

MICHIGAN STATE
UNIVERSITY

Project Plan

Android Secure VoIP Communications System

The Capstone Experience

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*From Students...
...to Professionals*

Project Overview

- Secure VOIP Collaboration
- Hands free radio programming
- Smart Edge Integration
- Total Battle Space Awareness (TBSA)

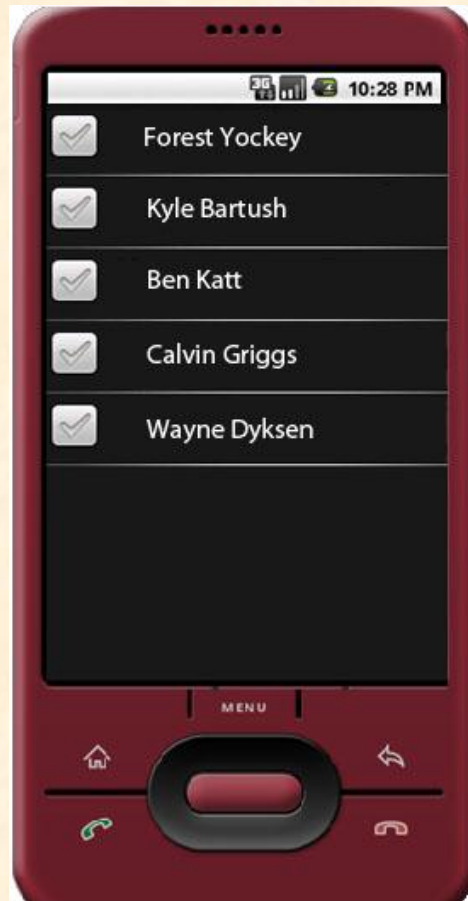
Functional Specifications

- Asterisk Server
- VoIP over SIP
- Bluetooth and MXF-4035

Design Specifications

- Radio Voice Commands
- VoIP 1-to-1 and Multicast
- Conversation storage

Screen Mockup: VoIP Call



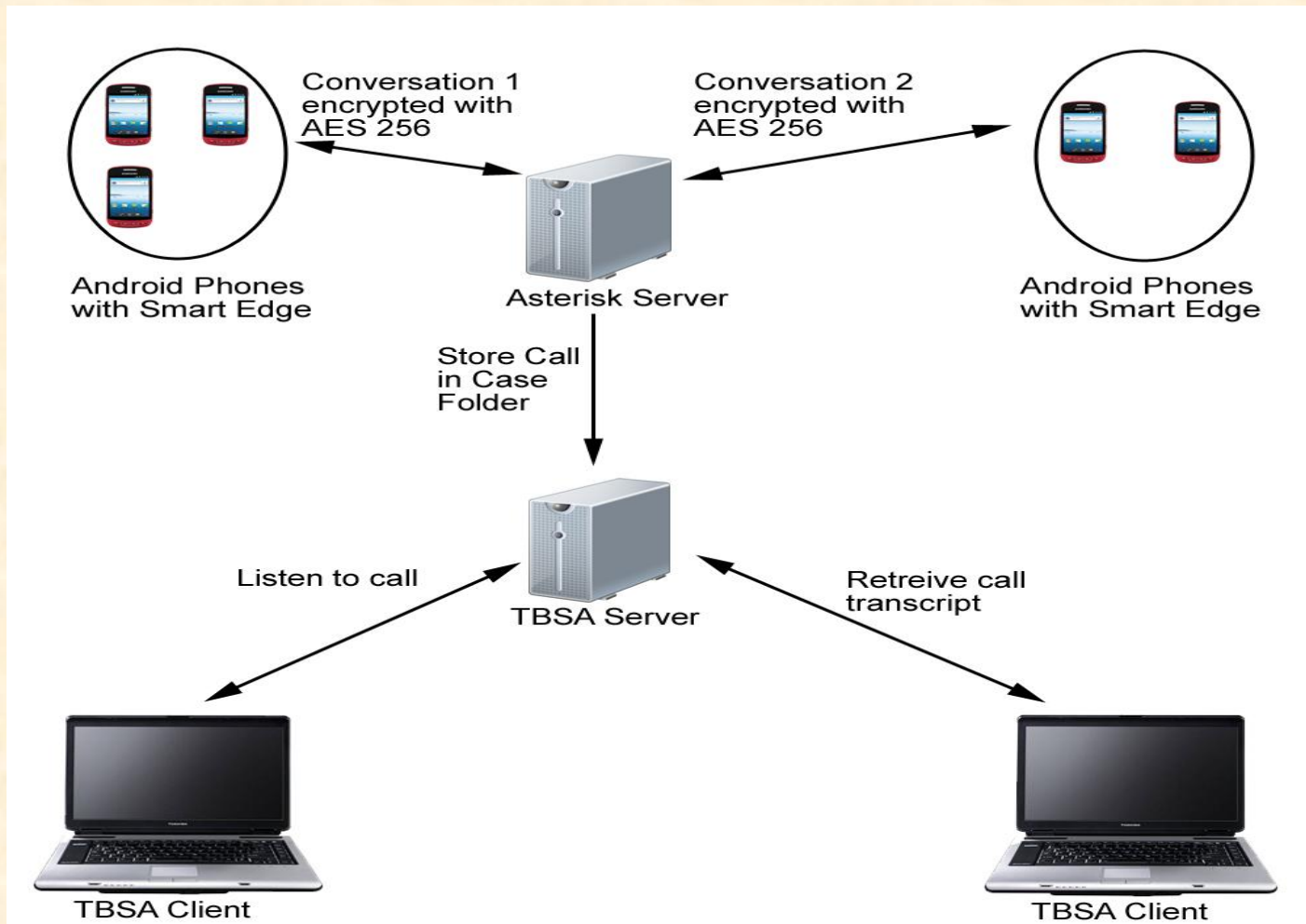
Screen Mockup: Program Radio



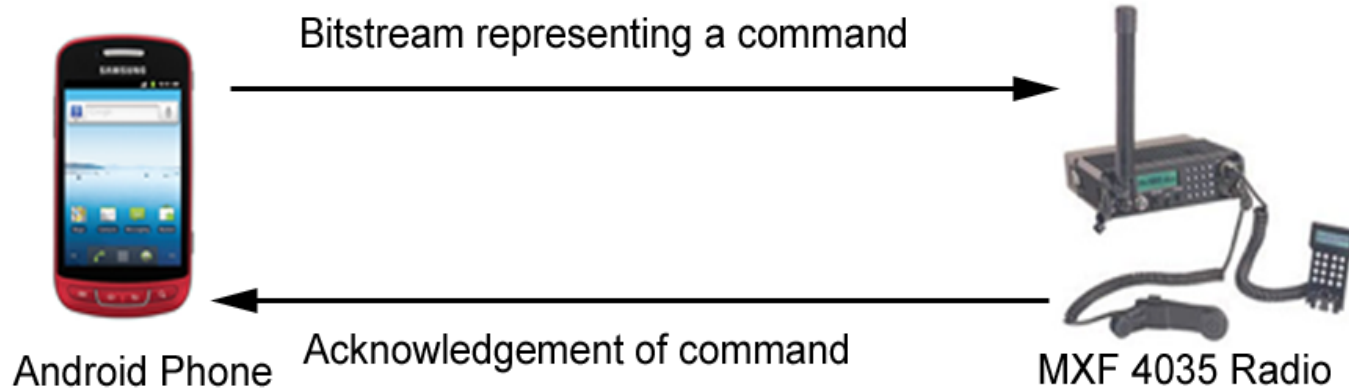
Technical Specifications

- Ubuntu server running Asterisk
- Smart Edge
- Android version 2.3
- TBSA client – server architecture
- Radio Bluetooth
- AES 256 Encryption

System Architecture



System Architecture



System Components

- Hardware Platforms
 - Capstone rack-mount server
 - Android devices
 - MXF-4035 Bluetooth radio
- Software Platforms / Technologies
 - Ubuntu 11.10 w/ Asterisk
 - Android SDK/Eclipse/Java
 - Bluetooth radio API
 - TBSA and Smart Edge



Testing

- Unit
- Functional

Risks

- Application threading
- SIP
- Speech recognition
- Audio capture and storage