**audio-droid™ Charter**

**Vision**

* audioDroid**™** envisions itself to be a free and open source mainstream app

**Mission**

* To develop an app that will be a staple app for mobile audio connectivity.

**Scope**

* This app is limited to streaming audio through a wireless local area network.

**Deliverables**

* Setup Desktop Server
* Setup Mobile Client
* Client – Server Connectivity
* Audio Streaming Capability

**Objectives**

* Within two weeks after the start of the projects. We expect to deliver the first deliverable which the Desktop Server
* Within a week after the delivery of the first deliverable, we expect to deliver the second deliverable which is the Mobile Client.
* Within two weeks after the delivery of the second deliverable, we expect to deliver the third deliverable which is the Client-Server Connectivity module.
* Within two weeks after the delivery of the third deliverable, we expect to finish the final deliverable and integrate it to the project for submission.

**Principles**

* On time delivery is a must.
* Quality of the product (software) is assured.

**Developers: Group 1**

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**GitHub – https://github.com/user/perroquiet/audio-droid.git**

**Use Cases & Test Cases**

**Use Case:**

* **Name** : Mobile Client Connection
* **Description**: Connects the mobile device to the desktop server
* **Actor**: Everyone who owns a mobile device and connected to the Wifi network.
* **Pre-condition:** Must be connected to the Wifi network, and the user is currently in the app main menu.
* **Post-condition:** The mobile device is now connected to the desktop server.

**Main Course:**

1. The user clicks the “Connect” button.
2. The user inputs the IP of the server in the textbox provided and clicks the “Connect” button.

**Exception:**

**2.a)** If the user receives a message “Connection Error”. Repeat Step 1.

1. The user’s mobile device is now connected to the desktop server.
2. If there exists an audio stream instance, the app fetches the audio stream.

**Exception:**

**4.a)** If there is no existing audio stream, user receives a message “Connection Error” and user is sent back to the main menu.

**Test Case:**

**Given:**

Francis wants to connect his mobile device to the desktop server using the IP address provided: 192.168.0.1:8554/stream.

**When:**

Francis presses the “Connect” button on the menu and inputs the IP: 192.168.0.1:8554/stream to the text box, and presses the “Connect” button.

**Then:**

Francis’ mobile device is connected and fetches audio stream to the desktop server.

**Use Case:**

* **Name** : Mobile Client Disconnection
* **Description**: Disconnects the mobile device from the desktop server
* **Actor**: Everyone who owns a mobile device and connected to the Wifi network.
* **Pre-condition:** Must be connected to the Wifi network and the app also “Connected” to the desktop server.
* **Post-condition:** The mobile device is now disconnected from the desktop server and returns to the main menu.

**Main Course:**

1. The user clicks the “Disconnect” button.
2. The user is prompted before disconnecting.
3. The user clicks “Yes” button.

**Alternative:**

**3a)** The user clicks “No” button, Use case exits and the client is still connected.

**4.**The user is now disconnected from the server and returns to the main menu.

**Test Case:**

**Given:**

Francis wants to disconnect his mobile device from the desktop server.

**When:**

Francis presses the “Disconnect” button and then presses “Yes” after the prompt.

**Then:**

Francis’ mobile device is diconnected from the desktop server.

**Use Case:**

* **Name**: Server Streaming
* **Description:** The desktop server can stream audio to the clients.
* **Actor**: Users
* **Pre-condition:** The desktop server must be connected to the network.
* **Post-condition:** The desktops server streams the audio to all clients.

**Main Course:**

1. The user handling the server plays an audio stream.
2. The system will broadcast the audio to all clients connected using the mobile app.

**Test Case:**

**Given:**

Francis wants to play an audio file from the desktop server.

**When:**

Francis plays a file, and allow it to stream to the clients.

**Then:**

The audio stream is broadcasted to all the clients.

**Use Case:**

* **Name**: Help Feature
* **Description:** It gives the user simple instructions on how to use the application.
* **Actor**: Users
* **Pre-condition: N/A**
* **Post-condition: N/A**

**Main Course:**

1) The user clicks the Help button.

2) The user will be prompted with a simple instruction on how to use the application.

3) The user clicks OK and the use case exits.

**Test Case:**

**Given:**

Francis wants try audio-droid for the first time but doesn’t know how to use it.

**When:**

Francis clicks the help button and reads the instructions.

**Then:**

Francis then clicks OK.

**Use Case:**

* **Name**: Protocol Mode Switcher
* **Description:** Switches the protocol mode.
* **Actor**: Users
* **Pre-condition:** The mode is set to a specific mode.
* **Post-condition:** The mode is switched to the other mode.

**Main Course:**

1) The user presses the mode button.

2) The user is notified of the switch and the mode button text is also switched.

**Test Case:**

**Given:**

Francis wants to change the mode from RTSP to HTTP.

**When:**

Francis clicks the mode button.

**Then:**

The protocol is switched to HTTP and the app notifies Francis and changed the button text from RTSP to HTTP.

**Use Case:**

* **Name**: VLC Server Streaming
* **Description:** The desktop server can stream audio to the clients using VLC.
* **Actor**: User
* **Pre-condition:** The desktop server must be connected to the network.
* **Post-condition:** The desktop server streams the audio to all clients.

**Main Course:**

1. The user opens VLC.
2. The user clicks “Media” in the menu bar and clicks “Stream…”
3. The user clicks “Add” and selects the audio file.
4. The user clicks “Stream”.
5. The user clicks “Next”.
6. The user selects the “RTSP” protocol and clicks “Add”.

**Alternatives:**

**6.a)** The user selects the “HTTP” protocol and clicks “Add”.

1. The user creates a Transcoding profile with a name.
2. Under the “Encapsulation” tab, the user selects “RAW”.
3. Under the “Audio” tab, the user checks the Audio checkbox and selects the codec: MPEG4 Audio (AAC).
4. The user clicks “Save”
5. The user selects the profile with the profile name of the newly created profile.
6. Then the user clicks “Stream”.

**Test Case:**

**Given:**

Francis wants to stream an audio file in VLC with the file name: “Aylius-Voicemail.mp3” using “RTSP” protocol and a transcoding profile named: “RTSP test” from the desktop server.

**When:**

Francis opens VLC, clicks the “Media” button in the menu bar, clicks “Stream…”, clicks “Add”, selects the file “Aylius-Voicemail.mp3”, clicks “Stream”, clicks “Next” selects “RTSP” protocol, clicks “Add”, creates a profile with the name: “RTSP test”, selects the “RAW” as encapsulation type, selects “MPEG4 Audio (AAC)” under the audio tab, clicks save, selects the “RTSP test” transcoding profile and clicks “Stream”.

**Then:**

The audio stream “Aylius-Voicemail.mp3” is broadcasted to all the clients.

**Feature List and Feature Acceptance Criteria**

**Feature List**

* Client – Server via Wi-Fi Local Area Network Connection
* Client and Server can support Audio streaming with Playback Capabilities

**Feature Acceptance Criteria**

**Client – Server via Wi-Fi Local Area Network Connection**

**Server**

* The server (desktop computer) can create a host where the clients where connect to.
* The server must use a Wi-Fi Local Area Network Connection.
* The server can play audio.
* The server can stream the audio to the clients.
* The server has playback capabilities.

**Client**

* The client (mobile device) can connect to the server using the server’s IP Address in the network.
* The client must connect via Wi-Fi Local Area Network Connection.
* The client can disconnect from the server.
* The client can accept audio stream and play it.
* The client can change streaming protocols to connect to.

**System Architecture**

Desktop Server Application

Media Player

Data (Audio) Stream

**Mobile Phone**

Wifi Connection

Mobile Client

Router

**Deliverables Schedule**

Setup Desktop Server - February 6, 2013

Setup Mobile Client - February 13, 2013

Client – Server Connectivity - February 27, 2013

Audio Streaming Capability – March 15, 2013

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| Setup Desktop Server |  |  |  |  |  |  |  |  |  |
| Setup Mobile Client |  |  |  |  |  |  |  |  |  |
| Client – Server Connectivity |  |  |  |  |  |  |  |  |  |
| Audio Streaming Capability |  |  |  |  |  |  |  |  |  |
|  | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 |