MobileMAN meeting Cambridge, UK
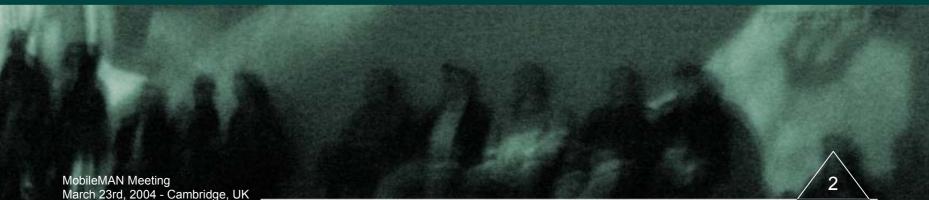
capturing users IDEAS for services for a new wireless and portable technology

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March 23rd, 2004

Agenda

- ✓ Introduction
- ✓ How technology influences our style of life
- ✓ Integrating electronics and humanities – virtual and real life in other researches
- ✓ SPES: involving people with playing and acting
- ✓ Trying to capture people interests on new technologies
- ✓ References

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From tam tam to bip bip

Everything started because
humans wanted to
communicate
and
exchange informations
to each others …

… wireless devices support these more and more,
deleting spaces and time

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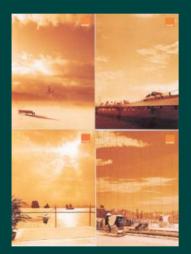
Cell phone ads

be inspired

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Phone companies ads

keep in touch whenever you're travelling

tutto intorno a te

Changing in our lives styles

✓ Nomadic people

✓ New way of interaction between people

✓ Needs of

   ✓ "beeing"

   ✓ "everywhere and everytime"

   ✓ "with the latest technology"

   ✓ "with a new identity"

✓ technology must reflect our changes and help us in ...

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... reducing digital divide (easy to use, accessible to all)

✓ **Bridging the Great Digital Divide**

✓ The Simputer is a low cost portable alternative to PCs, by which the benefits of IT can reach the common man.

✓ It has a special role in the third world because it ensures that illiteracy is no longer a barrier to handling a computer.

✓ The key to bridging the digital divide is to have shared devices that permit truly simple and natural user interfaces based on sight, touch and audio. ...
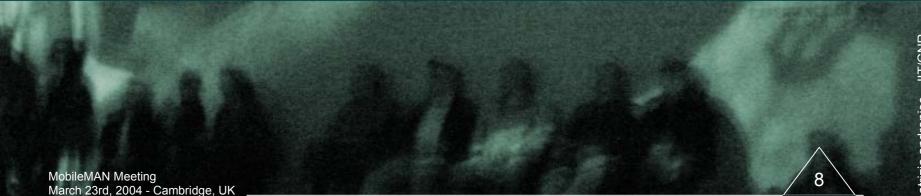

http://www.simputer.org/

simputer™
radical simplicity for universal access

✓ Flash mobs are sudden gatherings of people at a predetermined location at a predetermined time. People in flash mobs usually perform according to a written script, then disperse quickly. Flash mobs can be for many purposes but most groups stick to having fun. http://www.flashmob.com/

✓ April 3rd , in San Francisco, 1200 pc will be connected to form a high speed net, just for one day

✓ http://www.rai.it/news/articolonews/0,9217,72321,00.html (in italian)

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… increasing the quality of our lives

✓ Internet dependance for …

  ✓ Loneliness, marital discords, stresses, depression, financial problems, are the reasons that push an always greater number of people to live in the virtual world of the Net, more fascinating than the real one. In reality, this attitude risks to disconnect us from the real life.

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... creating relationships, in real life

MOBILE Mania

- ✓ Centrality of mobile device in our lives
- ✓ We can't go out without it …
- ✓ We need to show our "relationships" to the others (public calls)

http://www.tg3.rai.it/scenari

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Technology must also

- ✓ help us in our daily activities and needs
- ✓ help people with particular needs (elderly and disables)
- ✓ help us in developing humans most important actitudes
  - ✓ Forming mental models to understand previous knowledge
  - ✓ Playing and … learning
  - ✓ Using languages and … metaphors
  - ✓ Thinking, reflecting … being **creative**

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University of Oregon

✓ The **Wearable Computing group** at University of Oregon has been active since 1995. Our focus is the design, development and evaluation of wearable and mobile computing technology for facilitating and augmenting human collaboration.

  ✓ CAT
  ✓ Proem
  ✓ Auranet
  ✓ Wearable Assistant for Cognitively Impaired Individuals

http://www.cs.uoregon.edu/research/wearables/projects.html

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RCA in London

✓ Projects:

    ✓ **FLIRT** → investigates the potential of location-specific information, not only as an information resource, but also as a medium for social interaction and play

    ✓ **PRESENCE** → investigated ways that technology can be used to increase the presence of older people in their local communities

    ✓ **ALTAVISTAS** → how interactive electronic systems that use sensors and displays can be designed alongside or intregrated into the build environment to provide enriching experiences in the city

    ✓ **EQUATOR** → explore the integration of the physical and digital worlds, first investigating technologies for the home, then including speculative technologies for the urban environment

http://www.crd.rca.ac.uk/

In Italy

✓ Interaction Design Institute, Ivrea, IT (http://www.interaction-ivrea.it)

✓ how are machine going to interact with us? (http://naturalinteraction.org/ and http://alessandrovalli.com)

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SPES in Finland

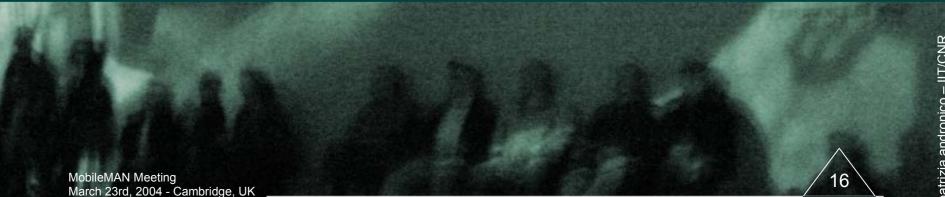- ✓ **Situated and Participative Enactment of Scenarios**
- ✓ Giulio Iacucci and Kari Kuutti
  - ✓ Department of Information Processing Science, University of Oulu, Finland
- ✓ Mervi Ranta
  - ✓ Department of Computer Science and Engineering, HUT, Finland
- ✓ Carlo Iacucci
  - ✓ Division of Informatics, University of Edimburgh, Scotland, UK

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Scenario-based Design

✓ Short stories, descriptions of use of technology contextualized in a meaningful setting

✓ Used often in practice design to discuss future changes

✓ Used in describing completely novel practices made possible by new tecnology

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How to generate scenarios

✓ Written or visual narratives (brainstorming between designers or observations)

✓ More etnographical approach
  ✓ Everyday life as a stage
  ✓ Opportunity for participants to exercise reflection-in-action

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"Nomadic" users of the future

✓ Developing services and devices that support mobility of people

- ✓ **First** → exploring mobility: "activities in which people engage, with others, when they are mobile, and how various tools and artifacts, feature in those activities"
- ✓ **Second** → considering socio-cultural aspects that can influence the adoption and use of new devices and services
- ✓ **Third** → designing for totally new use situations, can have high risks in making wrong decision; so, engaging future users of a new services into the design process, should help generating real scenarios and product concepts

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Mobility

- ✓ Local mobility
  - ✓ People simply move between rooms or building at a local site
- ✓ Micro-mobility
  - ✓ Used in a "relatively circumscribed, or *at hand* domain"
- ✓ Remote mobility
  - ✓ "Individuals that move around different physical locations who require access to information and colleagues"

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✓ Designers follows participants in their daily activities

✓ Participants have a very simple mock-up of a future device, called "magic thing". (they used it to help imagination and not restrict the mind of people to current electronic device)

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Participants and designers

- ✓ Students and employees
- ✓ Both sexes
- ✓ 19-30 years old

- ✘ Camera and a diary
- ✘ Can disturb the participants altering the context at a physical, social and organizational level:
  - ✘ Sensitive not to put users in uncomfortable situations
  - ✘ Have dramaturgical skills to encourage the participant's performance

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SPES sessions

✓ Scenarios are created in daily activities with all its constraints

Thomas

Matteo

Diana

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Some ideas from SPES sessions

✓ Different kind of services and devices, they divided in six categories:

- ✓ Mobile group information services
- ✓ Location based services making use of maps
- ✓ Group awareness services based on proximity
- ✓ Mobile video conferences
- ✓ Access to fixed video installations
- ✓ Short range connectivity of devices

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Role games

✓ Players (users, expert and designers) imagine what kind of devices or services could support their mobility and communication, playing roles or acting as themselves in given situations

✓ Considering three aspects simultaneously:

   ✓ Group activities and interactions

   ✓ The mobility of participants in the interaction

   ✓ The context of each participant in term of artifacts, tools and environment

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Comparison of the two techniques

SPES	Role-playing game
Less dynamic activity	Group interaction
Realistic scenarios detailed contextual information	More creative environment
Micro, local, remote mobility	Local, remote mobility

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Maslow's hierarchy of human needs

Individual needs

Relationships with others

Self-Actualization

Esteem

Love, Affection, and Belongingness

Safety

Physiological

"Maslow's hierarchy became an important guide to the new computing"

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Who does what with who

✓ **Old computing:** *personal computer is the term used for a solitary experience*

✓ **New computing:** *a personal use of the computer come with a new family computer, corporate community, or civic network usage (more relationships)*

Self

Family and friends

Colleagues and neighbours

Citizens and markets

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Who does what with who

Collect

Information

✓ Collecting informations from:

   ✓ Family and friends: visit and cell calls

   ✓ Colleagues and neighbours:
e-mail, informational website, online library, marketplace databases, financial markets*

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Who does what with who

✖ Relationships with others

✖ Consultations with peers and mentors

✖ "Relationships are so important that telegraphs, telephones, e-mail, and instant messages grew rapidly and spread widely."*

✖ Market was strong for communication technology.

Relate

Communication

Who does what with who

Innovation

Create

- **✖** Humans are very good in create activities:
  - **✖** *Composing a song*
  - **✖** *Planning a birthday party*
  - **✖** *Organizing a social event**
  - **✖** *…*
- **✖** Creativity support tools can be very useful in learning activities

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Who does what with who

✖ Giving to
  - ✖ *Yourself*
  - ✖ *Your family*
  - ✖ *Your profession*
  - ✖ *Your community*
  - ✖ *Your country**

Dissemination

Donate

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Activities and Relationships Table: example of Mobile and Ubiquitous Applications

ART	COLLECT Information	RELATE Communication	CREATE Innovation	DONATE Dissemination
Self	Flight info Weather		Diary	
Family and friends (2-50 intimates)	Address lists	Find-a-friend E-postcards	Music play lists	Family vacation histories
Colleagues and neighbours (50-5000 regular encounters)	InfoDoors Gather e-mail	Send-a-link Info-Doors	E-guestbooks	
Citizens and markets (5000+)	Stock quotes WebBushes	Click-n-pay	E-guidebooks	Web sites for exchanging tourist info

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Thinking about ... MobileMAN

- ✓ Important features are
  - ✓ Collaboration
  - ✓ Co-operation
  - ✓ No cost
  - ✓ Self organizing

- ✓ Explore one aspect of the technology at the time
- ✓ Contextualized the experiment in that particular country and place (socio-cultural differences)

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We can make use of ...

- ✓ Scenarios
- ✓ Simple Mock-up
- ✓ Online and offline role playing

Depending on usage

- ✓ In various contexts: different countries, at work, at home, in emergency situations
- ✓ In groups/individuals: at work, at home, for fun, in emergency situations, for elderly, for disables

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Working with ...

✓ Teenagers/Students
  ✓ At school, at the University
✓ Professionals
  ✓ At work
✓ Blind people
  ✓ In everyday life

✗ Groups like volunteers
  ✗ Emergency situation

✗ Older people
  ✗ At home, in everyday life

In physical spaces and …

… through the web site, in digital spaces

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Looking at the website

✓ The look&feel (graphical appearance) also depends on the features we want to add to the website and for this reason it can vary a lot

    ✓ Animation

    ✓ Images

    ✓ Sounds

    ✓ Interaction

> Is it really necessary?
> For what purpose and to understand which part of the MobileMAN technology?

✓ Which content and in which way present it and for which group of people (accessibility)

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Adding features

✓ Static informations: glossary, technical, ecc..

✓ Interactive part:
  - ✓ forms
  - ✓ scenario-based games (a museum, a supermarket, an office, an underground station, …)
  - ✓ photos contest on "new technologies use in real life"
  - ✓ collaborative story telling (i.e.: wiki-engine)
  - ✓ …

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Website look&feel

1

Website look&feel

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Website look&feel

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Website look&feel

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Usability ... first

"A fuchsia cell phone might be pretty.

But a cell phone that **does not require a manual** – now that is beauty."

Katrina Galway, Letter to the Editor, *Time Magazine*, July 24, 2000

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Thanks!

patrizia.andronico@iit.cnr.it

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Thinking about … MobileMAN

8. Another wireless device … **cost**

7. Ambient intelligence … **computer power everywhere**

6. Intrusive technology … **privacy**

5. No server providers … **collaboration, cooperation**

4. No infrastructure **…** **no cost, health, landscape**

3. Look&feel … **mobile, PDA, new design**

2. Usability issues … **features, applications**

1. Human everyday needs … **individuals, collectives**

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