

MUGAN

Multiplayer Games in Mobile Ad Hoc Networks – Part I

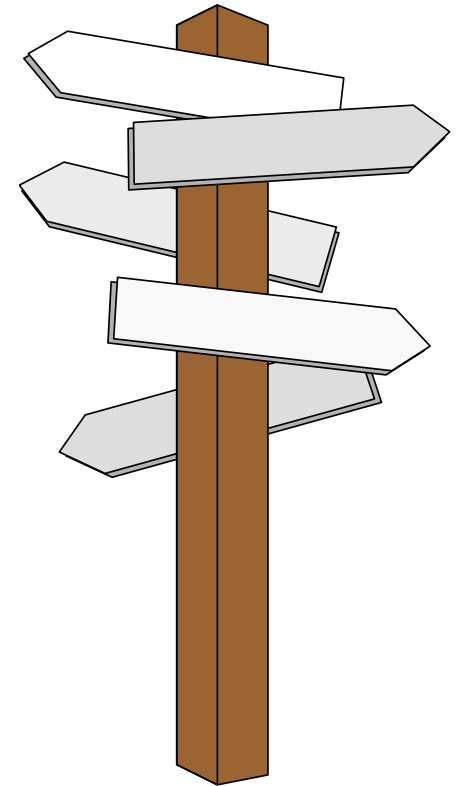
Károly Farkas
ETH Zurich

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Outline

- MUGAN – Project Overview
 - Motivations
 - Scope of the project
 - Goals of the project
 - Expected results
 - Project structure
 - Consortium
 - Actual status
- Technical Part of MUGAN \Rightarrow Part II
 - Presented by Oliver



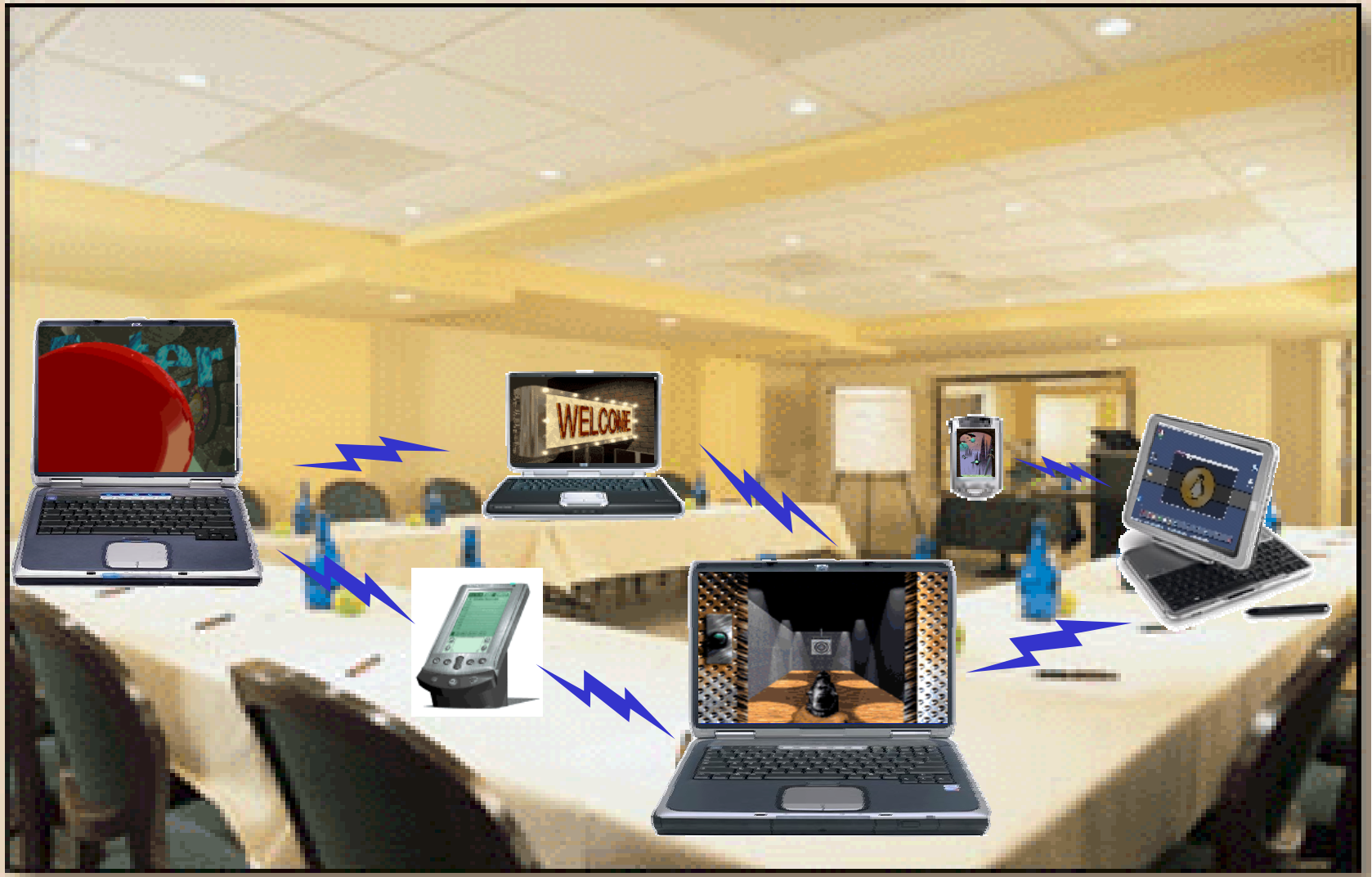
Motivations

- Popularity of mobile devices and ubiquitous environments
- Emergence of self-organized or ad hoc communication paradigm
- Attractiveness of multiplayer gaming as a leisure time activity, and a 'big' business



MUGAN - Multiplayer Games in Mobile Ad Hoc Networks

Scope



Other Possible Application Scenarios

- Mobile ad hoc multiplayer games
- Automatic collaboration support
 - Collaborative work \Rightarrow Distributed software applications
 - On-demand, automatic and quick service deployment and management
 - Sample situation – during project meetings
- Edutainment
 - Collaborative studying and entertainment \Rightarrow Distributed software and multimedia applications
 - On-demand, automatic and quick service deployment and management
 - Sample situation – during university courses

Main Technical Difficulties

- Lack of permanent infrastructure and central management
- High level of heterogeneity
- High level of mobility
- Devices with limited resources

Objectives

- Develop a reusable service provisioning middleware
- Develop an appropriate game architecture for mobile ad hoc environment
- Adapt an existing multiplayer game
- Develop and implement a new, prototype, mobile ad hoc multiplayer game
- Further objectives
 - Integrate fixed-infrastructure networks
 - Integrate security and fairness mechanisms
 - Integrate context awareness
 - Develop a detailed business model appropriate for mobile ad hoc gaming

Expected Results/Benefits

■ Technical

- Research in mobile ad hoc networking from the Applications' perspectives \Rightarrow Practical research results, efficient use of underlying resources
- Reusable service provisioning framework containing common useful services
 - Service naming, description, discovery
 - Service deployment
 - Service management
 - Security and fairness
- Robust game architecture \Rightarrow Make possible multiplayer gaming in mobile ad hoc networks
- Technical solutions for combining fix and ad hoc networks, even on the Application layer

Expected Results/Benefits (cont'd)

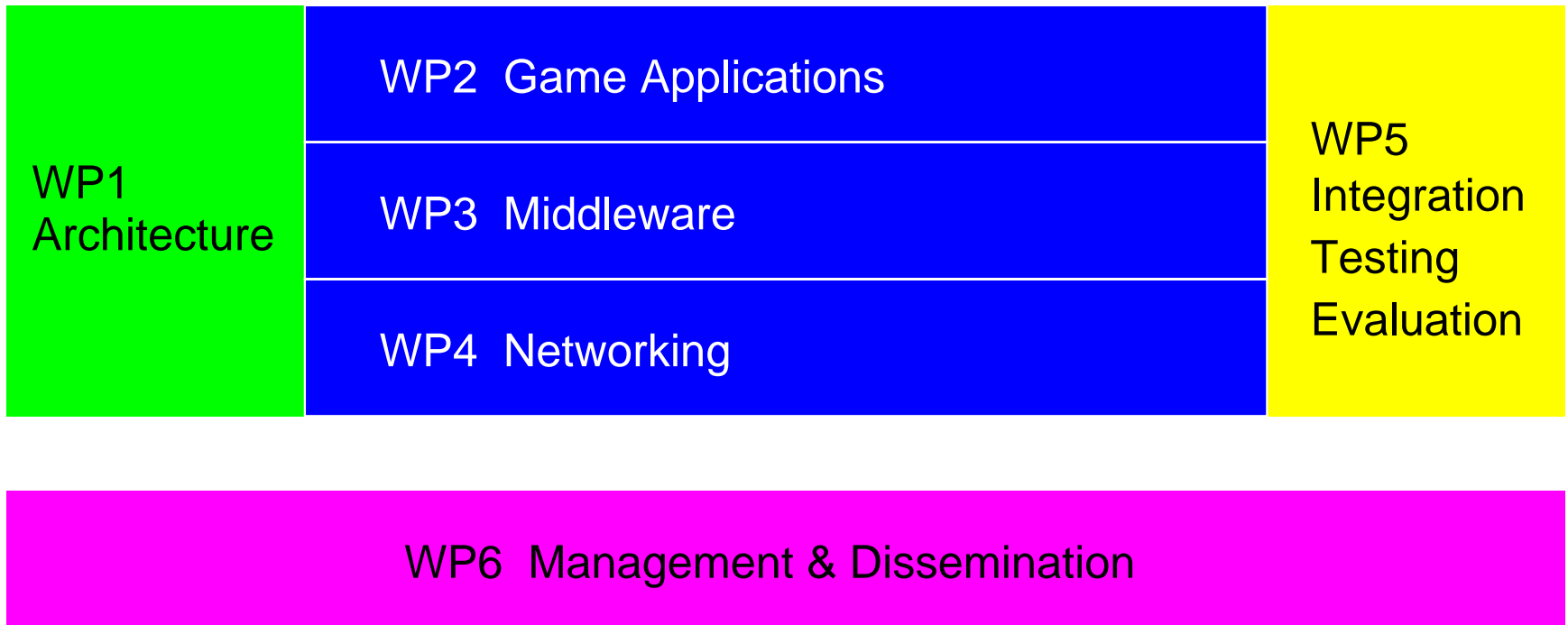
■ Social

- New ways of gaming \Rightarrow New ways of social interactions
 - Mobile ad hoc gaming
 - Context aware games

■ Economical

- Direct income for game developers
- New services through integrating fixed-infrastructure networks \Rightarrow New income possibilities even for third parties (e.g., game service providers, terminal vendors, network operators)
- Urge towards new business solutions \Rightarrow New markets, new business models

Project Structure



Consortium

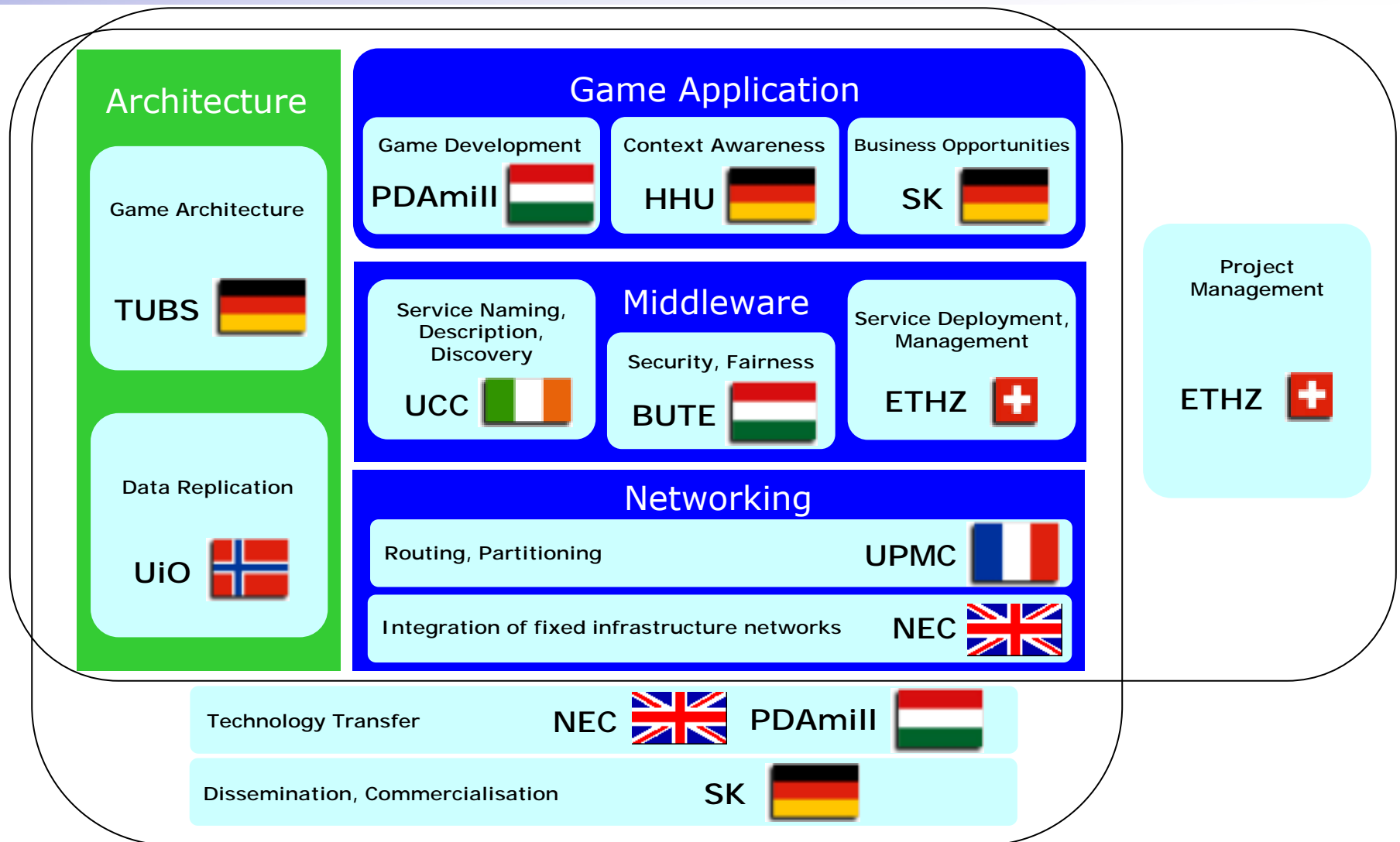
■ From Academia

- | | |
|--------------------------|-------------------------|
| • ETH Zurich (ETHZ) | Prof. Bernhard Plattner |
| • TU Braunschweig (TUBS) | Prof. Lars Wolf |
| • TU Budapest (BUTE) | Dr. Gábor Fehér |
| • Uni Oslo (UiO) | Dr. Carsten Griwodz |
| • UCC Ireland (UCC) | Dr. Dan Grigoras |
| • Uni Düsseldorf (HHU) | Dr. Martin Mauve |
| • LIP6 Paris (UPMC) | Prof. Serge Fdida |

■ From Industry

- | | |
|--------------------------|------------------|
| • NEC Heidelberg (NEC) | Sibylle Schaller |
| • Signalkontor Ltd. (SK) | Ingo Ballmann |
| • PDAmill Ltd. (PDAmill) | Péter Balogh |

How does the Consortium fit together?



Actual Status

■ The MUGAN Proposal

- Submitted to EU FP6-2004 IST-4 call, 22.03.2005
- Form: STREP – Specific Target Research Project
- Duration: 3 years
- Requested EU contribution: 2.7 Mio EUR
- EU decision expected: middle of June