
- helps you access the city distances so that you can learn where things are in relationship to each other in a more dynamic rather than the physical way.

Time is precious when you are on vacation. Don't waste a minute of your time.



Environmental Solutions

Creating sequential intuitive wayfinding



Get your kids involved in the trip by having signage on the way to the zoo. Children have a different sense of time from adults, an hour or half an hour might not be enough explanation for them. The figures of the elephant in different sizes with footsteps are a very intuitive way of telling the time and distance. You will see these elephants signs one by one as you get closer to the zoo. The boring way to the zoo can turn into an exciting experience.



Environmental Solutions

Creating sequential intuitive wayfinding

Creating complete messages that can be broken down and seen throughout the city to create clues or reminders.

Giving people a sense of distance and time while they travel through the city helps lessen any sense of anxiety that is involved in wayfinding. Signs at intervals create a reassuring environment in which to travel.



Environmental Solutions

Visions of the city



We found that the environment is under-used in the transit system for identifying place and activity, we searched for integrated ubiquitous designs that can fill the platform with interesting things to look at and events while you wait for the train to arrive.

Turning downtime into an activity and creating knowledge while you travel to your next destination.

Information projected onto the sides of arriving trains, so that you can see what attractions are on the particular line you are traveling on as well as displays of what is above ground at a particular stop so that while you travel on the transit system you are acclimatizing yourself to the city. This can help visitors to associate routes and stations with the culture and events that exist there.



Environmental Solutions

Transforming transit space with consistent color coding

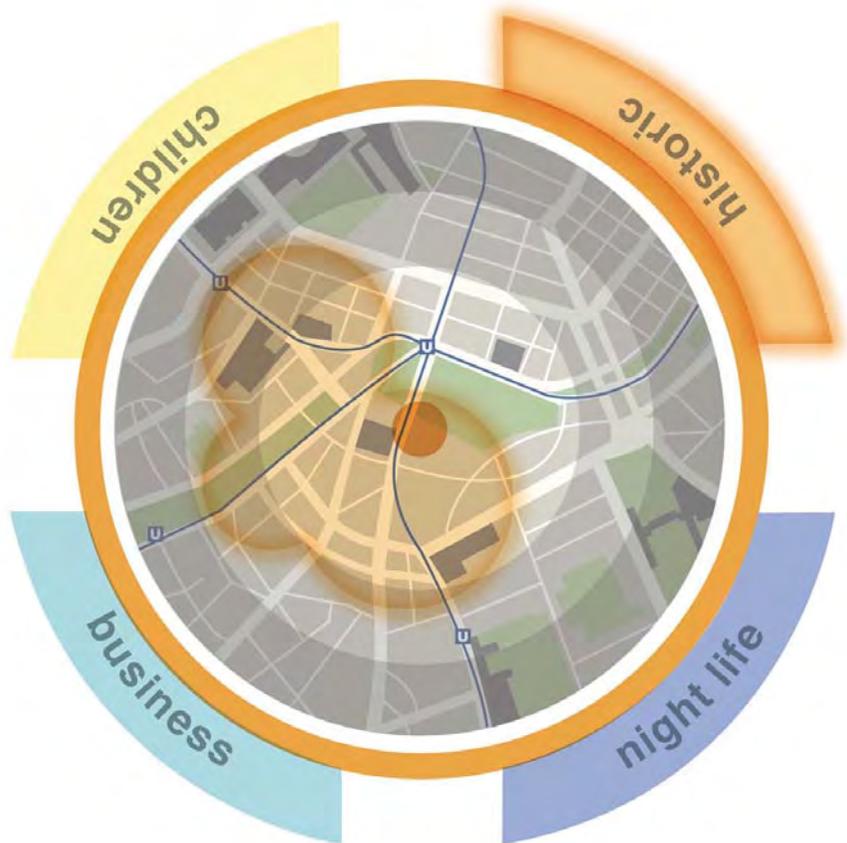


Reliable
Vibrant
Informative



Environmental Solutions

Ring maps: was ist um die Ecke?



Through looking at the user we have identified that travel and tourist options should be activity based for specific users.

From this model we have developed a map system that identifies all the activities available within a given proximity for one specific user type.

Perhaps you are travelling with your children and on your way to the furniture museum to meet for lunch. Wouldn't you

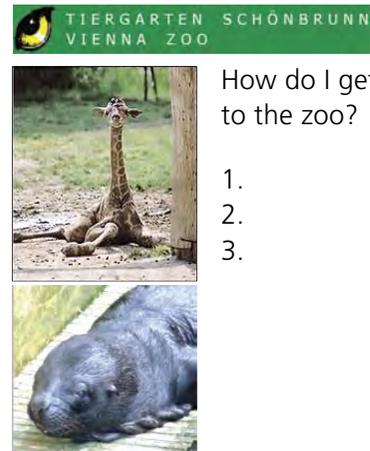
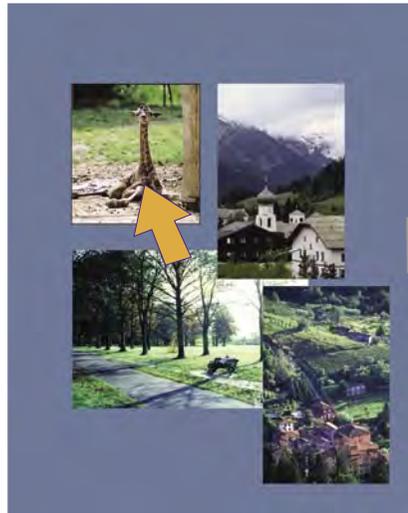
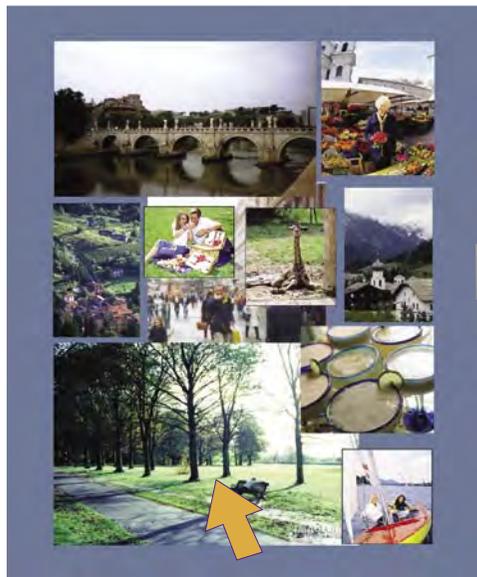
like to know that there is a playground directly opposite where your children can blow bubbles and play in a fountain?

Knowing the full range of appropriate activities that you will come across in your travels lets you plan your day based on what you want to do as well as identifying the appropriate restaurants and venues for your specific needs.



MosaicQuik Pik

When you don't know what you want, only how you feel



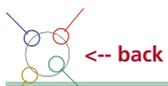
How do I get to the zoo?

- 1.
- 2.
- 3.

Sometimes ambition leaves the traveller, perhaps you have been on a train or flight all night or too many museums or even out late at a party. All you know is how you feel, perhaps gloomy or tired. This should be enough criteria to find a place that is just right for you in the city. Searching by the kind of mood or non-activity you want. Finding the character that fits you rather than the specifics, narrow down your search and lay in the grass at the Stadt Park or sit in a beach chair at Palmenhaus

Search

Type in any word,
Tired,
Horse,
Drink,
be alone,...



Wayfinding

What is "Wayfinding"?

Identifying the problem

Findings / conclusions

Outlook

Team members

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Twin Cities: Mental Model for Activity-Based Travel

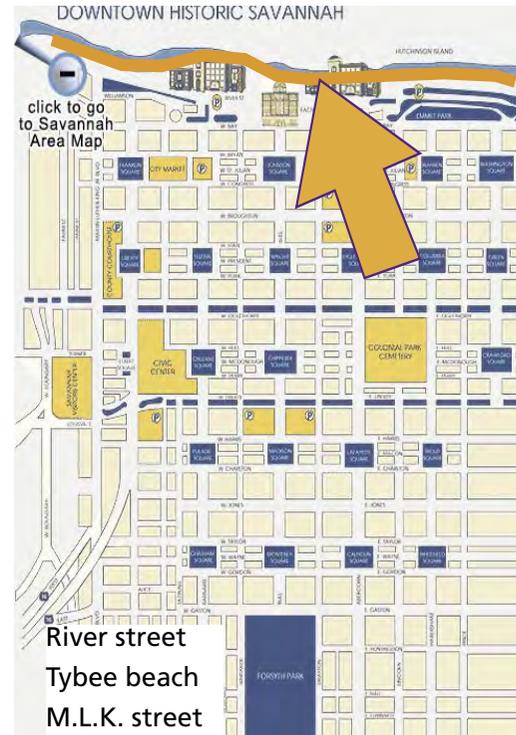
Getting information based on what you already know

Map of Vienna



Rathaus
Opera
Stephansplatz
Museum Cafe
Palmenhaus
Naschmarkt

Map of Savannah



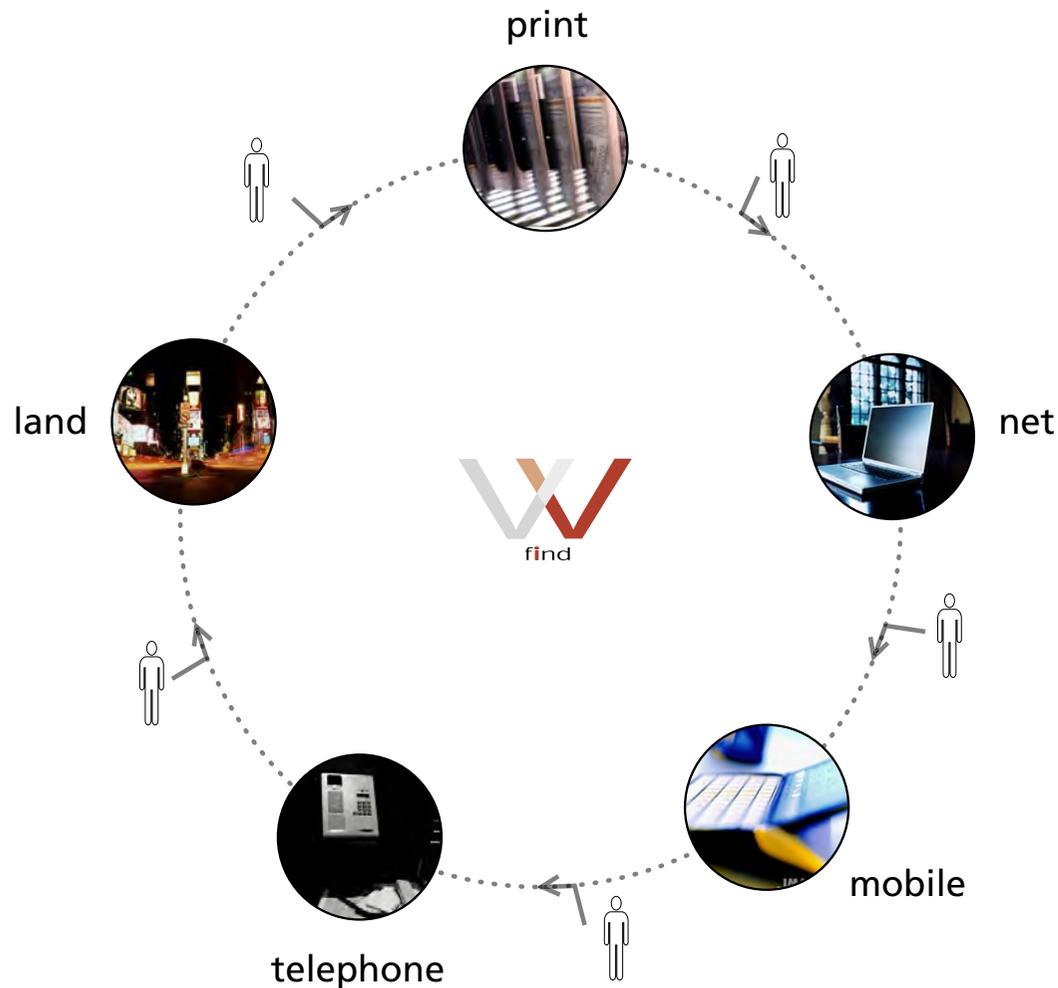
River street
Tybee beach
M.L.K. street
Bank square
Liberty street

When you first encounter a city, the ideal way to understand the city or culture would be to talk with a friend who knows you, your hometown and the city in question. To get a quick idea of the city, the twin city overlapping maps lets you compare your city with the city you are visiting. Think of the areas you go to for culture walks in your home town of Savannah, Georgia, and Stephansplatz will be illuminated.

Creating a sense of familiarity and allowing visitors to get their bearings in Vienna, based on what they know of their own home town, would allow each visitor to customize the visit and make activities the focus of their trip rather than destination-finding. Finding your own way around a city that reveals itself in a familiar way alleviates the idea of getting lost or going the wrong way.



V find: Database for Search Criteria and Technology



Interactive

User-centered

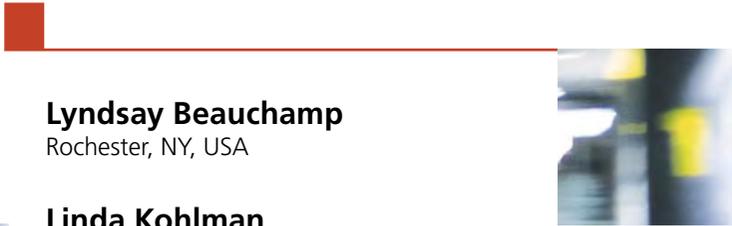
Interconnected

Consistent in voice
and content

Expansive



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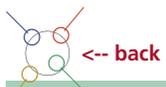
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Wayfinding

What is "Wayfinding"?

Identifying the problem

Findings / conclusions

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Wayfinding Documentary

(Digital version only)



What is “Transport”?

A system

- Infrastructure (tracks, wagons, ...)
- Organisation (management, staff, planning)
- Maintenance

A way to get from A to B

- Timetables and tickets
- Maps
- Access
- Signage system
- Usability for handicapped persons



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Transport

What is “Transport”?

Identifying the problem

Findings / conclusions

Outlook

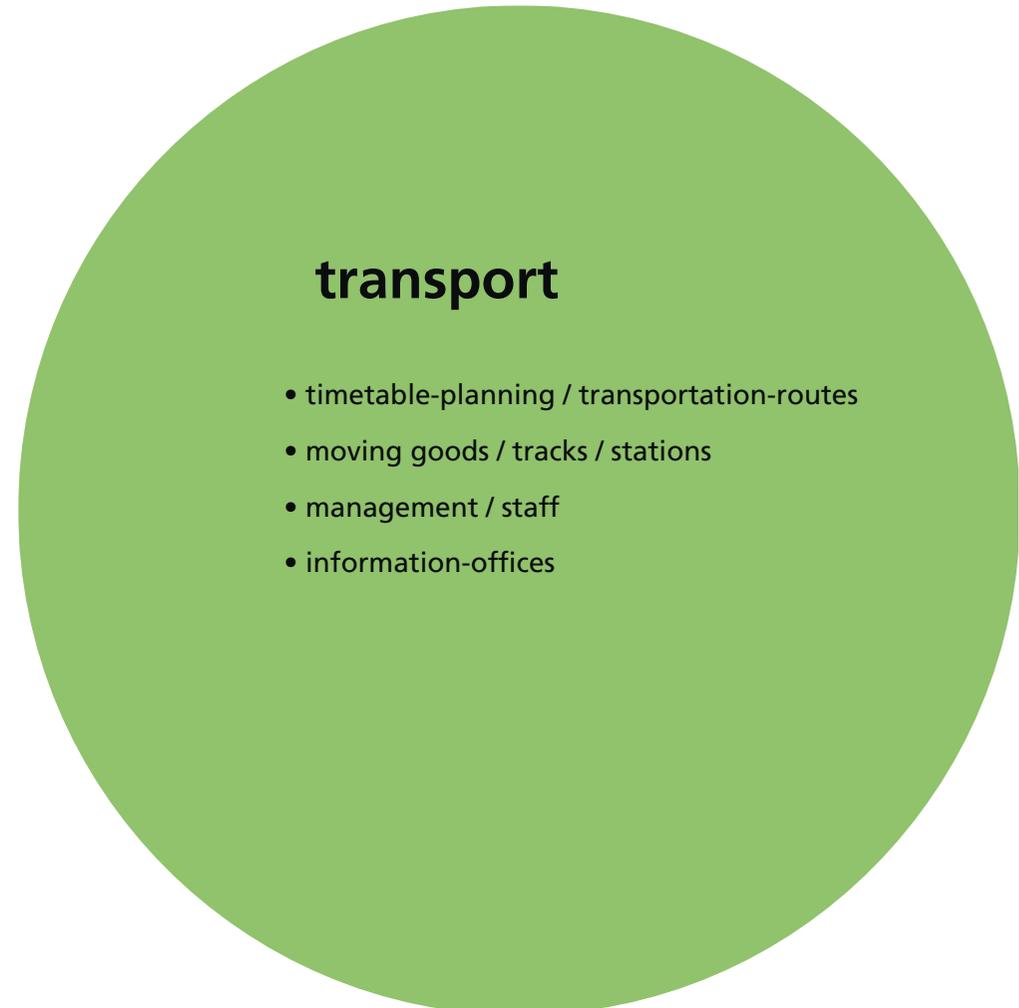
Team members

Documentary

Identifying the Problem

The transport system incorporates:

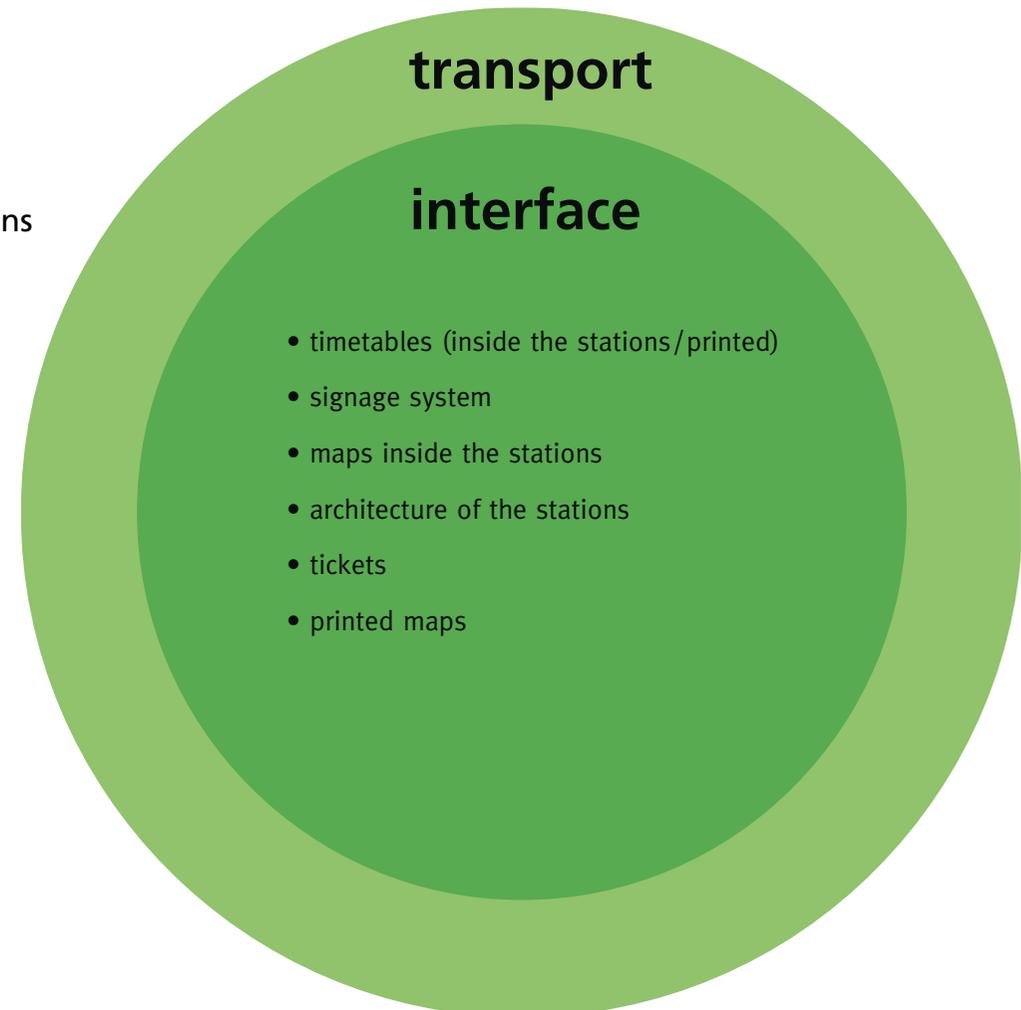
- Tracks / stations
- Timetables / transportation routes
- Management / staff
- Information offices



Identifying the Problem

The interface to the user:

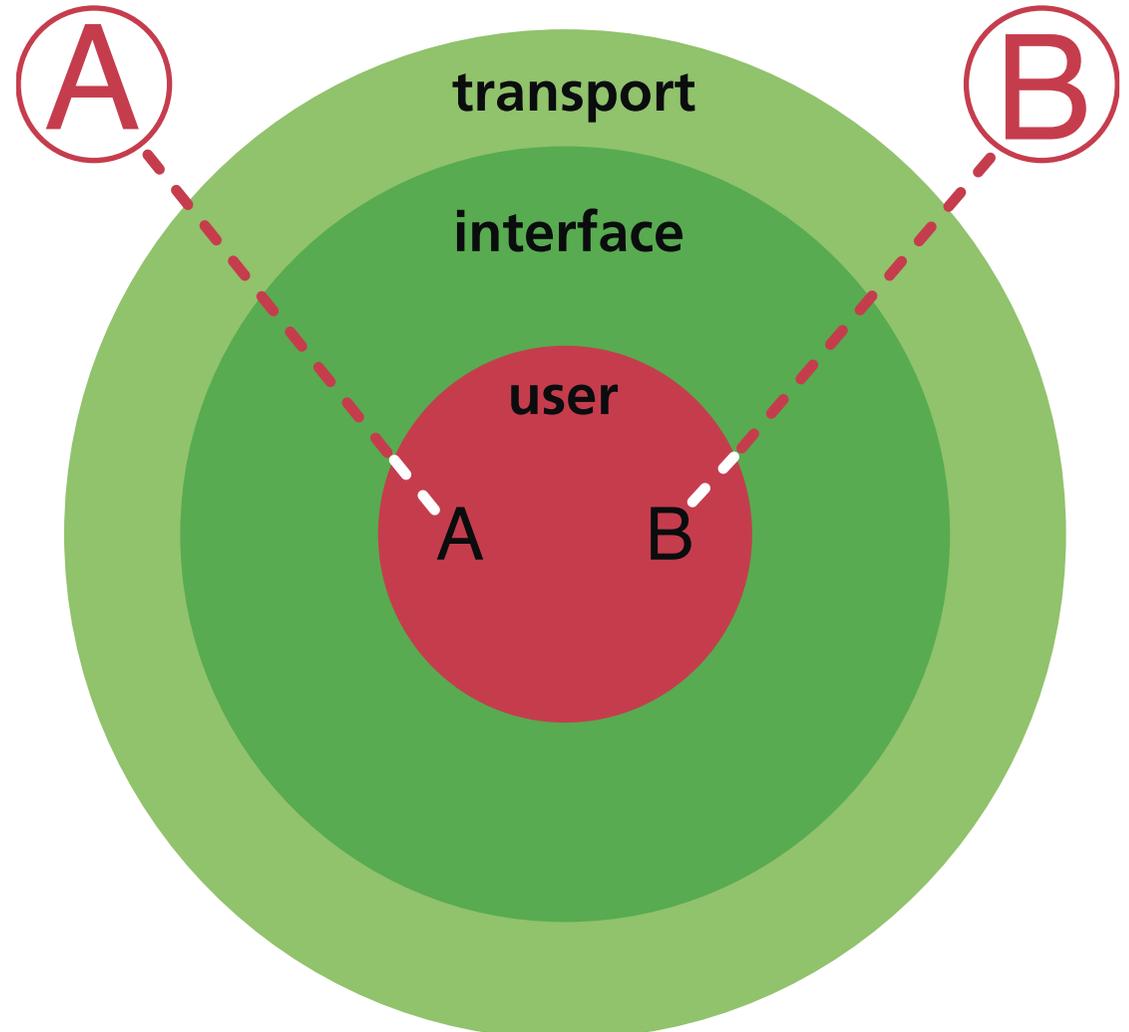
- Timetables (inside the stations/printed)
- Signage system
- Maps inside the stations
- Architecture of the stations
- Tickets
- Printed maps



Identifying the Problem

The user is only interested in how to get from **A** to **B** easily

Having to move through several sets of systems is of no concern to the user.



Identifying the Problem

The information gap

Tickets

It is not clear for the tourist to know where to get the tickets from, even in the tobacco shops – where the tickets would be available – it is not clearly signposted. No importance is attached to the ticket itself as a provider of information (i.e. showing information, maybe a U-Bahn map, at the back).

Navigating between various means of transport

Completely different signage systems between U-Bahn, S-Bahn, Tram and Badner Bahn.

Inconsistencies in the use of icons

P+R: does it mean park and ride or park and rail?

Wayfinding problems within the stations

In a few cases the interface is misleading: some station names are very similar and some have two different names for the same station (i.e. Meidling Philadelphiabrücke/Meidling Hauptstraße).

Disabled access and wayfinding not consistently easy

Trams and buses are being replaced, but the high stairs to the Schnellbahn pose great difficulty. Some station approaches still don't have elevators and the guidance systems on the ground are not implemented consistently.



Identifying the Problem

The information gap, continued

Timetables

Different versions exist of timetables for the U-Bahn – this can confuse the users.

Maps

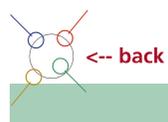
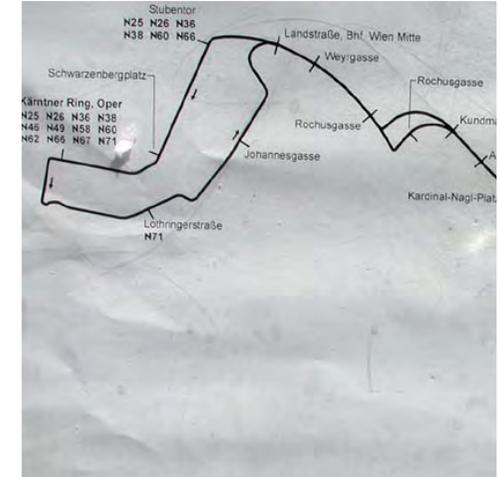
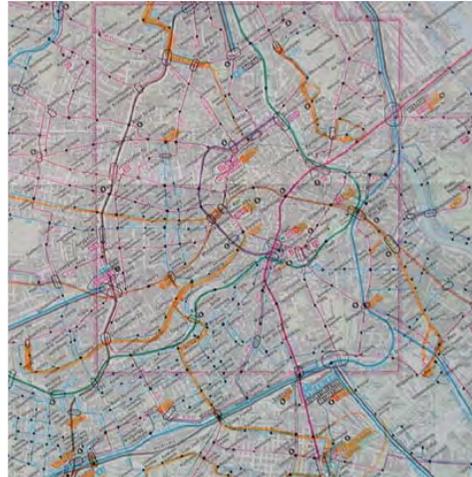
Badner-Bahn and S-Bahn lines are always shown in the U-Bahn maps, and the user assumes that they have an equal status to the U-Bahn.

There are maps from different providers that show the same information but displayed differently.

Some maps confuse the user because of the large amount of information that they contain.

There are no maps that show the bus and tram network

The bicycle maps are not available in English.



Findings / Conclusions

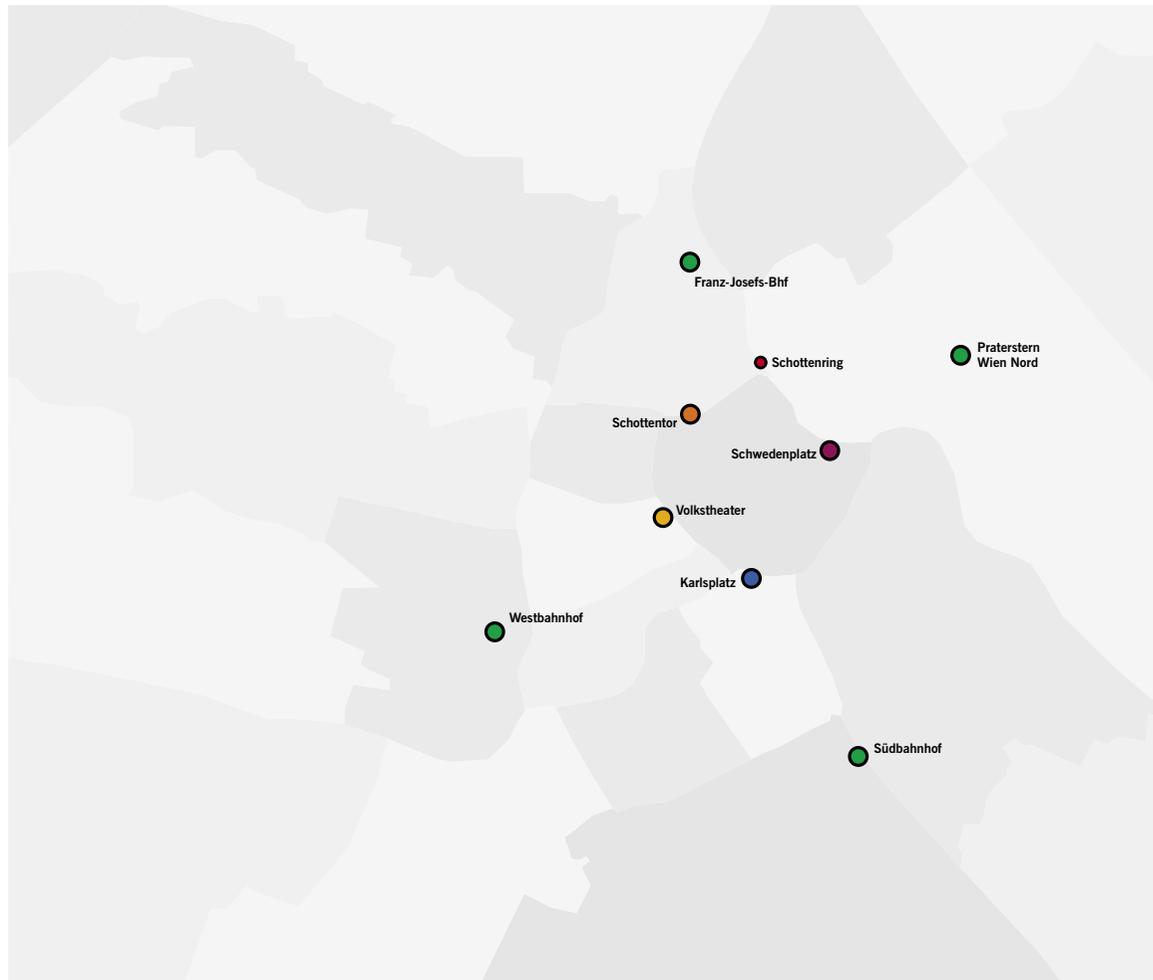
The interface to the Vienna transport system needs:

- More consistency between modes of transport
- Better usability (ticket machines, signage, maps)
- Linking of the different transport systems



Possible Solution: Map Set

Separate tram and U-Bahn maps based on the same pattern



Tram and U-Bahns share the location of major stations.

Definition of the most important stations in Vienna

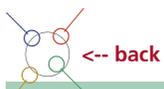
We defined six stations/places as the most important, where most tram/U-Bahn and S-Bahn lines cross.

- Schottentor
- Volkstheater/Dr. Karl Renner Ring
- Karlsplatz/Schwarzenbergplatz
- Schwedenplatz
- Schottenring
- Westbahnhof

We defined other stations which are important as connecting places to national railways:

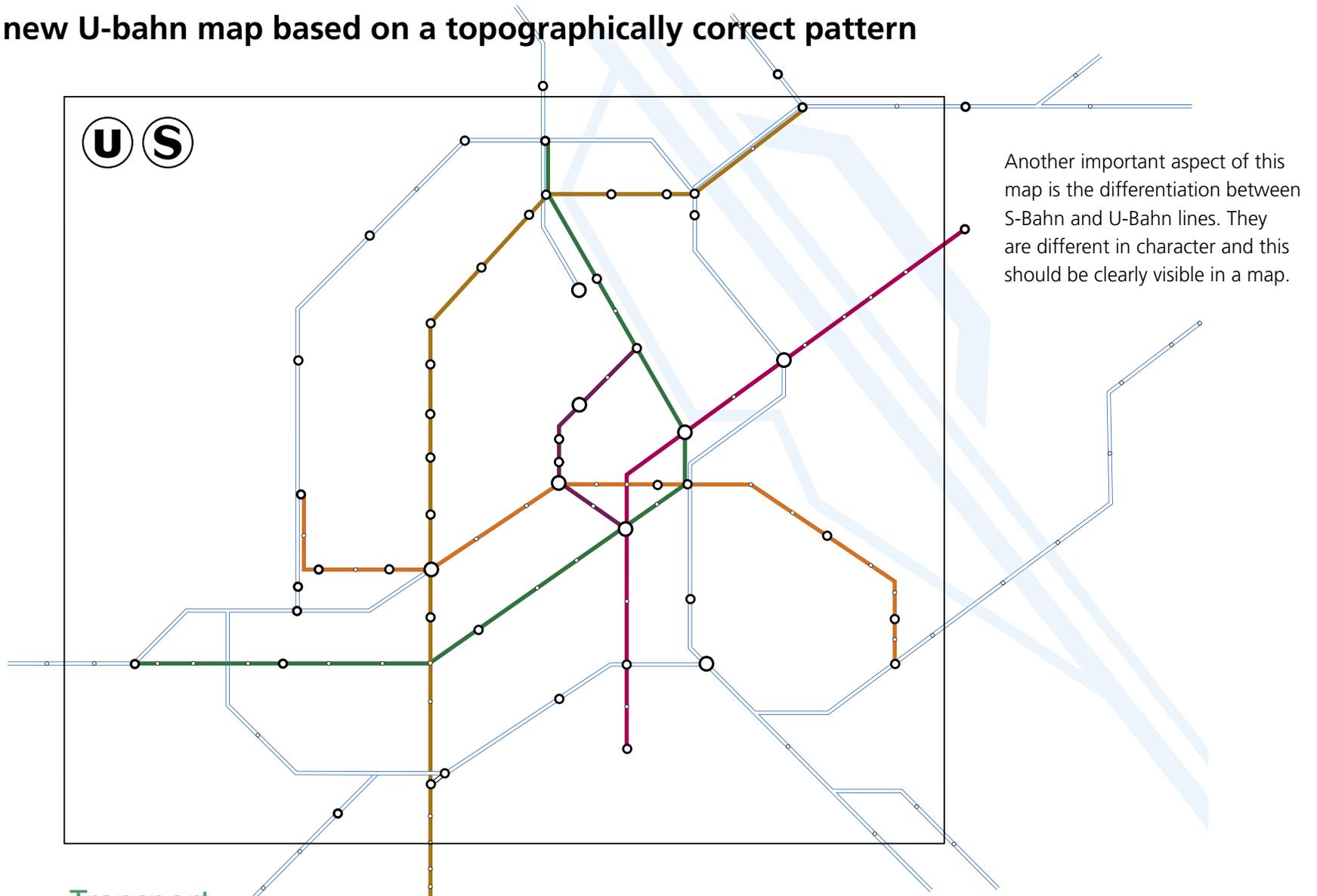
- Westbahnhof
- Südbahnhof
- Franz-Josefs-Bahnhof
- Praterstern/Wien Nord

All these stations/places build the pattern which is shared by Tram and U-Bahn maps.



Possible Solution: Map Set

Proposal for a new U-bahn map based on a topographically correct pattern



Possible Solution: Map Set

Naming

Despite the long established names of the tram lines, it is not easy to understand the naming of the trams. A seemingly random mix of letters and numbers.

We suggest a radical re-naming which will facilitate understanding and bring the naming in line with the U- and S-Bahn and the buses.

1. All trams should be numbered

2. All trams should be identifiable as trams by adding a "T" in front of the number.

In the drawings of our maps you will find the coding as follows:

- Inner Ring: T1, T2, T4 (D)
- Gürtel: T5, T6, T7 (18), T8(O)
- Outer Ring: T9, T10
- Schwedenplatz: T20 (N), T21
- Schottenring: T31, T32
- Schottentor: T37, T38, T40, T41, T42, T43, T44
- Volkstheater/Dr. Karl Renner Ring: T46, T49
- Westbahnhof: T52, T58
- Karlsplatz/Schwarzenbergplatz: T60 (J), T62, T65, T71



Possible Solution: Map Set

Tram map, lines radiating from the center



The tram map docks at the same main stations as the U-Bahn

A colour code is used to bundle those lines that terminate at the same station. We start with the lines running North in red, the rest of the colours run anti-clockwise:

- Schwedenplatz, purple (N, 21)
- Schottenring, red (31)
- Schottentor, orange (37, 38, 40, 41, 42, 43, 44)
- Volkstheater/Dr. Karl Renner Ring, yellow (J, 46, 49)
- Westbahnhof, green (52, 58)
- Karlsplatz/Schwartzbergplatz, blue: (62, 65, 71)



Possible Solution: Map Set

Tram map, lines running concentrically to the center

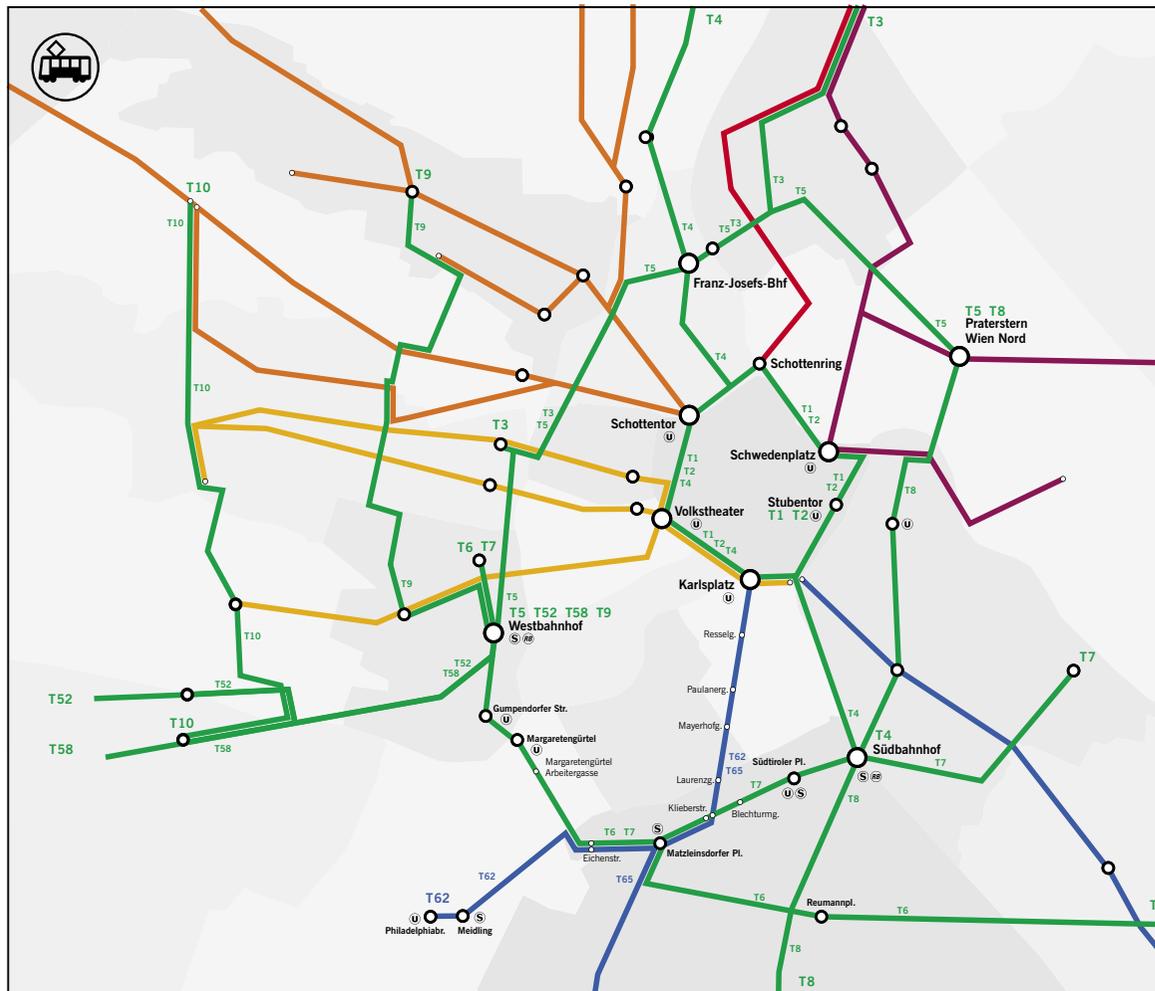


- These lines connect all radial tram lines.
- The Ring-lines (1, 2, D)
 - Bahnhof circle which connects railway stations (5, 6, 18, O)
 - Two other lines which run in the western part of Vienna in North/South direction (9, 10)



Possible Solution: Map Set

The tram map



1. Strong distinction between the most important stations and other stops

2. Tram lines are grouped according to stations where they terminate and the area they cover within the city

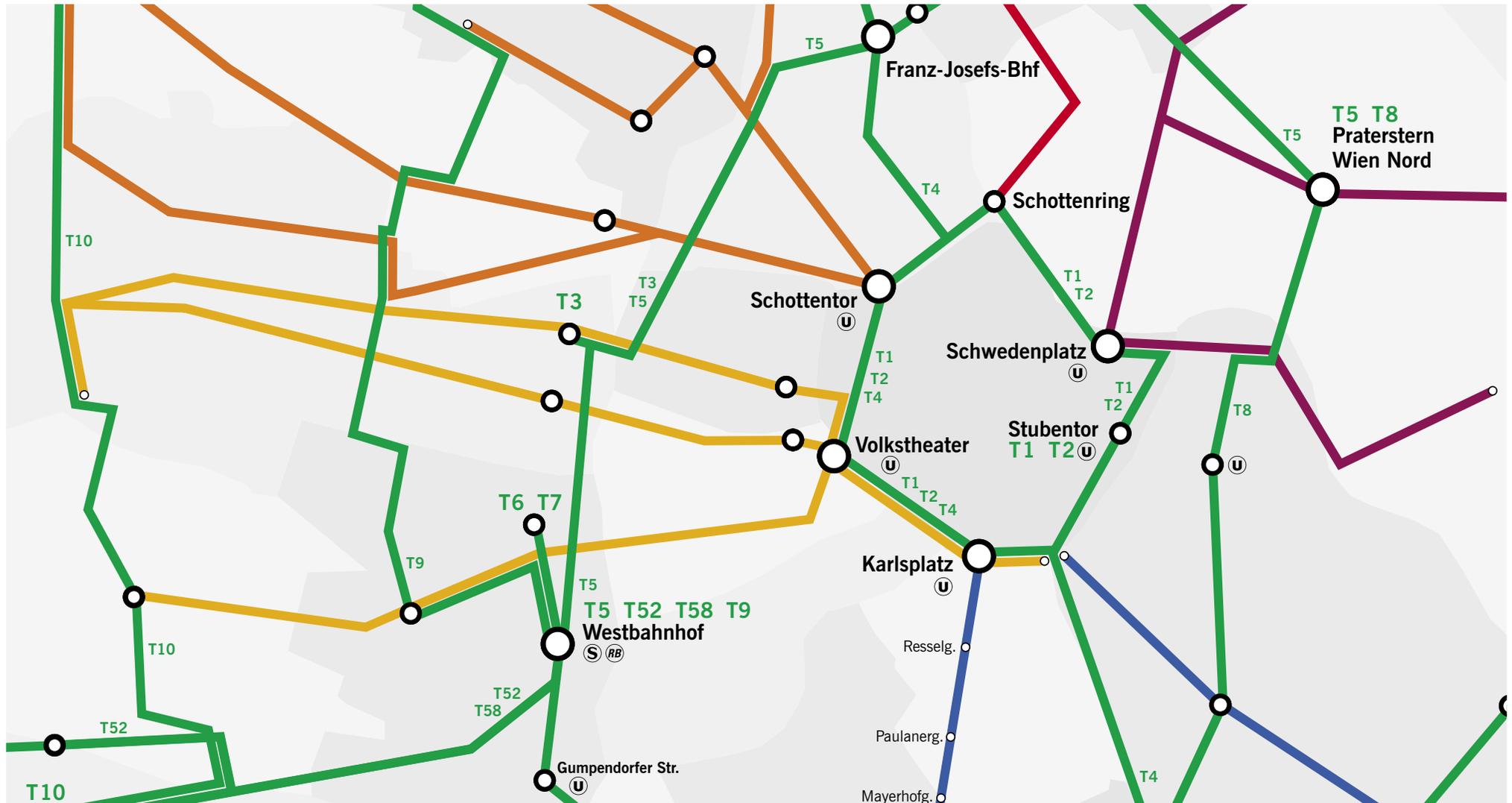
3. Less details in tram tracks drawings

On the map one can see:

- the main points of the tram net where most lines terminate or cross
- the interchange points where it is possible to switch from the tram to another form of transport such as U-bahn or S-bahn
- the stops where it is possible to change a tram
- new tram numbers (i.e. T1). The system of naming trams could be consistent to U-bahn and S-bahn (U1/S1)
- the 23 districts of Vienna



Vienna Tram Map



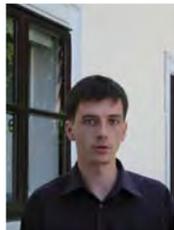
Thinking one step further

Consistent visual implementation throughout the transport system

The map design could be applied to other areas like signage systems in all modes of public transport in Vienna



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Transport Documentary

(Digital version only)



Transport

What is "Transport"?

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What is „Digital Influences“?

People seek assistance from different kinds of devices to help them travel in Vienna: guide books, audio guides, the Vienna City Terminals, transportation ticket machines, web sites, digital signage within the transportation system.

The use of such devices influences their way of travelling in the city. Currently the city of Vienna offers several kinds of digital tools. These devices can either simplify the users' tasks and improve their experience of the city, or they can cause frustration and disappointment.

The way travellers feel and look at a city will be modified in accordance with the devices they use to help them travel in the city.

Digital technology should enhance and support the tourist's experience when "travelling in the city".

Digital devices must simplify the user's activities and provide them with customized information that is understandable and timely.



Identifying the problem

The attention is focused on the devices that support the user travelling in the city, and whether those tools really improve their experiences and influence travellers in a positive way.

How can digital devices influence the user's experience during their visit?

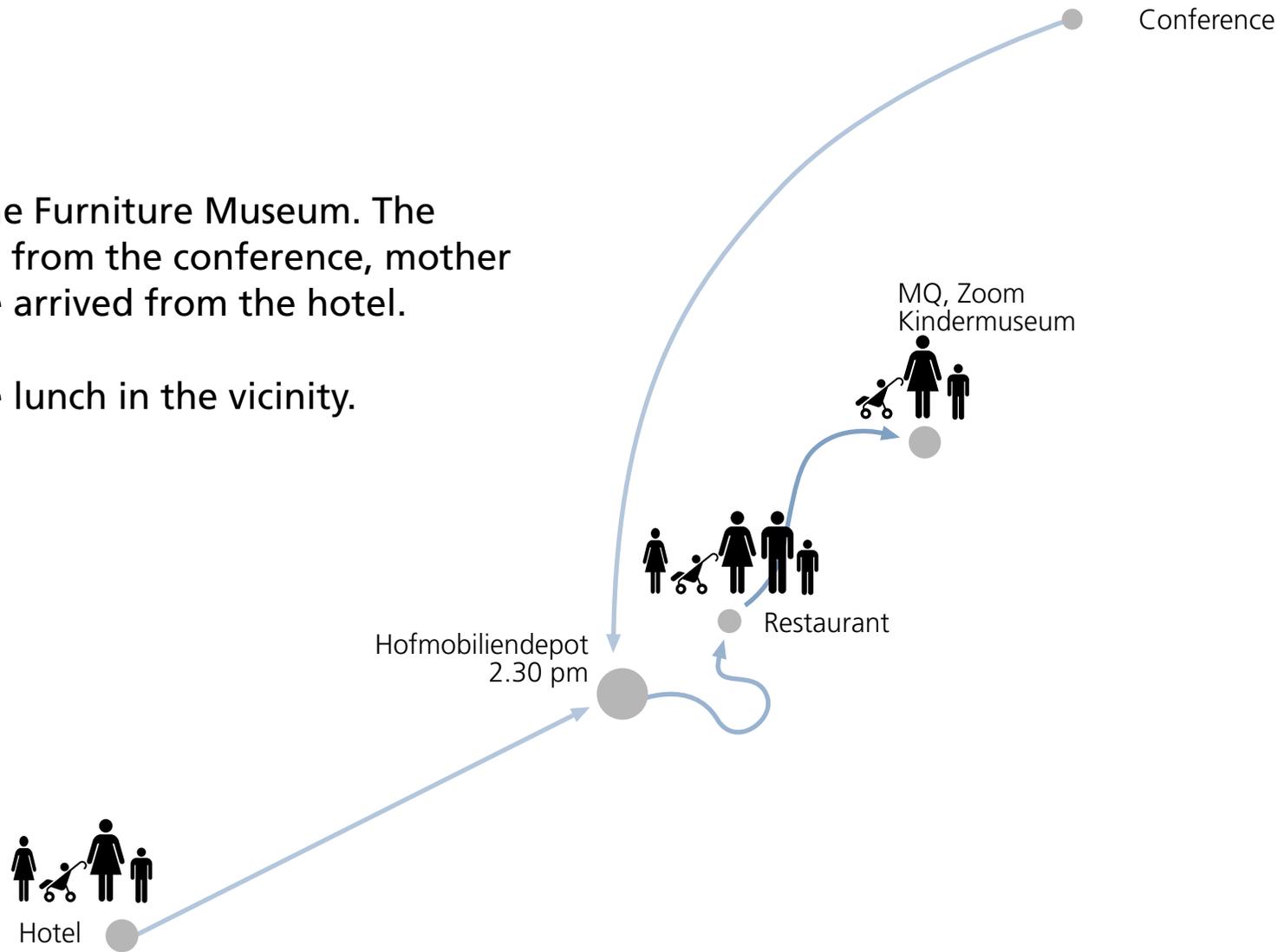
Do existing devices enhance the experience?

How can current applications of digital technology be improved?

Starting Point: Micro Scenario

The family is at the Furniture Museum. The father has arrived from the conference, mother and children have arrived from the hotel.

They plan to have lunch in the vicinity.

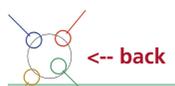


Micro Scenario: Finding a Restaurant

Father tries to get information at a digital info kiosk, fails and asks a person about nearby restaurants

Mother looks for information in guide book

Choice of transport options based on family's location



Micro Scenario: Seeking Information at the Info Kiosk



Location

The Vienna City Terminals are often located in less frequented places.

Content

The information provided seems to be selected randomly, or the system of selection is not clearly understandable to the user.

Functionality

The very popular function of sending e-mails and pictures is not realized in all terminals.

Language

Some terminals have only a German interface.

State of repair

Some terminals are broken or badly maintained.

Consistency

There is no consistency between different (generations of?) terminals.



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Digital Influences

What is "Digital Influences"?

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Micro Scenario: Buying a Ticket



Our particular focus was on the ticket machines for public transport. Both old and new machines are in place.

Old vs. new

The old machine overwhelms the user with many different choices that are not self explanatory, with very little help given. However, the possible choices are clearly visible.

The new machines look easier at first glance, but pose a set of difficulties.



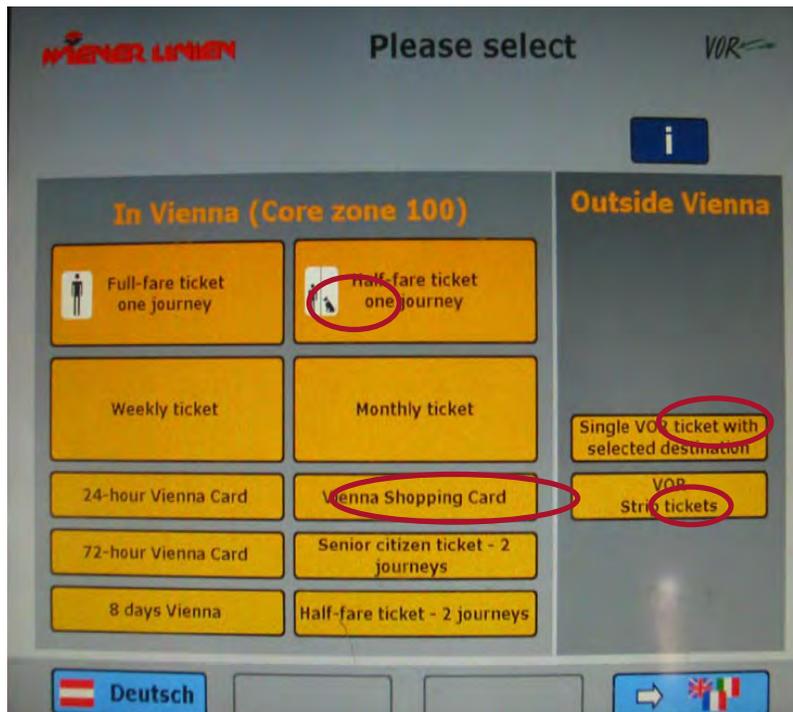
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Digital Influences

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Micro Scenario: Buying a Ticket

The digital ticket interface



The beginning seems easy enough if the user speaks German, English, Italian or French. Also the choice of language is simple.

But then:

What is the "Vienna Shopping Card"?

What is a "VOR ticket" ?

Why is there an icon for a small person (not obviously a child) and a dog, if a half fare also applies to senior citizens?

What is a "strip ticket"?



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Digital Influences

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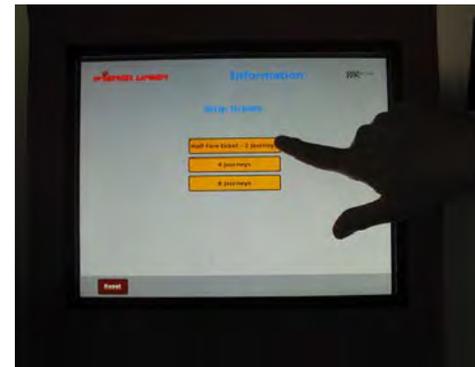
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Micro Scenario: Buying a Ticket

The digital ticket interface

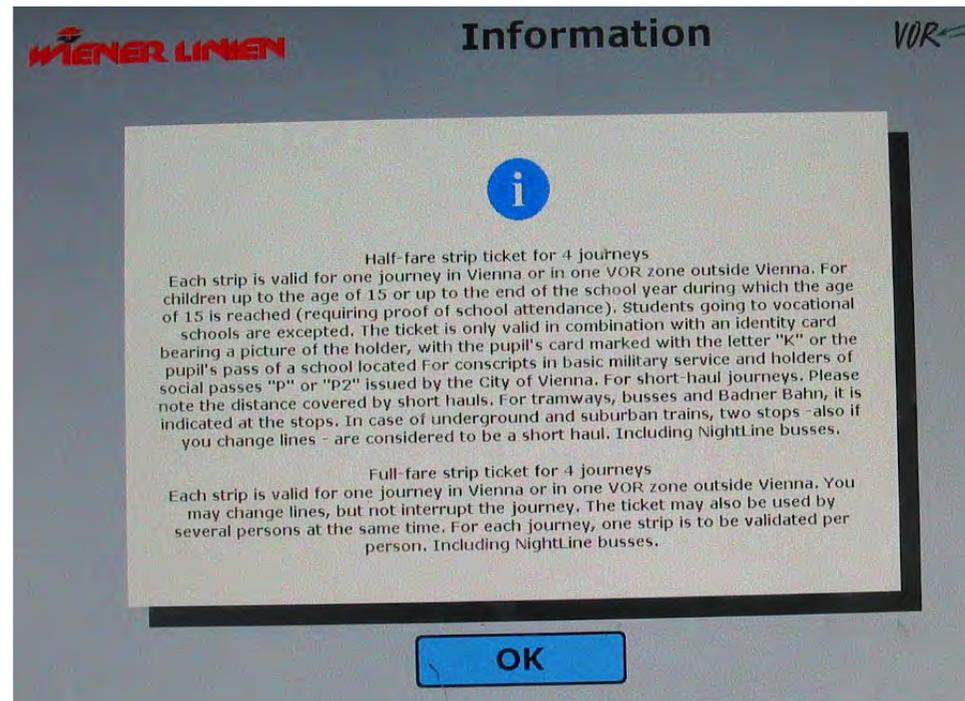


Getting information

Once the user has detected the “i” symbol for information (which is anything but obvious, we didn’t notice it when we first used the machine), it is possible to obtain information about the kind of ticket you are looking for.

Micro Scenario: Buying a Ticket

The digital ticket interface



Well meant but impossible to understand

In the context of buying a ticket with a queue of people behind, who are also waiting to buy a ticket, this kind of explanation is a waste of time.

Too much text that is also very difficult to read ("legalese").



Micro Scenario: Buying a Ticket

The payment interface



Payment was not possible by credit card despite the obvious – if misleading – visual interface (the card nearly got stuck).

The icon for insertion of the credit card is also somewhat unusual, suggesting a flexible card.

Summary: U Bahn ticket machines

1. Problems identifying half-price ticket:

- child pictogram is unclear
- no indication for senior citizens

2. Misleading terminology for tickets

3. Information interface for tickets is not helpful:

- difficult to find
- too much text
- no picture of the ticket anywhere

4. Credit card interface is problematic

5. The current interface does not use the full potential of digital technology

Conclusions

The existing tools and content do not satisfy the travellers' needs.

Digital devices currently in use have potential, but at the moment they create confusion and information overload.

Improvement on the graphic user interface of ticket machines should be implemented in the near future.

Proposal: Extended Kiosk Functionality

Info-Kiosk and Vienna Card



Considering existing technology and the Kiosk system that is already in place in Vienna, current infrastructure is perfectly suited to increase functionality that really provides added value to the user.

Combined with a complete visitor's package the current Vienna Card could be the „passport“ for the visitor.

The Vienna Card gives access to the kiosk and unlocks its potential ...



Proposal: Extended Kiosk Functionality

Map printouts, museum/event/cinema tickets, public transport tickets



Proposal: Extended Functionality of Vienna Card

Bonus system similar to air miles



The current Vienna Card becomes a chip card, that the visitor can buy at different values (i.e. 50,- or 100.- Euro).

It can be used to buy tickets at a discount, to take advantage of any kiosk functionality etc. The more the card is used, the more bonus points are collected. They can be "cashed" against more tickets or a gift.

Potential Kiosk and PDA Interface Via Wireless

More possibilities ...

Looking further into the future, more possibilities open up.

Download of data to the PDA



Potential for Kiosk Visitor Feedback

More possibilities ...

Upload of PDA data to the kiosk

The user can give a restaurant rating or write recommendations for other city visitors



Kiosk Summary

A combination of fixed devices, kiosk, mobile phone, or PDA, merge to create a unique system to support user activities.



Outlook

The objective is to design tools or devices that can be customized to support tourists during their visit.

Tools or devices should be integrated in the environment to contextualize the travellers' experience.

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Digital Influences Documentary

(Digital Version only)



Digital Influences

What is "Digital Influences"? Identifying the problem Findings / conclusions Outlook Team members Documentary