



# Application Development for Mobile and Ubiquitous Computing

## Task 2: JXTA Chat and Content Sharing First Presentation

Group 4

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- Instant messaging application for mobile phones
- See status of your buddies
- Communicate with them
- Create groups for sending messages to multiple people
- Exchange files
- Messages and files can be transmitted in a secure way
- Establish audio conversations

## ▪ **Android**



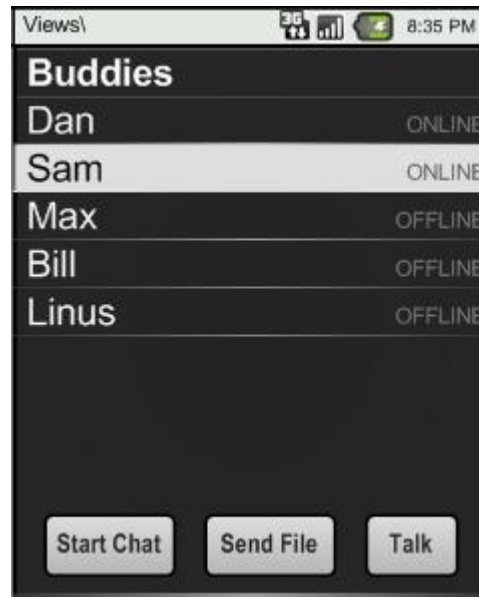
- mobile operating system running on the Linux kernel
- allows developers to write managed code in the Java language
- by the end of 2009 there will be at least 18 phone models using Android worldwide

## ▪ **JXTA and Peer Droid**

- JXTA is an open source peer-to-peer protocol specification
- The JXTA protocols allow any device connected to a network to exchange messages and collaborate independently of the underlying network topology
- Peer Droid is the porting of JXTA protocol to Android Platform

## ▪ Buddylist

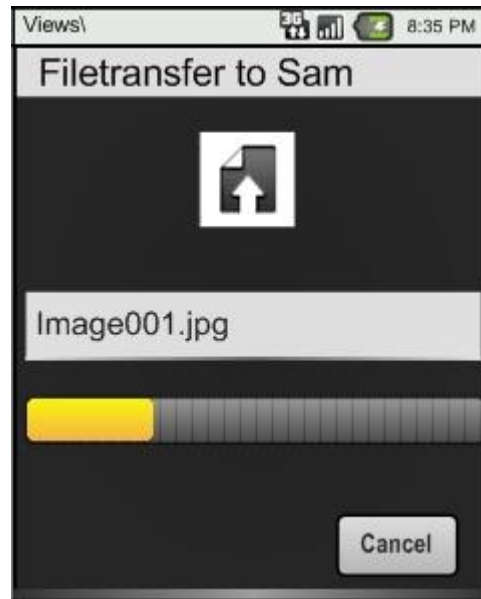
- Show online and offline buddies (and groups)
- Add new and delete buddies
- Start chatting or send a file



- **Chat view**
  - Show message history
  - Enter new message



- **Filetransfer view**
  - Start filetransfer
  - Show progress of the transfer
  - Cancel transfer



- **Heterogeneity of Software**
  - The application runs on any device with Android
  
- **Heterogeneity of network connectivity**
  - With JXTA peers can interact with each other even when some of them are behind firewalls or on different network transports
  
- **Heterogeneity of network technologies**
  - Connection to WLAN, UMTS, GPRS, ...



- **Usability**
  - Mobility of users
  - Changes of connection technology at runtime
  - Heterogeneity in user requirements (own buddylist)
  
- **Data security and safety**
  - Secure connection between two peers through Transport Layer Security

- **18.12. Second presentation**
  - First prototype of the application with a simple GUI
  - See online status of your buddies and exchange (unsecure) messages
  
- **29.01. Final presentation**
  - Second prototype of the application
  - Encrypted file and message exchange
  - Audio conversations
  
- **05.02. Final release**

- **Android**

- <http://www.android.com/>

- **JXTA**

- <https://jxta.dev.java.net/>

- **Peer Droid**

- <http://code.google.com/p/peerdroid/>

- **Android GUI Prototyping**

- <http://www.artfulbits.com/Android/Stencil.aspx>