

Case Study

IMPORTANT

Due to a governing confidentiality agreement, we've refrained from disclosing actual client and solution names. These have been changed appropriately, to more generic sounding terms and nomenclatures.

Industry:

VoIP Telephony

Platform:

Android SDK

Business Challenge:

The Client wanted to develop a touch screen Android based IP phone. The custom built phone has an 800x600 resolution 8" touch screen and three hard buttons, a handset and a speakerphone. There is no GSM modem in the device. Telephony is provided using VoIP.

The main objective or the challenge was to change the original GSM telephony of Android to VoIP Telephony. The client wanted to offer an Android based custom version of their phone. The project involved modifying Android at OS level, neither building new Android applications nor porting Android's Linux operating system to their custom built devices.

Project Tasks

Task 1: Integrate VoIP functionality into Android

This involves removing GSM based telephony available in Android and replacing with VoIP telephony. Android should be able to make/receive phone calls using the VoIP stack. The VoIP stack API has high-level functions such as "make a call", "hang up", "hold", "transfer" and also support callbacks for asynchronous events from the VoIP stack such as "incoming call", "remote hang up" etc.

Task 2: Modify/enhance the call management logic and UI in Android

The new control buttons were added in UI to allow certain call management functionality as listed below:

- Call transfer
- Hold
- Add caller/conferencing
- Contacts fetching at boot time

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Task 3: Modify Android's default UI to The Client's custom UI

We had to modify the user interface that Android puts up when it is making a call or receiving an incoming call. This also means modifying the user interface of certain core Android applications such as Contacts, Call Log, Message Log, Favorites and Calendar.

A few screenshots:



The Home screen with wallpaper

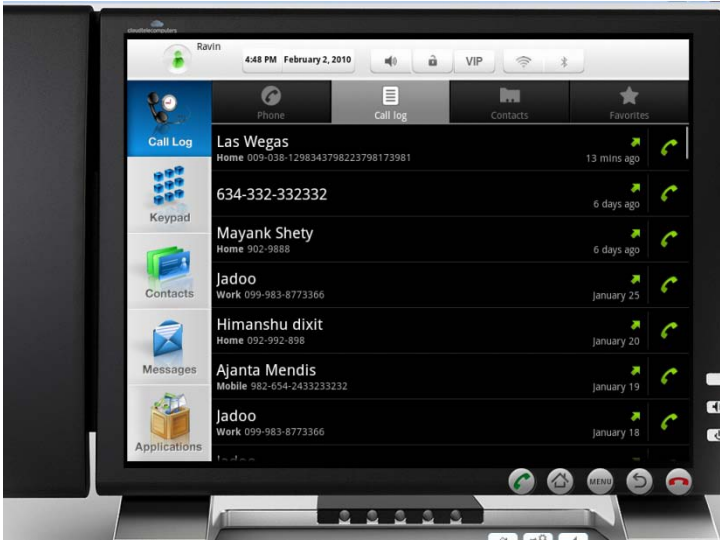


The 'Applications' screen

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The 'Settings' screen



The 'Call log' screen