

## 1. Tujuan

- 1. Mengatur jadwal tugas menggunakan Timers
- 2. Mengetahui bagaimana membaca file dari aplikasi mobile sederhana

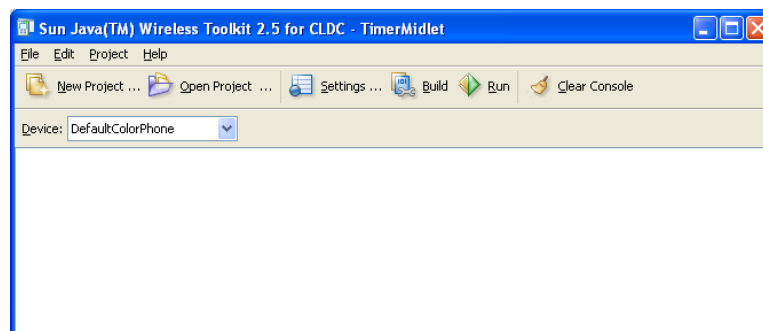
## 2. Latar Belakang

Timer dan TimerTasks berfungsi agar Anda bisa melakukan penjadwalan tugas pada suatu waktu. Tugas dapat juga dijadwalkan untuk diulang-ulang sampai interval tertentu. Anda dapat membuat tugas dengan menurunkan (extending) TimerTask dan mengimplement method run(). Method run() akan dieksekusi berdasarkan jadwal yang ada pada Timer. Read File berfungsi untuk membaca file eksternal. Dengan adanya fungsi ini, programmer akan lebih dimudahkan dalam pembuatan program yang mengutamakan performa dan kecepatan dalam membuat koding program.

## 3. Percobaan

### Percobaan 1 Timer Counter

Jalankan Wireless Toolkit. Start – All Programs – Sun Java(TM) Wireless Toolkit 2.5 for CLDC – Wireless Toolkit 2.5 (atau 2.2 jika versi 2.2).

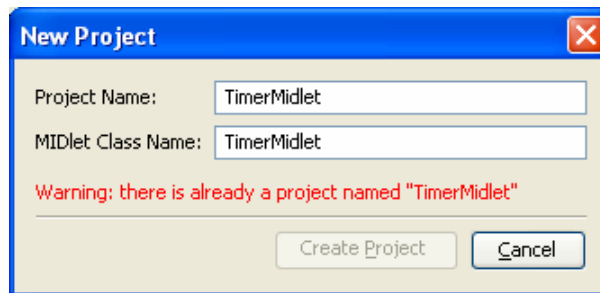


Gambar 1.1 Tampilan Wireless Toolkit 2.5

Buat project baru. File – New Project.

Beri nama project-nya dengan nama TimerMidlet (nama project dapat dibuat sesuai keinginan Anda).

Beri nama untuk Midlet Class Name – nya dengan TimerMidlet (nama class dapat diganti sesuai dengan keinginan Anda).



Gambar 1.2 Membuat project baru

Jalankan Editor java (Jcreator, Gel, Notepad, atau yang lainnya). Dalam contoh editor yang digunakan adalah Notepad. Start – All Programs – Accessories – Notepad. Kode program berikut

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;
import java.util.Timer;
import java.util.TimerTask;
import java.util.Date;

public class TimerMidlet extends MIDlet implements CommandListener{
    private Command cmdExit;
    private Form form;
    private StringItem siTimer;
    private Display display;
    private Timer timer = new Timer();
    private TimerTask tTask = new CounterTask(this);

    public TimerMidlet() {
        cmdExit = new Command("Exit", Command.EXIT, 1);
        siTimer = new StringItem("Counter", "");
        timer.schedule(tTask, 5000, 1000);
        form = new Form("Timer Test");
        form.addCommand(cmdExit);
        form.append(siTimer);
    }
}
```



```
public void startApp() {
    display = Display.getDisplay(this);
    form.setCommandListener(this);
    display.setCurrent(form);
}

public void pauseApp() {}
public void destroyApp(boolean unconditional) {
    timer.cancel();
}

public void commandAction(Command c, Displayable d) {
    if (c == cmdExit) {
        destroyApp(true);
        notifyDestroyed();
    }
}

public void setText(String sText){
    siTimer.setText(sText);
}
}

class CounterTask extends TimerTask {
    int counter = 0;
    TimerMidlet tmMidlet;

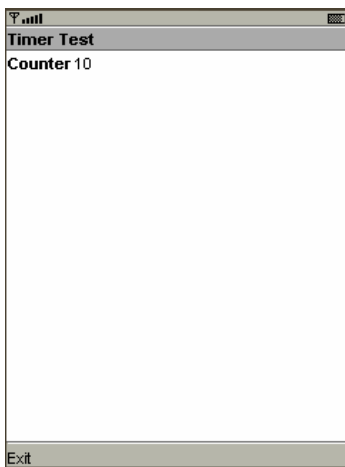
    public CounterTask(TimerMidlet tmMidlet){
        this.tmMidlet = tmMidlet;
    }

    public void run() {
        counter++;
        tmMidlet.setText("" + counter);
        System.out.println("Counter " + counter);
    }
}
```



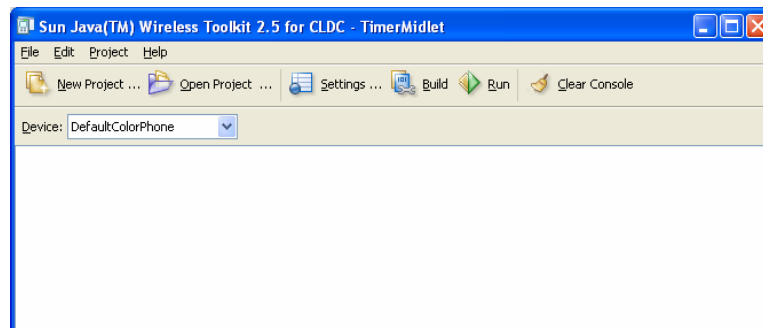
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Hasil setelah program dijalankan:



Percobaan 2 Read File:

Jalankan Wireless Toolkit. Start - All Programs - Sun Java(TM) Wireless Toolkit 2.5 for CLDC - Wireless Toolkit 2.5 (atau 2.2 jika versi 2.2).

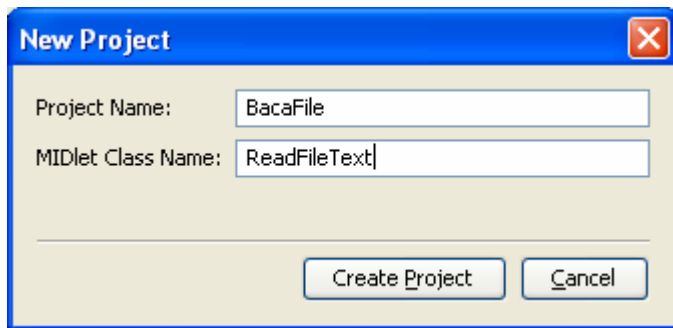


Gambar 1.1 Tampilan Wireless Toolkit 2.5

Buat project baru. File - New Project.

Beri nama project-nya dengan nama BacaFile (nama project dapat dibuat sesuai keinginan Anda).

Beri nama untuk Midlet Class Name - nya dengan ReadFileText (nama class dapat diganti sesuai dengan keinginan Anda).



Jalankan Editor java (Jcreator, Gel, Notepad, atau yang lainnya). Dalam contoh editor yang digunakan adalah Notepad. Start - All Programs - Accessories - Notepad. Kode program seperti berikut:

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;

public class ReadFileText extends MIDlet {

    Display display;
    ReadFile read;

    public ReadFileText() {
        display = Display.getDisplay(this);
    }

    public void startApp() {
        read = new ReadFile(this, display);
        display.setCurrent(read);
    }

    public void pauseApp() {}

    public void destroyApp(boolean unconditional) {
    }

    public void exitMIDlet() {
        destroyApp(false);
        notifyDestroyed();
    }
}
```



```
    }  
}  
  
class ReadFile extends Form implements CommandListener {  
    private ReadFileText midlet;  
    private Display display;  
    private Command cmExit;  
    private String help;  
    private StringItem si;  
  
    public ReadFile(ReadFileText midlet, Display display) {  
        super("Read File Text");  
        this.midlet = midlet;  
        this.display = display;  
  
        if ((help = readHelpText()) != null) {  
            si = new StringItem("", help);  
        } else  
            si = new StringItem("Error", "File Help Tidak Ditemukan");  
  
        append(si);  
  
        cmExit = new Command("Keluar", Command.EXIT, 1);  
        setCommandListener(this);  
        addCommand(cmExit);  
    }  
  
    public void commandAction(Command c, Displayable s) {  
        if (c == cmExit)  
            midlet.exitMIDlet();  
    }  
  
    private String readHelpText() {  
        InputStream is = getClass().getResourceAsStream("help.txt");  
        try {  
            StringBuffer sb = new StringBuffer();  
            int chr, i = 0;  
            while ((chr = is.read()) != -1)  
                sb.append((char) chr);  
            return sb.toString();  
        } catch (Exception e) {  
        }  
        return null;  
    }  
}
```



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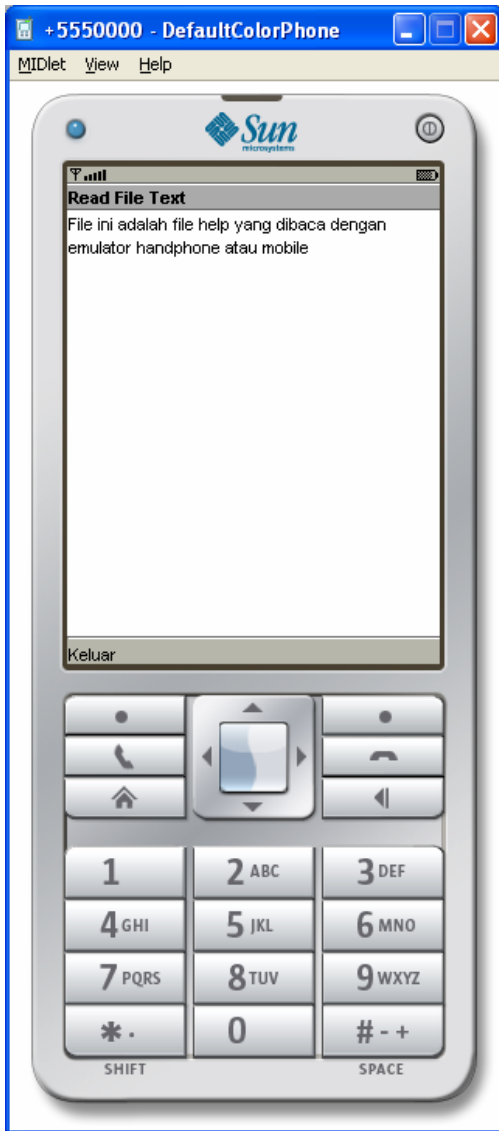
Jalankan Notepad, Start - All Programs - Accessories - Notepad.  
Ketikkan kalimat berikut:

File ini adalah file help yang dibaca dengan emulator handphone atau mobile

Simpan ke C:\WTK25\apps\BacaFile\res\help.txt  
Build Program  
Run program  
Hasilnya seperti berikut:



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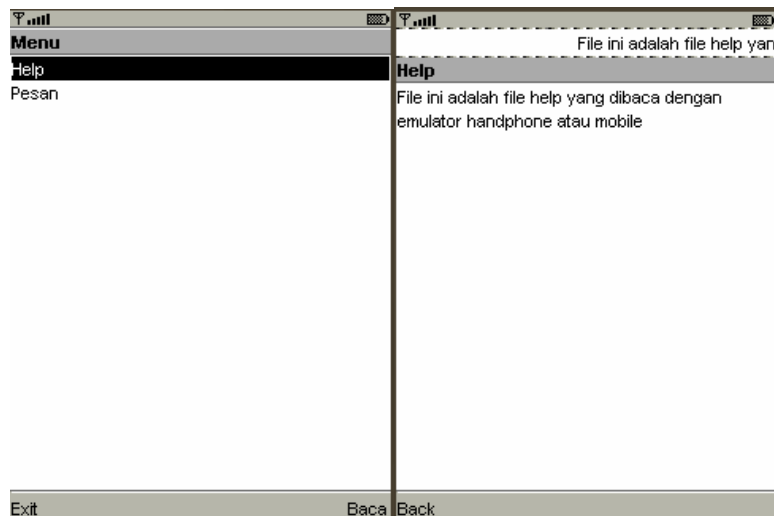


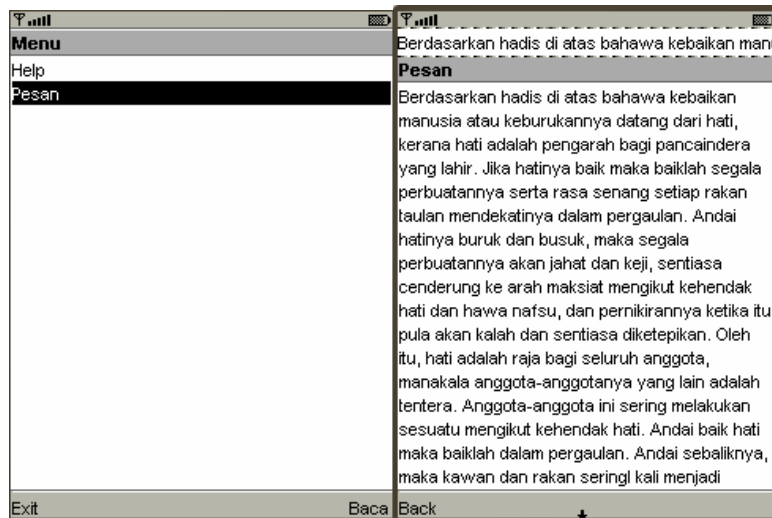


## 4. Latihan

Buatlah aplikasi mobile yang dapat membaca beberapa file (dalam hal ini help.txt dan pesan.txt) dalam satu aplikasi yang mana apabila salah satu menu tersebut dipilih untuk dibaca, maka akan menampilkan isi dari file text tersebut dan isi dari file text tersebut ditampilkan pula pada Ticker atau text berjalan dibagian atas judul!

Untuk lebih jelasnya, perhatikan contoh berikut:





### Jawaban:

```
import javax.microedition.midlet.*;
import javax.microedition.lcdui.*;
import java.io.*;

public class BacaFile extends MIDlet implements CommandListener{

    private Display display;
    private Command cmdOK, cmdExit;
    String[] strFile = {"Help", "Pesan"};
    private List lstBaca = new List("Menu", List.IMPLICIT, strFile, null);
    int posisi;

    ReadFile1 baca1;
    ReadFile2 baca2;

    public BacaFile() {
        display = Display.getDisplay(this);
    }

    public void startApp() {
        MenuUtama();
    }
}
```



```
public void MenuUtama(){
    cmdOK = new Command("Baca", Command.OK, 1);
    cmdExit = new Command("Exit", Command.EXIT, 2);
    lstBaca.addCommand(cmdOK);
    lstBaca.addCommand(cmdExit);
    lstBaca.setCommandListener(this);
    display.setCurrent(lstBaca);
}

public void Tampilkan1(){
    bacal = new ReadFile1(this, display);
    display.setCurrent(bacal);
}

public void Tampilkan2(){
    baca2 = new ReadFile2(this, display);
    display.setCurrent(baca2);
}

public void pauseApp() {}

public void destroyApp(boolean unconditional) {}

public void commandAction(Command c, Displayable d){
    if(c == cmdOK){
        posisi = lstBaca.getSelectedIndex();
        if(lstBaca.getString(posisi)=="Help")
            Tampilkan1();
        else
            Tampilkan2();
    }
    else{
        destroyApp(false);
        notifyDestroyed();
    }
}

}

class ReadFile1 extends Form implements CommandListener {
    private BacaFile midlet;
```

```
private Display display;
private String help;
private StringItem si;
private Command cmdBack;

public ReadFile1(BacaFile midlet, Display display) {
    super("Help");
    this.midlet = midlet;
    this.display = display;

    BacaHelp();
}

public void BacaHelp(){
    TampilFile();
    setTicker(new Ticker(help));
    setCommandListener(this);
    addCommand(cmdBack = new Command("Back", Command.EXIT, 1));
}

public void TampilFile(){
    this.midlet = midlet;
    this.display = display;

    if ((help = readHelpText()) != null) {
        si = new StringItem("", help);
    }
    else
        si = new StringItem("Error", "File Help Tidak Ditemukan");
    append(si);
}

private String readHelpText() {
    InputStream is = getClass().getResourceAsStream("help.txt");
    try {
        StringBuffer sb = new StringBuffer();
        int chr, i = 0;
        while ((chr = is.read()) != -1)
            sb.append((char) chr);
        return sb.toString();
    } catch (Exception e) {
    }
}
```



```
        return null;
    }

    public void commandAction(Command c, Displayable d) {
        if(c == cmdBack)
            midlet.MenuUtama();
    }
}

class ReadFile2 extends Form implements CommandListener {
    private BacaFile midlet;
    private Display display;
    private String pesan;
    private StringItem si;
    private Command cmdBack;

    public ReadFile2(BacaFile midlet, Display display) {
        super("Pesan");
        this.midlet = midlet;
        this.display = display;

        BacaPesan();
    }

    public void BacaPesan(){
        TampilFile();
        setTicker(new Ticker(pesan));
        setCommandListener(this);
        addCommand(cmdBack = new Command("Back", Command.EXIT, 1));
    }

    public void TampilFile(){
        this.midlet = midlet;
        this.display = display;

        if ((pesan = readPesanText()) != null) {
            si = new StringItem("", pesan);
        }
        else
            si = new StringItem("Error", "File pesan Tidak Ditemukan");
        append(si);
    }
}
```



```
private String readPesanText() {
    InputStream is = getClass().getResourceAsStream("pesan.txt");
    try {
        StringBuffer sb = new StringBuffer();
        int chr, i = 0;
        while ((chr = is.read()) != -1)
            sb.append((char) chr);
        return sb.toString();
    } catch (Exception e) {
    }
    return null;
}

public void commandAction(Command c, Displayable d) {
    if(c == cmdBack)
        midlet.MenuUtama();
}
}
```