Objects as a Service

Internet Connected Objects for Reconfigurable Eco-systems - iCore EU FP7, project No 287708

Frank Berkers (TNO – WPL iCore WP1 Socio-Economic Analysis)
FIA 2012 Aalborg, Fri May 11th - IoT applications & business models
## Multiple Application Scenarios

<table>
<thead>
<tr>
<th>Application Domain</th>
<th>Application Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart Home</td>
<td>Social Sensors</td>
</tr>
<tr>
<td></td>
<td>Auto Configuration of Devices</td>
</tr>
<tr>
<td></td>
<td>Device Inventory</td>
</tr>
<tr>
<td></td>
<td>Sensor Information Distribution</td>
</tr>
<tr>
<td>Smart Office</td>
<td>Smart Meeting</td>
</tr>
<tr>
<td>Smart Business</td>
<td>Consumer Moving Pattern</td>
</tr>
<tr>
<td></td>
<td>Smart supply chain</td>
</tr>
<tr>
<td></td>
<td>Consumer Market Navigation</td>
</tr>
<tr>
<td></td>
<td>Identify Inflow Deviations</td>
</tr>
<tr>
<td></td>
<td>Receive and Plan an Order</td>
</tr>
<tr>
<td>Smart Transportation</td>
<td>Supply Chain Management</td>
</tr>
<tr>
<td></td>
<td>Smart / Connected Key</td>
</tr>
<tr>
<td>Smart Living</td>
<td>Prison Security Health Care</td>
</tr>
<tr>
<td></td>
<td>Health Assisted Living</td>
</tr>
<tr>
<td></td>
<td>Lost Person Protection</td>
</tr>
<tr>
<td></td>
<td>Epidemic Tracker</td>
</tr>
<tr>
<td>Smart City</td>
<td>IJKDijk (dike management)</td>
</tr>
<tr>
<td></td>
<td>See What I See</td>
</tr>
<tr>
<td></td>
<td>Tag the City</td>
</tr>
<tr>
<td>Domain</td>
<td>Crowded Event Management</td>
</tr>
</tbody>
</table>

...and stored for future reference, adaptation and reasoning upon...

...detection of newly advertised RWOs...

---

**iCore Conceptual Model**

- **Service Level**
- **CVO Level**
- **VO Level**

**Execution Cycle**

- **Feedback**
- **Situation sensed**

- **Execution**
- **Mapping in execution elements**
- **Service Req. mapped in SLA**
Benefits, Patterns, Shifts

Application Maturity
- existing
- unexplicit
- indirect
- new

Stakeholders
- identified
- direct

Effects
- Stakeholders
- Effects

- Control / trust
- Productivity
- Experience
- Less waste
- Improved safety
- Quality of Life
- ...

- Localization
- Event Driven
- Process Organization
- Information Organization
- Device and Access Management
- Big Data management
- Local Scope
- ...

- Planned monitoring (sampling) ➔ continuous
- Planned/batched execution ➔ event driven
- (individual) ownership (e.g. of sensors) ➔ shared/usage based
- Further process scope decomposition
- ...

iCore - FIA 2012 Aalborg, Fri May 11th - IoT applications & business models
Business/ Values and Challenges

- Timing and alignment
- Stovepipe replacement
- Vested interests
- Competition
- FI-WARE

Behavioral change | Control | Expenses | Rewards | Measurability

- Application Usability
- Event Driven Automation
- Compare w/ official

Planning | Benchmarking

- Data Accessibility
- Data Connectivity
- Data Processing Logic
- Data fusion
- Sensor Data Quality
- Sensor Data Availability
- Sensor Connectivity
- Sensors

- Monitoring
- Data anonimization
- Local mixing
- Accountability
- Historic Data
- Big Data

iCore - FIA 2012 Aalborg, Fri May 11th - IoT applications & business models