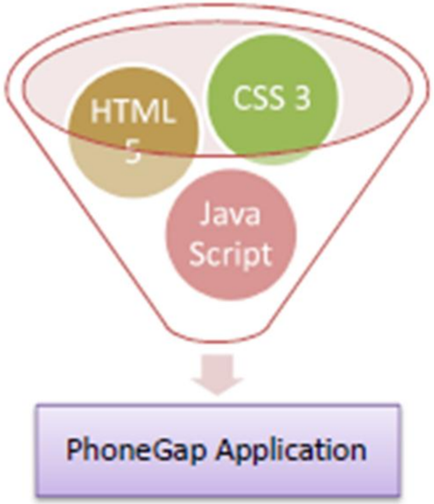
# Developing apps with Smartphone Mobiliser

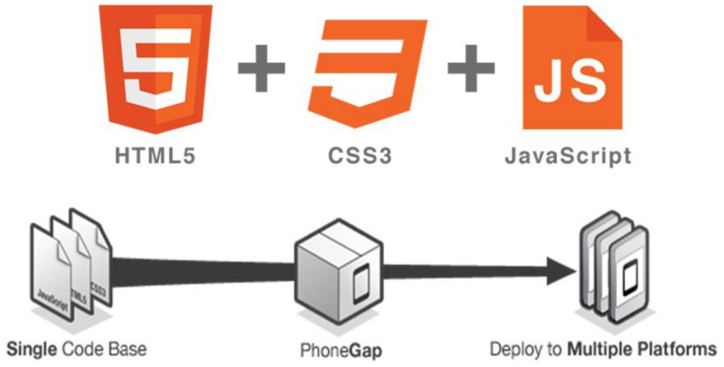
# Mobiliser Smartphone Framework

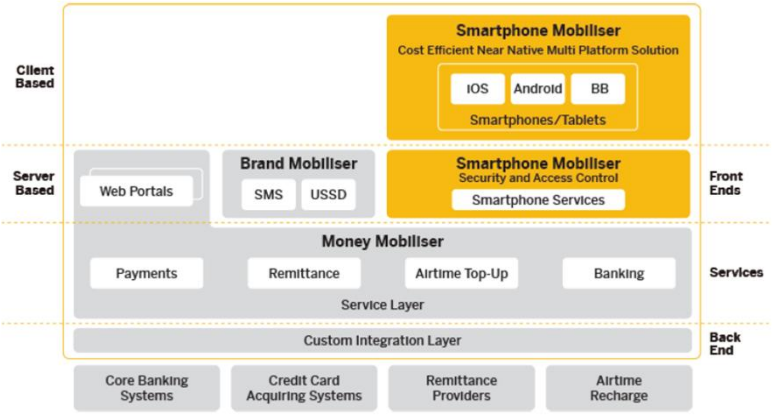
- **A framework built on Adobe Phonegap**
- **Application built using HTML 5, CSS3 and Javascript**
  - HTML 5 to specific structure of layout of an app
  - CSS 3 to design the look and feel of presentation
  - Javascript to implement business logic for app
- **Application runs inside a web-kit based browser running inside the native OS**
  - Single code base, deploy to multiple platforms
- **Access to Mobile Device specific features**
  - Phonegap provides the wrapper layer implemented using native code, that provides hooks into mobile device features like geo-location, camera, accelerometer and contact book
- **Reference application come pre-built with all use cases pre-built in mobiliser platform**



# Key Benefits of the Framework

- Build Once deploy to multiple devices
  - Touch screeen smartphone apps for iPhone, iPad, Android and Blackberry
- Mobile Web Support
  - Easily leverage the same templates for mobile web
- Non-proprietary open technologies
  - HTML5, CSS 3, Javascript for rich user experience
- Multi-platform support
  - Provided by Adobe Phonegap
  - Cross Platform API based on W3C standards
  - Access to device functions like camera, geo-location from within Javascript
  - Plugins available to combine Javascript with native code for example – push notification, barcode scanner, Paypal, Facebook, NFC etc
- Fully functional reference application
  - with Mobiliser platform integration, that can serve as the starting point, reducing time to market





Client Based

Smartphone Mobiliser

Cost Efficient Near Native Multi Platform Solution

iOS | Android | BB

Smartphones/Tablets

Server Based

Web Portals

Brand Mobiliser

SMS | USSD

Smartphone Mobiliser

Security and Access Control

Smartphone Services

Front Ends

Money Mobiliser

Payments | Remittance | Airtime Top-Up | Banking

Service Layer

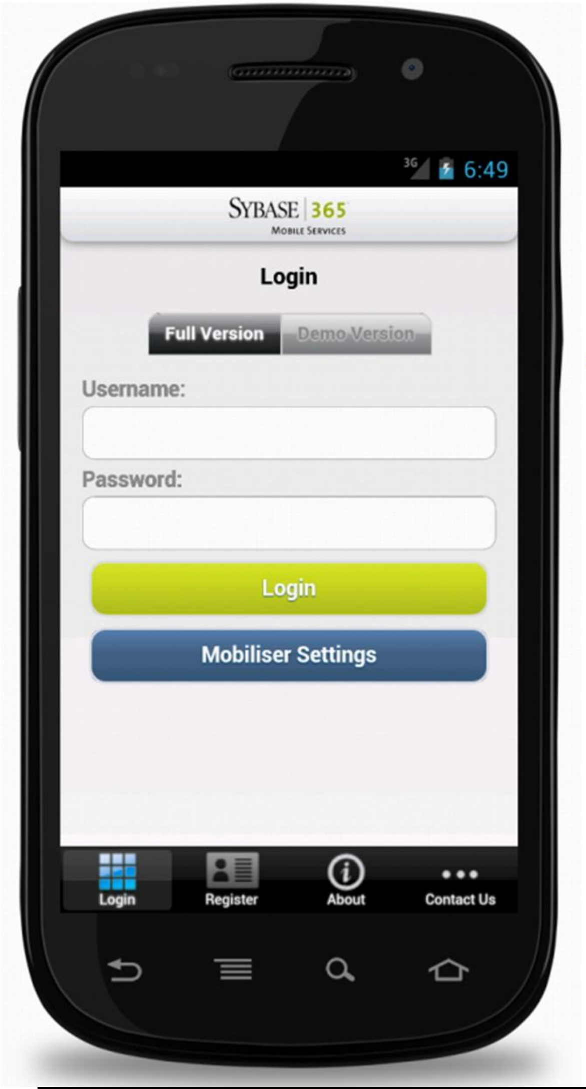
Services

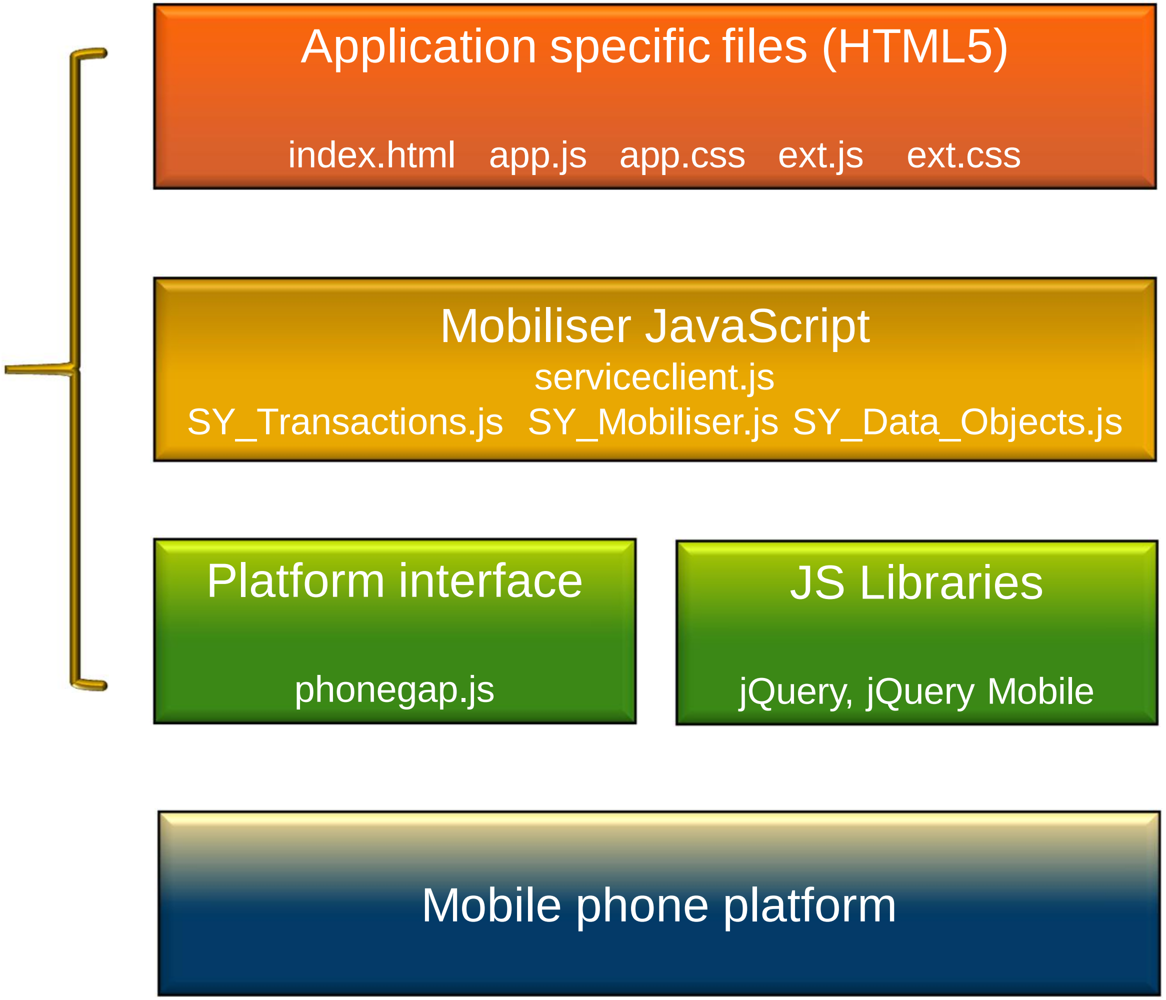
Custom Integration Layer

Back End

Core Banking Systems | Credit Card Acquiring Systems | Remittance Providers | Airtime Recharge

# Application building blocks





Application specific files (HTML5)

index.html app.js app.css ext.js ext.css

Mobiliser JavaScript

serviceclient.js

SY_Transactions.js SY_Mobiliser.js SY_Data_Objects.js

Platform interface

phonegap.js

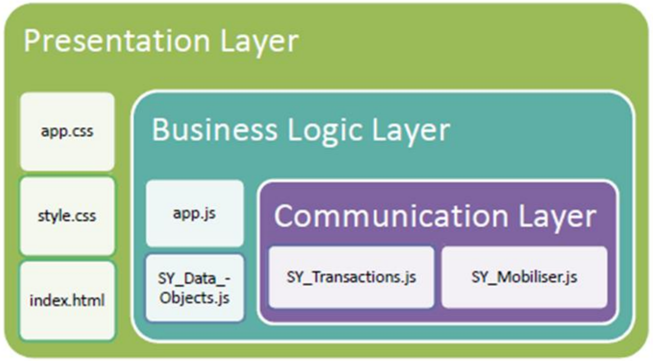
JS Libraries

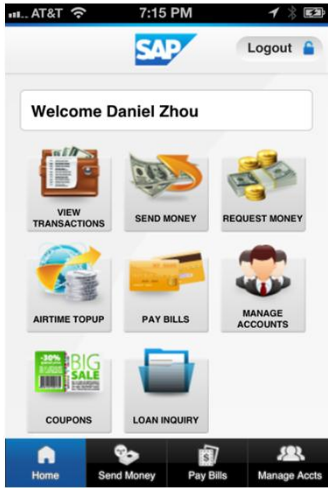
jQuery, jQuery Mobile

Mobile phone platform

# Developing the App

- **Setup the environment**
  - Usually in eclipse IDE
- **Code in application layer divided into three logical layers**
  - Presentation
    - Design of the app
  - Business Logic
    - Specific app business logic
  - Communication
    - Communication with mobiliser
- **Pre Built main functions, out of the box with code**
  - Transaction Details
  - Send Money, Request Money
  - Airtime TopUp, PayBills
  - Manage Accounts, Coupons, Loan Inquiry





# Development Environments for mobile

## iOS

System required: Apple Mac running OSX Lion.

- Xcode 4 IDE
- https://developer.apple.com/devcenter/ios/
- Getting started with Phonegap in Xcode for iOS: http://www.adobe.com/devnet/html5/articles/getting-started-with-phonegap-in-xcode-for-ios.html

## Android

System required: Windows PC or Mac or Linux

- Eclipse IDE
- http://developer.android.com/sdk/
- Getting started with Phonegap in Eclipse : http://www.adobe.com/devnet/html5/articles/getting-started-with-phonegap-in-eclipse-for-android.html

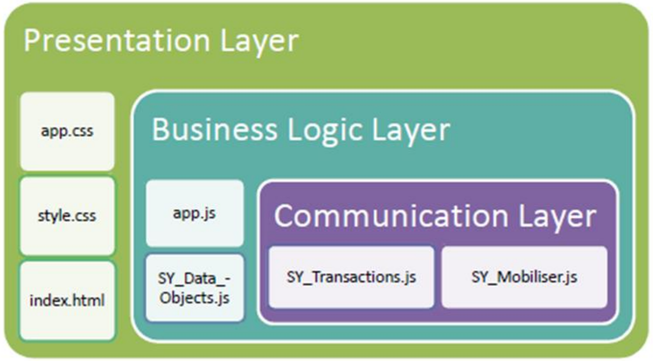
## Blackberry

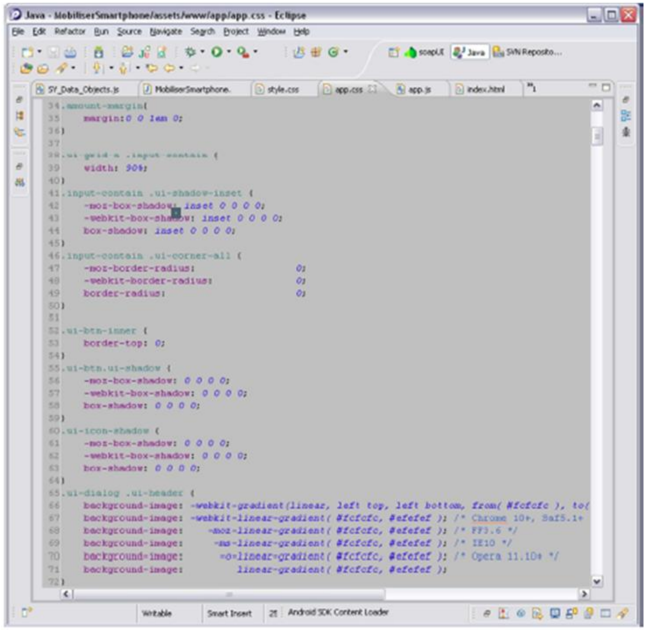
System required: Windows PC 32 bit ! (at least the Java SDK)

- Webworks
- http://developer.blackberry.com
- Eclipse IDE (32 bit !)..

# Customizing the App

- **To rebrand the app with color and logos**
  - Developer works with files in presentation layer and modifies the CSS and HTML
- **Custom Functionality**
  - Using the files in business layer, one can change the way data is manipulated in addition to the presentation layer to achieve the look and feel
- **New custom mobiliser transactions and use cases**
  - Developer works with communication layer files so that new parameters and results of new transactions or use cases are understood
- **UI Package**
  - Framework uses jQuery mobile as the UI package to display widgets on pages. The framework allows use of other packages like Sencha




Java - MobiliserSmartphone/assets/www/app/app.css - Eclipse
File Edit Refactor Run Source Navigate Search Project Window Help
SY_Data_Objects.js
MobiliserSmartphone.
style.css
app.css
app.js
index.html
Writable
Smart Insert
Android SDK Content Loader

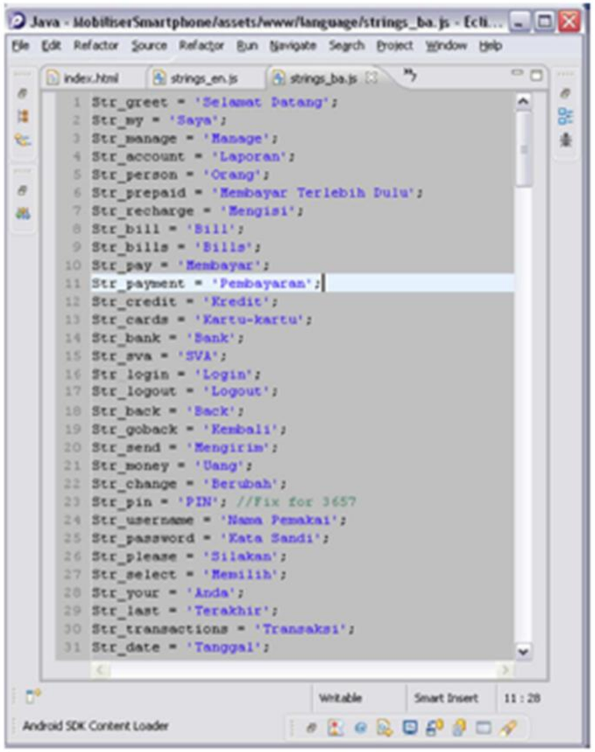
```
.amount-margin{
    margin:0 0 1em 0;
}

.ui-grid-a .input-contain {
    width: 90%;
}
.input-contain .ui-shadow-inset {
    -moz-box-shadow: inset 0 0 0 0;
    -webkit-box-shadow: inset 0 0 0 0;
    box-shadow: inset 0 0 0 0;
}
.input-contain .ui-corner-all {
    -moz-border-radius:                   0;
    -webkit-border-radius:                0;
    border-radius:                        0;
}

.ui-btn-inner {
    border-top: 0;
}
.ui-btn.ui-shadow {
    -moz-box-shadow: 0 0 0 0;
    -webkit-box-shadow: 0 0 0 0;
    box-shadow: 0 0 0 0;
}
.ui-icon-shadow {
    -moz-box-shadow: 0 0 0 0;
    -webkit-box-shadow: 0 0 0 0;
    box-shadow: 0 0 0 0;
}
.ui-dialog .ui-header {
    background-image: -webkit-gradient(linear, left top, left bottom, from( #fcfcfc ), to(
    background-image: -webkit-linear-gradient( #fcfcfc, #efefef ); /* Chrome 10+, Saf5.1+
    background-image:    -moz-linear-gradient( #fcfcfc, #efefef ); /* FF3.6 */
    background-image:     -ms-linear-gradient( #fcfcfc, #efefef ); /* IE10 */
    background-image:      -o-linear-gradient( #fcfcfc, #efefef ); /* Opera 11.10+ */
    background-image:         linear-gradient( #fcfcfc, #efefef );
}
```

# Localizing and Provisioning the app

- **Localization**
- Uses jQuery module for localization
- Different text for each language defined in a “language” folder
- File “strings_” holds text for all fields for that language – e.g. “strings_en” for english

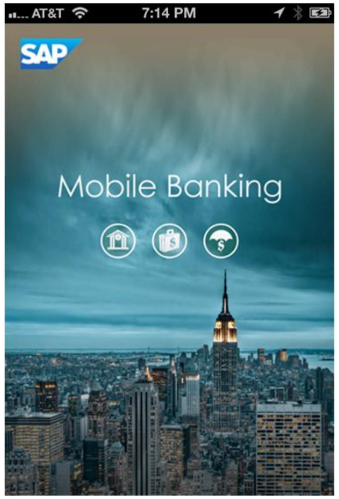

Java - MobiliserSmartphone/assets/www/language/strings_ba.js - Ecli...
File Edit Refactor Source Refactor Run Navigate Search Project Window Help
index.html
strings_en.js
strings_ba.js
Writable
Smart Insert
11 : 28
Android SDK Content Loader

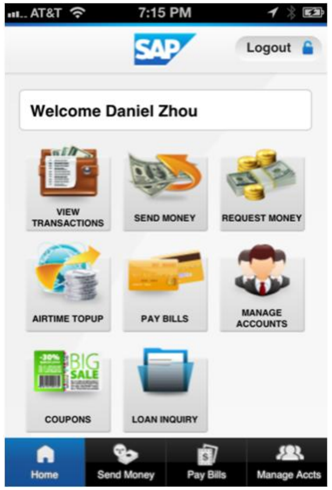
```
Str_greet = 'Selamat Datang';
Str_my = 'Saya';
Str_manage = 'Manage';
Str_account = 'Laporan';
Str_person = 'Orang';
Str_prepaid = 'Membayar Terlebih Dulu';
Str_recharge = 'Mengisi';
Str_bill = 'Bill';
Str_bills = 'Bills';
Str_pay = 'Membayar';
Str_payment = 'Pembayaran';
Str_credit = 'Kredit';
Str_cards = 'Kartu-kartu';
Str_bank = 'Bank';
Str_sva = 'SVA';
Str_login = 'Login';
Str_logout = 'Logout';
Str_back = 'Back';
Str_goback = 'Kembali';
Str_send = 'Mengirim';
Str_money = 'Uang';
Str_change = 'Berubah';
Str_pin = 'PIN'; //Fix for 3657
Str_username = 'Nama Pemakai';
Str_password = 'Kata Sandi';
Str_please = 'Silakan';
Str_select = 'Memilih';
Str_your = 'Anda';
Str_last = 'Terakhir';
Str_transactions = 'Transaksi';
Str_date = 'Tanggal';
```

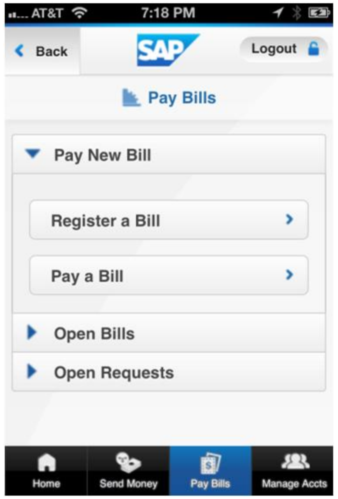
- **Done through official distribution marketplace for each mobile platform**
- iPhone, iPad – App Store
- BlackBerry – App World
- Android – Android Market, Google Play Store

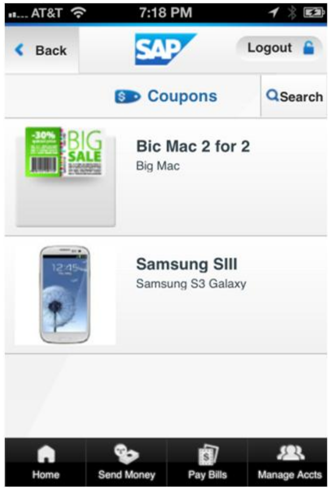
- **Securing the application**
- The app does not store any data on phone
- All app data is removed from phone memory when user finishes
- App runs inside a browser container which takes care of security through SSL

# Application Screens – Pre Built with source code


AT&T
7:14 PM
SAP
Mobile Banking


AT&T
7:15 PM
SAP
Logout
Welcome Daniel Zhou
VIEW TRANSACTIONS
SEND MONEY
REQUEST MONEY
AIRTIME TOPUP
PAY BILLS
MANAGE ACCOUNTS
COUPONS
LOAN INQUIRY
Home
Send Money
Pay Bills
Manage Accts


AT&T
7:18 PM
Back
SAP
Logout
Pay Bills
Pay New Bill
Register a Bill
Pay a Bill
Open Bills
Open Requests
Home
Send Money
Pay Bills
Manage Accts


AT&T
7:18 PM
Back
SAP
Logout
Coupons
Search
Bic Mac 2 for 2
Big Mac
Samsung SIII
Samsung S3 Galaxy
Home
Send Money
Pay Bills
Manage Accts