

## Modul Praktikum GameCanvas

### 1. Tujuan

Setelah menyelesaikan aktifitas praktek ini diharapkan peserta dapat mengetahui cara mengimplementasikan kelas GameCanvas pada sebuah game mobile.

### 2. Latar Belakang

Setelah mempelajari tentang kelas GameCanvas pada Modul GameCanvas (JENI 4) marilah kita coba mengimplementasikan pengetahuan kita dengan membuat sebuah proyek game sederhana yang menggunakan kelas GameCanvas.

### 3. Percobaan

#### Percobaan 1: Membuat Class MidletGameCanvas

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

public class MidletGameCanvas extends MIDlet {
    private Display display;

    public void startApp() {
        display = Display.getDisplay(this);
        DrawGameCanvas gameCanvas = new DrawGameCanvas();
        gameCanvas.start();
        display.setCurrent(gameCanvas);
    }

    public Display getDisplay() {
        return display;
    }

    public void pauseApp() { }

    public void destroyApp(boolean unconditional) {
        exit();
    }
}
```

## Modul Praktikum GameCanvas

```
}

public void exit() {
    System.gc();
    notifyDestroyed();
}
}
```

### Percobaan 2: Membuat Class DrawGameCanvas

```
import javax.microedition.lcdui.*;
import javax.microedition.lcdui.game.*;

public class DrawGameCanvas extends GameCanvas implements Runnable {
    private boolean isPlay; // Game Loop runs when isPlay is true
    private long delay; // To give thread consistency
    private int currentX, currentY; // To hold current position of the 'X'
    private int width; // To hold screen width
    private int height; // To hold screen height

    // Konstruktor dan inisialisasi
    public DrawGameCanvas() {
        super(true);
        width = getWidth();
        height = getHeight();
        currentX = width / 2;
        currentY = height / 2;
        delay = 20;
    }

    // Method start dijalankan awal penggunaan thread dan di ulang-ulang
    public void start() {
        isPlay = true;
        Thread t = new Thread(this);
        t.start();
    }
}
```

## Modul Praktikum GameCanvas

```
public void stop() {
    isPlay = false;
}

// method run abstrak dari Runnable Mejalankan pertamakali pada graphics
public void run() {
    Graphics g = getGraphics();
    while (isPlay == true) {
        input();
        drawScreen(g);
        try { Thread.sleep(delay); }
        catch (InterruptedException ie) {}
    }
}

// method input untuk memasukkan inputan dari keypad
private void input() {
    int keyStates = getKeyStates();
    // kiri
    if ((keyStates & LEFT_PRESSED) != 0) {
        currentX = Math.max(0, currentX - 1);
    }
    // kanan
    if ((keyStates & RIGHT_PRESSED) != 0) {
        if (currentX + 5 < width) {
            currentX = Math.min(width, currentX + 1);
        }
    }
    // atas
    if ((keyStates & UP_PRESSED) != 0) {
        currentY = Math.max(0, currentY - 1);
    }
    // bawah
    if ((keyStates & DOWN_PRESSED) != 0) {
        if (currentY + 10 < height) {
            currentY = Math.min(height, currentY + 1);
        }
    }
}
```

## Modul Praktikum GameCanvas

```
// Method drawScreen untuk menggambar Graphics
private void drawScreen(Graphics g) {
    g.setColor(0xffffffff);
    g.fillRect(0, 0, getWidth(), getHeight());
    g.setColor(0x0000ff);
    g.drawString("X",currentX,currentY,Graphics.TOP|Graphics.LEFT);
    flushGraphics();
}
```

Hasil :

