

# Recording in Progress

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# CMSC436: Programming Handheld Systems

# Multimedia

# Today's Topics

Multimedia Support Classes

Playing Audio

Watching Video

Recording Audio

# Multimedia

Android provides support for encoding and decoding a variety of common media formats

Allows you to play & record audio, still images & video

# Some Multimedia Classes

AudioManager & SoundPool

RingtoneManager & Ringtone

MediaPlayer

MediaRecorder

# AudioManager

Manages volume, system sound effects, and ringer mode control

Acquire AudioManager instance via

```
Context.getSystemService(Context.AUDIO_SERVICE)
```

# AudioManager

Load & play sound effects

Manage volume

Manage peripherals



# SoundPool

Represents a collection of audio samples  
(streams)

Can mix and play multiple streams simultaneously

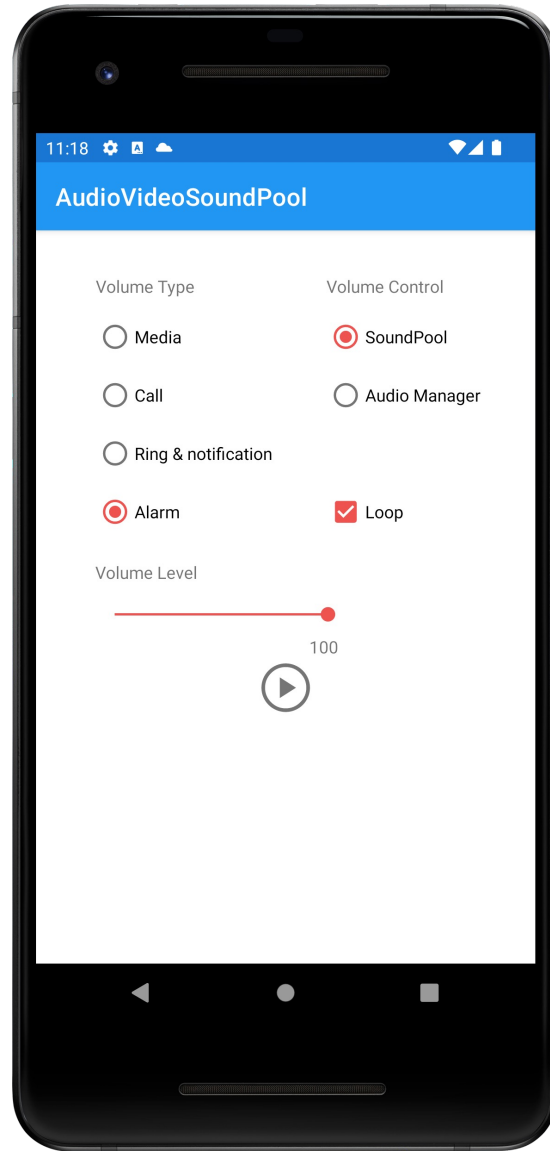
Volume settings are relative to global settings

# AudioVideoSoundPool

Presents multiple widgets that adjust the audio playback characteristics

Presents a play button that, when pressed, plays an audio stream at the determined volume level

# AudioVideo SoundPool



# Ringtone and RingtoneManager

RingtoneManager provides access to

Audio clips used for incoming phone calls, notifications, alarms, etc.

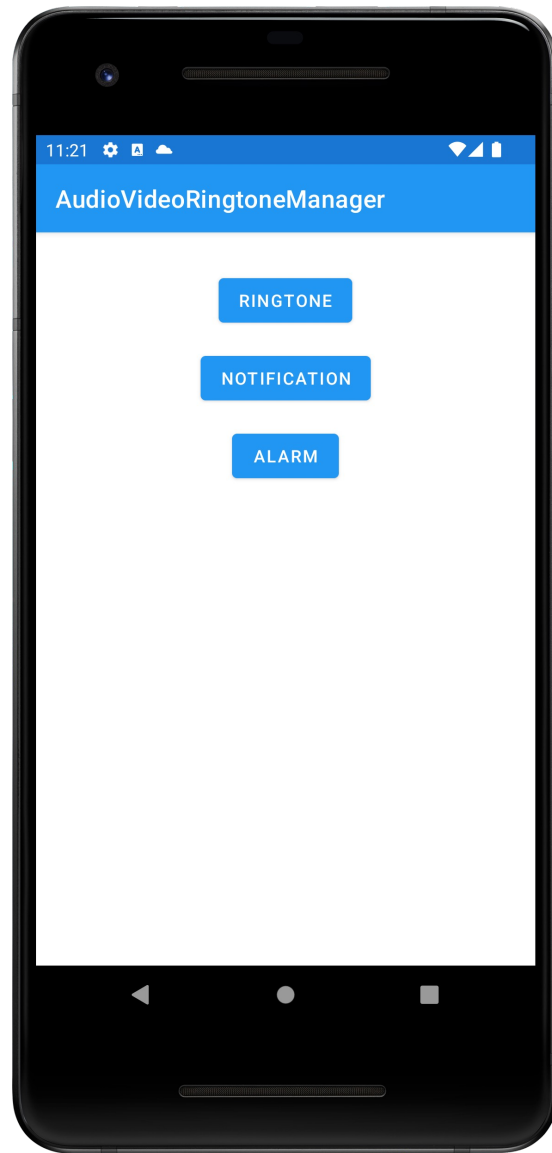
Allows applications to get and set ringtones and to play and stop playing them

# AudioVideoRingtoneManager

Application presents three buttons labeled ringtone, notification and alarm

Pressing one of these buttons causes the associated default ringtone to play

# AudioVideo RingtoneManager



# MediaPlayer

Controls playback of audio and video streams and files

Allows applications to control playback

Operates according to a complex state machine

See: [http://developer.android.com/  
reference/android/media/MediaPlayer.html](http://developer.android.com/reference/android/media/MediaPlayer.html)

# Some MediaPlayer Methods

setDataSource()

prepare()

start()

pause()

seekTo()

stop()

release()



# VideoView

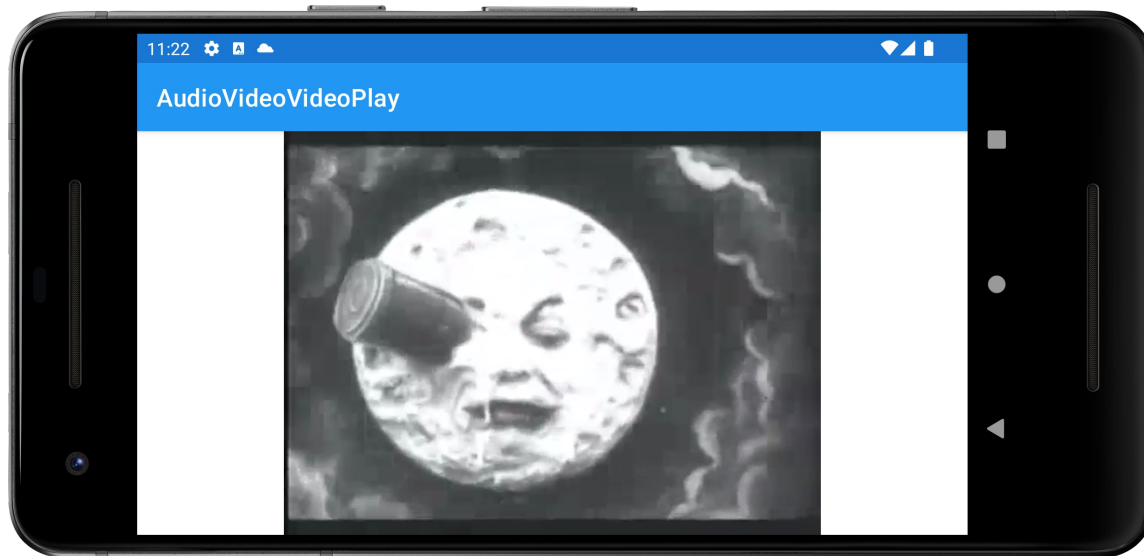
SurfaceView for displaying video files

Can load video from multiple sources

Provides various display options & convenience functions

# AudioVideoVideoPlay

Application plays a movie in a VideoView



AudioVideo  
VideoPlay

# MediaRecorder

Used to record audio and video

Operates in accordance to a state machine

See:

[http://developer.android.com/reference/android/  
media/MediaRecorder.html](http://developer.android.com/reference/android/media/MediaRecorder.html)

# Some MediaRecorder Methods

setAudioSource()

setVideoSource()

setOutputFormat()

prepare()

start()

stop()

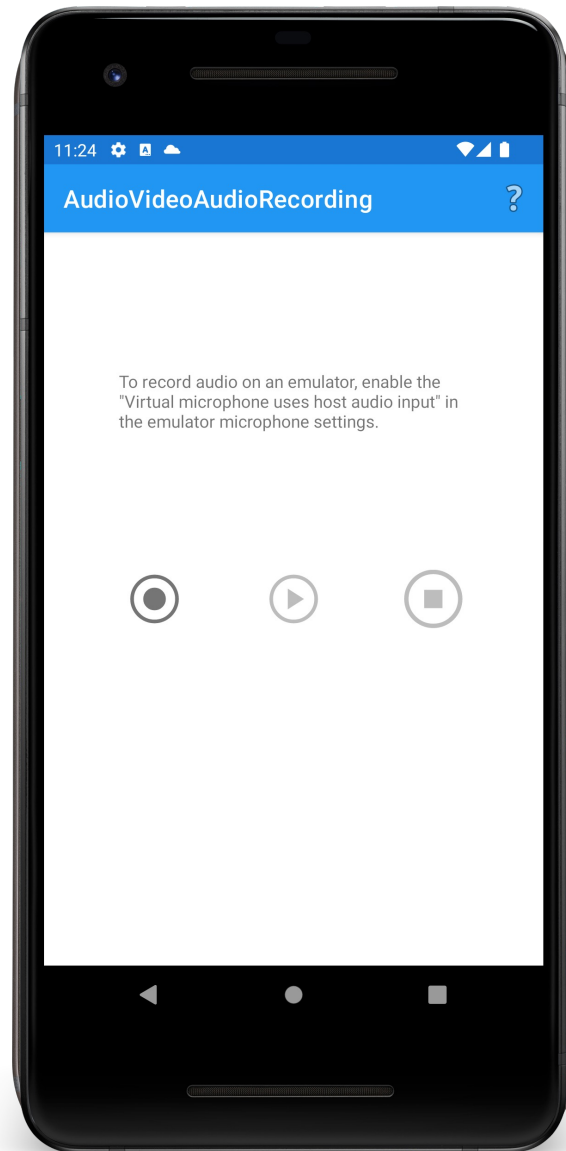
release()

# AudioVideoAudioRecording

Can record audio from the user

Can then play back recorded audio

# AudioVideo AudioRecording



# Next Time

## Sensors



# Example Applications

AudioVideoSoundPool

AudioVideoRingtoneManager

AudioVideoVideoPlay

AudioVideoAudioRecording