Community Driven Development
and Social Networking
Becomes Pervasive

Seminar
“Thesis Outline“
Andreas Herglotz
18.01.2008
Agenda

- Placement
- Different Scenarios
- Different Aspects (Ubiquitous Computing, Social Networking, Community Driven Development)
- Architecture / Platform
- Perspective
- Opportunities and Challenges

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Placement
(Master Context)

*AW1 – Theme (2\textsuperscript{nd} Master term)*
  - Pervasive Gaming (PG)

*Project (3\textsuperscript{rd} Master term)*
  - Developing a PG-Framework plus Applications

*AW2 – Theme (3\textsuperscript{rd} Master term)*
  - Clarification: What is CDD?
  - How / Where is CDD used?

*Seminar – Theme (3\textsuperscript{rd} Master term)*
  - Coming next…

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Base Scenario
(Community Messenger)

- Interacting with buddies
- Leaving your position to find you

Basics
- Direct communication service
- Location service
- Server component
Scenario (1)
(Exhibition - Indoor)

- Finding the really interesting events with the help of the visitors
- Describing and rating the exhibiting companies

Basics
- Location service
- Server component
- News service
- Description service
- Rating service
Scenario (2)
(Flirt-Machine - Outdoor)

- Everybody has an own and a search profile
- Checking the position of the flirting people
- If they are close to each other the profiles are getting compared if they match
- Next steps: Creating a direct notification and if both accept the profile a direct connection

Basics
- Direct communication service
- Location service
- Server component
- News service
Scenario (3)
(Reeperbahn - Hybrid)

- Arriving at the Reeperbahn
- Getting the tips of the day (clubs)
- Getting the user recommendations
- Getting the position of your buddies

Basics
- Location service
- Server component
- Description service
- Rating service
## Summary of the Scenarios

<table>
<thead>
<tr>
<th>Placement</th>
<th>Exhibition</th>
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<th>Reeperbahn</th>
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<td>Indoor / Outdoor</td>
<td>Indoor</td>
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<td>Hybrid</td>
<td>Hybrid</td>
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<tr>
<td>Location-Services</td>
<td>Bluetooth / WLAN / Barcodes</td>
<td>GPS</td>
<td>GPS / WLAN / Bluetooth / Barcodes</td>
<td>GPS / WLAN / Bluetooth / Barcodes</td>
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<tr>
<td>Communication Service</td>
<td>Nice to Have</td>
<td>Essential (Direct)</td>
<td>Nice to Have</td>
<td>Essential</td>
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<tr>
<td>Description + Rating Service for Locations</td>
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<td>Essential</td>
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<tr>
<td>News Service</td>
<td>Essential</td>
<td>Essential</td>
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<tr>
<td>Server Component</td>
<td>Essential</td>
<td>Essential</td>
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<td>Essential</td>
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</tbody>
</table>

→ One Generic Community Messenger for various Scenarios
Ubiquitous Computing
(Definition)

- Many Computers serve each person
- Opposite of virtual reality
- Forces computer to live out here in the world with people
- Difficult integration of human factors, computer science, engineering and social sciences
- “The most profound technologies are those who disappear. They weave themselves into fabric of everyday life until they are indistinguishable from it.” (Mark Weiser)
Ubiquitous Computing
(in context of my scenario)

- All scenarios are realizable with a mobile device
- This device could be a mobile phone, smartphone or PDA
- Important is the natural use of these devices, because they are already integrated into everyday life
Social Networking (Definition)

- One aspect of Web 2.0
- Tools that allow people to come together
- It consists of nodes and links which represents participants and their friendships
- Different forms of social software:
  - Instant Massaging, online role-playing games, collaborative editing tools, …
Social Networking
(in context of my scenario)

- Up to now in most cases social networking happened just in front of a desktop pc
- Bridging to the real life – now user can use this network wherever they are and whenever they want
The community creates the content for itself

Know How
- From wizards for wizards (Linux, Mozilla)
- From wizards for everybody (Wikipedia)
- From everybody for everybody (Second Life)

User Interface
- Wizards
- Programmers
- Authors
Every user has the possibility to create content wherever he is and whenever he wants.

Different kinds of content:
- Describing locations
- Rating locations

Important aspects:
- License of the content
- Copyright
- Administration
Architecture
(Android)

Placement

Different Scenarios

Different Aspects:
- Ubi Comp
- Social Networking
- CDD

Architecture / Platform

Perspective

Opportunities and Challenges

Applications

Home
Contacts
Phone
Browser
...

Application Framework

Activity Manager
Window Manager
Content Providers
View System
Notification Manager

Package Manager
Telephony Manager
Resource Manager
Location Manager
XMPP Service

Libraries

Surface Manager
OpenGL|ES
FreeType
SGL

Media Framework

SQLite
WebKit
SSL
libc

Android Runtime

Core Libraries

Dalvik Virtual Machine

Linux Kernel

Display Driver
Camera Driver
Bluetooth Driver
Flash Memory Driver
Binder (IPC) Driver

USB Driver
Keypad Driver
WiFi Driver
Audio Drivers
Power Management

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Architecture

(Client – Exhibition)

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Android Runtime
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- Dalvik Virtual Machine

Linux Kernel
- Display Driver
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Architecture
(Client – Flirt-Machine)

Placement
Different Scenarios
Different Aspects:
- Ubi Comp
- Social Networking
- CDD

Architecture / Platform
Perspective
Opportunities and Challenges

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- 16 -
Architecture
(Client – Reeperbahn)

Placement

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- CDD

Architecture / Platform

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Community Messenger

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Architecture
(Client – Community Messenger)

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Architecture / Platform

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Opportunities and Challenges

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Location Manager
- Uses the location service which is available to find friends or buildings

XMPP
- Sends device to device - data to other users

Notification Manager
- Tells the user that something in the background has happened

SQLite
- Small Database for the mobile device

Activity Manager
- Manages the lifecycle of the applications
Neutron (Platform – Server)

Neutron® Core Platform provides all basic functionalities needed to develop multiplayer games. For specific purposes Neutron® Add-Ons enhance the core functionality. They are seamlessly integrated and can be individually combined with the Core Platform.

**Add-Ons**
- **Tournaments**
  - Different Tournament Types (Single- and Multiplayer)
  - Flexible (Server Side) Rules
  - Management Interface
- **For Prizes**
  - Interface to E-Prize Solution Provider
  - Prize Redemption
  - Prize Management
- **Items & Assets**
  - Content Management
  - Multiple Languages and Currencies Supported
  - Flexible Billing
- **Game Server**
  - Custom Server-Side Development Framework
  - Integration of External Services (SOA)

**Marketing Campaigns**
- Campaign Solutions Interface (e.g. Lyris)
- Integrated Content Management System

**Server AI**
- Virtual Master
- Virtual Player
- Persistent Worlds

**Trivia**
- Server-Side Trivia Master
- Content Updates
- Trivia Specific Statistics

**Game Server**
- Custom Server-Side Development Framework
- Integration of External Services (SOA)

**Community**
- Building and Managing Custom Community Sites
- Accessible Flash Models

**Core Platform**
- Game Play
  - Multiplayer: Real-Time, Turn-Based
  - Singleplayer: High Scores, Most Racing
  - Asset Downloads
- **Skill-based Matchmaking**
  - Buddy Lists with Presence
  - Leaderboards

**Administration**
- Control Center
- Items & Assets Management
- User Management
- Usage Statistics

**Communication**
- Privat & Public Chat
- Rooms
- SMS
- Tell-a-friend
- Multicast Messages

**Mobile SDKs**
- Online SDKs (PC, Web, Wii, PS3)

**Neutron Server SDK**

**Opportunities and Challenges**

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My Vision: One Messenger

- Usable anytime and anyplace – a natural unobtrusive mobile phone (Pervasive)
- Creating content whenever you want and wherever you are (Community Driven Development)
- Making the step from the virtual community to the real life (Social Networking)
- Using a completely new platform (Android)

Android Developer Challenge
Opportunities and Challenges

Opportunities
- Creating something completely new
  - Transport CDD in a pervasive context
  - Bridge from virtual social networking to real life social networking
  - Using a new platform (Android)

Challenges
- Creating something completely new
- Using an SDK in a non-final version
- Using an emulator – because the hardware still does not exist
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Thanks – Any Questions?