Example multimedia MIDlets

1.Playing mono tone

Our first example is about generating a single tone. Tone generation is important on low end devices, since it may be the only form of multimedia capability of such devices. The MIDlet for generating a monotone is given here. It is called monoTonePlayer.

```
package Demo;

import javax.microedition.midlet.MIDlet;
import javax.microedition.lcdui.*;
import javax.microedition.media.*;
import javax.microedition.media.control.*;

public class monoTonePlayer extends MIDlet {

Display d;
protected void startApp() {
    Canvas c = new DummyCanvas();
    d = Display.getDisplay(this);
    d.setCurrent(c);
}

protected void pauseApp() {
}

protected void destroyApp(boolean unconditional) {}

static class DummyCanvas extends Canvas {
    public void paint(Graphics g) {
        try {   //  play for 5000 mseconds with maximum volume (100).

                Manager.playTone( ToneControl.C4 ,5000,100);
            g.drawString("Playing...",40,50,Graphics.TOP|Graphics.HCENTER );

        }catch(MediaException ex) {
                // to indicate exception
            g.drawString("Media
              Exception",40,50,Graphics.TOP|Graphics.HCENTER );
        }
    }
} // dummyCanvas ends

} // monoTonePlayer ends
```

Following is the explanation for the example monoTonePlayer. The monoTonePlayer extends the abstract javax.microedition.midlet.MIDlet. We implement the methods startApp(), pauseApp() and destroyApp(). The startApp() method creates a canvas by instantiating the class DummyCanvas and displays it. The class DummyCanvas extends Canvas. The paint method of the DummyCanvas not only allows us to play the media but also to report the errors generated while playing the media. To generate a monotone we make use of the following method of the Manager,

Manager.playTone(int note, int duration, int volume).

Following are the steps involved in executing the example monoTonePlayer.

- **(i) Type the monoTonePlayer example in a file called monoTonePlayer.java**
- **(ii) Start the KToolBar.**
- **(iii) Create a new project by selecting the "New project" menu in the KToolBar. Give a name for the project, say Tone. We should also give a name for the main MIDlet class. Further let us put the MIDlet monoTonePlayer in a package called Demo. Therefore we give the name of the main MIDlet class as Demo.monoTonePlayer. Now press the "createProject" button.**
- **(iv) Now the settings panel will pop up showing the default settings for this project. Now go to the MIDlets menu.**
- **(v) The name of the main MIDlet and the file name of the Icon of the MIDlet would have been already set by deriving them from the project name. The default name may not always be suitable. For example in our case we plan to add two MIDlets to this MIDlet suite. If both of them carry the same name (i.e. the project name) we cannot distinguish them while executing them using the MMEmulator. Therefore rename the main MIDlet by pressing the Edit button and change the name the MIDlet as monoTonePlayer. You may optionally change the file name of MIDlet's Icon as monoTonePlayer.png).**
- **(vi) Now go to the apps sub directory of the WTK directory (for example c:\WTK104\apps). It would have a new subdirectory named c:\WTK104\apps\Tone.**
- **(vii) Go to c:\WTK104\apps\Tone\src. Create a subdirectory Demo within the src directory and then place the monoTonePlayer.java in it. The path name of the MIDlet would then be "c:\WTK104\apps\Tone\src\Demo\monoTonePlayer.java".**
- **(viii) Now set the Emulator device to MMEmulator.**
- **(ix) Now build the project (Midlet suite) Tone by pressing the build button.**
- **(x) If the build is successful run the MIDlet suite. Otherwice debug the MIDlet.**
- **(xi) When you run the MIDlet suite the emulator will pop up. It will have the list of MIDlets in that suite. Currently there is only one MIDlet and that is the monoTonePlayer.**
- **(xii) Press the Launch button. You will hear a buzzer sound for 5 seconds.**
- **(xiii) To close the emulator press the round button above the screen of the emulator.**