GSUZapApp - Send Notifications In A Single Click

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Agenda

- Part "A"
  - Introduction to Android
  - Project and Features

- Part "B"
  - Demonstration
  - Future Scope

The New Mobile Era

Apps on Mobile

- Mobile Web Apps
- Native Mobile Apps
- Hybrid Apps

ANDROID-History

- The Android platform promised openness, affordability, open source code, and a high-end development framework.

Virtual Machine: Dalvik

- Dalvik VM for Android
ZapApp
- Goal: To build an application that allows a user to log in and broadcast notifications to a group of registered users.
- Technologies: Android SDK in Eclipse, SQL, .NET
- App Details:
  1. End Application is designed for Android phones.
  2. Web services written in .Net are loaded live in a server.
  3. Database is loaded in the server.

Notifications
- Poll: Periodically poll the server for new messages from a background local or remote service. The more often you poll the closer you get to the real-time push.
- SMS: Android allows you to intercept SMS messages. Your server sends a specially encoded SMS to your phone, whenever there is something new. Your app intercepts all messages, looks for the ones from the server, and pops up a notification.
- Persistent TCP/IP (Push): The phone initiates a long-lived mostly idle TCP/IP connection with the server and maintains it by occasionally sending keep-alive messages. Whenever there is something new on the server, it sends a message to the phone over the TCP connection.

Flow
- App inputs login credentials from the user.
- App calls the web services for login verification.
- Web services verify data with database values and return the role.
- App decides the layout and flow based on the role returned by the web services.
  - If role is "professor" - app will allow the user to send a message with a subject as a notification.
  - If role is "student" - app looks like GSU computer science website.
DEMONSTRATION

Future Scope

- Extend the app as a complete University App.
- Bridge the gap between the app’s web services and University’s web services.
- Extend implementation to iPhone, Desktop, Windows phone etc...
- Enhance the security aspects of application.

References:
- http://www.android.com/
- http://code.google.com/android/c2dm/
- http://console.xtify.com/testing
- http://stackoverflow.com/questions/tagged/android
- Beginning Android 2.0 - Mark Murphy

THANK YOU!

Dr. Li and Dr. Raj