

OpenBaseMovil®

Fast development, portability & power
all with a simple mobile phone

Agenda



- The BaseMovil family
- OpenBaseMovil
- OpenMidsets
- State of the art
- The near future
- Want to collaborate?
- More information

The BaseMovil Family

BaseMovil

OpenBaseMovil

OpenMidsets

ui

user interface,
data-binding, xml

db: relational database

storage: pluggable fast
storage

core: mvc, resources, fp, fs, events,...

script

object
oriented
scripting
engine
extensible
pluggable

connect

GPS
Barcode reader
Printers

sync

database
provisioning
and
synchronization

net

RPC
Safe file
transfer

bmServer

Servside sync
App. provisioning
Connectors
RPC Server
File server

OpenBaseMovil

core

- mvc framework
- resources (internationalization)
- floating point
- file system over RecordStores
- complex object serialization
- events
- compression
- encryption
- task management
- integrated help system
- device information
- bug detection
- logging
- and more...

storage

- pluggable storage system
- abstraction layer over real storage
- extends subsystem:
 - record multiplexation
 - file splitting

db

- relational database system
- JDBC like interface
- multiple databases
- no limit of tables or rows per table
- fast indexes
 - over one or more fields
 - full-text-like capable
- Keys: database, table, row, rowset

OpenBaseMovil

ui

- XML view modeling
- data binding
 - Browser
 - Form
- Enhanced menus
 - Grid
 - List
- Navigation control
- resource aware
- script aware

connect & net to be GPL'd

- the full connect library
- a big subset of net

script

- Object Oriented scripting language
- Optimized for mobile
 - compiled to binary format:
 - on-device
 - precompiled
- Extensible language
- Extensible class library
 - Interfaces to:
 - System
 - Database
 - Ui
 - Network
 - Anything you can imagine

Application skeleton

Resources

Images

Language files

Help files

Configuration

Views definitions

Database definition

Code

Model

Controller

Launcher

View definition

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE bm-vd1 PUBLIC "-//Elondra S.L.//BaseMovi1 View Definition Language//
<bm-vd1 version="1.0">

  <iconSet id="mainMenu" source="/mainMenu.png" width="32" height="32" />
  <iconSet id="toolsMenu" source="/toolsMenu.png" width="32" height="32" />

  <controller id="main" className="bmtemplate.control.MainController" />

  <menu
    id="1000"
    name="main"
    title="mainView.Title"
    helpId="MainView"
    controller="main"
  >
    <menuItem title="global.Synchronize" action="104" />
    <menuItem title="global.Tools" action="106" view="tools" />
    <menuItem title="global.Help" action="10001" />
    <menuItem title="main.About" action="110" />
    <menuItem title="global.Exit" action="10000" />
  </menu>

  <form
    id="1010"
    name="LoginView"
    title="LoginView.Title"
    readOnly="false"
    defaultButtons="false"
    controller="main"
  >
    <text
      name="company"
      label="LoginView.Company"
      layout="16896"
      size="16"
      readOnly="false"
    />
    <text
      name="user"
      label="LoginView.User"
      layout="16896"
      size="16"
      readOnly="false"
    />
  </form>
</bm-vd1>
```

- Declarative definition
- Integrated with the language manager
- One definition can derive into many views
- Icon set management (many icons in a single png)

View definition - Menus

```
<menu
  id="1000"
  name="main"
  title="mainView.Title"
  helpId="MainView"
  controller="main"
  iconSet="mainMenu"
  mode="grid"
>
  <menuItem title="global.Customers" action="100"
    view="customerSearch" help="global.Customers.help"/>
  <menuItem title="global.Products" action="101"
    view="productSelection" help="global.Products.help"/>
  <menuItem title="global.Expenses" action="103"
    help="global.Expenses.help"/>
  <menuItem title="global.Synchronize" action="104"
    view="syncMenu" help="global.Synchronize.help"/>
  <menuItem title="global.onlineActions" action="109"
    help="global.onlineActions.help"/>
  <menuItem title="global.Tools" action="106"
    view="tools" help="global.Tools.help"/>
  <menuItem title="global.CloseDay" action="107"
    help="global.CloseDay.help"/>
  <menuItem title="global.Help" action="10001"
    help="global.Help.help"/>
  <menuItem title="main.About" action="110"
    help="main.About.help"/>
  <menuItem title="global.Exit" action="10000"
    help="global.Exit.help"/>
</menu>
```

- Grid or list menus
- Automatically assigned icons
- Automatic simple transitions

View definition – Data lists

```
<listBrowser
  id="4004"
  name="selectDeliveryRouteView"
  title="routeView.Title"
  wrap="false"
  controller="doc"
  maxLines="1"
>
<field name="custom_id" />
<field name="route_name" />
<action name="select" code="10003" label="global.Select"/>
</listBrowser>

<listBrowser
  id="1210"
  name="selectProductListView"
  title="product.List.Title"
  controller="product"
  pageSize="20"
  separator="\n"
  wrap="false"
  maxLines="2"
>
<field name="product_name" />
<field name="custom_id" />
<action
  name="stock"
  code="300"
  label="ProductView.Stock"
  order="1"
/>
<action name="onlineActions" code="301" label="global.onlineActions"/>
</listBrowser>
```

- Define the visible fields of a RowSet
- Other properties:
 - separators
 - fixed fields
 - maximum lines per selected item
- Actions
- Attachments

View definition - Forms

```
<form id="4011"
  name="changeDeliveryRoute"
  title="changeDeliveryRoute.title"
  controller="doc"
  defaultButtons="false"
  saveOnAccept="false"
  readOnly="false"
>
  <text name="route"
    label="global.Search"
    size="16"
    constraints="524288"
    layout="16896"
    readOnly="false"/>
  <button name="searchButton" buttonType="ok" label="global.Search" />
  <text name="doc_route_name"
    label="changeDeliveryRoute.currentRoute"
    labelExtra=":"
    layout="16896"
    readOnly="true"
    bind="doc_route_name"
  />
  <action name="search" code="10003"
    label="global.Search" for="route" default="true"/>
</form>
```

- Can be bound to a single Row or to a RowSet
- You define fixed or binded fields
- Buttons
- Actions

Database definition

```
<?xml version="1.0"?>
<!DOCTYPE bm-ddl PUBLIC "-//Elondra S.L./BaseMovil Data Definition Language//EN"
<bm-ddl version="1.0">
  <database name="issues" schema="bmissues" versionMajor="1" versionMinor="0">
    <table name="user_counters"
      idColumnName="user_counter_id"
      sequenceName="seq_user_counters"
    >
      <column name="user_id" type="long" nullable="false" primaryKey="true">
        <foreignKey targetTableName="bms_users"
          userFK="true"
          fake="false"
          cascade="true"
        />
      </column>
      <column name="table_name"
        type="string"
        nullable="false"
        length="26"
        primaryKey="true"
      />
      <column name="series"
        type="string"
        nullable="true"
        length="8"
      />
      <column name="counter"
        type="long"
        nullable="false"
      />
      <index name="ix_user_cnt_user_table">
        <indexColumn name="user_id" />
        <indexColumn name="table_name" />
      </index>
    </table>
```

- XML based database definition
- “Physical” database model and “virtual databases” for different applications
- With OpenBaseMovil they are a single model

Database definition

```
<virtualDatabase name="issues"
  applicationName="bmIssues"
  versionMajor="1"
  versionMinor="0"
  >
  <virtualTable tableName="user_counters"
    readOnly="false"
    copyFromTable="true"
  />
  <virtualTable tableName="locations"
    readOnly="true"
    copyFromTable="true"
  >
    <virtualIndex name="ix_loc_name"
      caseSensitive="false"
      fullText="true"
      order="20"
    >
      <component columnName="name" />
    </virtualIndex>
    <virtualIndex name="ix_loc_parent_id"
      caseSensitive="false"
      fullText="false"
    >
      <component columnName="parent_id" />
    </virtualIndex>
  </virtualTable>
</virtualDatabase>
```

- You can define multiple “virtual databases” over a single “physical” database
- Virtual tables can be defined directly from physical tables or as a join of two or more
- Con índices

Database definition

```
<virtualDatabase name="issues"
  applicationName="bmIssues"
  versionMajor="1"
  versionMinor="0"
  >
  <virtualTable tableName="user_counters"
    readOnly="false"
    copyFromTable="true"
  />
  <virtualTable tableName="locations"
    readOnly="true"
    copyFromTable="true"
  >
    <virtualIndex name="ix_loc_name"
      caseSensitive="false"
      fullText="true"
      order="20"
    >
      <component columnName="name" />
    </virtualIndex>
    <virtualIndex name="ix_loc_parent_id"
      caseSensitive="false"
      fullText="false"
    >
      <component columnName="parent_id" />
    </virtualIndex>
  </virtualTable>
</virtualDatabase>
```

- Virtual tables can have multiple indexes:
 - Simple direct indexes
 - Multi-field indexes
 - Full-text indexes

OpenMidsets

- OpenMidsets is an application built on top of OpenBaseMovil
- It acts as a host for pure-script applications
- Multiple applications, with multiple databases
- It brings Internet to the mobile phone in a simpler way, like Nokia Widsets, but more powerful and Open Source

OpenMidsets

- Dynamic code update
- Dynamic application download and installation
- Application collaboration
- Local and remote connectivity
- No limits, no strings attached
- 100% portable
- Open Source, GPL licensed

OpenMidsets

- An XML descriptor allows to pack and describe every thing needed for an application

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE midset PUBLIC "-//Elondra S.L.//BaseMovi1 Midset package//EN" "http://www
<midset name="sample midset"
  vendor="Elondra"
  namespace="sample"
  version="1.0"
  icon="sample.png"
  >
  <description>This is a sample midlet</description>
  <image name="image" default="normal">
    <resolution type="normal" src="image-normal.png" />
    <resolution type="high" src="image-high.png" />
  </image>
  <iconset name="iconset" default="normal">
    <resolution type="normal" src="image-normal.png" width="32" height="32"/>
    <resolution type="high" src="image-high.png" width="64" height="64"/>
  </iconset>
  <resource name="language.index" />
  <resource name="help.index" />
  <launcher name="Sample" />
  <class name="Helper" />
  <class name="Helper2" />
</midset>
```

OpenMidsets

```
class Sample
{
    property String    string1;
    property int      int1;
    /*
     * Block comment
     */
    property short    short1;
    property long     long1;
    // line comment
    property byte     byte1;;
    property double   double1; // line comment

    /**
     *
     */
    // /**/

    method Sample()
    {
        set string1 = "string"; // comment
        set int1 = 10;
        /* comment
         */
        set short1 = 20;
        set long1 = 4003;
        set byte1 = 0x02;
        set double1 = 2.56;
    }

    method int calc( int p1 )
    {
        var int retval;
        set retval = ( short1 * p1 );
        if( (retval == 10 ) )
        {
            return 10;
        }
        else
        {
            return 20;
        }
    }
}
```

- Needed classes are created with bmScript
- One of them, the launcher, must have a “main” method that will be invoked when the user selects the application icon

State of the Art

- BaseMovil is a mature and production quality platform, running for over two years
- OpenBaseMovil is now being published at Source Forge
- OpenMidsets is in advanced planning stage

The near future

- January 2008 : first complete version of OpenBaseMovil
- February 2008 : first version of OpenMidsets
- April 2008: BaseMovil y OpenMidsets for Android
- To be defined: Specific versions ofr BlackBerry, Windows Mobile & Symbian.

Want to collaborate?

- Beta testers
- Programmers for bmScript & OpenBaseMovil
- Programmers to create OpenMidsets applications

More information

- OpenBaseMovil website
 - <http://www.openbasemovil.org>
- BaseMovil development blog
 - <http://developer.basemovil.com>
- Elondra & BaseMovil website
 - <http://www.basemovil.com>