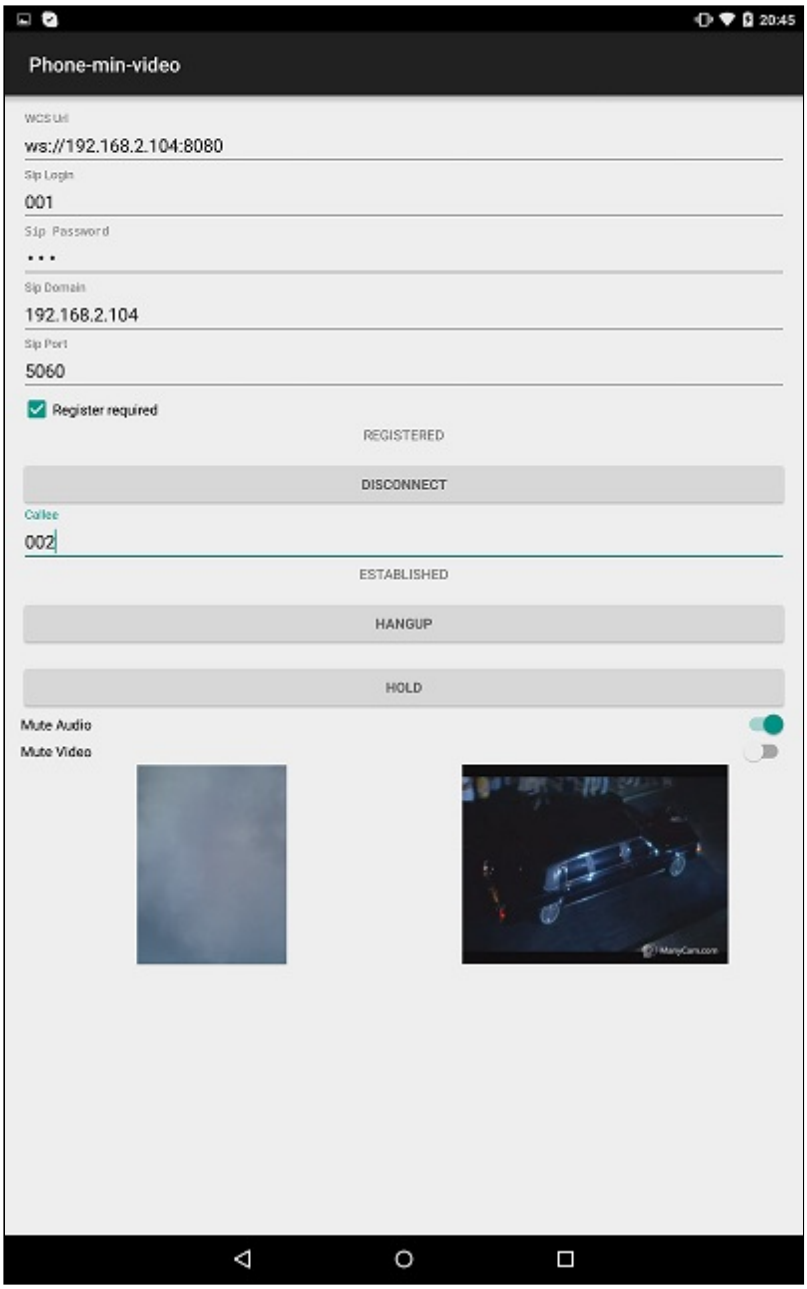
Android Phone Video

Example of Android application for video calls

On the screenshot below the example is displayed when a call is established.

The interface of he application is the same as in the Android Phone example, but the controls for muting/unmuting audio and video are added and two videos are played

- left - video from the camera of this user
- right - video from the other call party



Analyzing the example code

To analyze the code, let's take class PhoneMinVideoActivity.java of the `phone-min-video` example, which can be downloaded with corresponding build 1.0.1.38.

Functions of initialization, placing an outgoing call and answering incoming call work the same way as described in the Android Phone example.

The differences are described below:

1. Session creation

`Flashphoner.createSession()` code

`SessionOptions` object with the following parameters is passed to method `createSession()` when session for connection to WCS server is created

- URL of WCS server
- `SurfaceViewRenderer localRenderer`, which will be used to display video from the camera
- `SurfaceViewRenderer remoteRenderer`, which will be used to play video from the other party

```
SessionOptions sessionOptions = new
SessionOptions(mWcsUrlView.getText().toString());
sessionOptions.setLocalRenderer(localRender);
sessionOptions.setRemoteRenderer(remoteRender);
session = Flashphoner.createSession(sessionOptions);
```

2. Outgoing call

`Session.createCall()`, `Call.call()` code

`CallOptions` object with the following parameters is passed to `createCall()` method:

- callee SIP username
- video constraints

```
case CALL_REQUEST_CODE: {
    if (grantResults.length == 0 ||
          grantResults[0] != PackageManager.PERMISSION_GRANTED ||
          grantResults[1] != PackageManager.PERMISSION_GRANTED ) {
        Log.i(TAG, "Permission has been denied by user");
    } else {
        mCallButton.setEnabled(false);
        /**
          * Get call options from the callee text field
          */
        CallOptions callOptions = new
CallOptions(mCalleeView.getText().toString());
        callOptions.getConstraints().updateVideo(true);
        call = session.createCall(callOptions);
        call.on(callStatusEvent);
        /**
          * Make a new outgoing call
          */
        call.call();
        Log.i(TAG, "Permission has been granted by user");
    }
    break;
}
```

3. Answering incoming call

`Call.answer()` code

```
case INCOMING_CALL_REQUEST_CODE: {
    if (grantResults.length == 0 ||
            grantResults[0] != PackageManager.PERMISSION_GRANTED ||
            grantResults[1] != PackageManager.PERMISSION_GRANTED ) {
        call.hangup();
        incomingCallAlert = null;
        Log.i(TAG, "Permission has been denied by user");
    } else {
        mCallButton.setText(R.string.action_hangup);
        mCallButton.setTag(R.string.action_hangup);
        mCallButton.setEnabled(true);
        mCallStatus.setText(call.getStatus());
        call.getCallOptions().getConstraints().updateVideo(true);
        call.getCallObject().setHasVideo(true);
        call.answer();
        incomingCallAlert = null;
        Log.i(TAG, "Permission has been granted by user");
    }
}
```

4. Mute/unmute audio and video

`Call.unmuteAudio()`, `Call.muteAudio()`, `Call.unmuteVideo()`, `Call.muteVideo()` code

```
mMuteAudio = (Switch) findViewById(R.id.mute_audio);
/**
  * Mute or Unmute audio for the SIP call
  * Mute if it is not muted.
  * Unmute if it is muted.
  */
mMuteAudio.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener() {
    public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
        if (call != null) {
            if (isChecked) {
                call.muteAudio();
            } else {
                call.unmuteAudio();
            }
        }
    }
});
mMuteVideo = (Switch) findViewById(R.id.mute_video);
/**
  * Mute or Unmute video for the SIP call
  * Mute if it is not muted.
  * Unmute if it is muted.
  */
mMuteVideo.setOnCheckedChangeListener(new
```

```
CompoundButton.OnCheckedChangeListener() {
    public void onCheckedChanged(CompoundButton buttonView, boolean
isChecked) {
        if (call != null) {
            if (isChecked) {
                call.muteVideo();
            } else {
                call.unmuteVideo();
            }
        }
    }
});
```