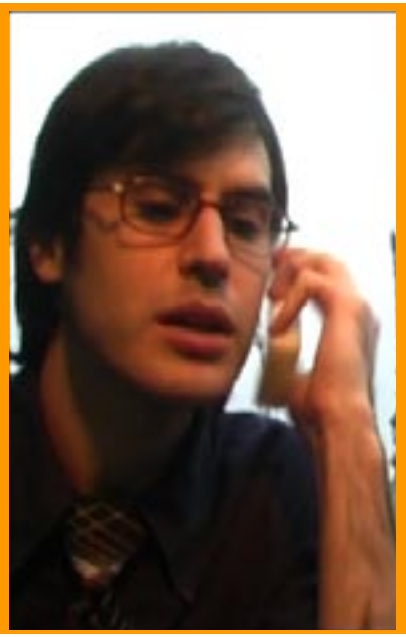
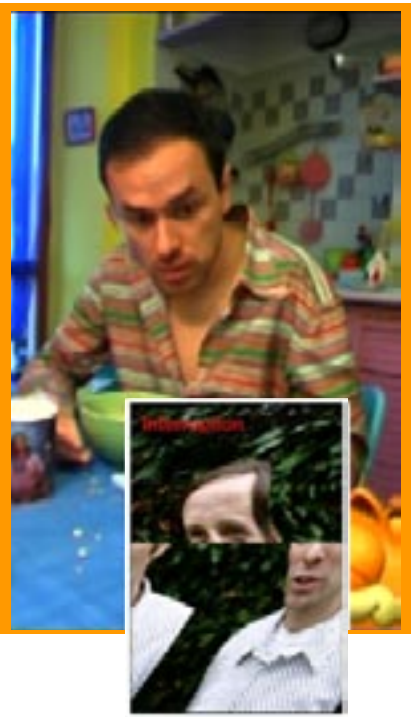
experientia

CREATING VALUABLE USER EXPERIENCES

How can social notions of dominance and submission be turned into tangible interactions between defined groups of mobile phone users?

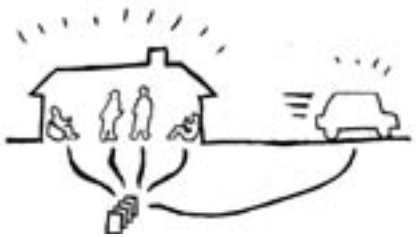




Dominant Affair

User interactions with multiple mobile devices

A design study for Nokia Insight & Foresight



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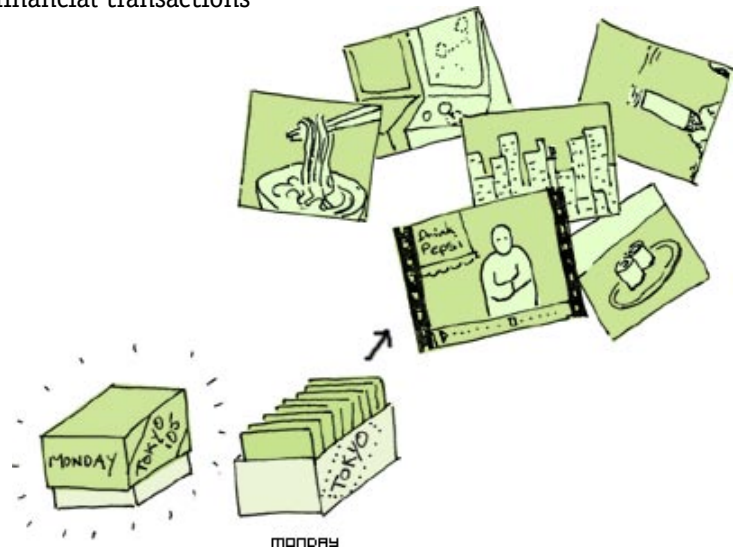
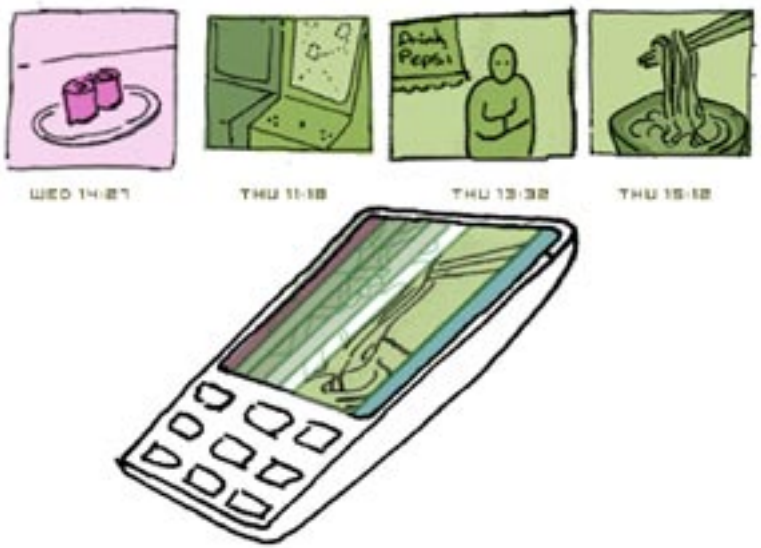


Brief

Design study on user interactions with multiple devices

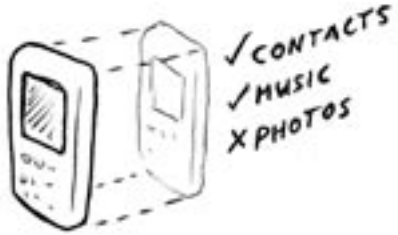


Experientia was asked to develop a design concept exploring multiple device ownership and the exchange of content between these devices. The mobile phone is at the centre of the exploration, in its possible roles as a mediator, access point or personal identifier to other devices or forms of information.

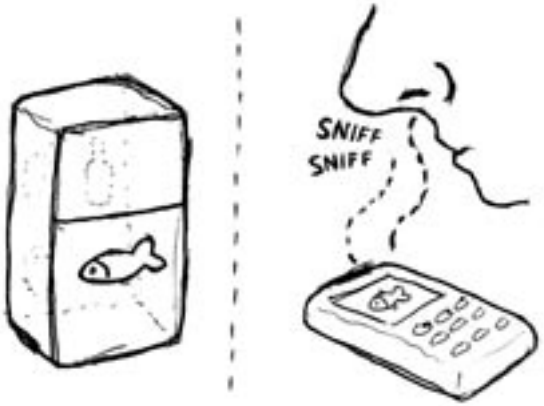
The design concept focuses on the user experience of:
- linking devices together
- sharing information between devices
- understanding which device provides which service or content (mental and cognitive model).

Special focus is put on the integration of the mobile phone into the home environment and its connection with possible consumer electronics or computing devices and their respective content. The desired time horizon for the concept development is three years (2008). For more details, see NOKIA Insight & Foresight RFP.

Turin, September 2005



Design stages



During the project we took three views on user interactions with multiple devices:
Broad view - mobile to other device interactions
Narrowing down - mobile to other mobile interactions
Final focus - dominance-submission interactions between mobiles

The final focus was selected following Nokia's midterm feedback. We chose to zoom in on the social dimensions of dominance-submission, looking at interactions between one mobile and other mobiles. Our insights are explored in a video prototype showing three different scenarios.

Initial frameworks
Early brainstorms reflected on the changing nature of mobile phone usage. A number of rough frameworks emerged:

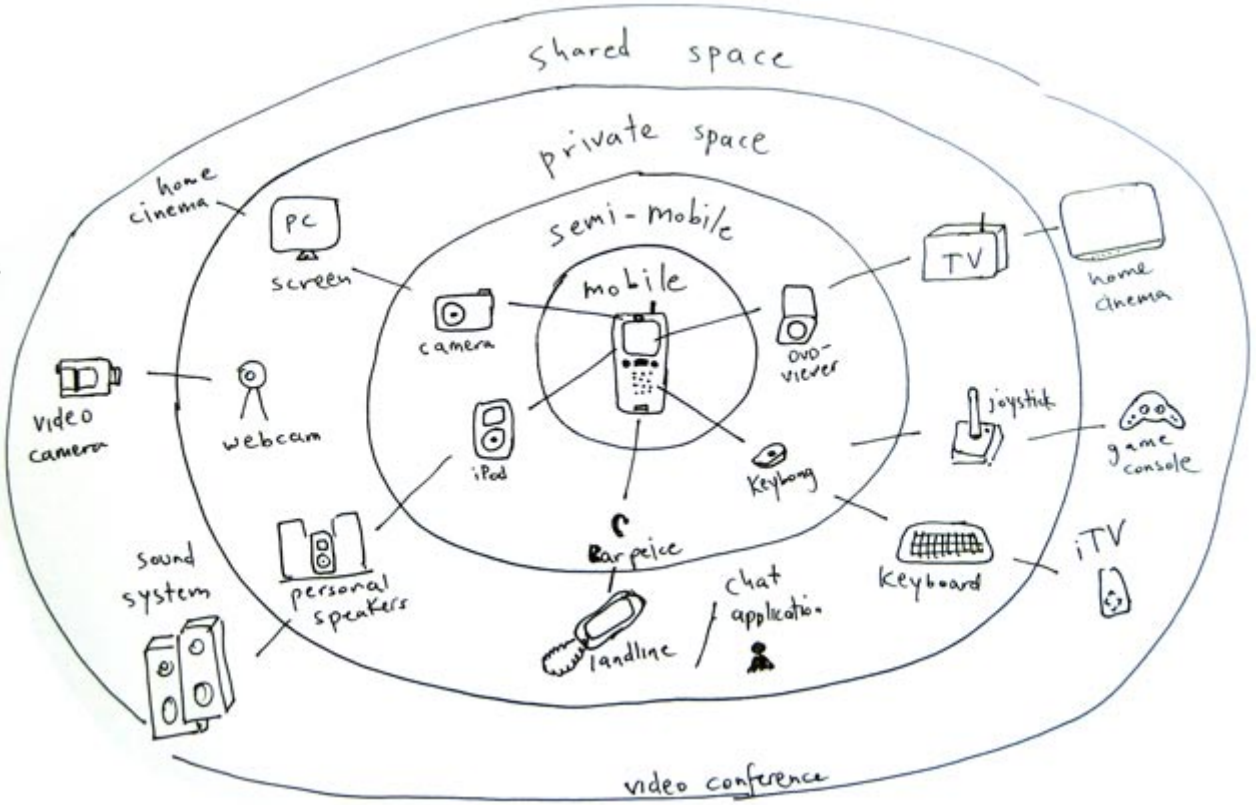
Mobile & environment
Mobile as peripheral
Mobile as remote control
Access to mobile content
Mobile & financial transactions

Broad view
mobile to other device interactions

Mobile & environment

Here the focus was on thinking about the devices that exist in different environments, representing different degrees of mobility.

Could functionality and content be seamlessly transferred between these different devices as the user moves between environments?



In the early stages of mobile telecommunications, peripherals extended the inherent functionalities of mobile phones (extra battery pack, antenna, cameras on PDA's, etc.).

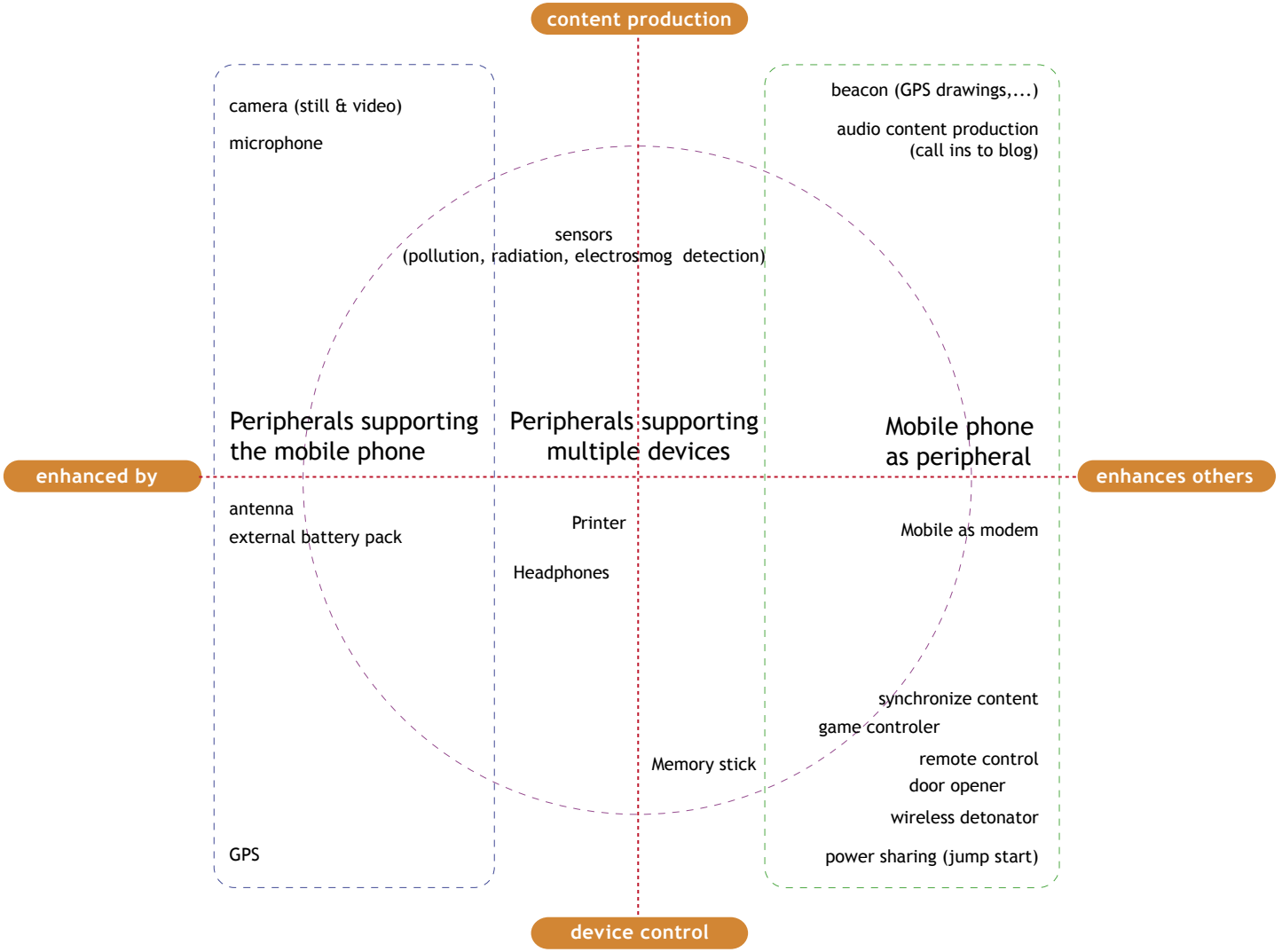
Taking their cue from developments in PDA's, some mobile phones incorporated cameras, larger keyboards and specialised keys or controls.

Lately, the mobile phone has become a peripheral - as a modem for computers, as a portable storage device for media or personal data etc. Faster data transmission speeds like 3G, 4G, Wi- Fi or WiMAX will enhance this role of the mobile as a peripheral. Adding to the role of content creation the mobile phone will increasingly become a controller of devices and content.

Mobile as peripheral

This initial framework explored the relationship between peripherals and mobile phones.

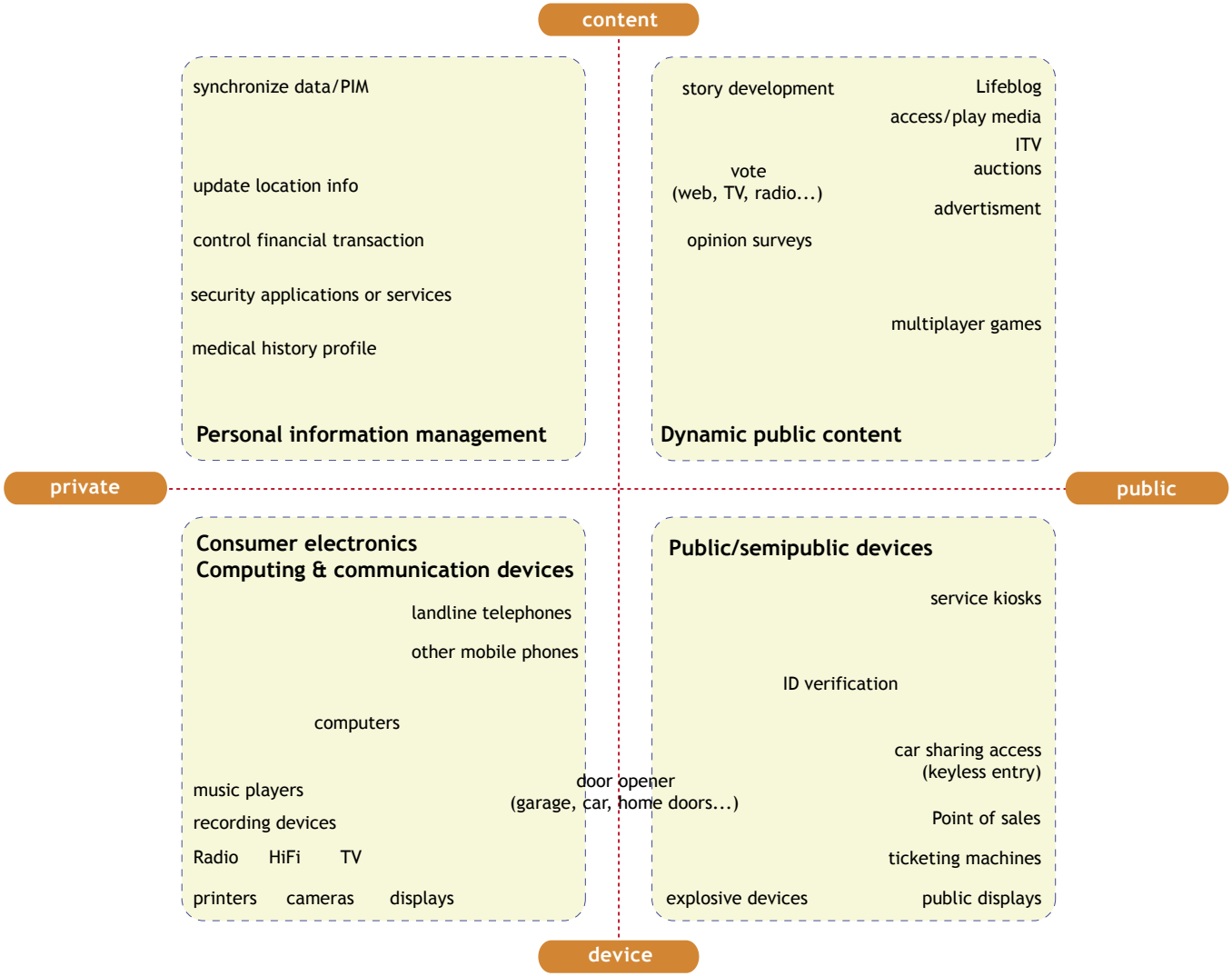
The diagram shows on the x-axis how peripherals enhance the mobile phone, or the phone enhances other devices as a peripheral in itself. The y-axis shows the functions of peripherals for content production or device control.



Mobile as remote control

Mobile phones will gain the ability to remotely control devices and content in private or public environments. More accepted areas of usage are the private control of content: personal information management and the private control of devices like consumer electronics, computers and communication devices.

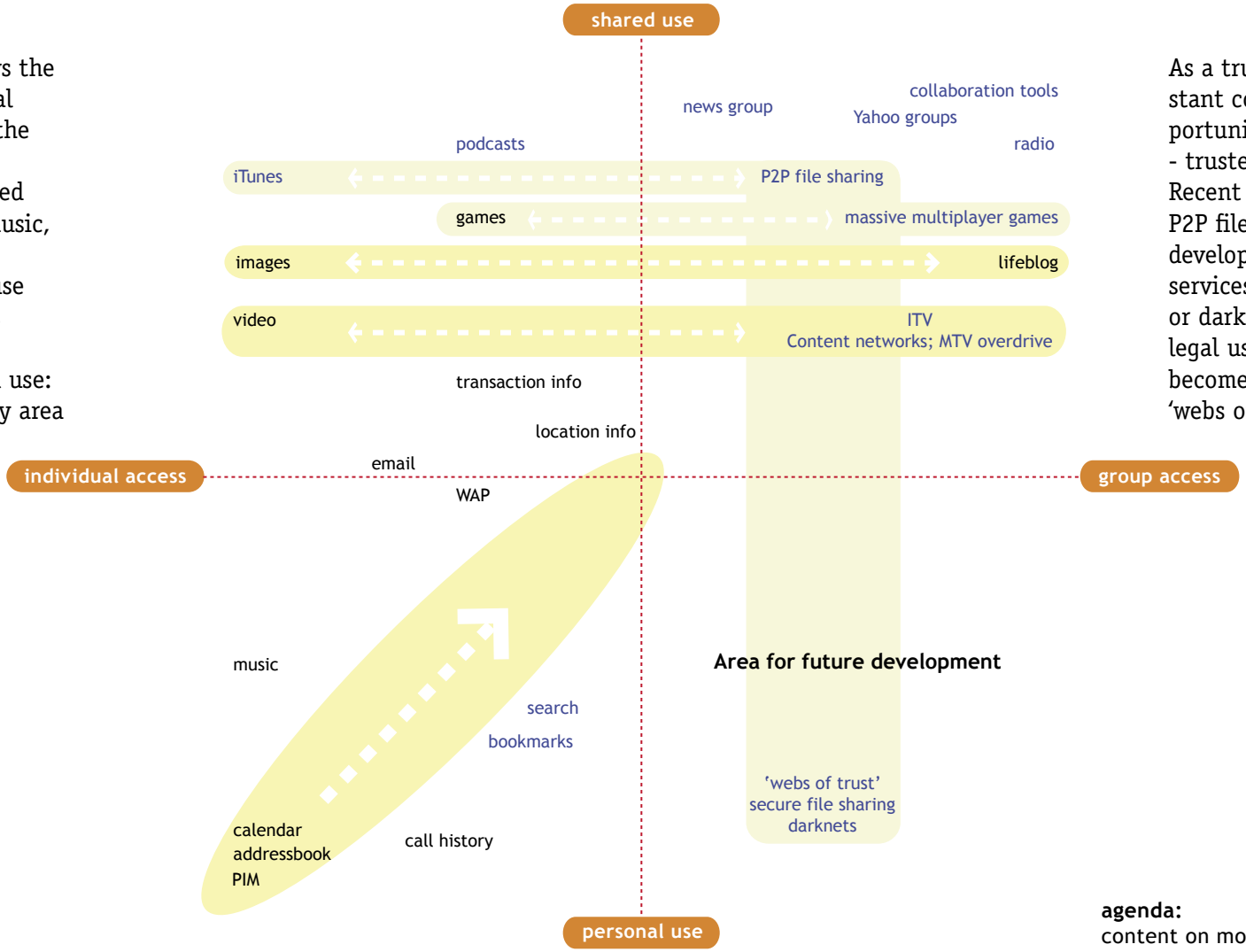
Future opportunity areas are the control of content in the public realm like voting, gaming, accessing media or influencing story development in ITV. Another area is the control of public or semi-public devices like displays, service or point-of-purchase kiosks, and ID verification.



Traditionally, we had individual access to personal information for purely personal use - i.e., address-books, calendars. These personal information management (PIM) data can now be shared across different devices for individual access or even group access. The mobile will contribute to an increased use of shared data, mirroring popular internet activities. Opportunity areas may include mobile collaboration tools, massive multiplayer games and file sharing.

Access to mobile content

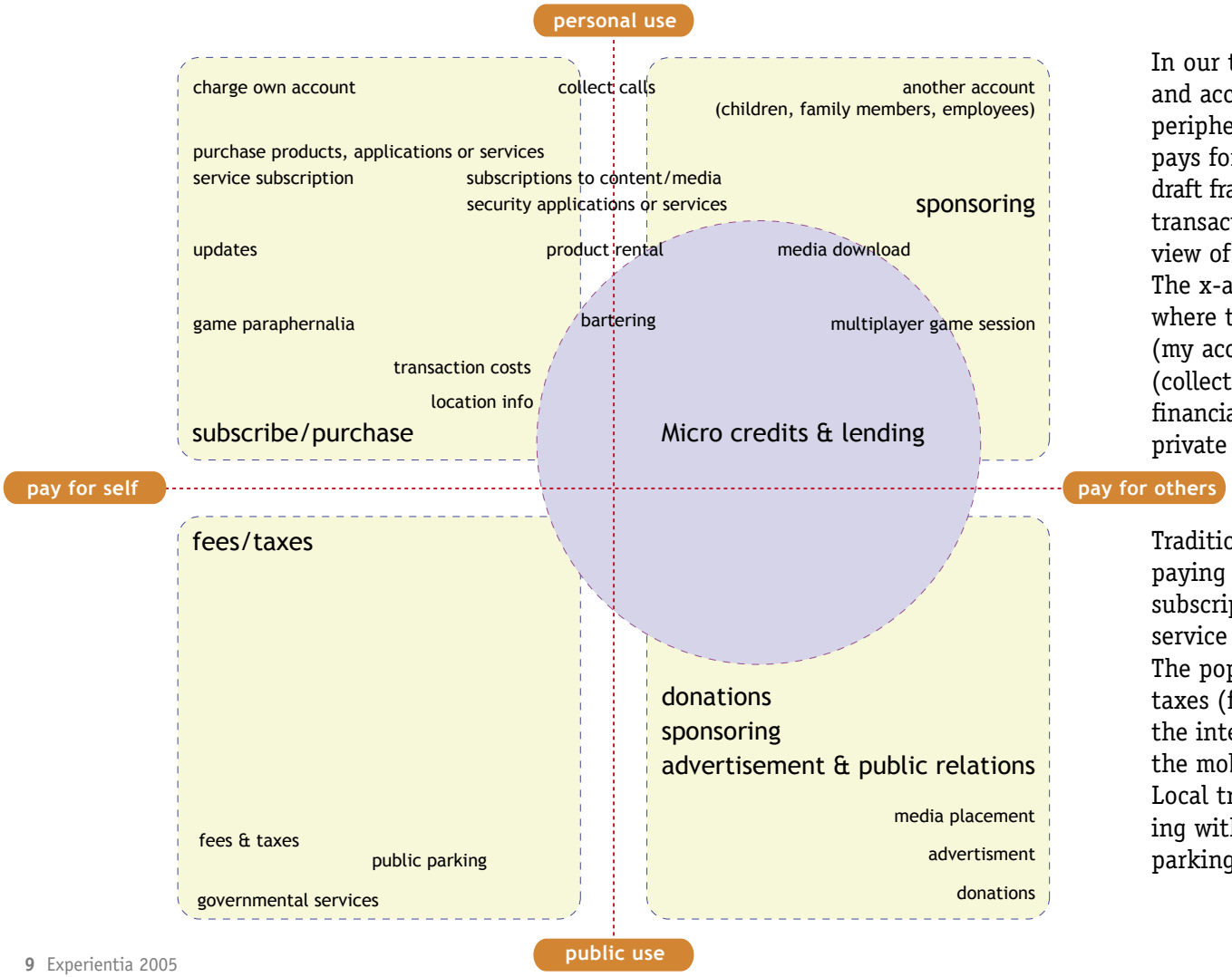
This initial framework shows the development from individual access of personal data on the phone to:
- individual access but shared use of media like images, music, video and information
- group access and shared use of these media (like Nokia's lifeblog)
- group access and personal use: a yet-undefined opportunity area



As a trusted device and constant companion a new opportunity area might emerge - trusted, secure file sharing. Recent legislation concerning P2P file sharing will force the development of file sharing services based on 'webs of trust' or darknets, for legal and illegal uses. Mobile phones might become the start/end point for 'webs of trust' interactions.

agenda:
content on mobile
content on other devices

Mobile & financial transactions



In our thinking about control, and access to content and peripherals, the question 'Who pays for this?' is central. This draft framework looks at financial transactions from the point of view of the mobile phone user. The x-axis lists transactions where the user pays-for-self (my account) or pays-for-others (collect call). The y-axis shows financial transactions in the private versus the public sphere.

Traditionally we are used to paying for our accounts, service subscriptions or updates to service or device functionality. The popularity of paying fees/taxes (for public services?) over the internet may also extend to the mobile phone in the future. Local transactions like paying with the mobile for public parking are the first step.

Growth areas also include financial transactions for enabling personal uses by others, like charging accounts or parents paying for specific media downloads, game sessions and the like. Shared or donated call minutes are a typical example.

In the public sphere opportunities can include sponsoring, donations and the advertising of services.

We see great opportunities for service providers in the area of micro-credits or lending initiated and billed to the mobile phone. The emergence of a 'richer' older generation of mobile users, the concerns about teenage overspending or the legality of file sharing may contribute to growth in this area. The future may bring a stronger dissociation between the people consuming a service and those paying for or permitting that service.

Here are some other design opportunities we identified for further investigation.

Please check the project blog for a detailed explanation of related design opportunity, scenario and design ideas.

Identities and interactions

Design opportunity

Mobile identities in context
This concept explores 'Could my mobile phone change to reflect where I am, what I can do, what is occupying me at the moment?'

Imagine 2008. A possible user statement: "My previous phone was more predictable, so it was always clear to me who is in control. With this one there are moments in which I'm not sure who's setting the agenda… for better - and also for worse - this phone seems to reflect who I am."

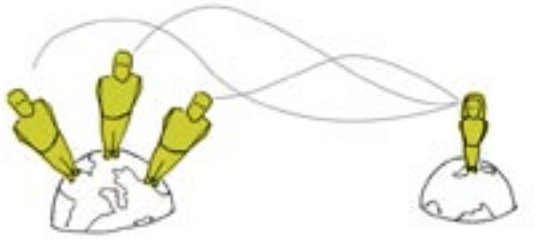
Scenario

Imagine your phone being a reflection of your personality, taking on the identity of things surrounding you in your mental or physical space. This scenario shows a world where the phone pro-actively prompts certain contents or media to the 'desktop' surface - as reminder, déjà-vu …

Design idea

Got a new phone recently. Chose the Terri-R model. I've heard it's a bit hyperactive, but I figured I can handle it, and hell, I'm hyperactive too. This phone is a totally different experience, for example…

This design idea proposes phone behaviors in response to contextual situations or resident personal information and events. The phone "gets distracted", taking on an identity based on these prompts. The adopted identity can be shaken off the phone by tapping it or giving it a shake, which brings it back to the non-modal, basic phone identity.



Here are some other design opportunities we identified for further investigation.

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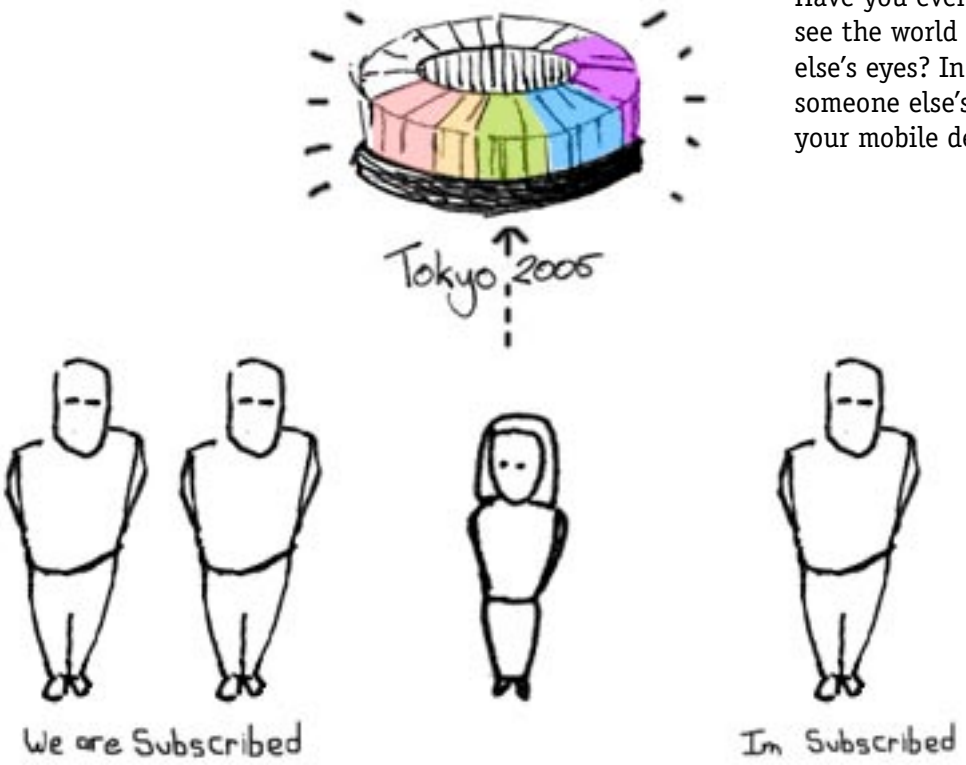
Shared experiences

Design opportunity

How do you share experiences with others in a more 'connected' way?

This concept explores ideas of extending everyday experiences as a feed to selected group members. Images, text and audio notes reproduce the idea of traditional homemade mix tapes. These media feeds take over the mobile desktop like a remote VJ. We call this idea Desktop VJ'ing.



Scenario

Have you ever had the desire to see the world through someone else's eyes? In this scenario someone else's world comes to your mobile desktop.

Design idea

Do you remember the fascination of slideshows? 300 slides in 30 minutes? This design idea imagines a media-rich feed to a select group of friends, but this time you can be in charge choosing your viewing times and speed…

Here are some other design opportunities we identified for further investigation.

Please check the project blog for a detailed explanation of related design opportunity, scenario and design ideas.

Temporary home

Design opportunity

This concept rethinks the mobile phone in relation to our homes: how the mobile is changing the concept of home and how it expresses itself through buildings/objects. Can the mobile become a household appliance?

While a house could be considered our physical home, the phone is becoming our internal home. It defines our 'place' in the world by connecting us to the people we know and the content we care about. How can we emphasize the role of the phone as our internal home? How does the phone relate to its exterior counterpart, the physical home?

Opportunity areas include: I am at home - Friends at home - Coming home - Stranger at the door - Temporary home - Away from home. We decided to focus on how mobile phones can support feeling at home in a Temporary Home.

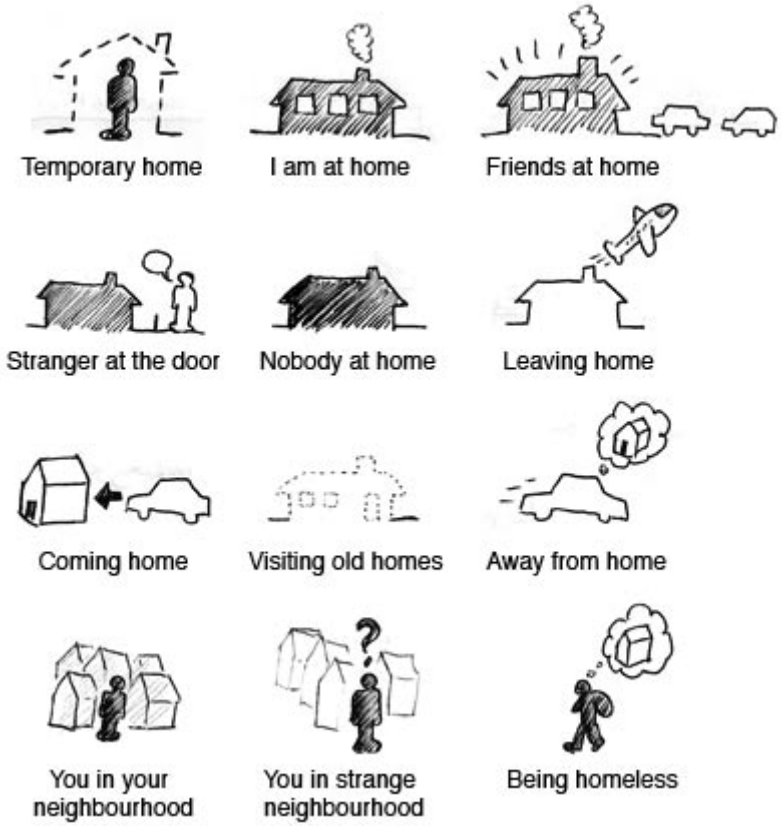
Scenario

Do you want to 'feel at home' and have things your way? This scenario explores how a phone adapts to a new environment - a temporary home. Imagine your phone gaining new abilities as you visit a friends place - access to a shared, selected address book, games, playlists and subscribed content or services. Or, upon checking-into a hotel, your phone becomes the ultimate remote control for devices and media in your room.

Design idea

We explore the phone as providing the intelligence, personalization and common interface that is required to control, access or document the world around. It carries your linked lists of TV channels and bookmarked shows: like on your iPod, you scroll, select what you want to watch, and it plays. No tuning, no relearning, no matter where you are.

Narrowing down
mobile to mobile interactions



Modes and Locations

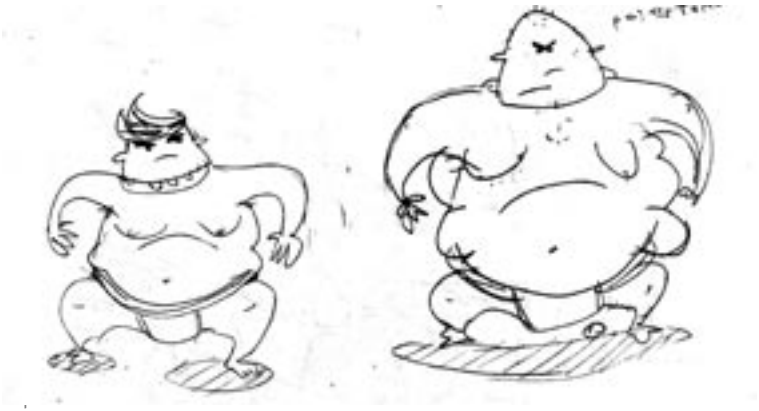
When I'm at home, I use my phone to connect with my friends.
But I also synch / control / recharge at home.

When I'm out with my friends, I use my phone to connect with home.
But I also synch / capture / share with my friends.

Modality according to location has its complexities.
If the phone used to be about being where we are not,
now it is also about where we are.

There are things that our phones do when we are together.
There are things that our phones do when we are apart.

Animas, behaviours and conventions



Work, family and leisure time are situations in which mobile phones need to adapt, assuming a specific behaviour every time, just like people are expected to change roles, sets of rules and conventions when facing different groups they belong to.

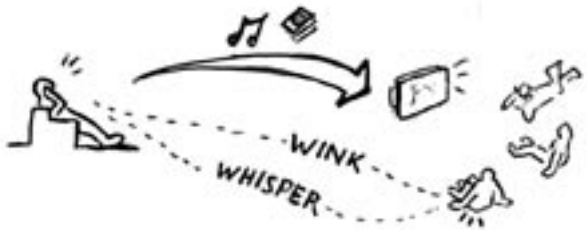
Animas, different personalities or ways of behaving and sharing information for mobile phones according to social groups and contexts have a great potential in the realms of entertainment, dating, flexible work environments and education.

Imagine dominance and submission rules and interactions in groups of users of mobile phones belonging to vertical organisations.

Submissive and dominant animas would only be active within the groups they are related to. A phone would behave normally (whatever is the normal usage pattern of a specific user) and would only assume the appropriate anima when it detects the proximity or the need of other group members.

Peer to peer distributed networks on mobile phones could offer an opportunity for ad-hoc communities of all sizes to build ties, get a sense of belonging and exchange content using a horizontal model. Handsets could temporarily take over or use alternative threads of certain functions of the adjacent person's unit, such as calendar, contact lists and image browser. There could be several degrees of trust that could be applied to different contacts, enabling, for instance, constantly open channels for the most trusted contacts or even "phone to phone instant messaging" to negotiate low level transactions without direct human intervention.

The people we know and our direct access to them become a key value in our social interactions. People trade, auction, barter, share, use and abuse contact information. Recommendations and introductions reduce the perceived degrees of separation, adding legitimacy to follow up on contacts. Webs of trust are built on reputations and social adherence to group norms.



The contact economy

Exchanging contacts

How do we share contact information as we speak? Current behaviours of note taking, memorisation and association so that we can share later on are very inadequate: notes on scraps of paper, marks on the palm of your hand, repeatedly saying the info to be memorised, voice notes, visual associations with an object in space, etc.

When on the phone, the position of the phone when the contact is requested may suggest preferred forms of action:
1. Mobile held to the ear
- pressing a memory button to leave a voice message or just a 'blinking' reminder that you have to remember something.
2. Mobile in hand with audio headset - entering a note to self or finding/tagging/sending the contact.
3. Wireless audio headset connected to mobile somewhere in the room - using the phone like a terminal.

New contact types

There is confusion is the land of contacts. Right now our browser bookmarks are anything that is a URL (website, blog, search query …), contact-lists hold anything that is a number (people, places, services, hotlines, SMS actions), and buddylists are anything that is an email-address. These lists are organised along technologies (number vs URL vs email) and applications (IM vs mail vs phone). Do we need to organise our 'contacts' along new criteria?

Critical contacts

Critical 'just-in-case-numbers' can be accessed in emergency situations by strangers around you, and are permanently loaded on your friends/family's phones.

Temporary contacts

Contacts are loaded onto your phone automatically during a hotel stay. A token is placed on your phone changing as you move from the 'before', to the 'during' to the ' 'after' event. The token can contain all kinds of media, and contacts are visualised in your contact list. The token deletes itself when it is no longer needed.

Contact pooling

Increased storage will allow us to share generously. To share contacts within a trusted group (family, friends) you drop them into private or public zones. Silent contacts could remain dormant for many years until they pop up in the relevant context.

Soft tools for soft contacts

Design tools to cater for the varying levels of familiarity of our contacts.

The contact economy

The value of content
Your content-wealth is determined by how valuable or interesting a particular content item is to another person. Possible applications include:
Signaling - phones ambiently indicate their sharing potential. From this you establish whether you let the phones do routine maintenance updates or whether you engage in a more active sharing session.
Bartering - exchanging one thing for another. The content-value index helps in the bargaining process and gives you a sense of how much a particular content item is worth to another person.

Communal maintenance
Keeping your contacts up to date by sharing them with your friends or family. When you meet a person with 'fresher' info your phone automatically updates itself. Depending on the level of trust associated with a person, contacts update automatically, can be pulled from another phone, need to be pushed to you or can be bartered for. Also, what if I get a new phone number: it would be so much easier if I could just send out an SMS to a list of people and their address book would update automatically.

Update services
Besides communal maintenance, we will make use of online services like Yellow Pages to keep our public contacts up to date. When subscribed, Yellow Pages goes through your contact list every month and identifies and updates the contacts it has stored in its public directory.

Contact evolution
Through increases in storage capacity, our phones will not only hold the contacts that we deliberately want to remember, but also the ones that just pass us by. As you meet friends and friends of friends, 'familiar' contacts turn into 'known' contacts turn into 'active' contacts…

Phantom phone
Your phone temporarily takes on the identity of someone else. You browse the mixed memories as if they were your own. Phantom phone is used to extract shared memories, interrogate other person's memories and fix them to your phone.

How can social notions of dominance and submission be turned into tangible interactions between defined groups of mobile phone users?
Mobile phone usage already reflects the social structures between users. How can we accentuate communication behaviours to fit these social structures and conventions?

Final focus
dominance-submission interactions between mobiles

Exchange of data, information, exercising of control and interaction rules can be framed within the dominance-submission model. When users are supposed to abide by group rules, mobile phones can adopt/support very specific behaviours and norms.

Imagine: dominant handsets having control over subordinate handsets.

From the point of view of the dominant handset, it could:
- control when other phones are on or off
- send authorised contact lists to subordinate phones
- charge phones with airtime, re-distribute it according to necessity
- set events and alarms in the subordinate's calendars
- get feeds of images and videos from other handsets, or even activate handsets' cameras
- transfer calls to subordinates
- host games to play with all the group
- narrowcast content

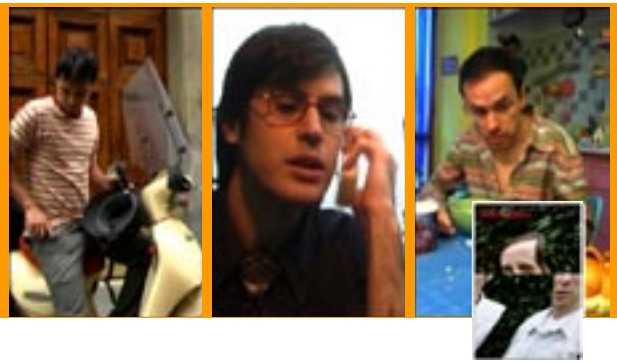
From the point of view of the submissive handset, it could:
- leech airtime from the dominant phone
- receive instructions, images and videos to accomplish certain tasks or get reference information
- be freed from external responsibility
- become a viral agent, so if it "bites" (toothing, infrared, whatever) another handset could become submissive too.

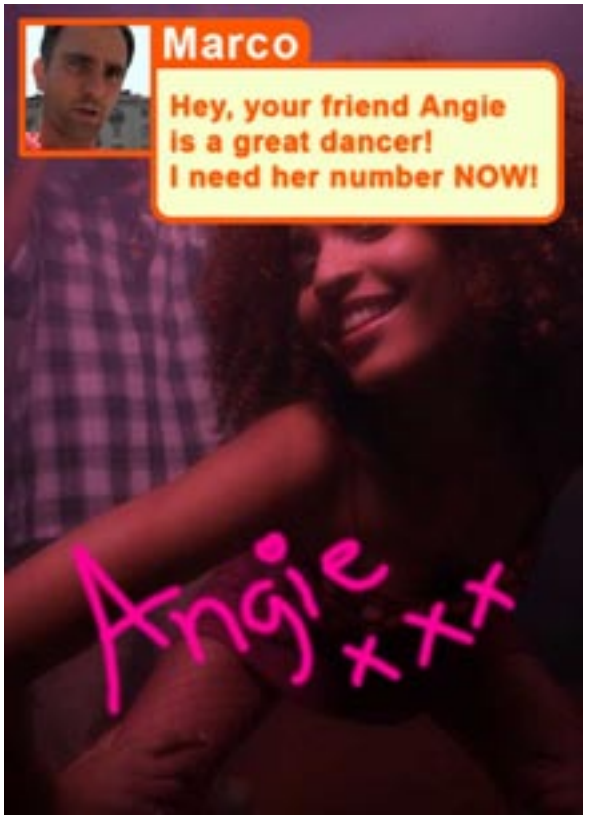
The following target groups could benefit from using this model: friends, urban tribes, mobile workforces and families.

Make yourself heard

Friendly Intrusion

Invade your buddies' desktop just for a moment
Make them react to get you off their screen
Social messaging brought to an extreme
Mobile equivalent of grabbing attention





This concept explores the mobile equivalent of grabbing your friend by the arm while they're in the middle of an activity and forcibly telling or asking them something.
It usurps and interrupts any ongoing activity the recipient might be involved in with the phone. This is not a small icon waiting, but a visible extension of your friend. In your face!
The desire to let yourself be heard is elevated to a more impertinent level.

the story:
Marco has a pressing question and craves immediate attention

Take possession of your partner's phone!

Phantom Phone

Imagine taking over your friends' mobile identity...
... and having direct access to their files and mobile content
Trust and proximity will reduce barriers to mobile file sharing

Peer to peer distributed networks on mobile phones offer an opportunity for ad-hoc communities of all sizes to build ties, get a sense of belonging and exchange content.

Mobile phones might become important initiation devices for file sharing services. Proximity based, wireless file sharing supported by large data storage on mobile phones requires new forms of content browsing and search. Handsets could temporarily take over certain functions of the adjacent person's unit, such as calendar, contact lists and image browser.

The phantom phone takes on the identity of the 'other' phone - including personal information management tools, contents and calling plan etc. A virtual SIM card, like switching from one email account to the next.

Which phone is dominant? Imagine an initiation: a ritual of positioning two phones in close proximity. This prompts a screen-based offer to take on the identity of the other phone. Proximity could enable automatic synchronisation of selected content areas if the right preferences are selected. The address book becomes the starting point or selection mechanism for a web of trust.

the story:
Tosca returns to Turin after a two-year study break overseas

Remote phones can be controlled, but how about their users?

Dominance Games

Parents mean well
Kids leech their parents' airtime
Asserting your control when you have complete dominance over someone's phone

What happens when a child runs out of its airtime allowance?
Can it leech airtime from the older sister who gets higher allowance?
Can the child call on credit?

Dominance games is an attempt to illustrate some of the subtleties and difficulties inherent in any dominant-submissive relationship which is, in this case, mediated by a family mobile phone system. In families, younger kids are increasingly having more responsibilities and also rights, which makes them more prepared to negotiate and even challenge their parents. This video prototype shows how a technological platform can reflect in some ways the intricacies of human relationships, and how the same functionality and paradigm can be perceived and used in many different ways, mainly to suit specific needs and desires of people.

The dominant-submissive game is not as straightforward as it may seem, since the dominant need the submissive in order to fulfill their role, and the submissive can use its latent power to subliminally influence its master.

the story:
Nina likes to play

Who we are

Experientia

Experientia is an international consultancy based in Italy helping companies and organisations to innovate their products, services and processes by creating valuable user experiences.

Experientia puts people and their experience at the heart of its innovation approach, and supports companies through conducting research, developing creative strategies, creating solutions, designing prototypes and testing results.

Pierpaolo Perotto
is the CEO of Experientia. He has an extensive international background in strategic consulting, marketing, management and applied research. He worked for Olivetti and Ernst & Young Consultants, lived in California, and is now CEO of FINSA Consulting, a company with offices in Rome, Milan and Genoa.

Mark Vanderbeeken
is the partner in charge of visioning, strategic communications and identity. He worked in Belgium (his home country), USA, Denmark and Italy for both profit and non-profit, and studied at Columbia University. He is also the author of Experientia's successful experience design blog "Putting people first".

Michele Visciola
is Experientia's president. He is an international expert on usability engineering, human factors and user-centred design and heads the Italian chapter of the Usability Professional Association. He has lived in the UK and the USA (where he studied at MIT Sloan) and is known as Italy's top expert on usability.

Jan-Christoph Zoels
is Experientia's partner in charge of user experience. Originally from Germany, he lived for many years in the USA, where he taught at RISD, and was director of information architecture at Sapient and a senior designer at Sony. Since 2001 he is a senior associate professor at Interaction Design Institute Ivrea, where he runs the business innovation workshops called Applied Dreams.

FINSA Consulting
is a B2B software solutions group with offices in Rome, Milan and Genoa. The company focuses primarily on service industries such as banking, insurance, certification, but also works on aerospace initiatives and manages EU research projects.

Our services

Experientia

To design valuable user experiences, companies need to understand how users really live their lives, now and in the future, and to design new products and services that address these insights.

Experientia concentrates its activities on five areas, all driven by a total attention to the end-user, the person that is at the heart of what we do.

Foresight
is the research on what the future might hold. What will the future look like? How will people act in the future? What society will they be part of? How to imagine user scenarios, specific to topics or issues of interest to a company, that make those concepts concrete and actionable? How to identify opportunities by understanding possible future use scenarios?

Understanding
is the methodology to grasp what people do now. Not what they say they do, as is already revealed by classical market research methods such as market surveys and focus groups. But what people really do, know and feel. We need to observe people's behaviours, as modern-day ethnographers. This will help us to develop user profiles, interaction frameworks and opportunity maps.

Design
From this insight about the future and about people's actual behaviour, we can then create concepts and ideas about the design of new products and services. Experientia brings in a rich methodology of translating the user and use needs — identified in our foresight and understanding activities — into creative strategies, concepts and design solutions.

Prototyping
Experientia works through iterative prototypes: from the rough, conceptual prototypes that only convey the idea, to the more refined and functional ones to test the interactivity. Users – and not designers and engineers – provide the core feedback. Participatory design will make each successive iteration better and better and lead to a final result that delivers real value to the end-user.

Usability testing
To make sure that this succession of prototypes meets user needs, testing is essential. Experientia provides companies with an extensive methodology to do user testing in such a way that qualitative results feed back into successive design phases, and the end product or service is tightly aligned with user needs.

Project team

Experientia

Andrea Clemente
video production & editing
Francesca Tosca Donato camera
Lorenza Calvo actress
Nina Rapisarda actress

Mark Vanderbeeken text editing
Pierpaolo Perotto administration





Jan-Christoph Zoels
project lead, partner at Experientia

In his work Jan-Christoph Zoels focuses on people's experience of mobile services and applications, and on using information technology to support simplicity.

As senior associate professor at Interaction Design Institute Ivrea, he leads the 'Applied Dreams' initiative — collaborative innovation workshops with industry leaders such as Sony, Hitachi, Nokia, TCL&Alcatel, Orange, Fiat and Telecom Italia.

Previously he was director of information architecture for Sapient (New York), and senior designer at Sony Design Center USA, responsible for strategic product development. He holds four patents.

Steven Graham Blyth
Steven has worked in digital interactive design in both Canada (Maclaren McCann) and South Africa (The Jupiter Drawing Room). His projects there ranged from online banking tools to the creation of highly interactive rich media work for clients such as Nike and General Motors. Steven has won several international awards for his work, which has been published in design annuals. He sat on the judging panels of the One Show Interactive Awards as well as several New York festivals.

He just finished his Masters in Interaction Design at Interaction Design Institute Ivrea. His thesis focussed on expressing personal identities on mobile phones.

Bernd Hitzeroth
Bernd graduated this summer with a Masters in Interaction Design at Interaction Design Institute Ivrea. In his thesis he explored new forms of image exchanges on the mobile phone.

Before moving to Ivrea, Bernd was employed as a Flash designer/developer at Wireframe Studios, a Cape Town based multimedia studio specialising in Flash-based games and application development. His work won several awards, including the 2002 Think Ahead Graphic Design Student Awards (Silver), the 2003 Construction New Media Awards (Finalist) and the 2003 Loerie Award (Silver)

Michal Rinott
Michal is an interaction designer with a background in cognitive psychology and user interface design. She is passionate about design for the senses and since 2002 has created a number of projects exploring the use of sound and touch with mobile devices. As part of her Masters thesis in Interaction Design, Michal created 'SonicTexting', a device for writing through gestures and sound that has been presented and exhibited in Italy, Germany, Belgium, USA and UK.

Michal is currently teaching Interaction Design in Israel, and works as a researcher at the Interaction Design Institute Ivrea.

Alejandro Zamudio
A dot-com boom survivor, Alejandro has spent most of his professional life online, helping a broad range of clients build brand presence and manage their customer relationships on the web. His work experience includes developing localisation and online branding strategies for multicultural audiences. As a web designer, he has had to wear many hats, from the purely technical side of web development to project management and information architecture. Being keenly interested in non-commercial aesthetic and narrative explorations, he has put some effort into trying to find ways in which technology might be made more humane.

Contact us

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