PROJECT REPORT

ANDROID WIFI WALKIE TALKIE

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The project is ?

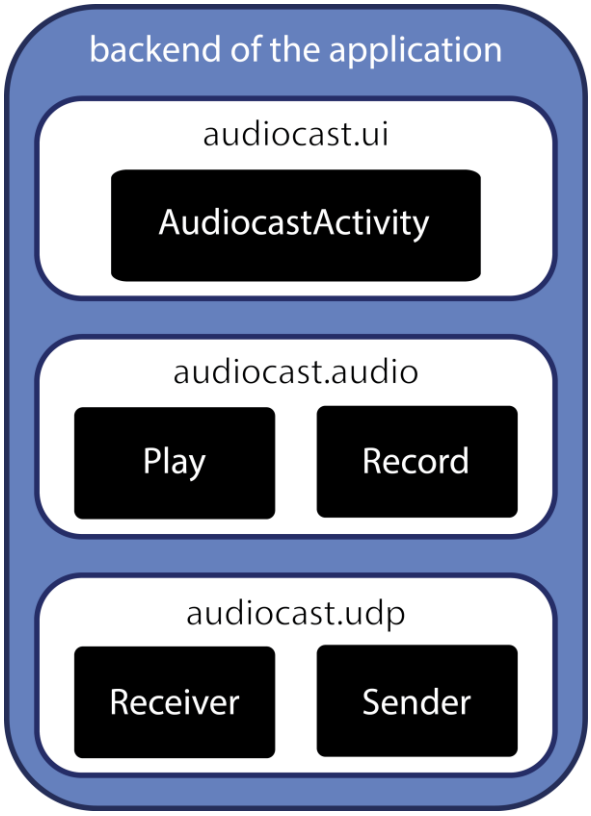
walkie-talkie is a hand-held, portable, two-way radio transceiver. Android walkie talkie is walkie talkie working on android smart phone. This application can live record and broadcast from one device to another device through wifi network. Also can receive the broadcast audio and play. This is done by using using multicast protocol.

Design

The Structure of user interface

The Structure of the backend

The bellow diagram show main three packages of this application



Audiocast.ui package

AudiocastActivity is the main class in audiocast.ui package. This application has two main states 'Reciive and Play' and 'Record and Broadcast'.The Purpose of this class is select the one of them according to request of user.

Audiocast.audio package

The audiocast.package has two classes "Record" and "Play".
Record class is record the audio from the microphone of device and put those data into buffer (**BlockedQueue<byte[]> queue).**

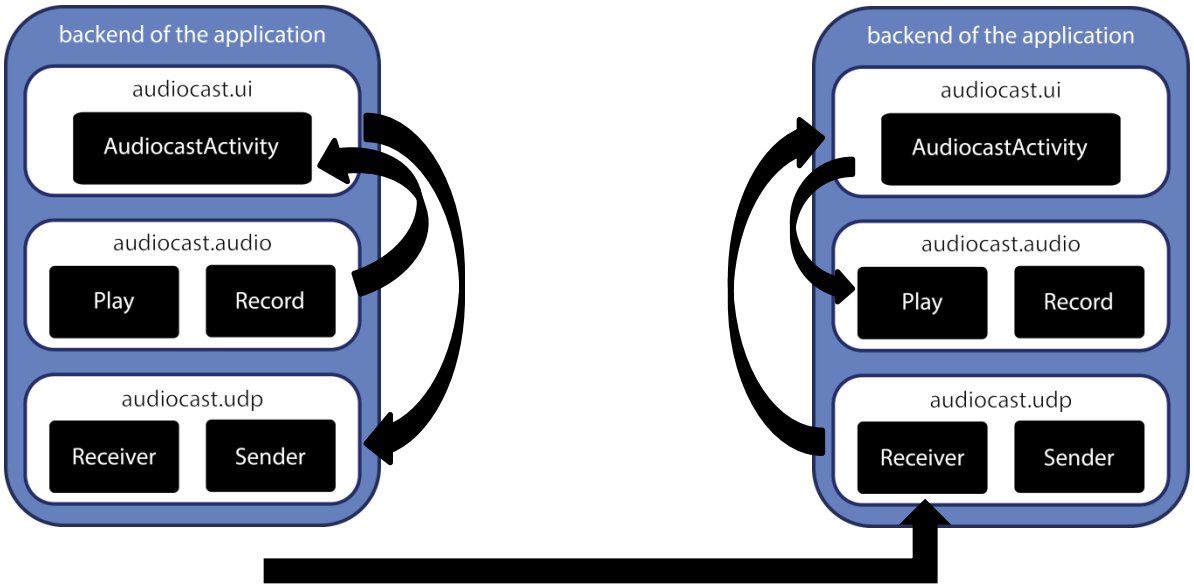
The purpose of play class is get the data from that queue and play.

Audiocast.udp package

Sender(Server.java) class is get data from queue and send through multicast socket(port:6666, IP:224.0.0.1) as UDP Datagrames using wifi network.

Receiver class is listening through Socket (port:6666) catch data UDP Datagrams packets put them into queue.

How connect devices ?



The above diagram show the how to connect devices. First in AudiocastActivity in left user create a new record object and new sender object. Record object record the audio and put those data into queue. Sender is get the data from that queue and send through multicast socket as UDP datagrams packets. AudiocastActivity in Right user create new receive and Play objects .

The receive object listening and receive UDP Datagrams packets , put them into queue. The play object get the data from that queue and play it. Any users ,who are connected to wifi network can receive the data and only one user can broadcast data at once.