# RCS-e open source stack

## Roadmap

Date: 03/08/2012
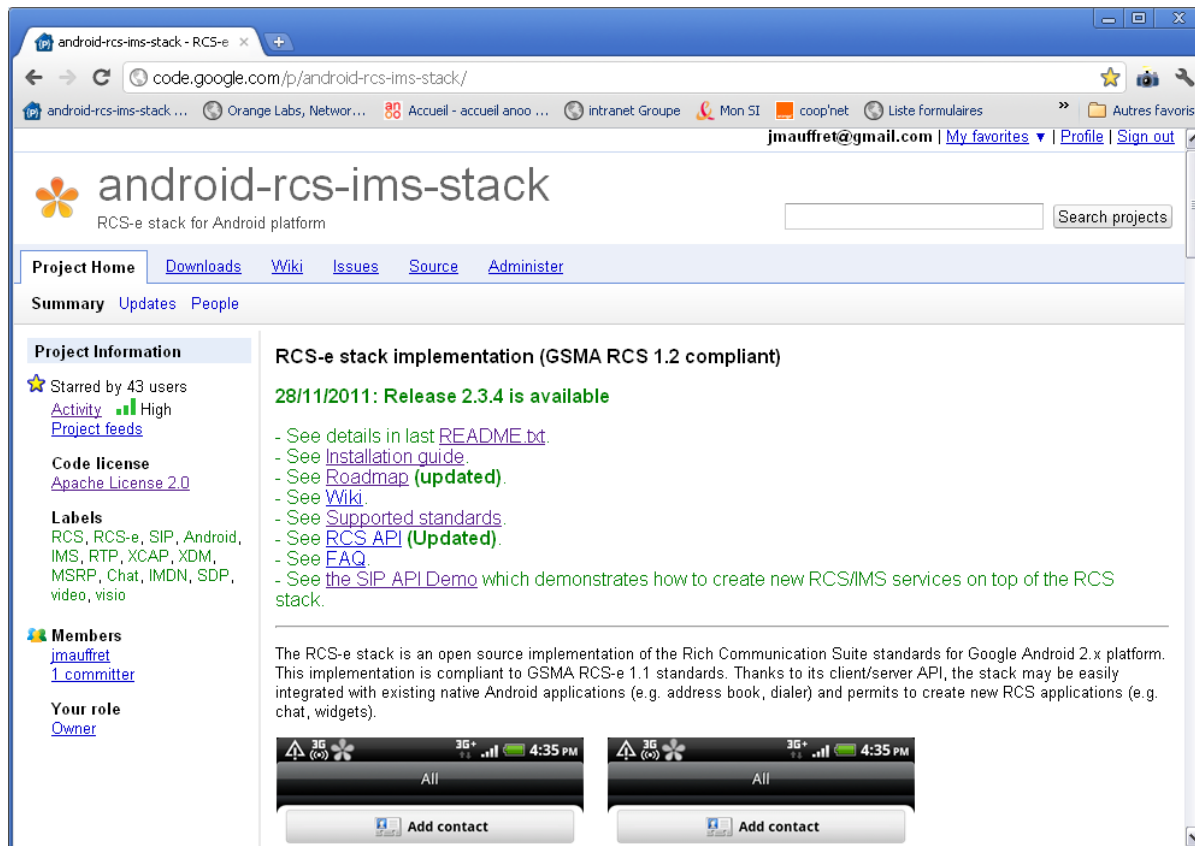
Author:  Orange Labs, ASC Devices

# Open source project

- Open source published at:

  http://code.google.com/p/android-rcs-ims-stack/

# Main contributors

- Orange Labs
- Deutsche Telecom
- HTC
- Sony
- Motorola

# History…

- 2007 / First RCS stack for J2ME platform.

- 2008-2009 / RCS 1.0 stack:
  - GSMA IOT: Helsinki (2008) / First participation.
  - GSMA IOT: Paris (2009).
  - GSMA IOT: Munich (2009).

- Jan. 2010 / First RCS stack for Android platform.

- 2010 / RCS 2.0 stack:
  - GSMA IOT: Paris (2010).
  - GSMA IOT: Beijing (2010).
  - GSMA IOT: Madrid (2010).

- Jan. 2011 / RCS 2.0 stack:
  - GSMA IOT: Helsinki (2011).
  - OrangeLabs stack is taken as Reference Implementation by GSMA.

- Feb. 2011 / Integrate the same SIP stack as Google Android 2.3.

- March 2011 / RCS-e stack implementation based on 2.0 stack started.

- April 2011 / First RCS-e 1.1 release available.

- Mai 2011: RCS-e stack published to open source community.

- End of 2011: native integration by several device manufacturers.

# Roadmaps

# Roadmap 2012

- **January 16: Sprint 14**
  - IOT tests.
  - HTTPS provisioning module.
  - Findbugs report.

- **January 30: Sprint 15**
  - IOT tests.
  - HTTPS provisioning version management.
  - DNS management (NAPTR & SRV).
  - End user confirmation request API to accept terms of use.

- **February 10: Sprint 16**
  - IOT tests.

- **February 22: Sprint 17**
  - Bug fix after IOT tests.

- **March 12: Sprint 18**
  - Bug fix after IOT tests.
  - Rename package of the NIST SIP stack to avoid concurrency problems with native NIST SIP stack.
  - Update source code copyrights.

# Roadmap 2012

- **March 30: Sprint 19**
  - IOT tests.
  - GSMA RCS  Implementation Guidelines.
  - Nonce caching.

- **April 13: Sprint 20**
  - IOT tests.
  - GSMA RCS  Implementation Guidelines.

- **April 30: Sprint 21**
  - Provisioning terms.
  - IOT tests.

- **May 21: Sprint 22**
  - Backup & restore RCS settings.
  - Bug correction.

- **June 22: Sprint 23**
  - GSMA UI Connector.
  - Bug correction.

# Roadmap 2012

- **July 06: Sprint 24**
  - IOT test fest (Madrid).
  - IPv6 tests.

- **August 14: Sprint 25 or v2.4.7**
  - GSMA Guidelines 3.0.
  - IOT test fest issues.

- **August 31: Sprint 26 or v2.4.8**
  - GSMA Guidelines 3.0.
  - IOT test fest issues.

- **Next sprints:**
  - **RCS5 / Blackbird release**

# Main features list

# Capability discovery

- Capability discovery via SIP OPTIONS.

- Capability discovery via Anonymous fetch.

- Periodic polling.

- First time discovery.

- Address book monitoring.

- Integration into native address book.

- Supported capabilities: CS video, IM, FT, Image share, Video share, Presence discovery, Social presence, RCS extensions.

- Update capabilities in case of error, end of session.

- Adapt capabilities thanks to network coverage.

# Chat 1/2

- Chat 1-1.
- Chat group.
- File transfer.
- Chat and file transfer history.
- Multi-session management.
- Is-composing.
- List of participants in the session.
- Add 1 participant.
- Add N participants.
- Conference event subscription.
- Support of plain text UTF-8 format.
- Support of message/CPIM format.
- IMDN and message delivery report ("delivered", "displayed").

# Chat 2/2

- Block/unblock contacts (black list).
- Spam folder for message received from blocked contacts.
- Store & Forward.
- Use an alias to initiate a chat session.
- Close a chat session after an inactivity timeout.

# Richcall

- Image sharing.
- Live video & pre-recorded video sharing.
- Capability exchange during call.
- Call monitoring.
- H263 file parser.
- H263+ software codec (from Android opencore package).
- H.264 packetizer.
- H264 software codec (from Android opencore package).
- RTCP event management.
- Visio share from 2 individual video share sessions.
- Stop sharing if call hold or if a multiparty call (see new API methods).

# Social presence

- Resource lists management (granted/blocked/revoked).
- Profile sharing management (status, photo-icon, freetext, favorite link, geoloc).
- Notifications management.
- Permanent and partial profile

# Misc.1/2

- Address book integration via ContactContract API.
- Event log history (one content provider which aggregates Call/SMS/MMS/Chat & FT per contact).
- RCS account based on SyncAdapter API.
- Presence is now an optional package which may be activated by configuration.
- RTP stack is now part of the media player to avoid AIDL exchange between UI and stack.
- New SIP stack (NIST SIP stack deployed under Android 2.3).
- Backup and restore last RCS info if user account has changed.
- OTA provisioning via HTTPS.
- Session refresh management.

# Misc. 2/2

- Support of GIBA & HTTP Digest for IMS attachment.
- Support several network access: mobile or Wi-fi.
- RCS API for multi-applications context.
- SIPS
- GRUU for multidevice management.

# Implementation

# Software architecture

**Applications**

| Address Book | Dialer | Widget | Chat view | ... |

**RCS API** (AIDL interface / Intents / Database providers)

## 🌸 RCS-e stack

Contacts    Chat    Chat history

Capabilitiy discovery    Social presence    Richcall    Event log    Richcall history    RCS settings

Anonymous fetch manager    Options manager    IMS service dispatcher    Conference event manager    Content Sharing

Network access manager    Registration manager    User account manager    Call monitoring    OTA provisioning

SIP stack (NIST)    SDP stack    MSRP stack    RTP stack    XCAP stack

# Supported standards

- See list of supported standards at:

  http://android-rcs-ims-stack.googlecode.com/svn/trunk/core/SUPPORTED-STANDARDS.txt

# Metrics



Java NCSS Trend

RCS stack + NIST SIP stack

Legend: Javadocs, Multi-line comments, NCSS, Single line comments
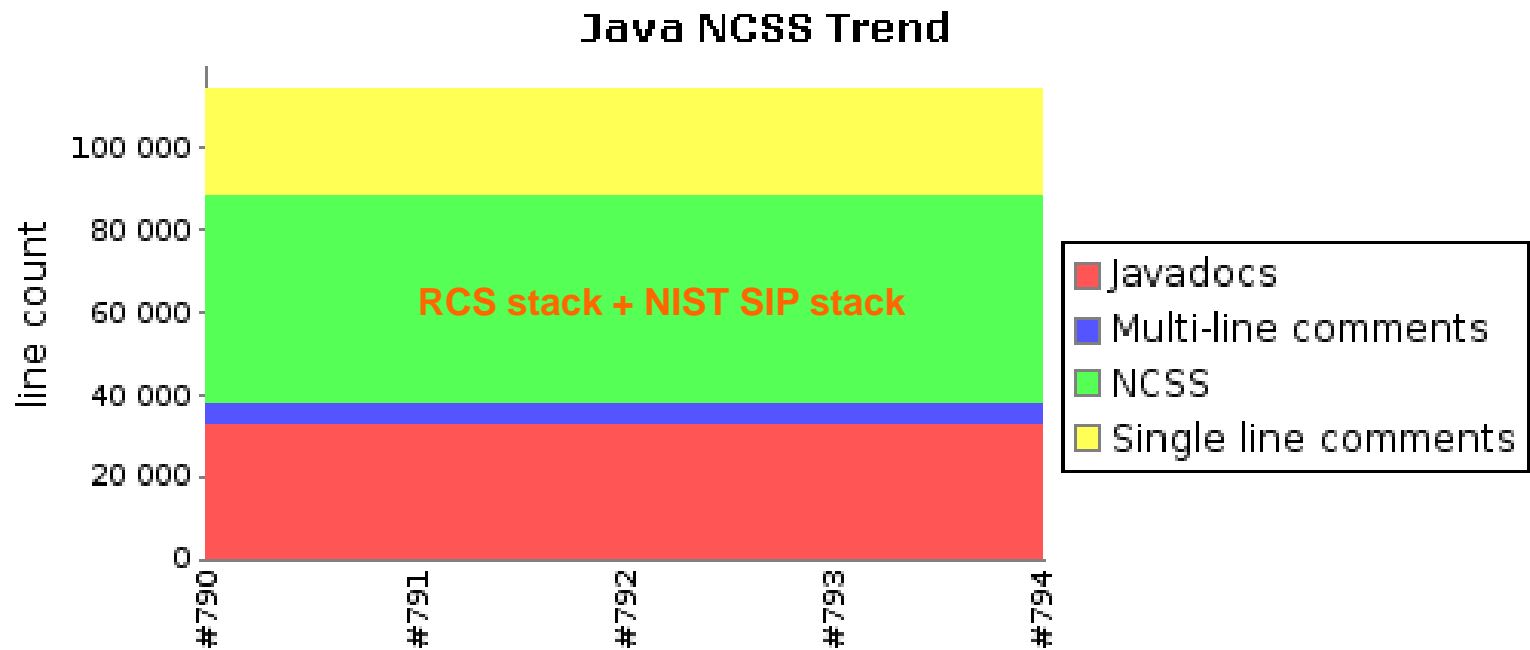
# Tools

- Bug tracking via Mantis.
- Continueous Integration via Hudson.
- RI application which offers a low level UI interface to test RCS stack and its protocols:
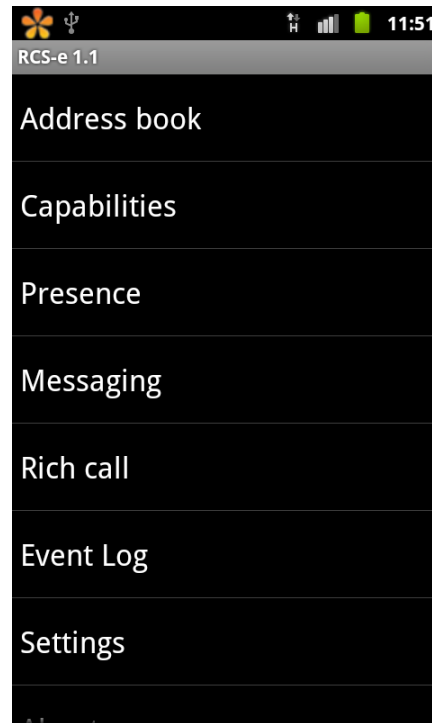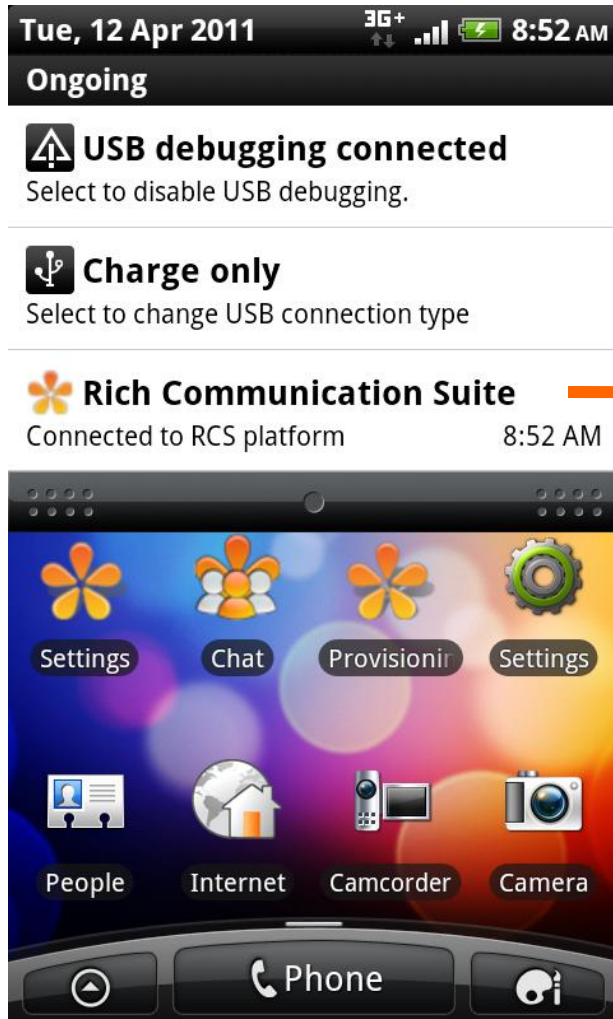
RI application

# RCS-e applications Screenshots

# RCS account
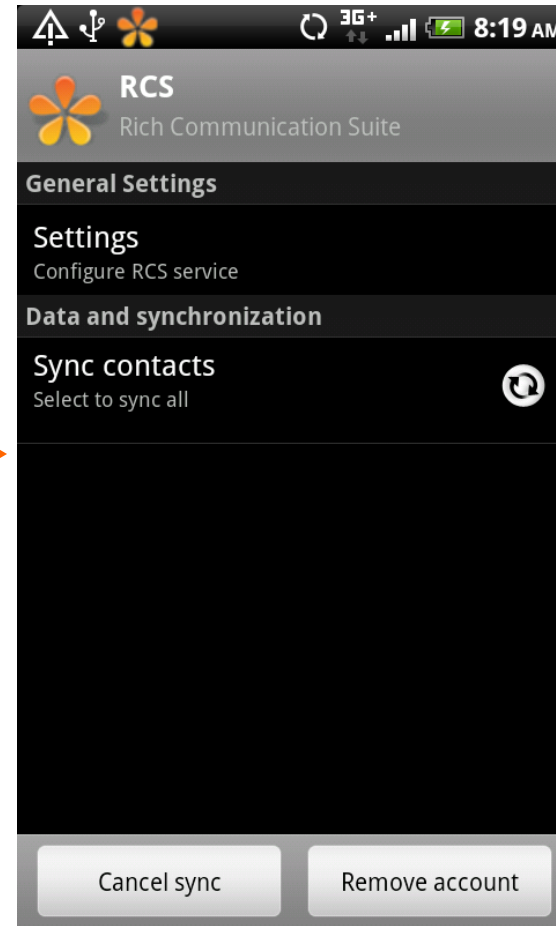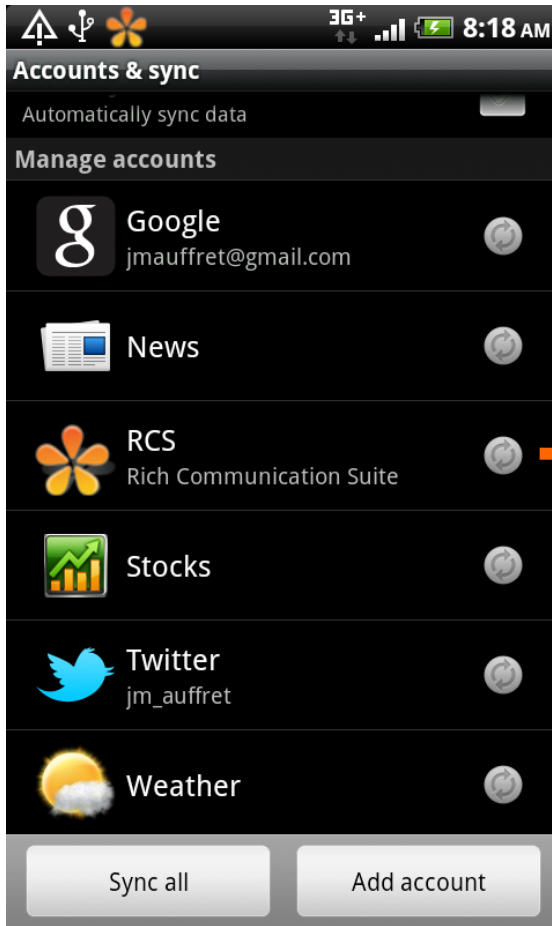
# RCS settings
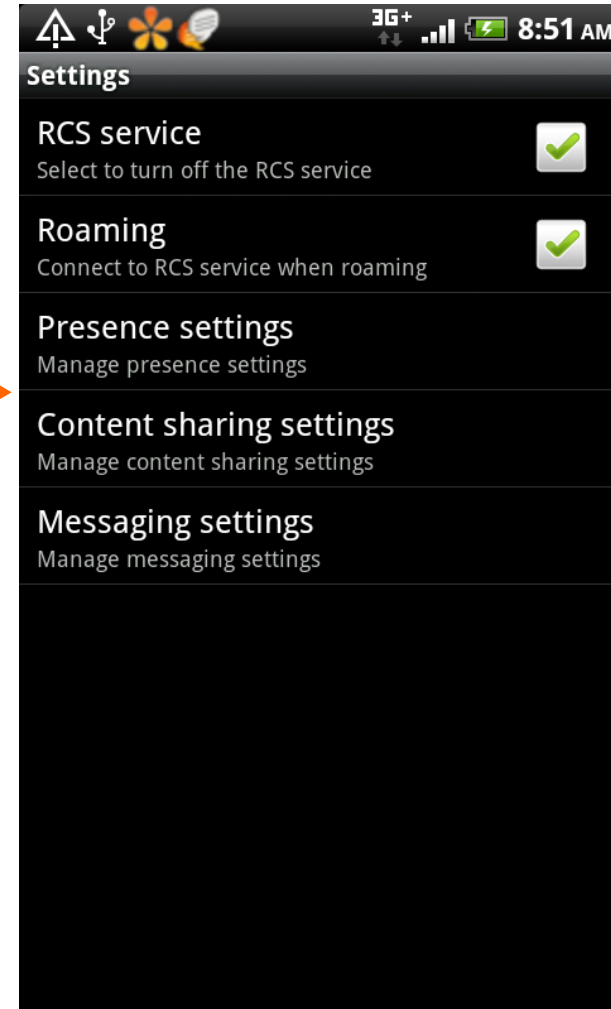
# Native address book integration 1/2

**Native address book from HTC**
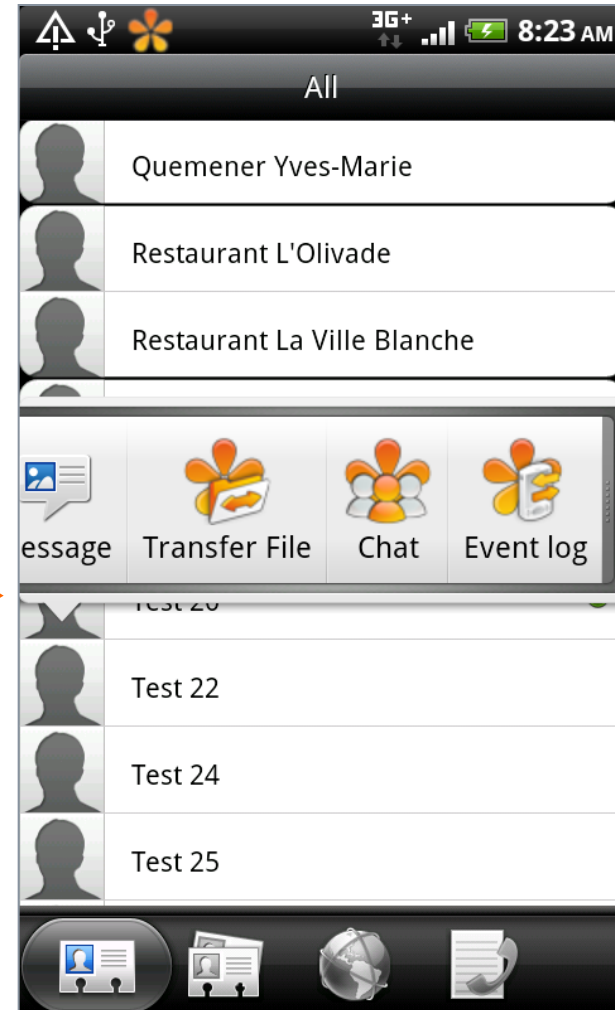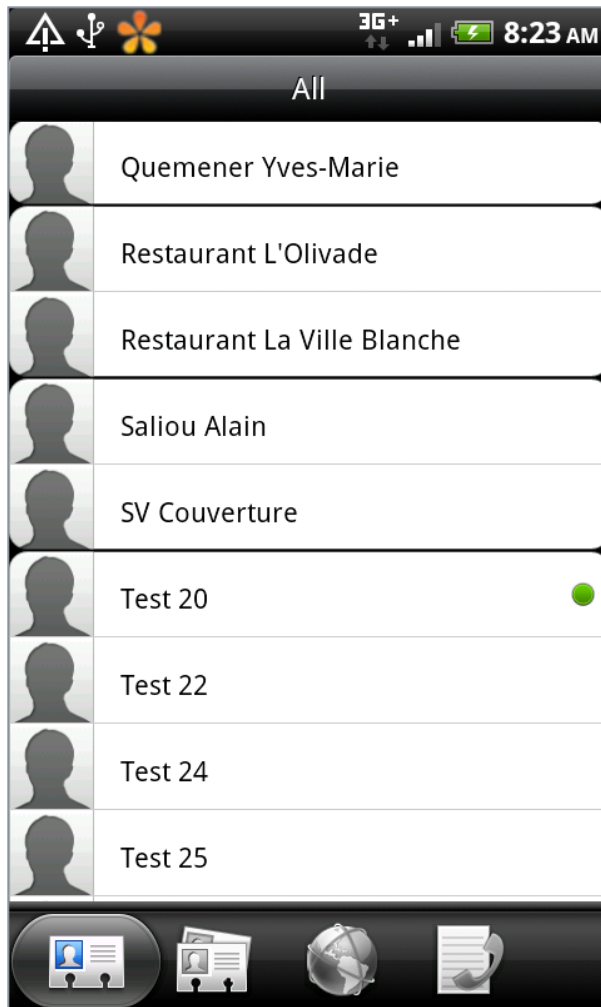
# Local provisioning application

**Only for debug**