



## Mobile App Development

1. Introduction
  - Introduction to Mobile Computing
  - Introduction to Android Development Environment
2. Factors in Developing Mobile Applications
  - Mobile Software Engineering
  - Frameworks and Tools
  - Generic UI Development
  - Android User
3. More on UIs
  - VUIs and Mobile Apps
    - Text-to-Speech Techniques
  - Designing the Right UI
  - Multichannel and Multimodal UIs
4. Intents and Services
  - Android Intents and Services
  - Characteristics of Mobile Applications
  - Successful Mobile Development
5. Storing and Retrieving Data
  - Synchronization and Replication of Mobile Data
  - Getting the Model Right
  - Android Storing and Retrieving Data
  - Working with a Content Provider
6. Communications Via Network and the Web
  - State Machine
  - Correct Communications Model
  - Android Networking and Web



## 7. Telephony

- Deciding Scope of an App
- Wireless Connectivity and Mobile Apps
- Android Telephony

## 8. Notifications and Alarms

- Performance
- Performance and Memory Management
- Android Notifications and Alarms

## 9. Graphics

- Performance and Multithreading
- Graphics and UI Performance
- Android Graphics

## 10. Multimedia

- Mobile Agents and Peer-to-Peer Architecture
- Android Multimedia

## 11. Location

- Mobility and Location Based Services
- Android

## 12. Putting It All Together (as time allows)

- Packaging and Deploying
- Performance Best Practices
- Android Field Service App

## 13. Security and Hacking (as time allows)

- Active Transactions
- More on Security
- Hacking Android

## 14. Platforms and Additional Issues (as time allows)

- Development Process
- Architecture, Design, Technology Selection
- Mobile App Development Hurdles
- Testing