

# Designing mobile information services

A design approach

Illustrated by the MIES project



Guest lecture Muenster

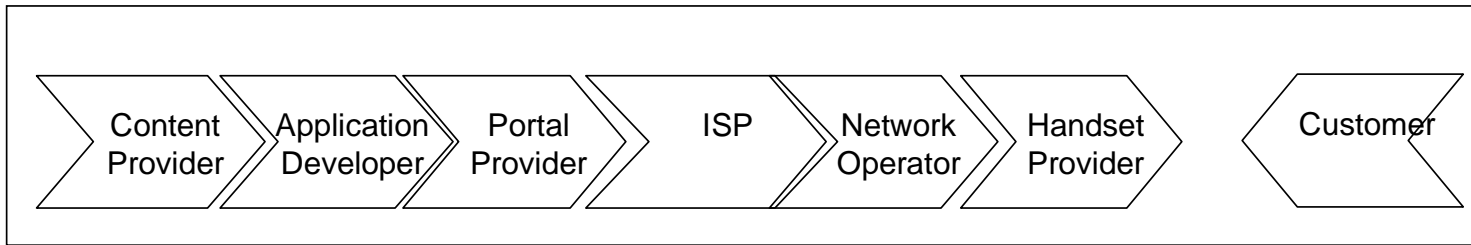
Els van de Kar

July 6, 2005

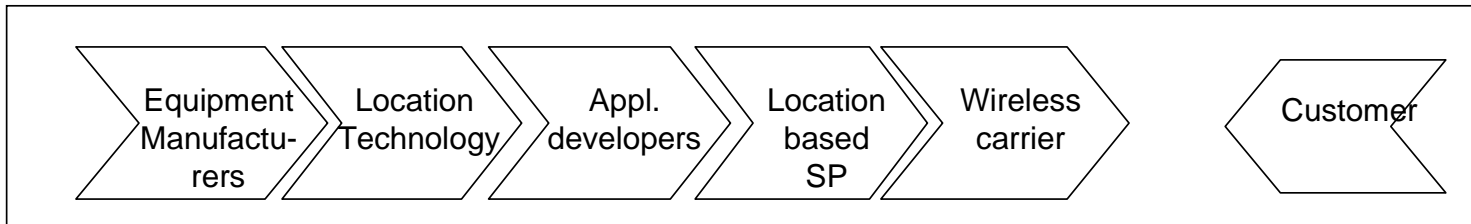
1

# Overview

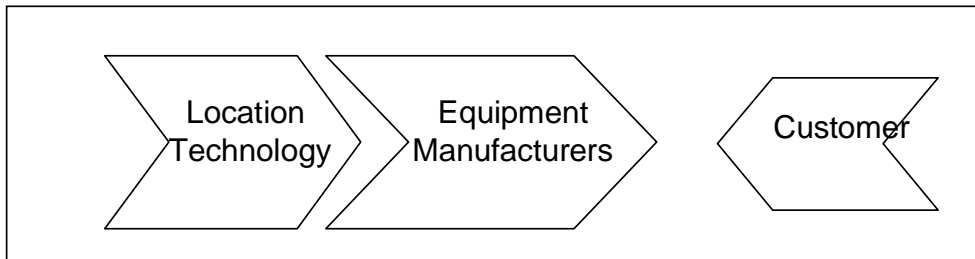
- Value Chains and Value Networks
- Explorative case studies
- Design approach
- Illustration of design approach
- Guidelines and conclusions



Simple 3G value chain (Morgan et al. 2000)



Location based services value chain (Kellogg TechVenture 2001)

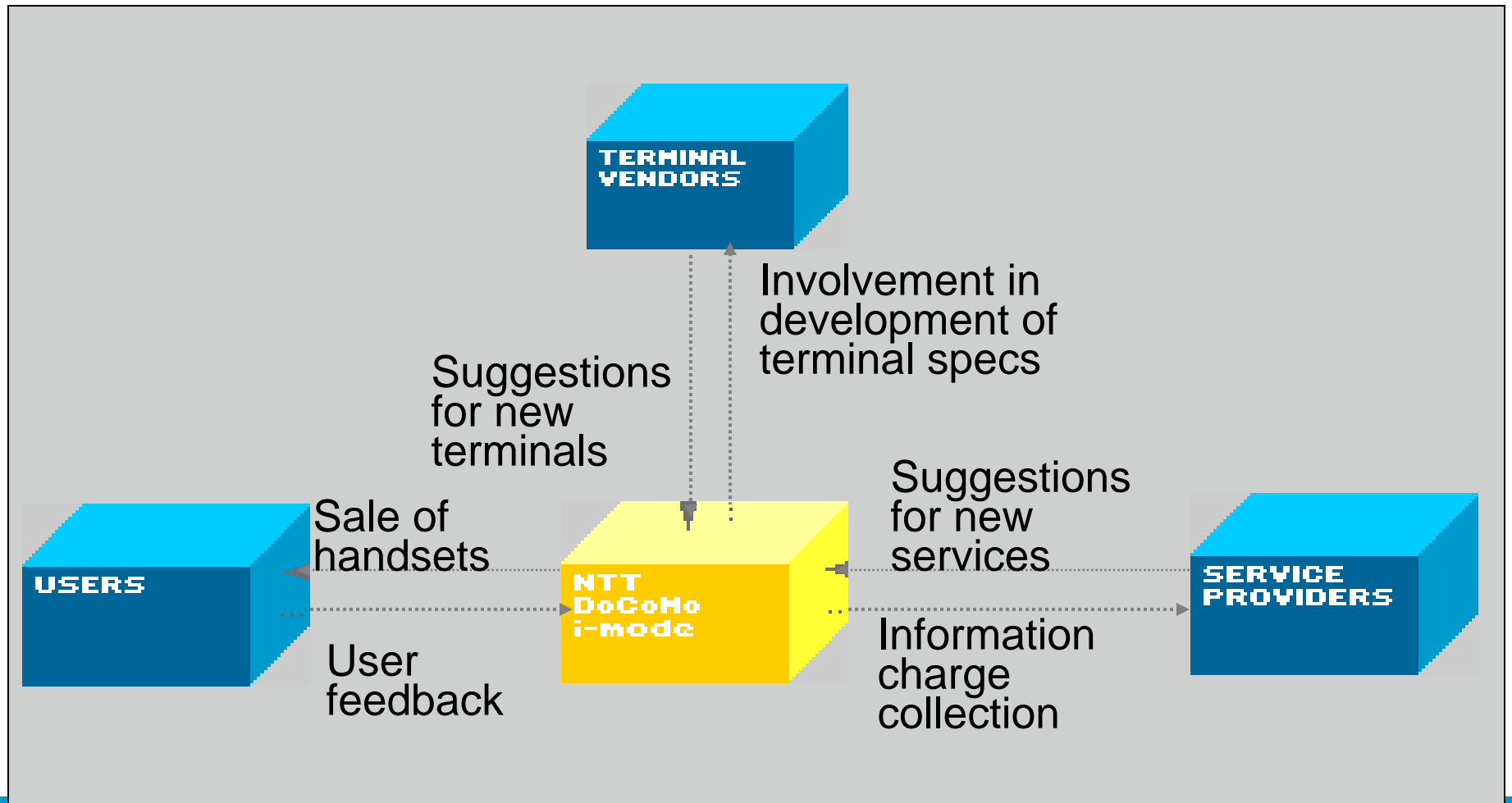


GPS value chain

## To note

- The value chain considers tasks which then may be associated with particular firm(s)
- When one firm takes on many of these tasks we say there is 'vertical integration'
- Chain metaphor is completely unrealistic as many horizontal linkages exist
- It implies some time order which may not be true (concurrent processes are not represented)

# i-mode 'ecosystem'



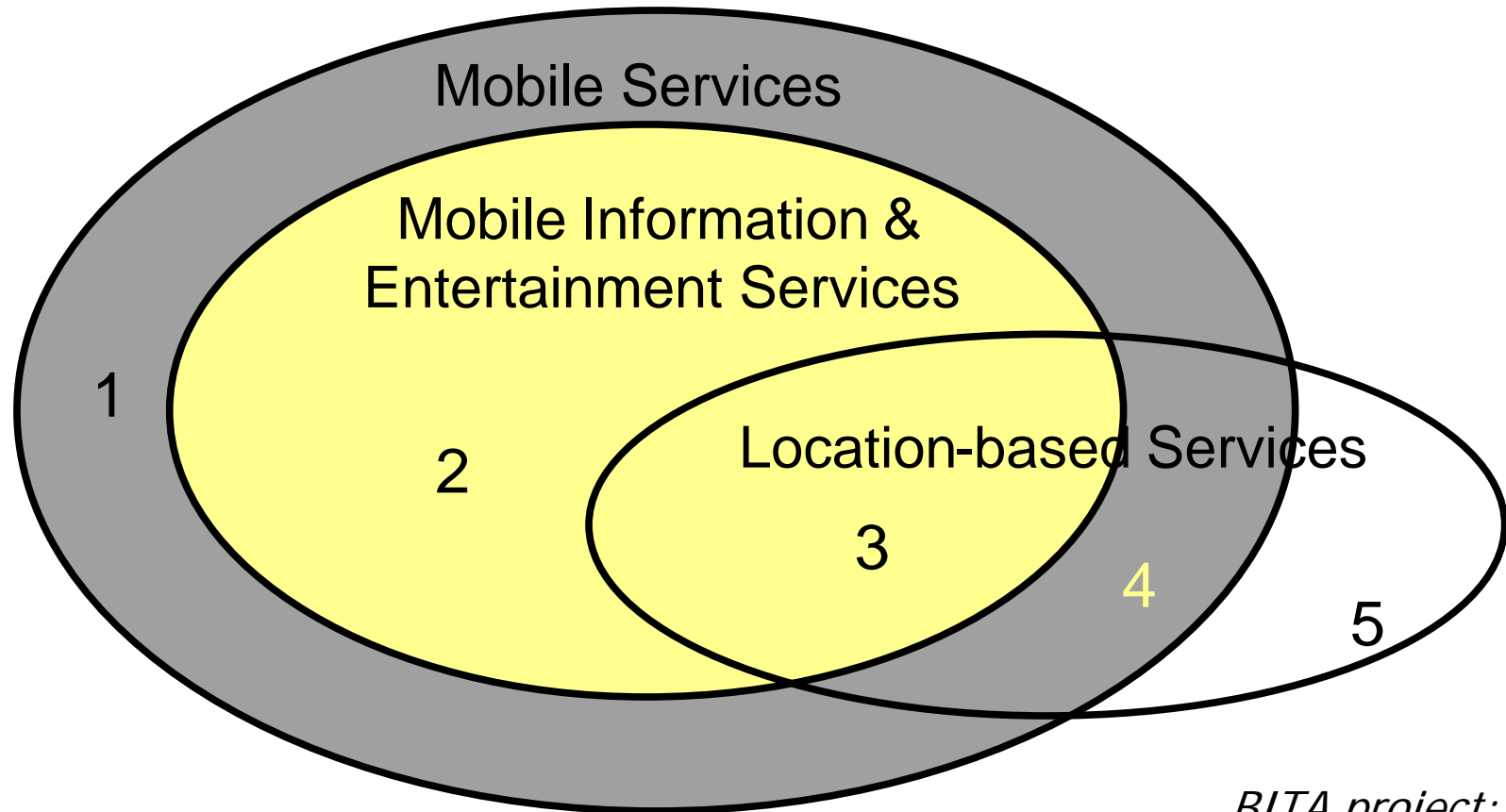
July 6, 2005

5

# Critical Design Issues Value Networks

- Information flows
- How is Quality guaranteed?  
SLA's? Helpdesks?
- Actor, activities,  
responsibilities, capabilities
- Collaboration: strategic,  
operational, process level
- Selections of partners?  
Alternatives?
- Openness? Exclusivity?
- Complexity of network?  
Network governance
- Outsourcing
- Partner exit (process  
related; pilot, exploitation)

# Scope of MIES explorative case studies



*BITA project; 2002*

# Overview of cases

	<i>General MIES</i>		<i>Location-based MIES</i>		
<b>Content</b>	i-mode Radio 538 (ringtones)	i-mode MyBabes (pictures)	Botfighter	LBS directory	i-mode Finder
<b><i>Information:</i></b>					
News/weather/sport					
Finance					
Transport/Taxi					
Shop					
<b><i>Entertainment:</i></b>					
Leisure/events					
Fun/games					
Melody/images					

# Research issues

Uncertainty regarding:

- user value
- network complexity
- roles
- technology
- regulatory
- public policy

- *Where is the '**centre of gravity**' in the value network? Who are the dominant players?*
- *What kind(s) of value network is necessary for MIES/ location-based MIES to be **viable**?*

# Case: Finder

- German location-based i-mode service
- Launched at the same time as i-mode in Germany (CEBIT 2002)
- Find-the-nearest hotel, restaurant, gas station, ATM or taxi
- Non-typical i-mode service business model

# Case: Radio 538 ringtones

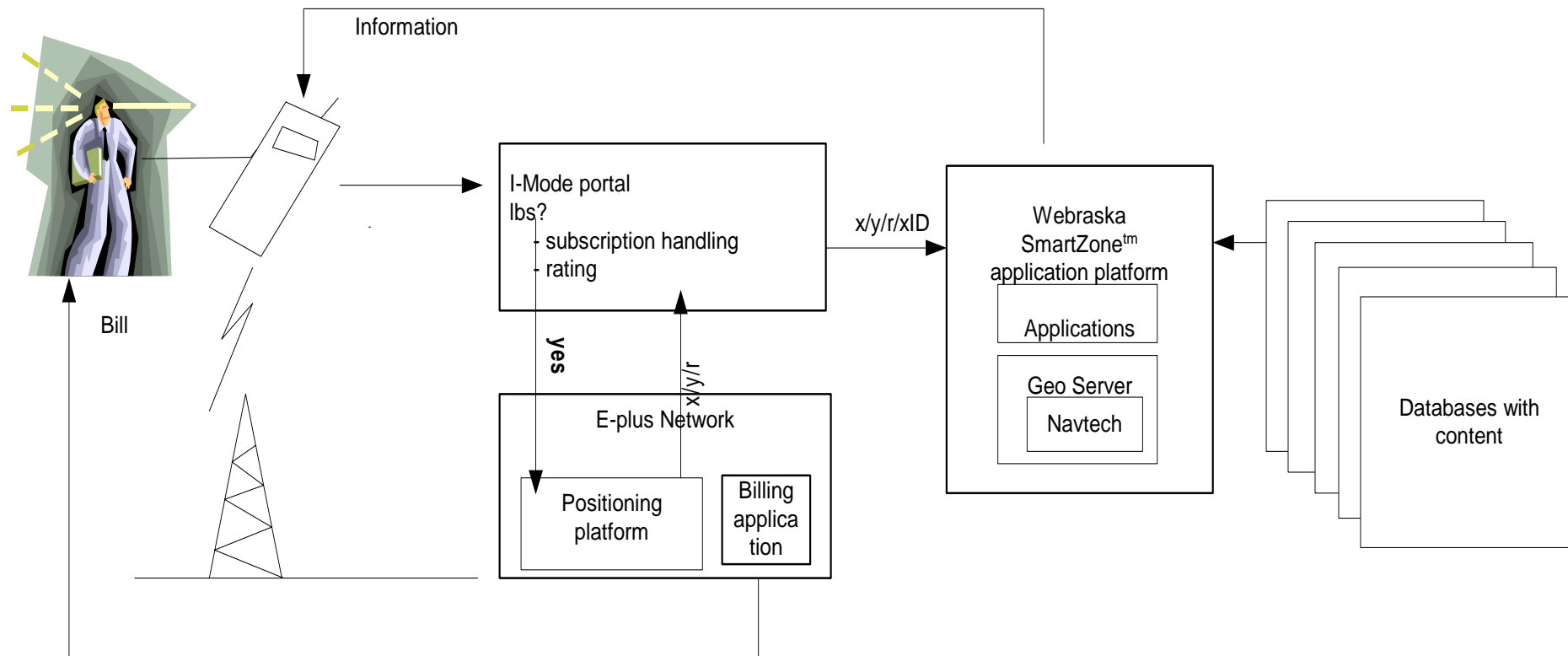
- Dutch I-mode service with option to download ringtones: 5 credits for € 2 a month
- Most successful subscription service: 25-30% of i-mode customers
- Characteristics/success factors:
  - Brand recognition
  - Ease of use
  - Specific voices of DJs
  - Co-marketing
  - Good fit with target group
  - I-mode handset enables distinctive ring tones (compared to ringtones for other handsets)

# Assignment

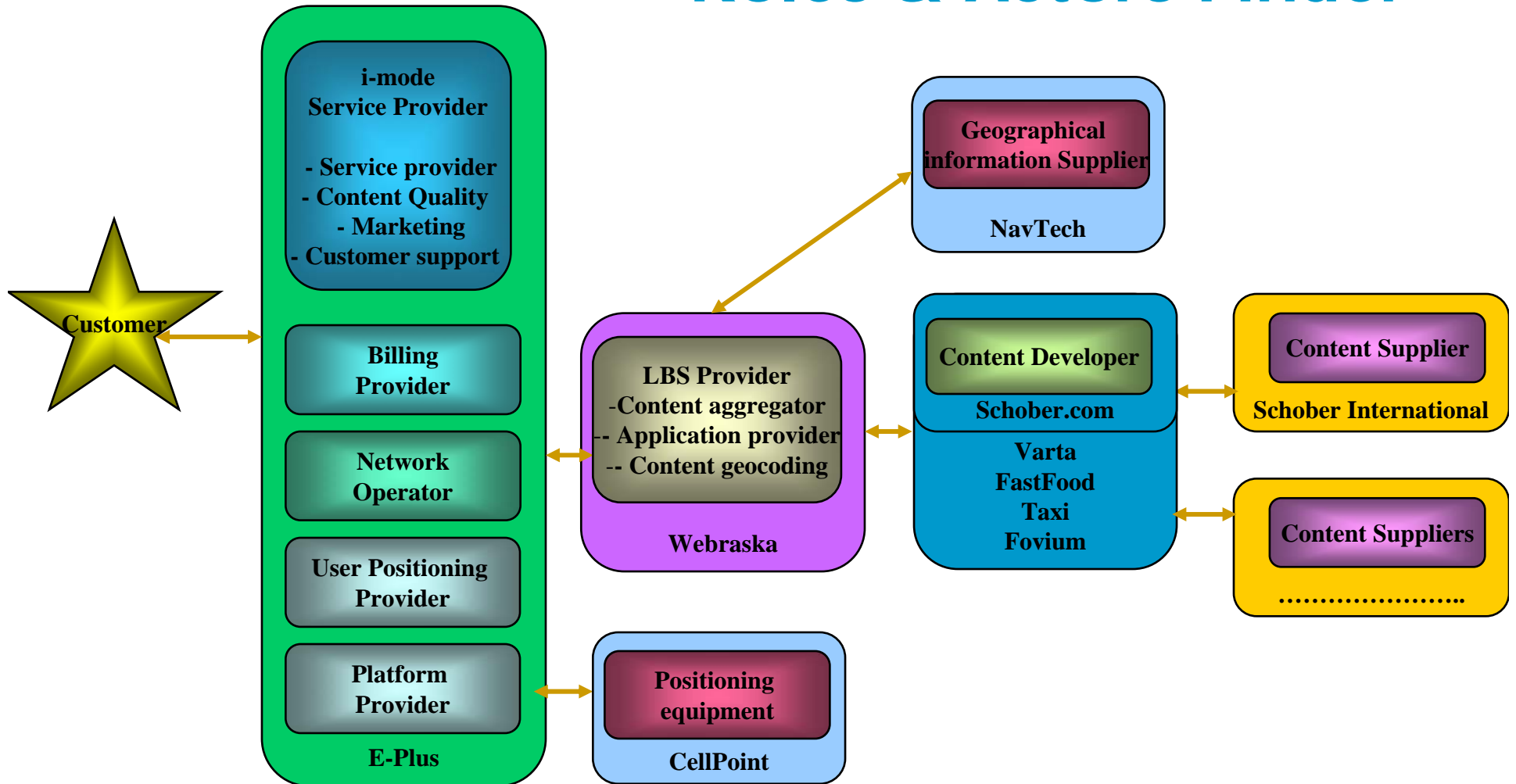
- Make a list of the roles necessary to provide the service
- Draw a value network with these roles and draw lines between the roles with:
  - the services they provide
  - the revenue flows

# Explanation I-mode services value networks

# Overview i-mode lbs

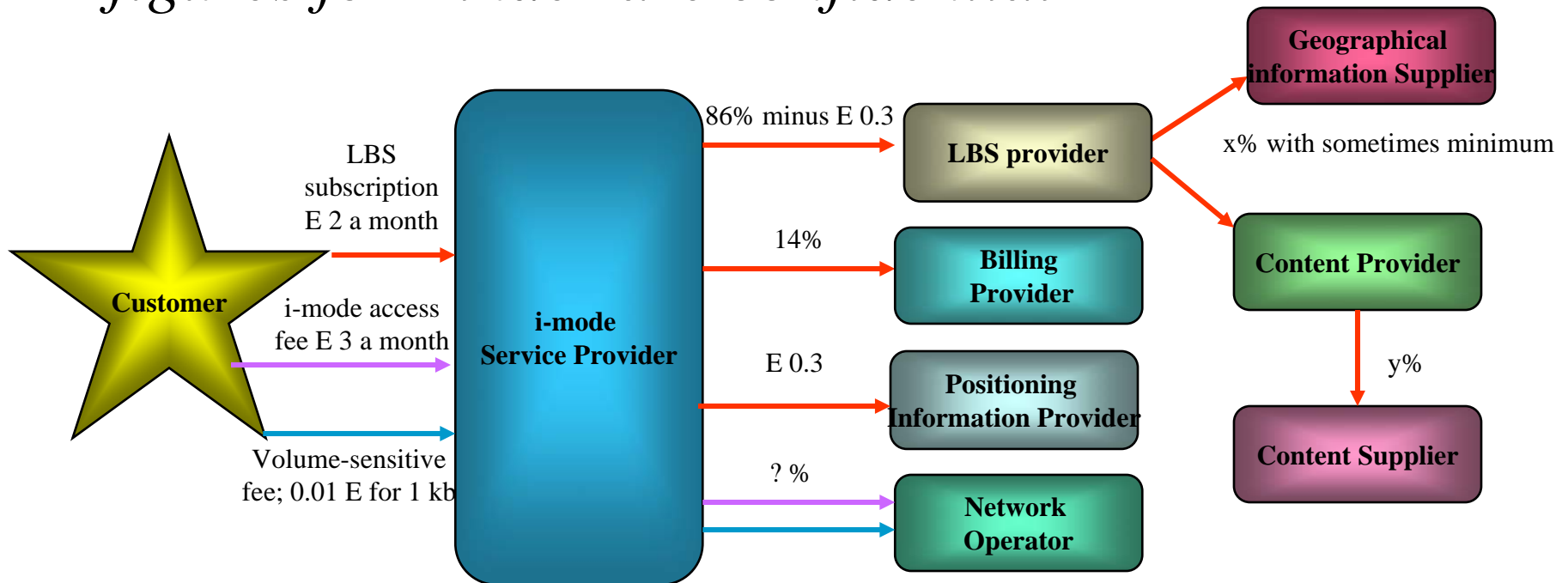


# Roles & Actors Finder



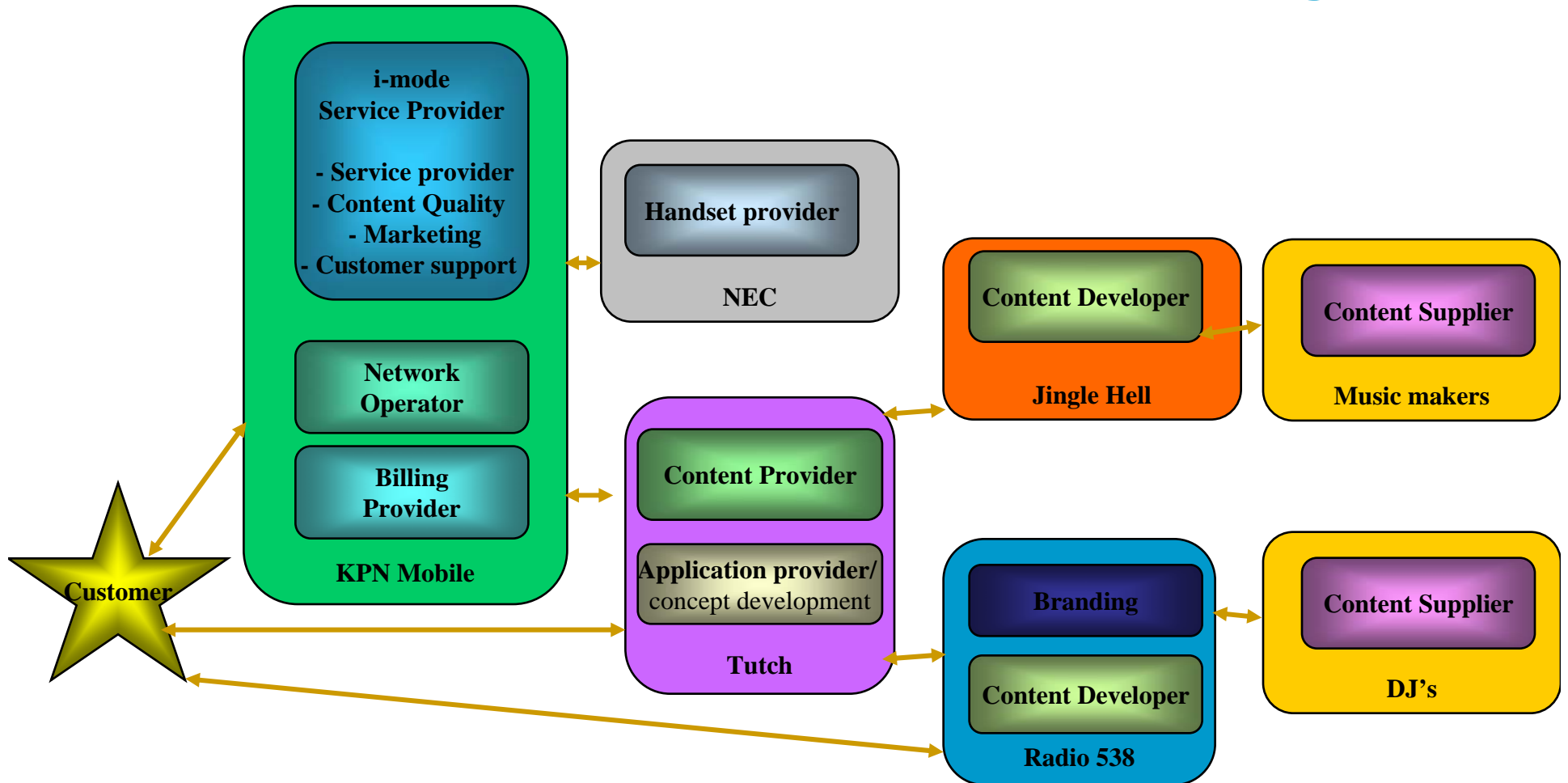
# Revenue Flows i-mode LBS

*This is the general i-mode model;  
figures for Finder are confidential*



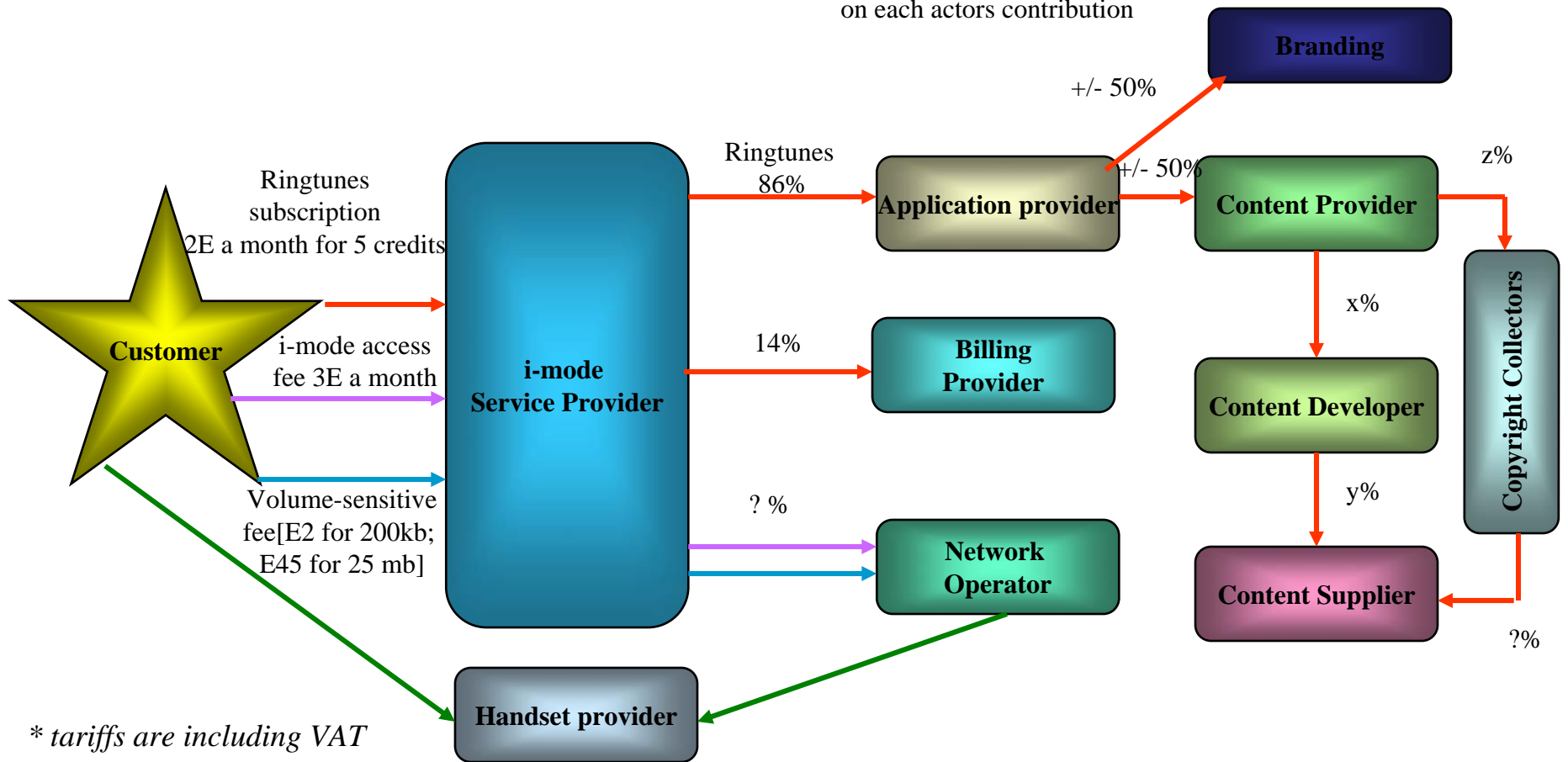
\* tariffs are including VAT

# Roles & Actors R538 ringtunes



# Revenue Flows Ringtunes

\* exact revenue sharing depends on each actors contribution



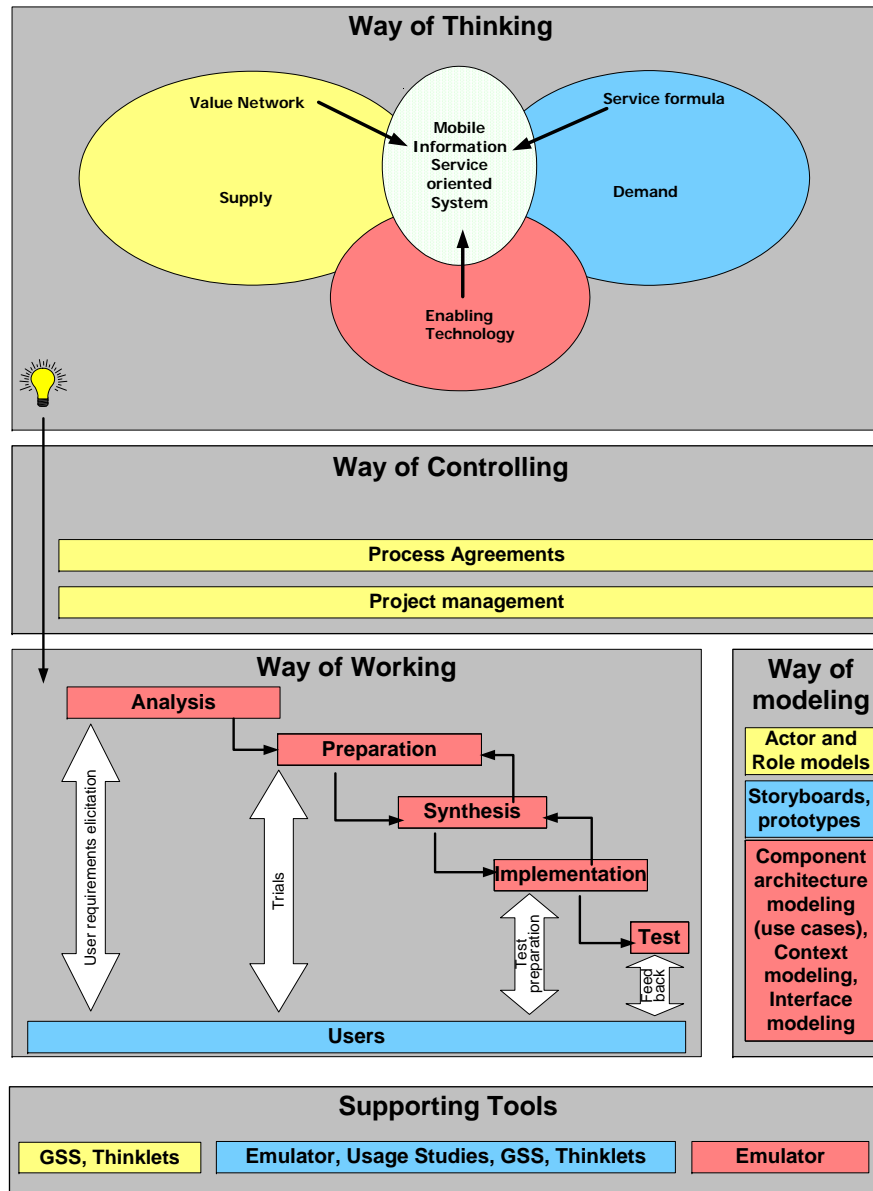
# Overview

- Value Chains and Value Networks
- Explorative case studies
- **Design approach**
- Illustration of design approach

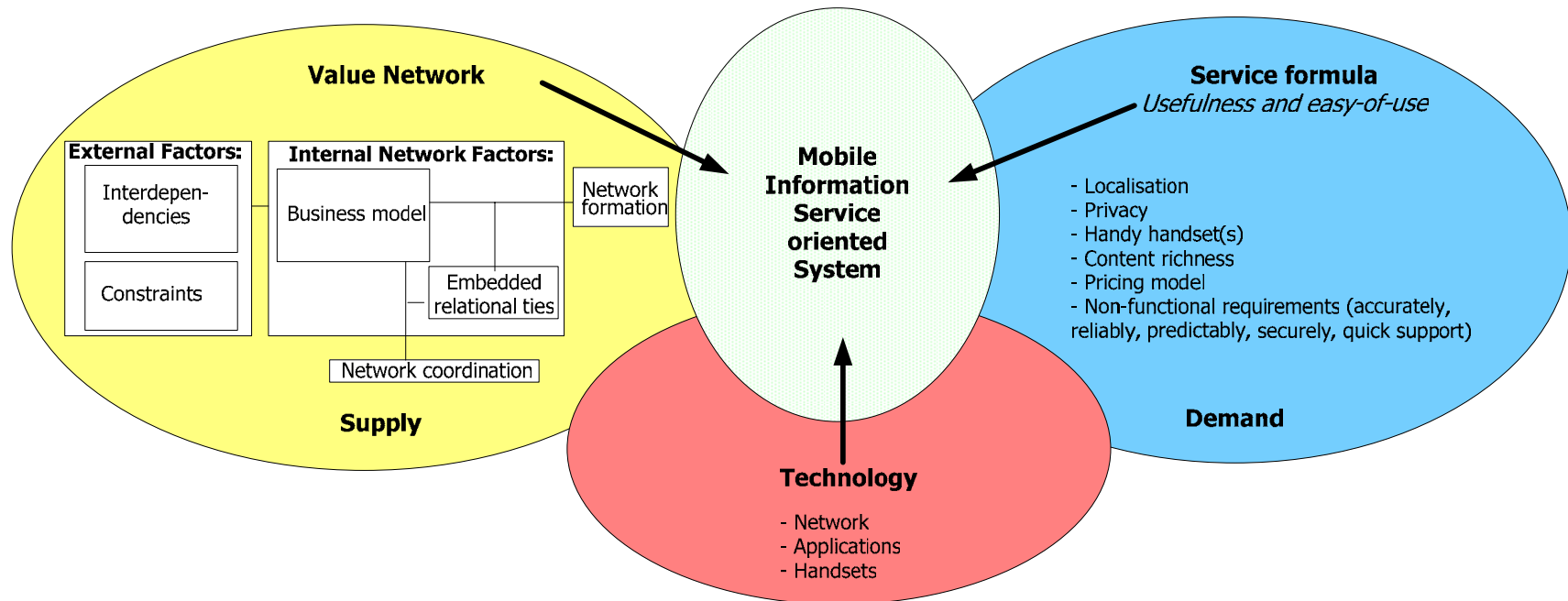
# Aim

- It is achievable to design a mobile service
- Under time pressure
- That provides value to the users
- Because we have a design approach
- That balances the service formula, enabling technology and value network

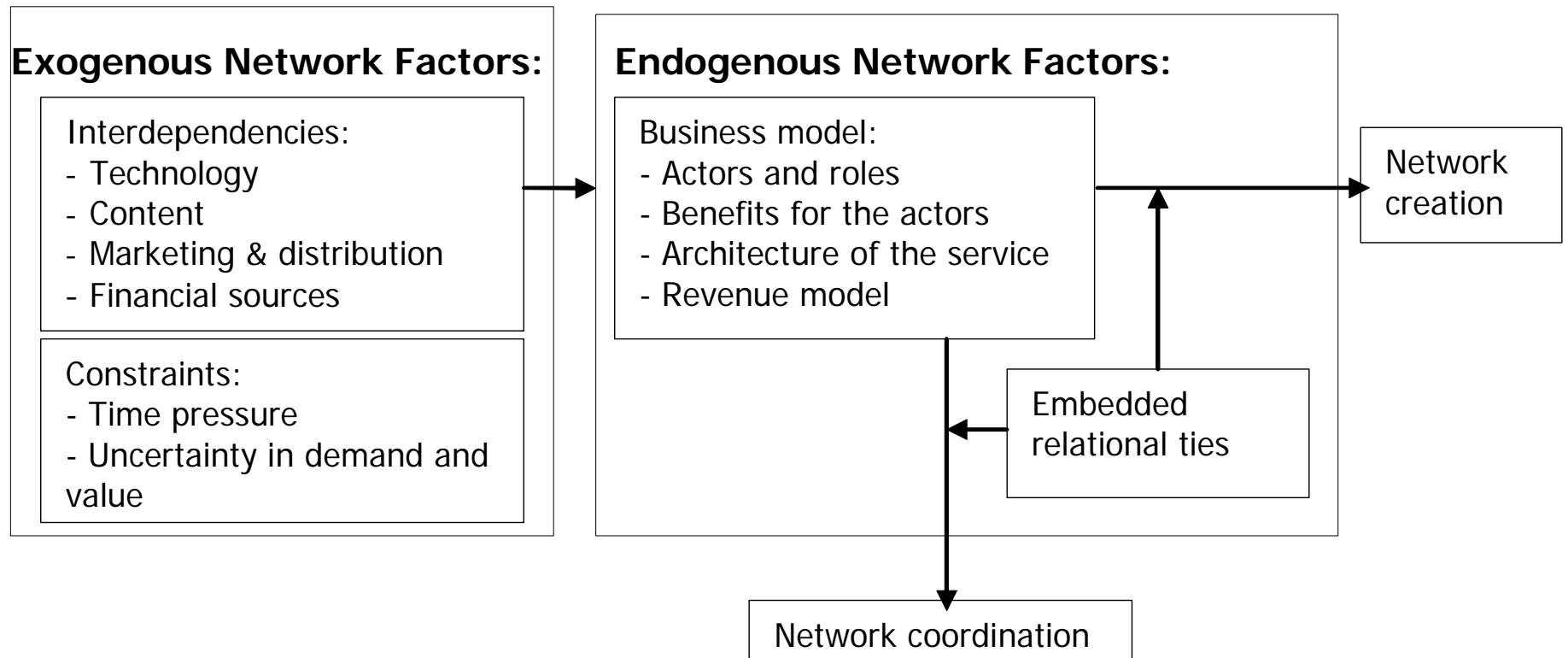
# MIES Design Approach



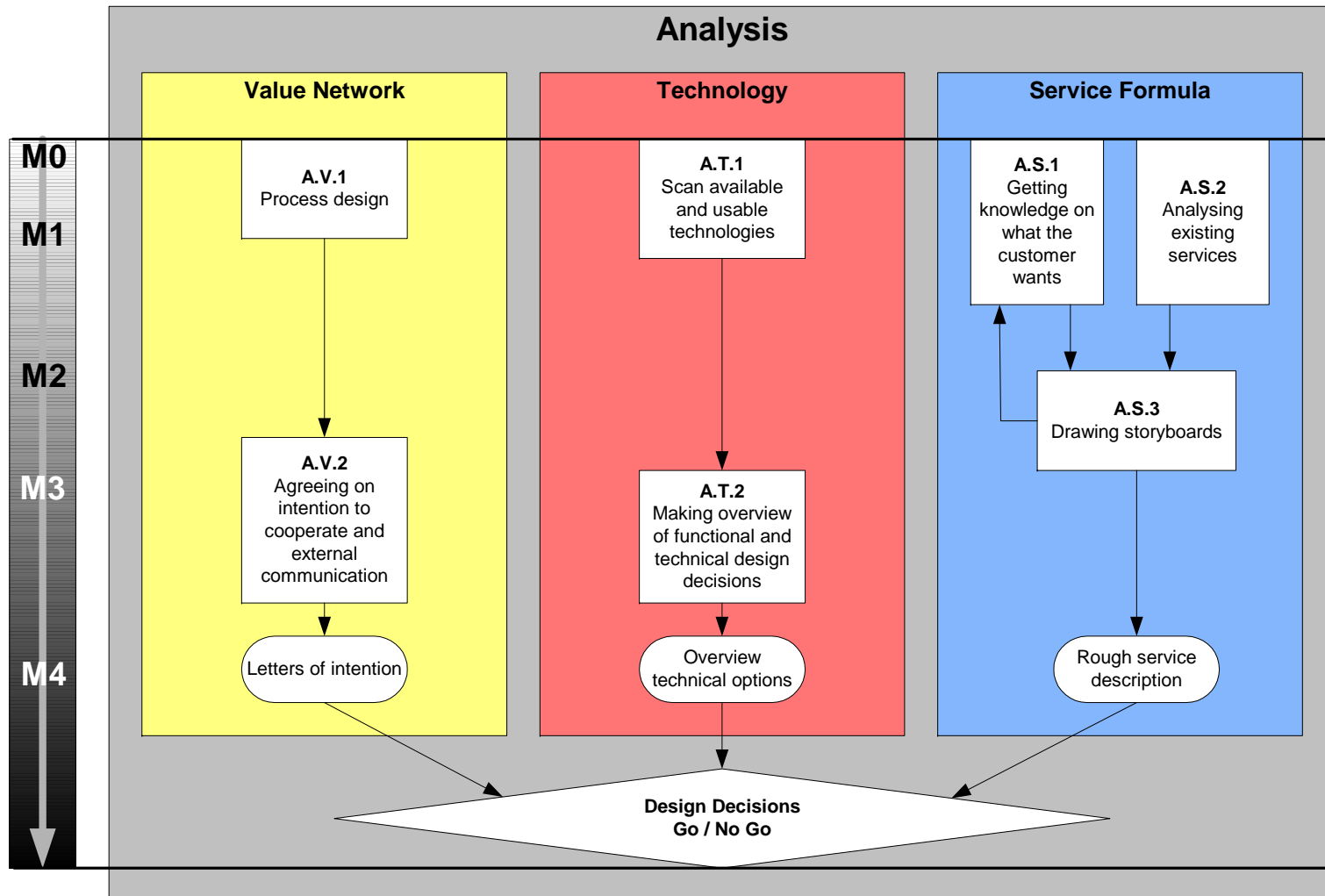
# Framework



# Influences on network creation and coordination



# Analysis

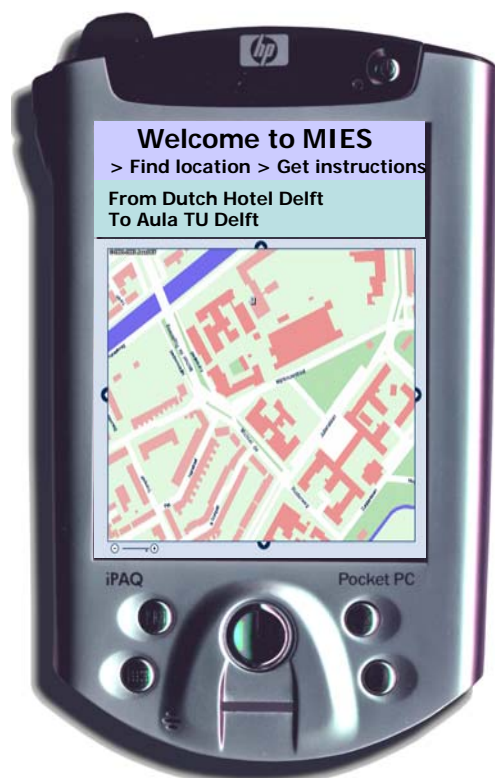


# Group Support Systems

- A variety of tools to assist the group in the structuring of activities, generating ideas, and improving group communications
  - Anonymity
  - Parallel input
  - Group memory
- Repeatable process: ThinkLets
  - Tool
  - Configuration of tool
  - Facilitation script



# Seven Storylines



Goal 1: Find conference location

Goal 2: Find right session

Goal 3: Find other people

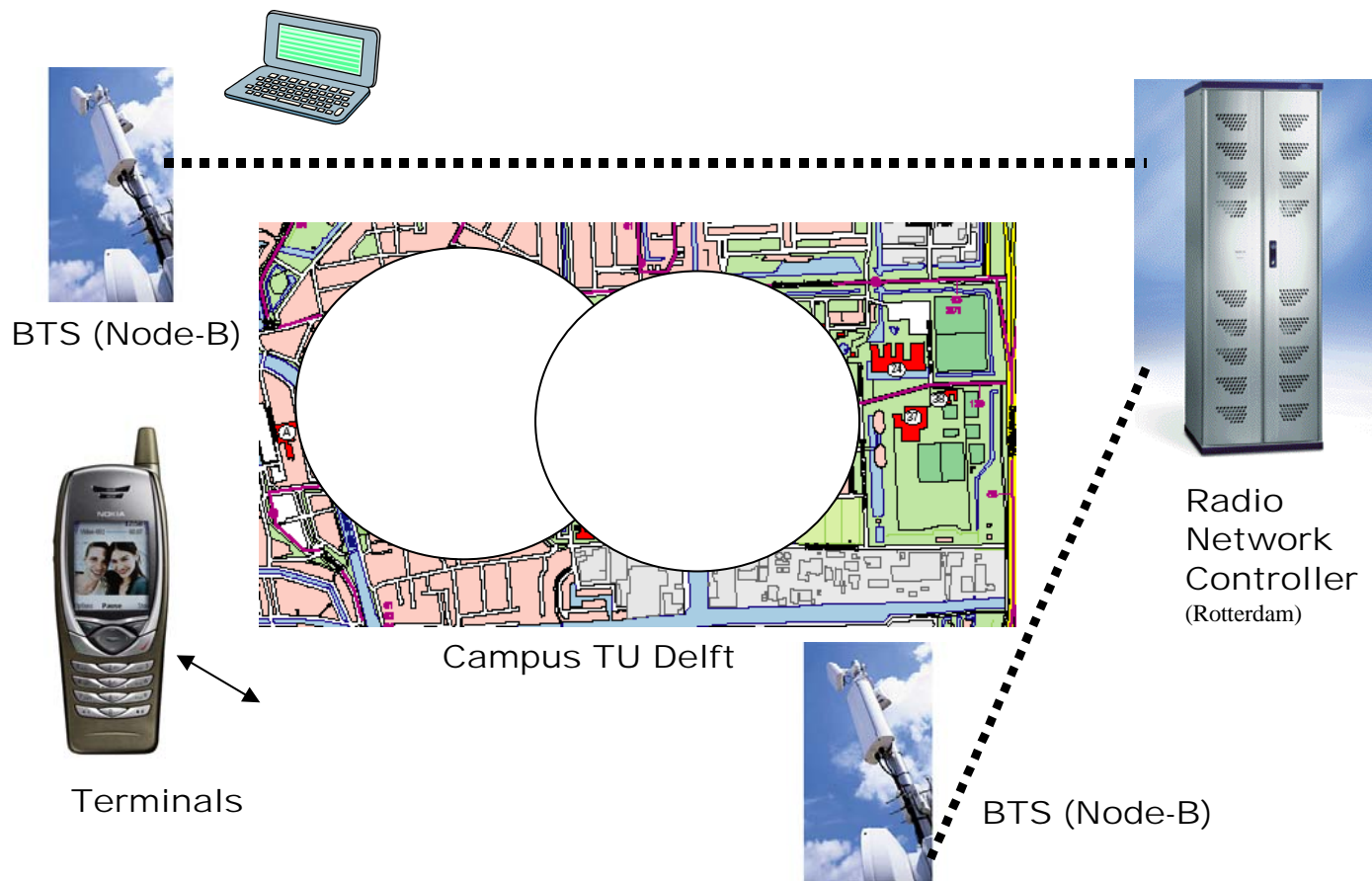
Goal 4: Find a nice restaurant

Goal 5: Tour through the campus

Goal 6: More time to kill: play a game

Goal 7: Make an appointment

# Basic Test bed configuration

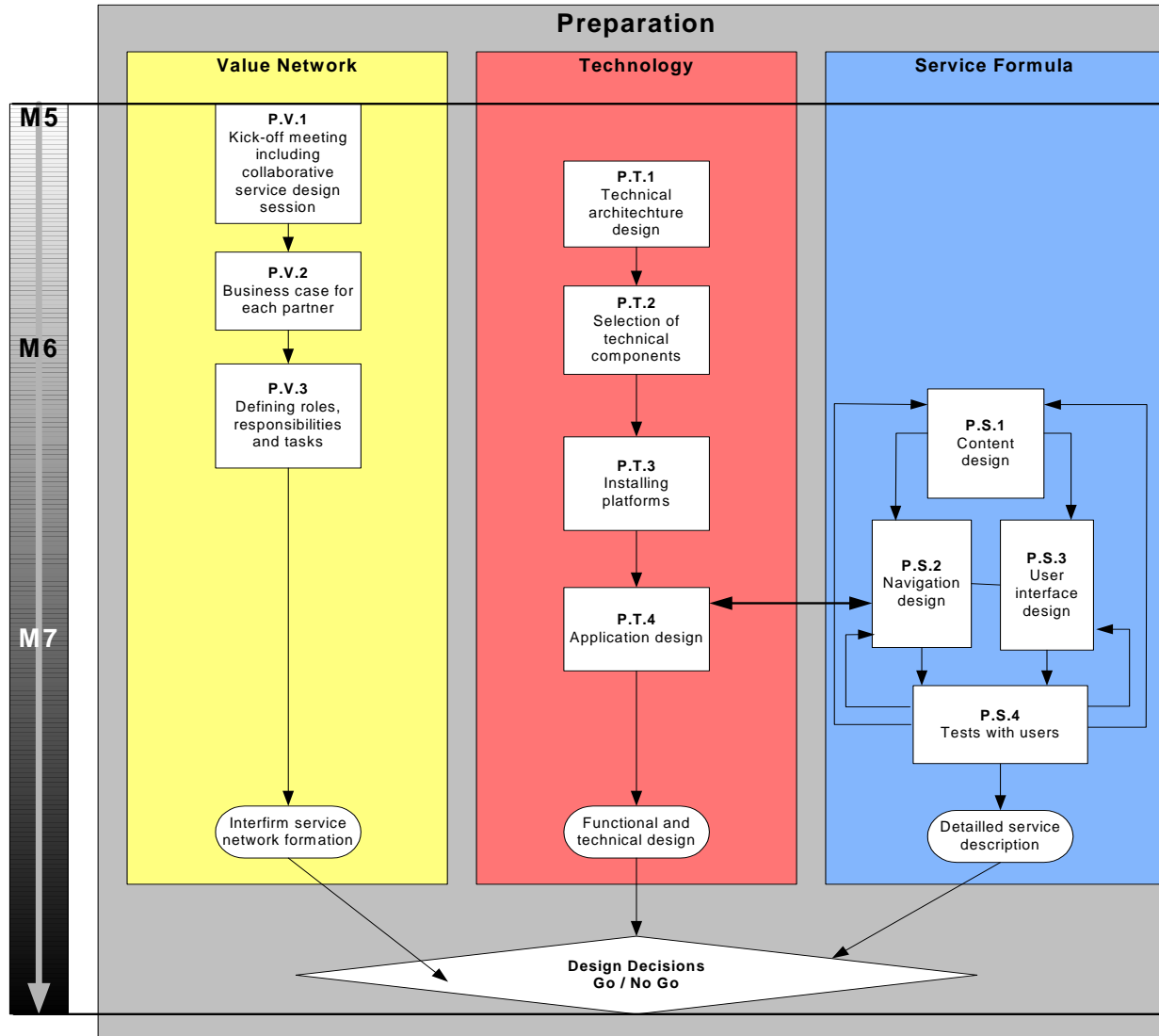


8-Jul-03

MIES at TUD by Els van de Kar

20

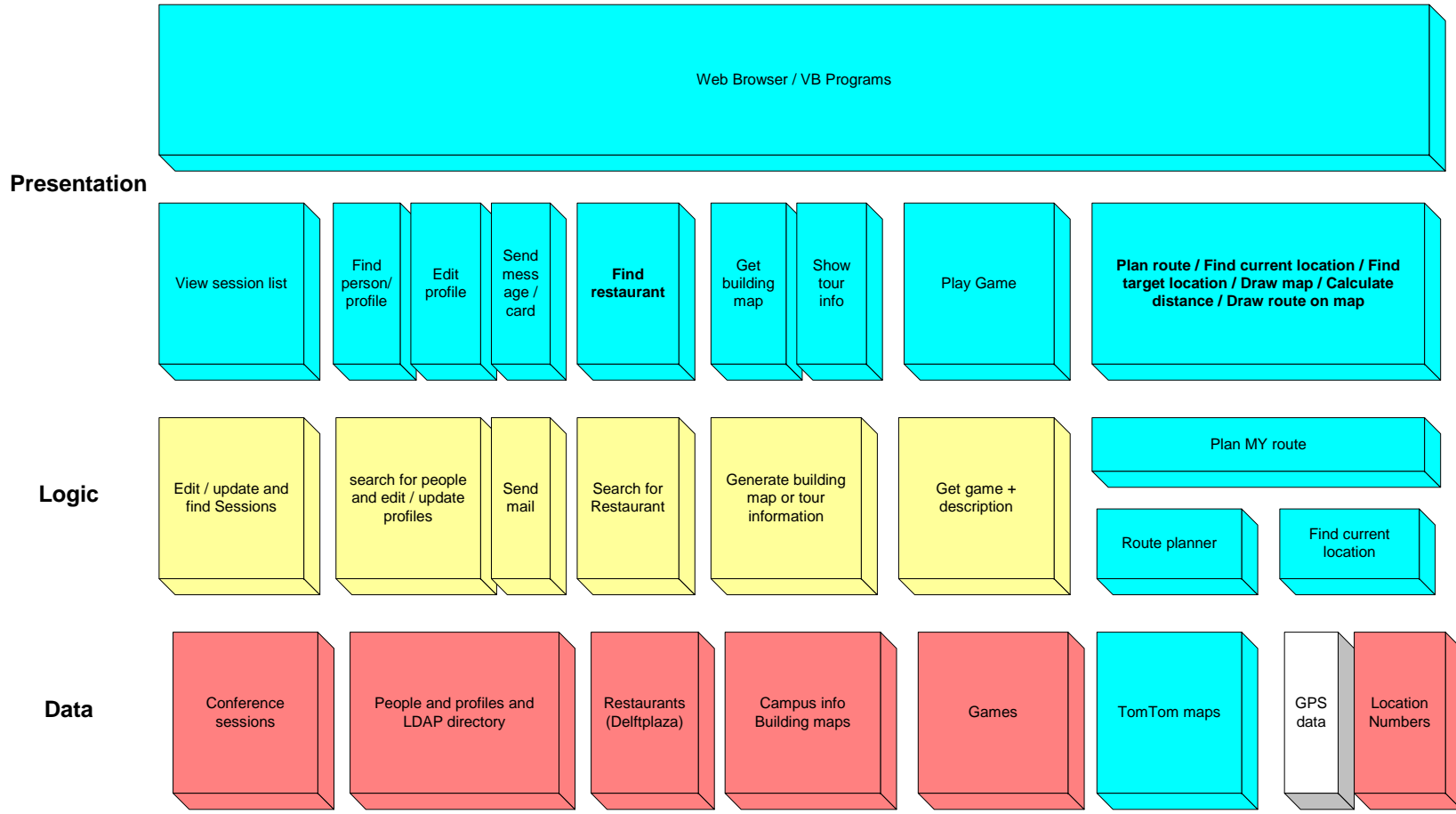
# Preparation



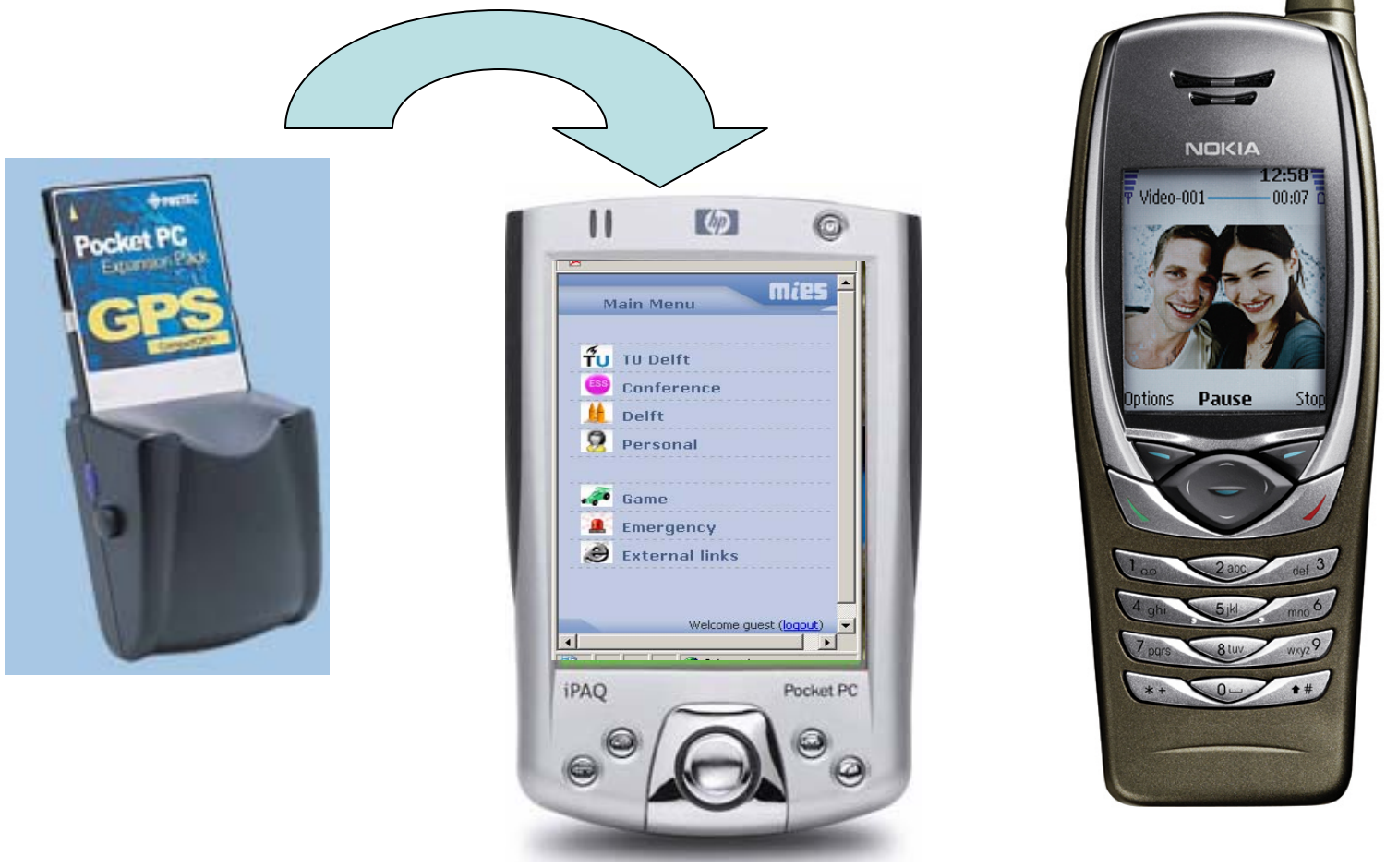
# Tests with users 1



# Decisions on MIES functions



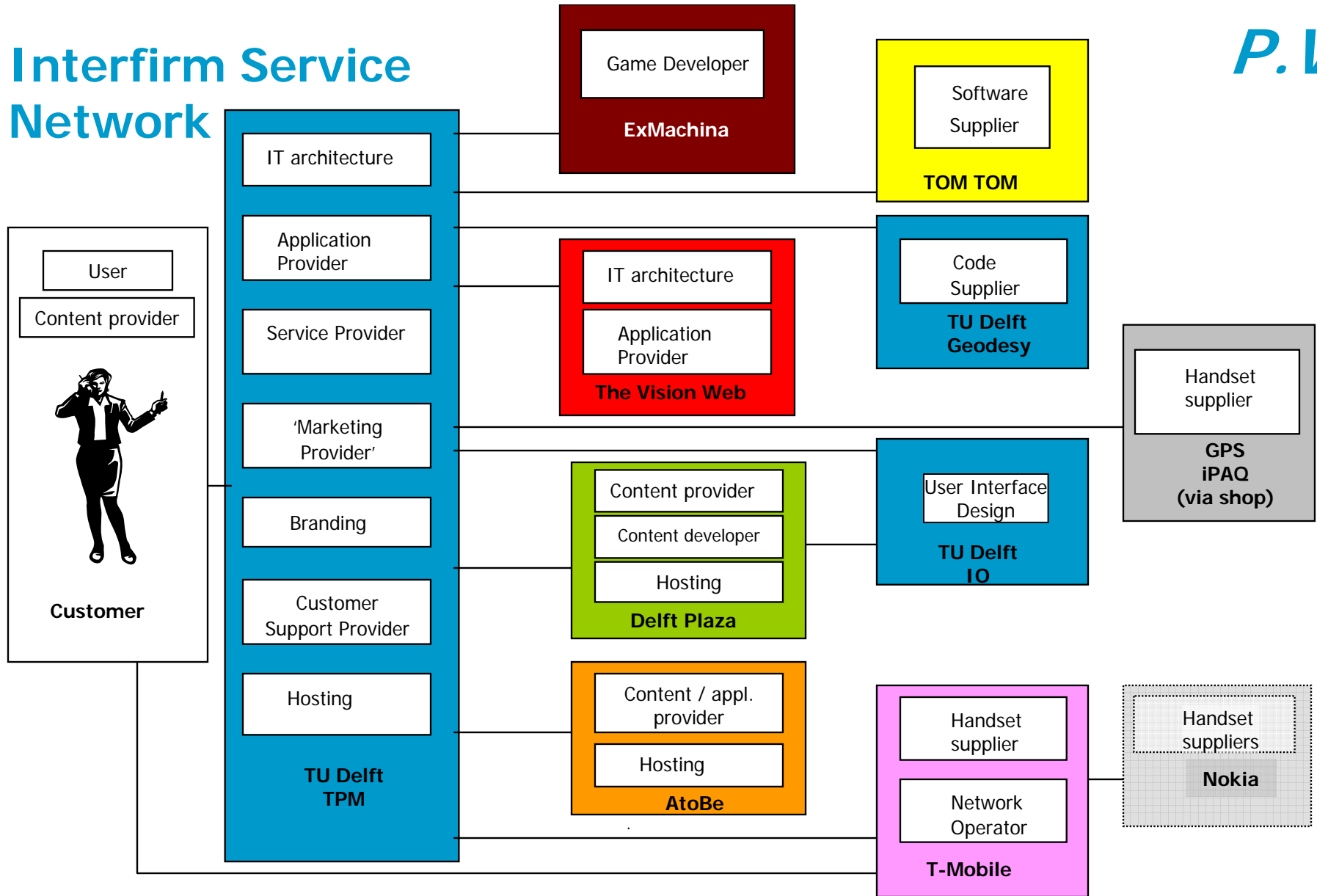
# Decisions on handhelds



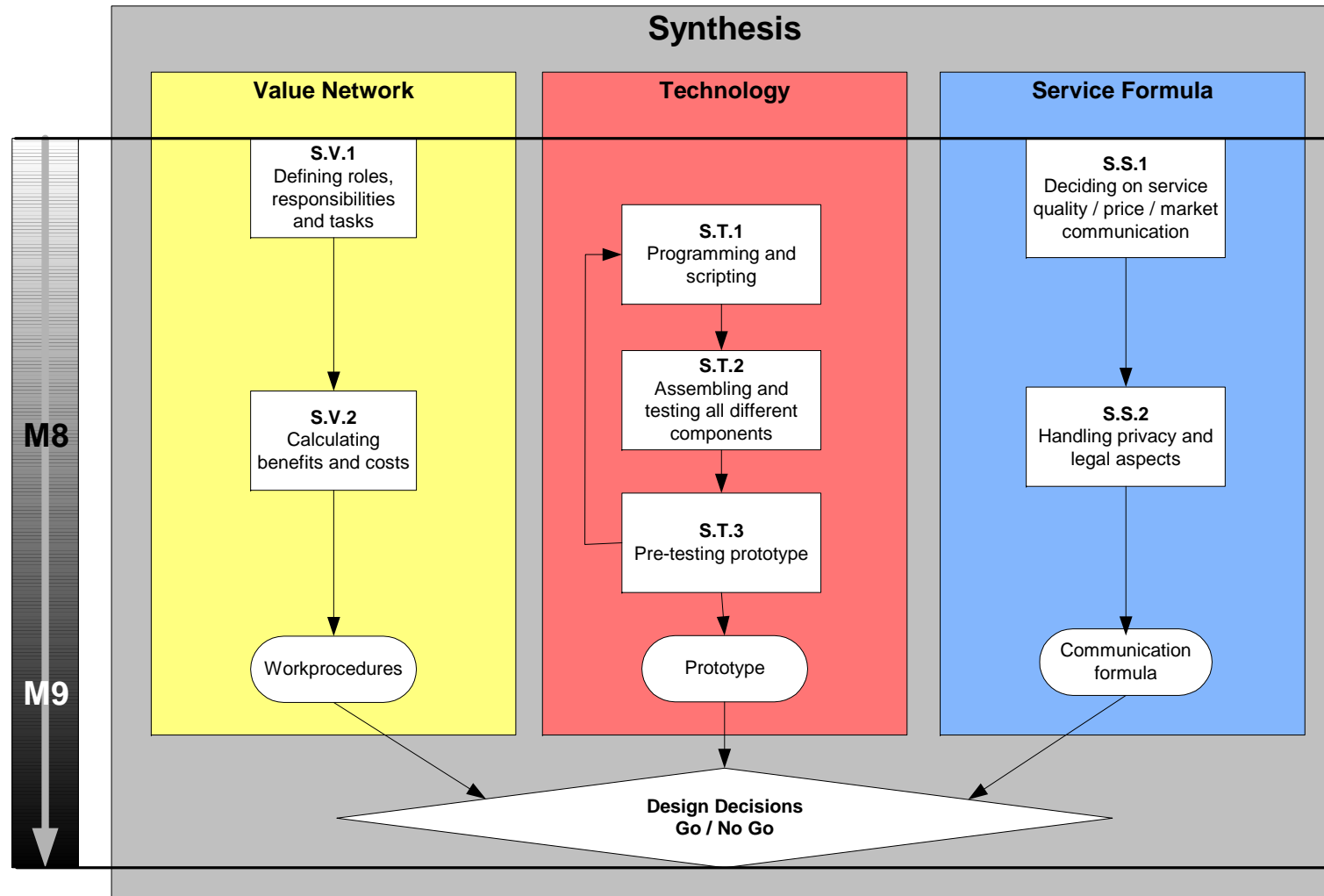
# Kick Off meeting



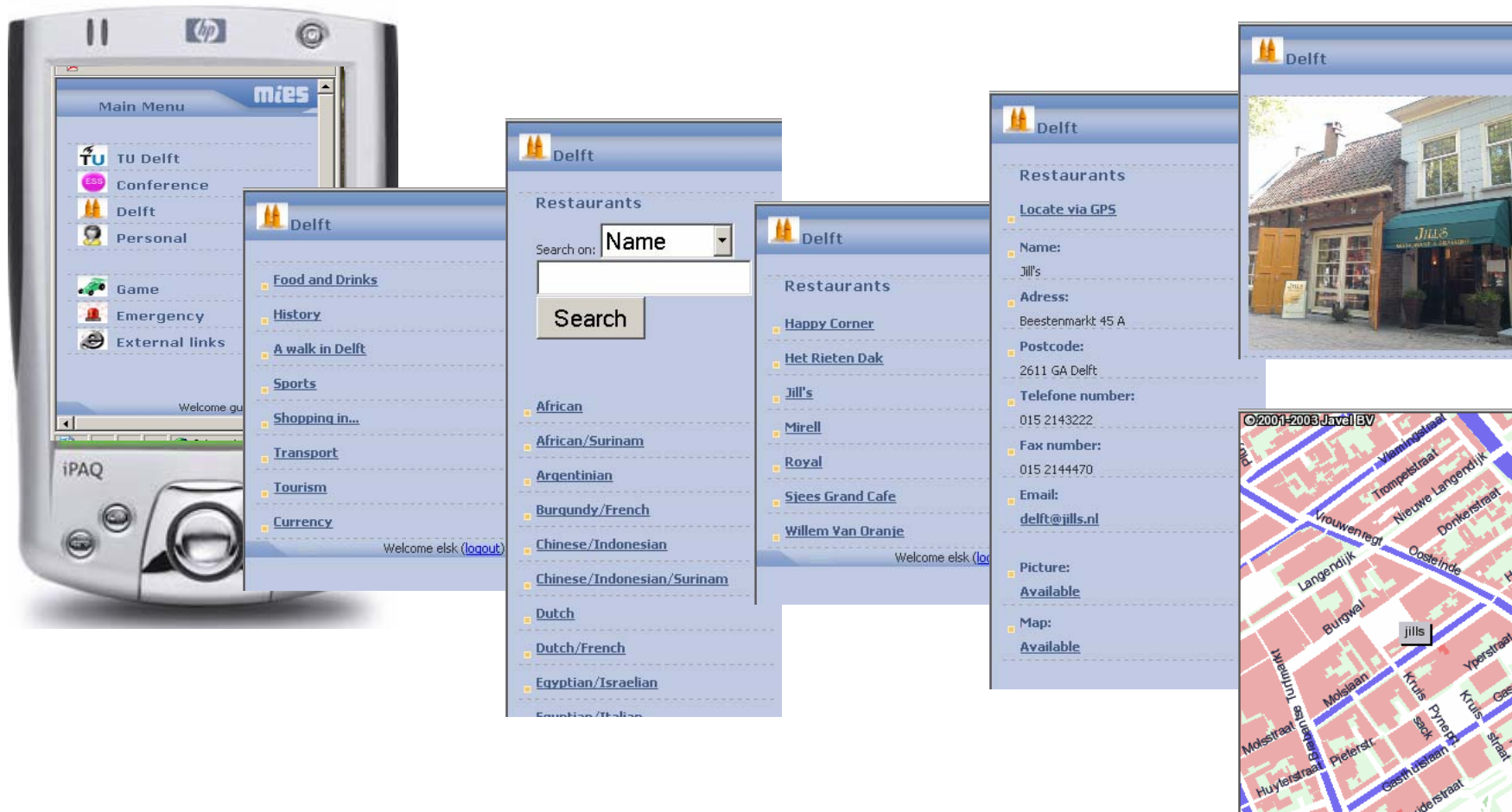
# Interfirm Service Network



# Synthesis

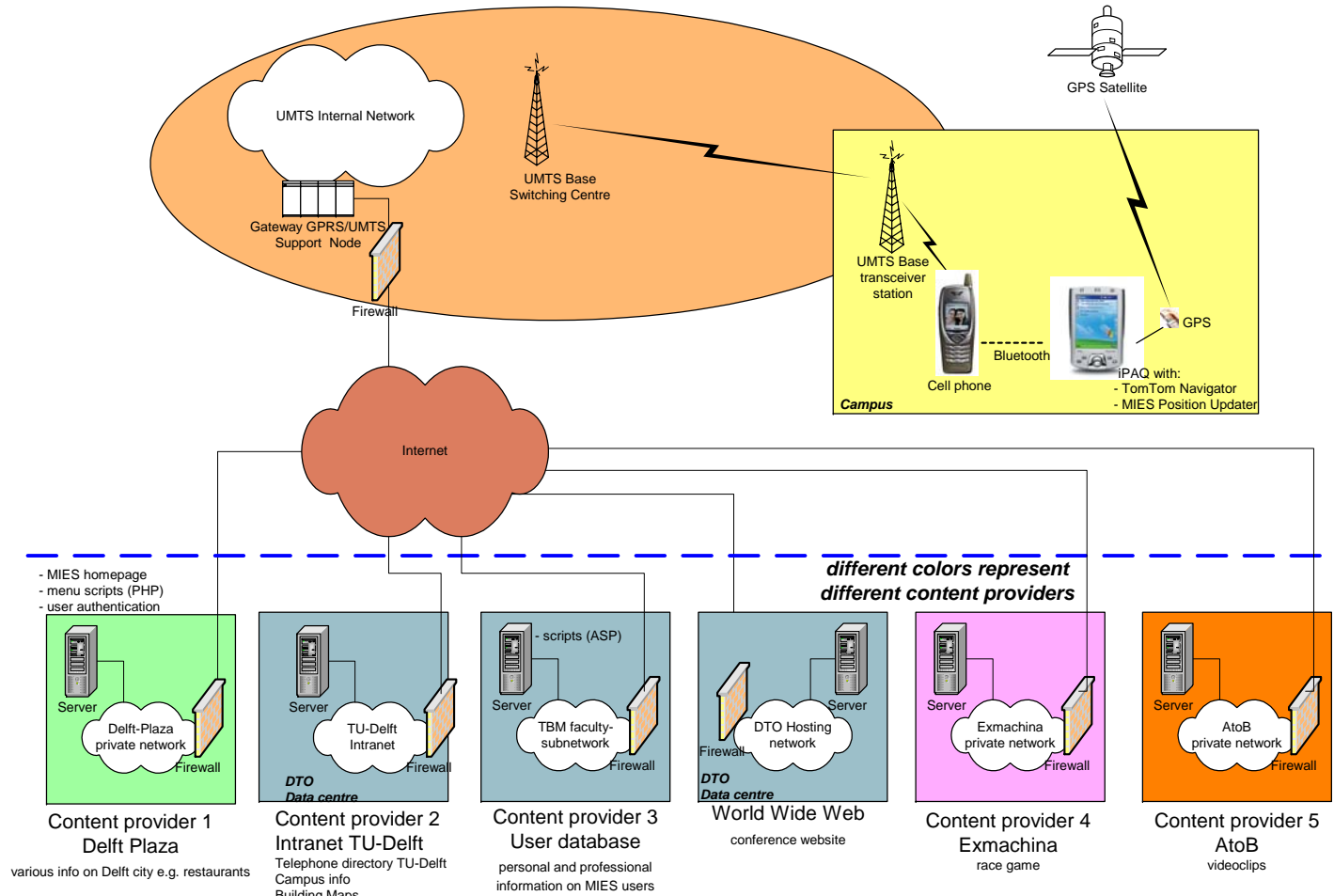


# MIES menu - Delft



# MIES Technical Architecture

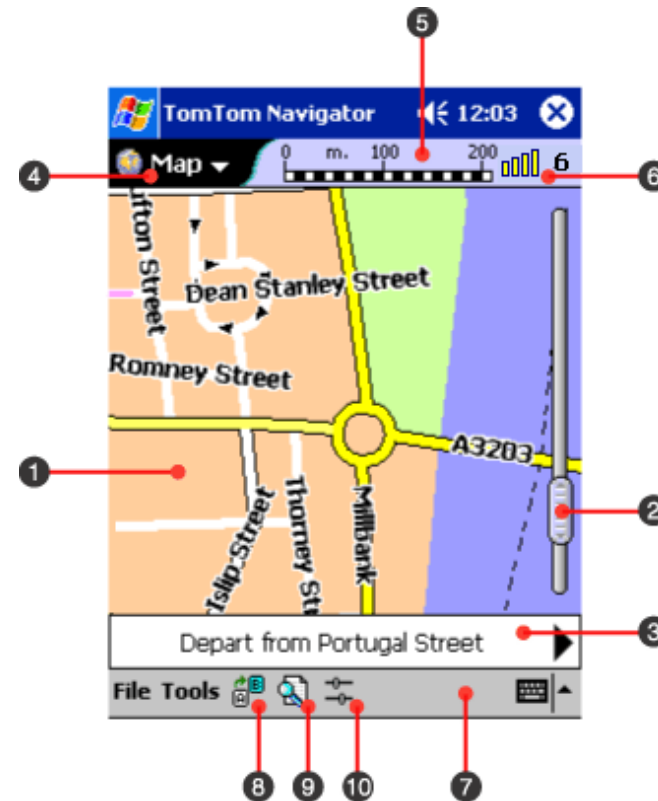
version: 0.4 date: 5 February 2004



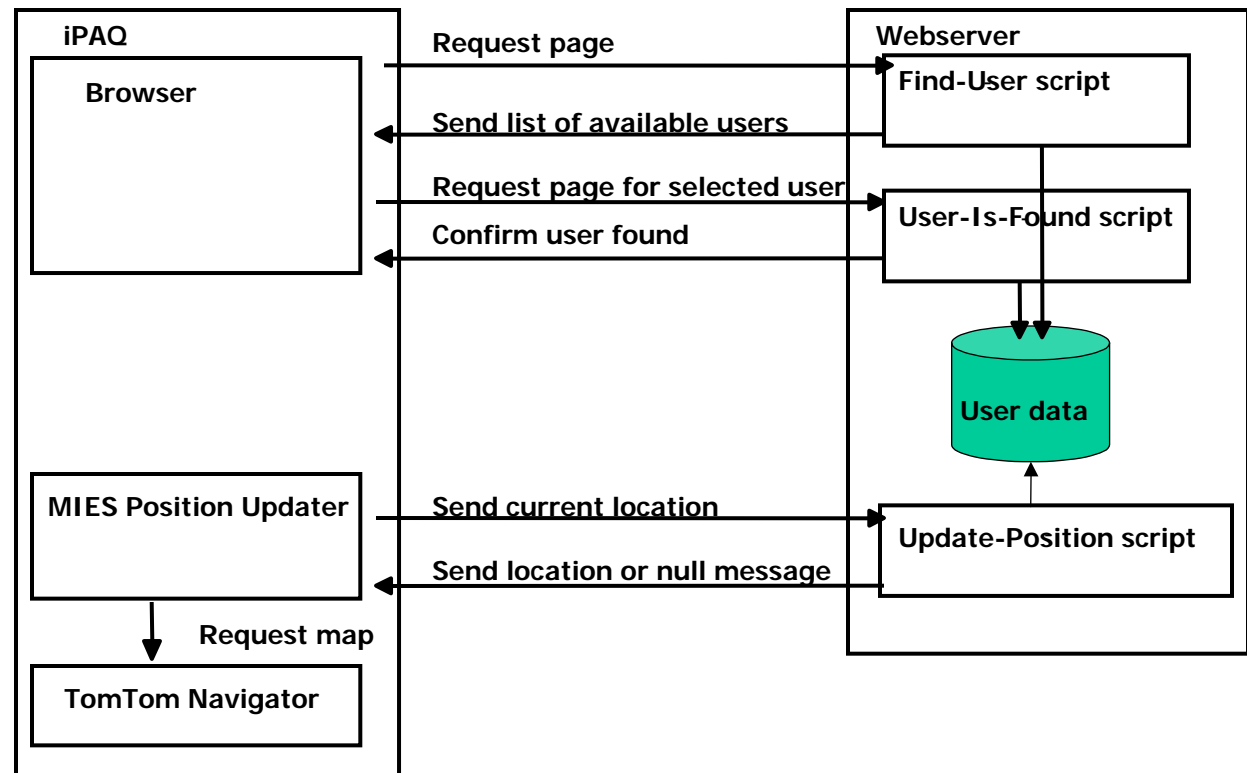
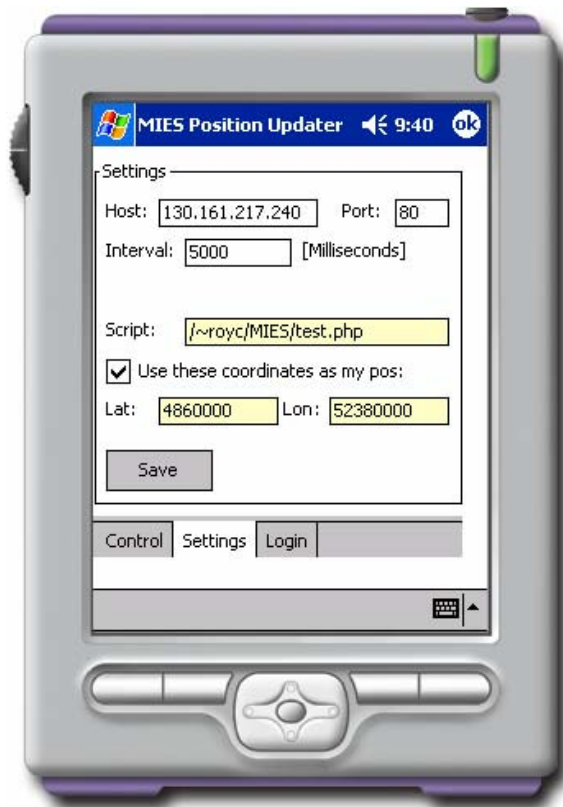
# LBS: Find the conference location

## The Map View

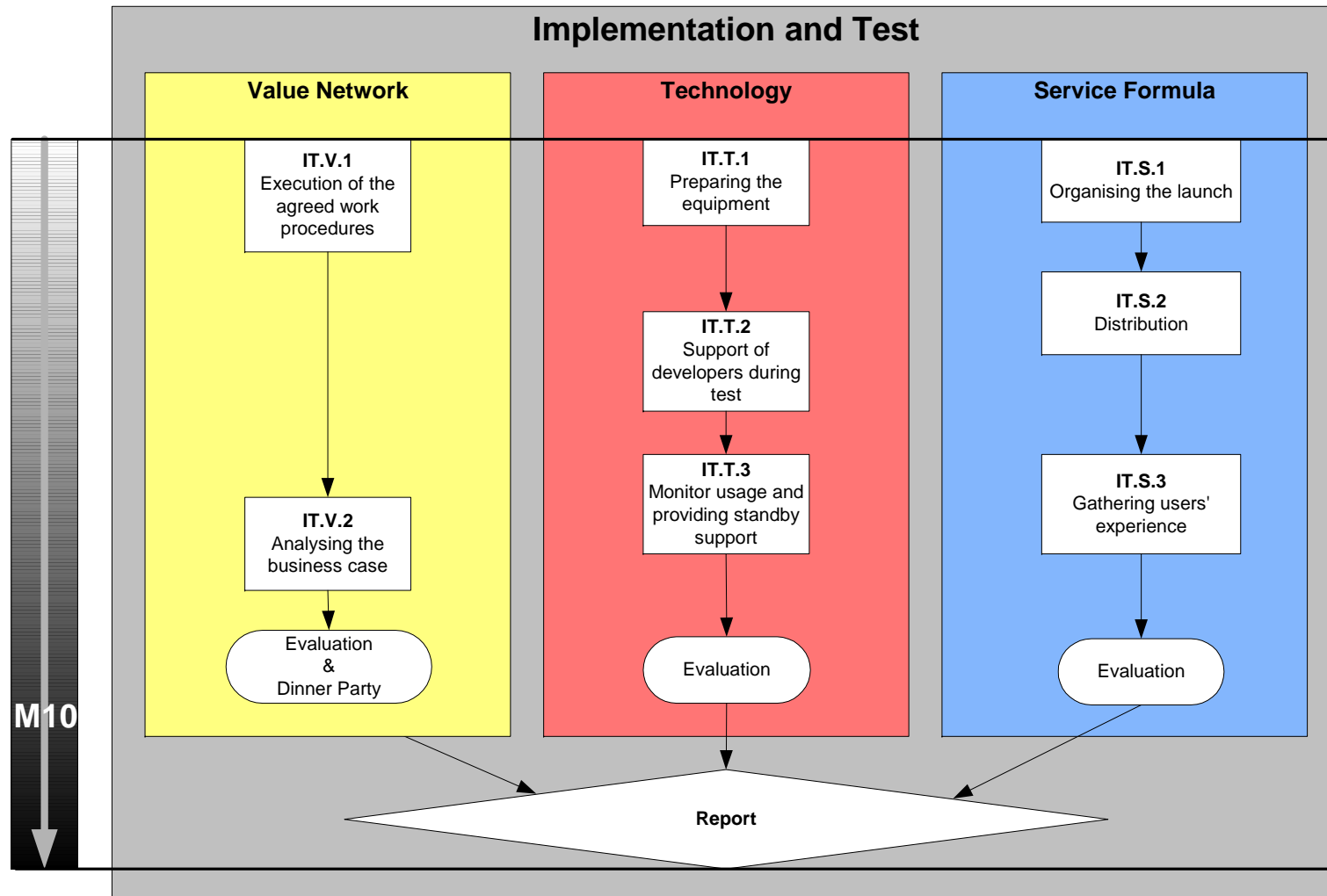
1. Map display
2. Zoom toolbar
3. Route instruction indicator
4. View selector
5. Scale indicator
6. GPS signal indicator
7. Menu bar
8. PLAN button
9. FIND button
10. DETAIL button



# LBS: Find a person



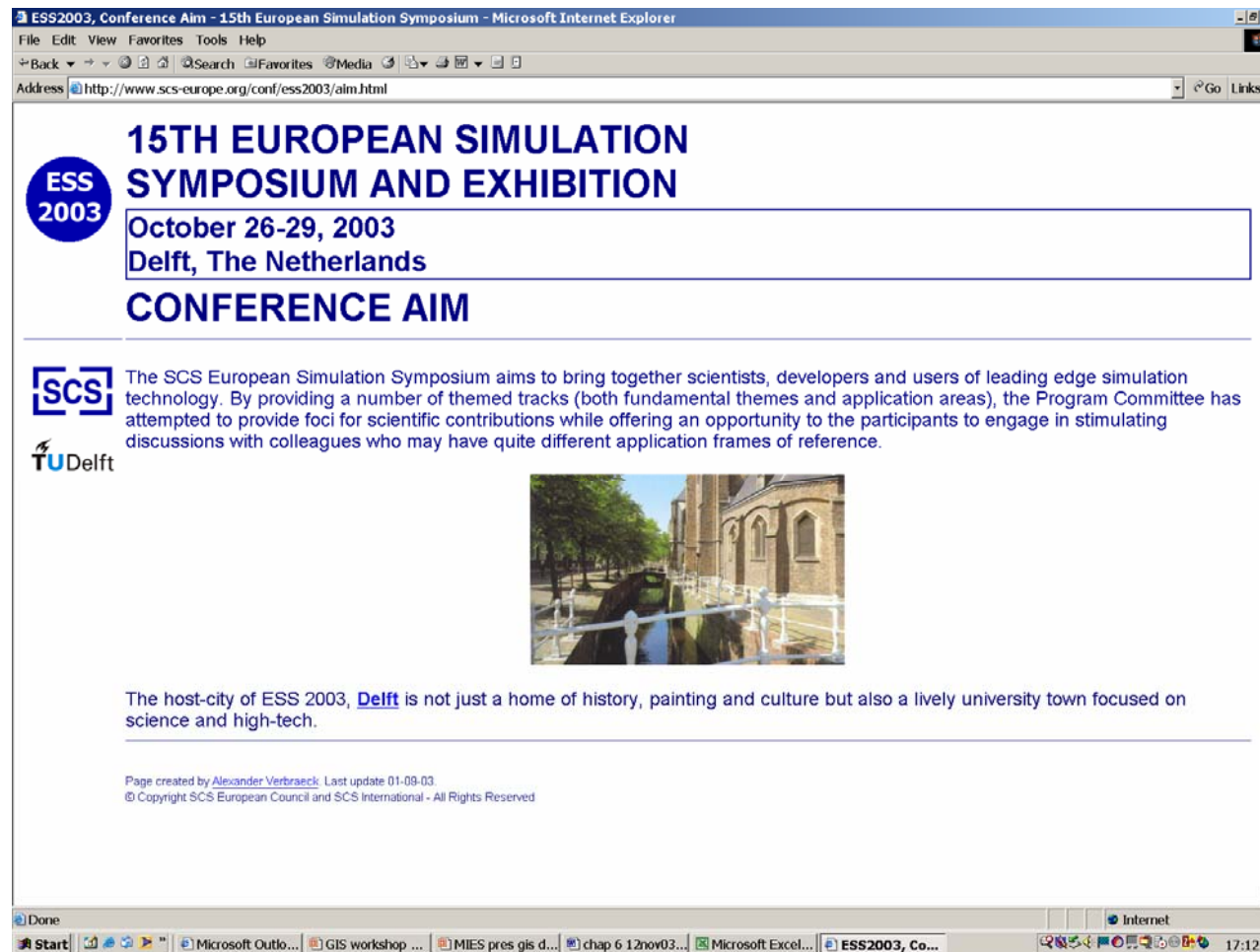
# Test Project: Implementation & Test



# Preparing the equipment



# The test occasion



ESS2003, Conference Aim - 15th European Simulation Symposium - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address <http://www.scs-europe.org/conf/ess2003/aim.html> Go Links

## 15TH EUROPEAN SIMULATION SYMPOSIUM AND EXHIBITION


**ESS 2003**

October 26-29, 2003  
Delft, The Netherlands

### CONFERENCE AIM

**SCS** The SCS European Simulation Symposium aims to bring together scientists, developers and users of leading edge simulation technology. By providing a number of themed tracks (both fundamental themes and application areas), the Program Committee has attempted to provide foci for scientific contributions while offering an opportunity to the participants to engage in stimulating discussions with colleagues who may have quite different application frames of reference.

**TU Delft**



The host-city of ESS 2003, [Delft](#) is not just a home of history, painting and culture but also a lively university town focused on science and high-tech.

Page created by [Alexander Verbraeck](#). Last update 01-09-03.  
© Copyright SCS European Council and SCS International - All Rights Reserved

Done

Start Microsoft Outlo... GIS workshop ... MIES pres gis d... chap 6 12nov03... Microsoft Excel... ESS2003, Co... Internet 17:12

# Instruction to the test persons



# Evaluation

User experience:

- Questionnaire
- Interview
- Extra tests with students

Partner experience:

- Questionnaire
- Interview



# User experience

## General statement results

	First Test (mean; n=15)	Second Test (mean; n=22)
Usefulness	5.4	2.3
Clarity	5.1	4.4
Efficiency	4.9	3.8
Support/help	4.8	3.8
Satisfaction	5.2	3.9
Visual qualities	5.0	5.1

1=strongly disagree; 7=strongly agree;

# Partner experience

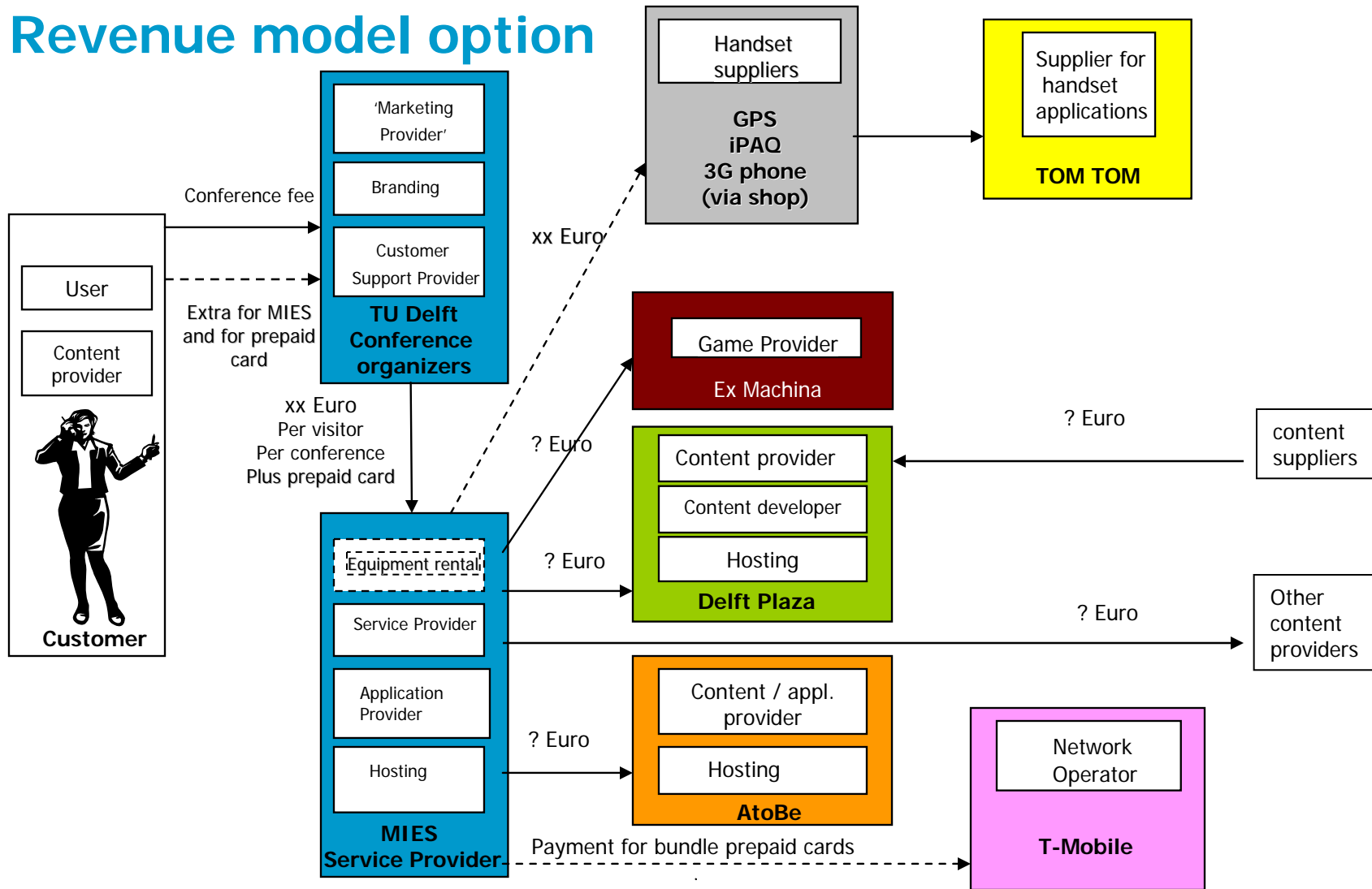
## Network formation

- Strategic reasons
- Embedded relational ties play major role

## Benefits to participate

- To get experience, to bring ideas into practise
- Imago, reputation
- Revenues in the future
- Research opportunity
- Nice project for trainees
- To get feedback from critical users and prepare for commercial launch

# Revenue model option

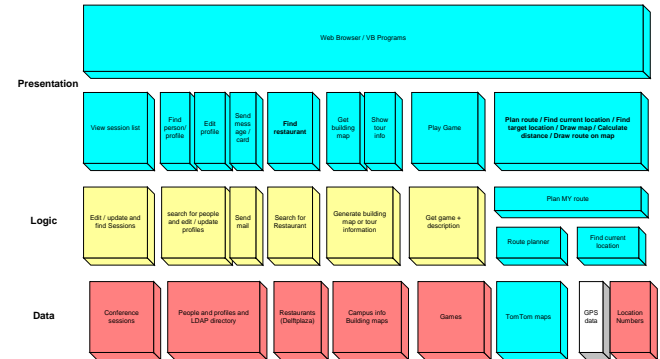


# Guidelines (1)

- *Take your time to establish a value network and speed up the development process when that is in place.*
- *Reduce uncertainty by using embedded relational ties when creating a value network.*



# Guidelines (2)



*Actors in the network can only start to design mobile applications if it is clear*

- which components are available for providing a mobile information service,*
- what the components' constraints are (e.g. accuracy of location) and*
- to what extent the components fulfil the service requirements.*

*The user interface, navigation and application designers must collaborate intensively to achieve an acceptable solution.*

## Guidelines (3)

- *The Service Provider, Mobile Network Operator, Content Provider and Customer are the core of the value network during the exploitation phase.*
- *The Application Provider, Mobile Operator, Content Developer and Customer are the core of the value network during the exploration phase.*

# Guidelines (4)

- *Start with the investigation of the targeted user requirements and these must be matched with the capabilities of the available components.*
- *Users must frequently test the in-between results of design decisions and provide feedback on this to the designers.*
- *Designers are the experts who decide how to process the feedback.*



## Guidelines (5)

- *At the start of a project the role list must be checked and it has to be decided which roles have to be performed and which actor(s) will fulfil which role.*
- *Roles might change during the design process and this has to be communicated to all the involved actors.*



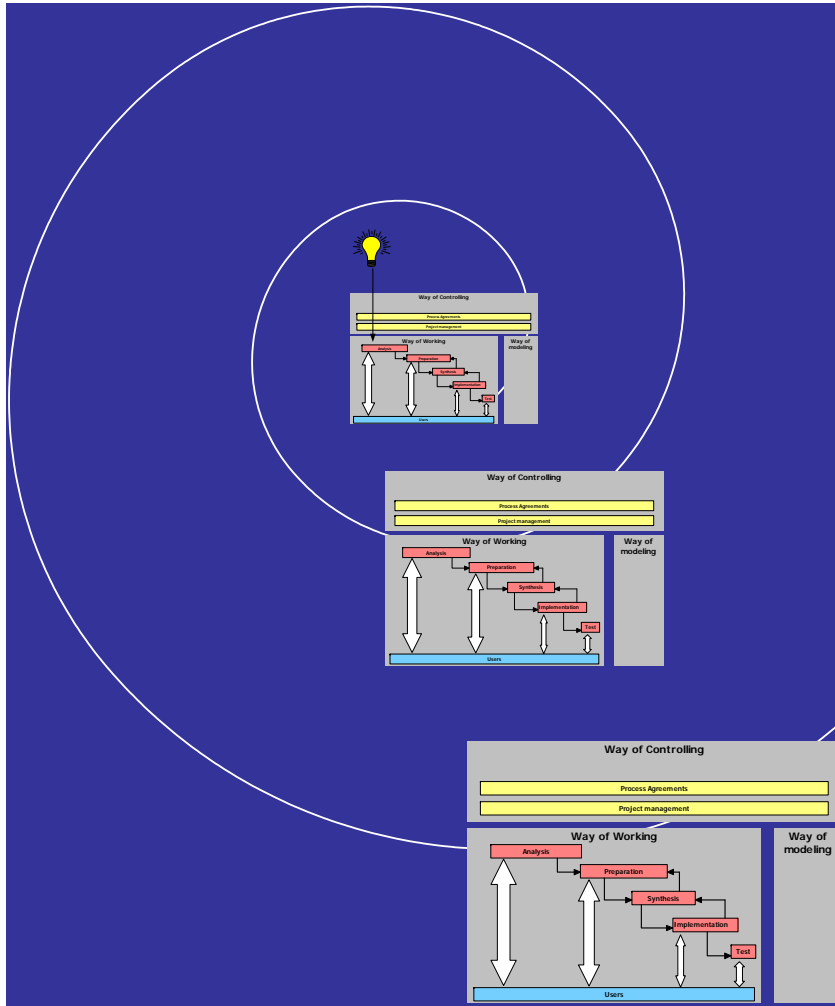
## Guideline (6)

- *Take into consideration that in the end the value of network membership in an innovative undertaking with partners is increasing profit.*
- *This might start with a project on innovation where participating is motivated by gaining experience, learning and establishing a reputation.*

# Conclusions

- S Start the design approach by an inventarisation of the context, wishes and needs of the target group. Target group should test in between results. The designers are the **experts who take the design decisions**.
- T Designers can only then start to design mobile applications when it is clear:
- Which components are available
  - To which extent the components fulfil the user requirements
  - What the limitations of the components are
- V Take time to create the value network and next speed up
- Existing relations
  - Reputation, learning, getting experience

# And further.....



July 6, 2005

54

# Thanks!

e.a.m.vandekar@tbm.tudelft.nl



July 6, 2005

55