MuntsOS Embedded Linux

Application Note #26: Java LED Flash Example

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Introduction

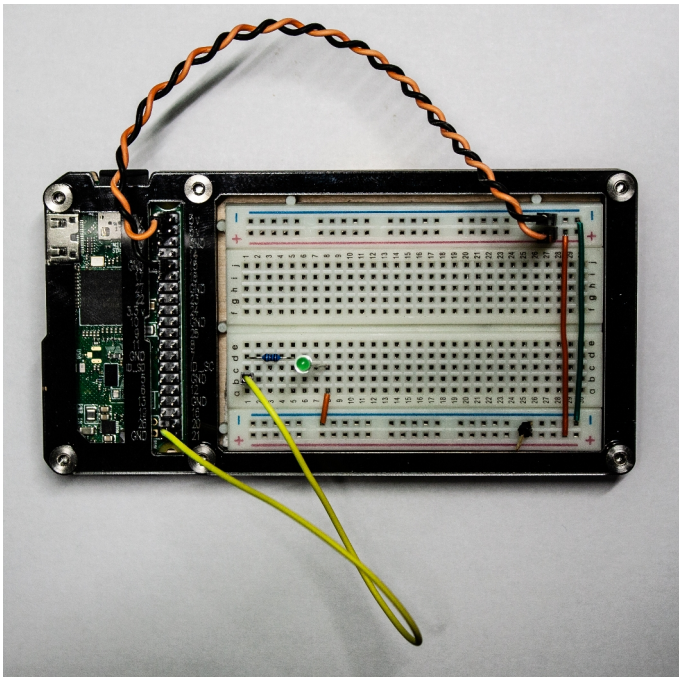
This application note describes how to create, build, and run a Java program to flash an LED on a target computer running ***MuntsOS Embedded Linux***.

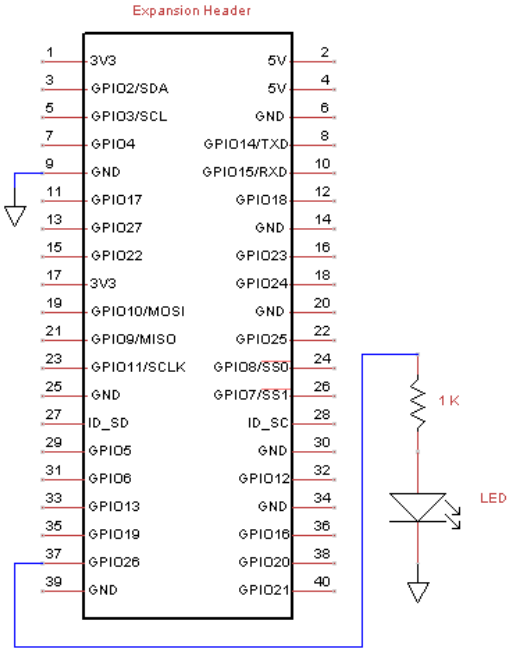
Prerequisites

MuntsOS Embedded Linux must be installed on the target computer (AppNote #3).

The Java runtime extension package **`java-muntsos-aarch64.deb`** must be installed on the target computer, by running the **`sysconfig`** command on the target computer.

Test Platform Hardware





The test platform for the purposes of this application note consists of a Raspberry Pi Zero 2 Wireless mounted in a Zebra Zero Plus Breadboard case. The orange and black jumper wires connect **`+3.3V`** and **`GND`** on the Raspberry Pi expansion header to the breadboard power rails. The yellow jumber connects **`GPIO26`** to a 1K ohm current limiting resistor and an LED.

Test Program Source Code

Available for download at: http://git.munts.com/muntsos/doc/.blinky/blinky.java

```
import com.munts.interfaces.GPIO.*;
import com.munts.libsimpleio.objects.GPIO.*;
import com.munts.libsimpleio.platforms.RaspberryPi;

public class blinky
{
  public static void main(String args[])
    throws InterruptedException
  {
    System.out.println("\nMuntsOS Java LED Test\n");

    // Configure a GPIO output to drive an LED

    Builder b = new Builder(RaspberryPi.GPIO26);
    b.SetDirection(Direction.Output);
    Pin LED = b.Create();

    // Flash the LED forever (until killed)

    System.out.println("Press CONTROL-C to exit.\n");

    for (;;)
    {
      LED.write(!LED.read());
      Thread.sleep(500);
    }
  }
}
```

Exercise

This example exercise demonstrates how to create a Java program project (outside of the ***MuntsOS*** code tree checkout), compile it, and run it on the test platform hardware.

Step 1: Prepare the **`blinky`** project:

```
mkdir blinky
cd blinky
wget https://git.munts.com/muntsos/doc/.blinky/Makefile.java
mv Makefile.java Makefile
wget https://git.munts.com/muntsos/doc/.blinky/blinky.java
```

Step 2: Build the **`blinky`** project:

```
make
```

Step 3: Copy **`blinky.jar`** to the test platform:

```
scp blinky.jar root@snoopy:.
```

Step 4: Run the test program on the test platform:

```
ssh root@snoopy
java -jar ./blinky.jar
```

The LED should begin flashing once a second, until you press **`CONTROL-C`**.