A Maemo Mobile Trade Client for Business Systems

Igor Semenov, Dmitry Korzun

Petrozavodsk State University
Department of Computer Science

FRUCT Seminar, April 29, 2009
Goals and Problem Description

Developing a mobile solution

- Enhancing and reinforcing Enterprise Trade Business Systems (TBS)
- Accelerating the Service-Oriented Architecture (SOA) in TBS

Example TBS are:

- MS Axapta
- SAP R/3
- 1C:Enterprise 8.1, 8.2

SOAP is a protocol for exchanging structured information in the implementation of Web Services
The Main Features

- Web-Services and SOAP (XDTO+WSDL) for synchronizing with TBS
- A mobile device allows:
  - GPS - for reinforcing business logistics
  - WiFi - for general end-user mobility
  - Camera - for making pictures of goods, e.g. for sending them to TBS
- A local Data Base for storing business data directly at mobile device
- Several security levels for transferring business data between mobile device and TBS
Serice Oriented Architecture for TBS
Team

- Dmitry G. Korzun, project leader and instructor

- Igor Semenov, M.Sc. Student, technical manager

- Ekaterina Zabolotskikh, 4th year student

- Denis Zabirohin, 2nd year student

- Pavel Andrianov, 3rd year student

- Pavel Nefedov, 3rd year student
Plan

Feb.–May 2009: Developing a demo prototype

Summer 2009 (optionally): Experiments with the prototype

Architecture

User organizer (TODO-list for meetings with customers, interviews and questionnaires, GPS for optimal schedule, etc.)

Editing Mobile DB (information about Produce, Customers, Suppliers, Produce Orders and Reservation, etc.)

Web-Service

Application

MobileDB → SynchroDB → NetConfig

PrintForms

Organizer → Configuration

Orders → Editor → DirectReports

GUI

Web-settings (Web service URL, location DB, etc.)

Forming and saving reports into printable format (with further transfer to printer)

Getting report directly from main business system
We tried GSoap and cSoap. **cSoup** seems easier for usage.

cSoup is a C-based implementation of the SOAP, provides **https (SSL)** with OpenSSL.
UI Technology

...
DB Technology

We tried the following database management systems for storing Business Data from TBS:

- MySQL
- Lite Sql
- Sedna
- SQLite

SQLite provides a good tradeoff between performance and memory capacity of a tablet.
Results

- Requirements, User scenarios, Architecture and Design Elements
- IDE (Eclipse + Maemo Plugin) is used
- SQLite, cSoap are porting into armel architecture
- C++ Development
- Basic clases are implemented
- Coding, testing and integrating
- Demo Prototype
### Прайс-лист

Валюта цен.
Цены указаны на 16.10.2005

<table>
<thead>
<tr>
<th>Ценовая группа</th>
<th>Номенклатура</th>
<th>Характеристика номенклатуры</th>
<th>Покупная цена</th>
<th>Ед.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nokia3110</td>
<td></td>
<td>1 200,00 RUB</td>
<td>шт</td>
</tr>
<tr>
<td></td>
<td>NokiaE90</td>
<td></td>
<td>15 000,00 RUB</td>
<td>шт</td>
</tr>
<tr>
<td></td>
<td>NokiaN800</td>
<td></td>
<td>11 000,00 RUB</td>
<td>шт</td>
</tr>
<tr>
<td></td>
<td>NokiaN810</td>
<td></td>
<td>12 000,00 RUB</td>
<td>шт</td>
</tr>
</tbody>
</table>

---

**App Title - Mobile Trade**

<table>
<thead>
<tr>
<th>Date</th>
<th>Produce</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008.10.16</td>
<td>NokiaN800</td>
<td>11 000</td>
</tr>
<tr>
<td></td>
<td>NokiaN810</td>
<td>12 000</td>
</tr>
<tr>
<td></td>
<td>NokiaE90</td>
<td>15 000</td>
</tr>
<tr>
<td></td>
<td>Nokia3110</td>
<td>1 200</td>
</tr>
</tbody>
</table>
Thank you!

http://maemo.cs.karelia.ru/wiki