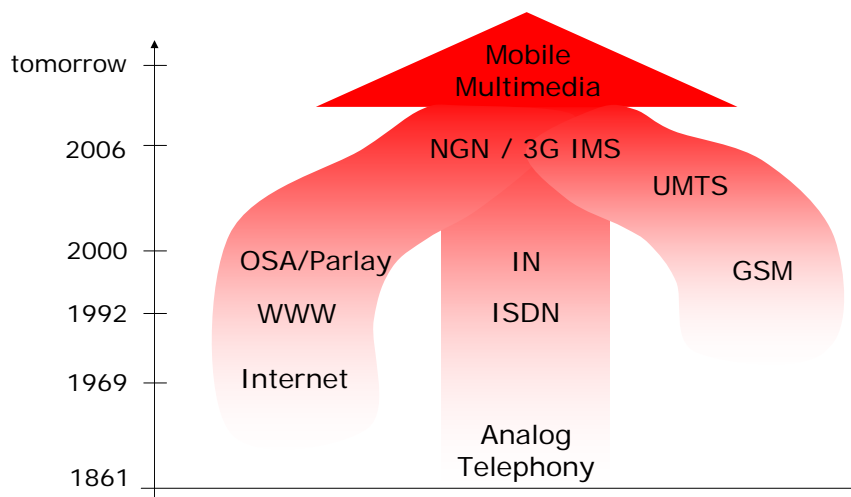


Towards Future Communications: User – Content – Interaction

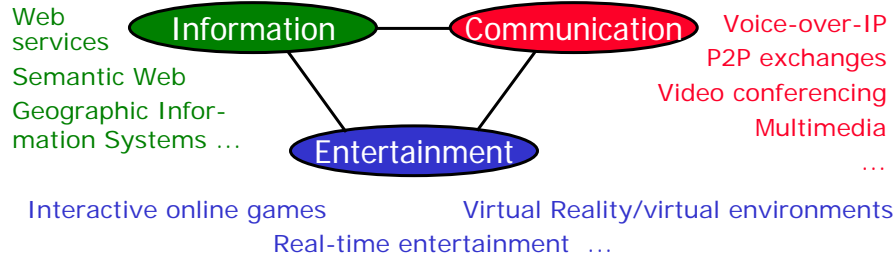
Peter Reichl

joint work with P. Fröhlich, R. Simon, A. Dantcheva

Quo Vadis, Telecommunications?



It's „T.I.M.E.“ for a New „ICE Age“



- **Trend:** convergence of Telecommunications, Information, Media and Entertainment (T.I.M.E.)
- **Key success factors**
 - efficient resource usage → new/disruptive architectures
 - user perception of service quality → Quality-of-Experience
 - balanced use of human senses → intelligent interfaces
 - economic viability → Network Economics

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Approach and Contributions



- **Holistic paradigm:** telecommunications no longer restricted to “Communication Engineering”
→ covering full value chain up to the end customer
- **Ftw. research contributions:**
 - Methodologies and concepts
 - Prototypes and evaluations

Application-oriented Research:

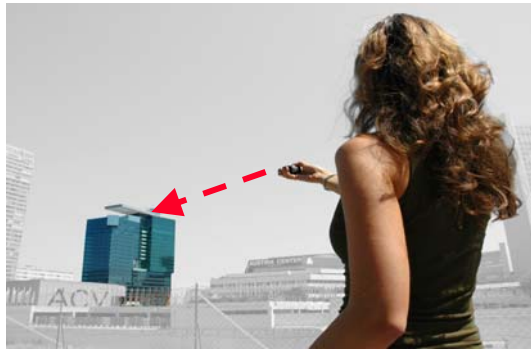


Strategic Research:



Example: „Point to Discover“ (p2d)

- **Wanted:** new intuitive interaction methods
- **Idea:** use mobile as interactive pointing device
- **Potential scenarios:** bus stop, sightseeing, advertisement billboards, natural landmarks, ...



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Embedded Sensors in Mobiles

- **GPS**
 - Motorola A780, A925
 - Fujitsu F505iGPS
 - ...
- **Magnetic Compass**
 - Nokia 5140
 - LG F7100
- **Accelerometers**
 - Samsung SCH-S310
 - Sharp V603SH
 - Mitsubishi V401D
 - LG SV360
 - ...

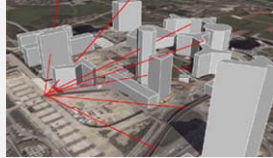


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Geospatial Selection Algorithms



User Interface Components



Rotating Map

Panorama

3D Map

Content Aggregation



Hardware Prototyping



Demonstrator: p2d restaurant finder



Note: Live demo after the talks!

Prototype Evaluation



- **Problem:** traditional (lab-based) evaluation not really useful for mobile applications
- **Idea:** usability lab „on the move“
- **Typical example:** [Oulasvirta et al., 2005]



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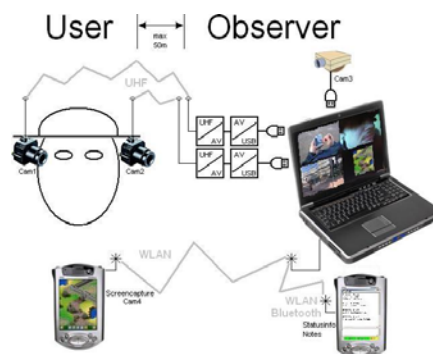
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Our Approach: LiLiPUT



- **Idea:** use state-of-the-art telecommunications
- **Thus:** fully wireless approach
- **Result:** LiLiPUT (Lightweight Lab Equipment for Portable User Testing in Telecommunications)



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LiLiPUT Realization



Observer



User



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What have we learned

ftw.

- ftw. – Forschungszentrum Telekommunikation Wien
- Holistic research perspective:
 - New and disruptive architectures
 - Network Economics
 - User – content – interaction
- Tonight's focus: novel interaction methods and their evaluation
- Point-to-discover – a framework for spatially aware mobile applications
- LiLiPUT – usability evaluation in the wild

Thank you very much for your attention!

Any feedback welcome: reichl@ftw.at

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