Audio Routing API

The Audio Routing API provides way for controlling audio routing in 3rd Edition Feature Pack 1 devices. This code example shows how to route the audio to earpiece or loudspeaker or both.

Note: This API is not part of the public SDK. It can be found in the SDK API Plug-in.

Use cases

To route audio from loudspeaker to earpiece/headset.

To route audio from earpiece to loudspeaker(even when headset is connected).

Example code

Header files

```
#include <AudioOutput.h>           // for audio routing control
#include <MAudioOutputObserver.h>  // for audio routing observers
#include <MdaAudioSamplePlayer.h>  // for playing audio
```

Libraries Used

```
audiooutputrouting.lib    // for routing audio
mediaclientaudio.lib      // for playing audio
```

When we play music files using CMdaAudioPlayerUtility class, the audio will be routed to loudspeaker by default. When the headsets are connected, the audio is routed from loudspeaker to headsets by default.

The CAudioOutput class in AudioOutput.h is used by an audio application to inform the Audio subsystem on where the audio need to be routed for output when playing.This class should only be used if the default audio routing is not sufficient for the audio client.

The following example code shows how to control audio routing:

Play audio file with a `CMdaAudioPlayerUtility` instance. Playing audio files using `CMdaAudioPlayerUtility` is explained here.

The audio is played to loudspeaker, by default if headsets are not connected.Once the audio file playing is started, then you can create the `CAudioOutput` instance (by passing the playerutility to it).

`RegisterObserverL()` allows clients to register to be updated when the default audio output changes and later when the specified observer no longer wants to be updated call `UnregisterObserver()`.

Then call `SetAudioOutputL()` passing `EPrivate` as `TAudioOutputPreference` parameter for the `SetAudioOutputL()` API for routing audio to earpiece.

```
// To route audio to private speaker(earpiece)
CAudioOutput::TAudioOutputPreference myOutputPref = CAudioOutput::EPrivate;
iMySound->SetRoutingL(myOutputPref);

void CMySound::SetRoutingL(CAudioOutput::TAudioOutputPreference& aAudioOutput)
 {
 iAudioOutput = CAudioOutput::NewL(*iMyAudioPlayerUtility);
 iAudioOutput->RegisterObserverL(*this);
 iAudioOutput->SetAudioOutputL(aAudioOutput);
 }
```


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```
// callback function
void CMySound::DefaultAudioOutputChanged( CAudioOutput& aAudioOutput,
                        CAudioOutput::TAudioOutputPreference NewDefault )
       {
       // Audio routing changed, write your code here
       CEikonEnv::InfoWinL(_L("In Callback function"),_L("AudioOutput Routed"));
       }
```

```
// To route audio to public speaker(loudspeaker),even when headset is connected
CAudioOutput::TAudioOutputPreference myOutputPref = CAudioOutput::EPublic;
iMySound->SetRoutingL(myOutputPref);
```

```
// To route audio to both speakers(loudspeaker & earpiece)
CAudioOutput::TAudioOutputPreference myOutputPref = CAudioOutput::EAll;
iMySound->SetRoutingL(myOutputPref);
```

Following are the various `TAudioOutputPreference` enums defined in AudioOutput,h, which can be passed to SetAudioPutputL() API :

The output audio can be routed as desired by choosing proper `TAudioOutputPreference` parameter(as per your routing option) for the `SetAudioOutputL()` API.

```
enum TAudioOutputPreference
   {
   ENoPreference, /// Used to indicate that the playing audio can be routed to
                  /// any speaker. This is the default value for audio.

   EAll,          /// Used to indicate that the playing audio should be routed
                  /// to all speakers.

   ENoOutput,     /// Used to indicate that the playing audio should not be routed
                  /// to any output.

   EPrivate,      /// Used to indicate that the playing audio should be routed to
                  /// the default private speaker. A private speaker is one that
                  /// can only be heard by one person.

   EPublic        /// Used to indicate that the playing audio should be routed to
                  /// the default public speaker. A public speaker is one that can
                  /// be heard by multiple people.
   };
```

Example project

File:Control Audio Routing.zip

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