

# WE



python™

## **mobile application design**

week 9: Introduction to Python for Series60

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# Presentation

# Introduction to Python

- **Created 1990 by Guido van Rossum**
- **Interpreted, object oriented programming language**
- **Very powerful language + terse syntax.**
- **Modules, classes, exceptions, dynamic typing**

Java

Python

statically typed  
String blah = "";

dynamically (“duck”) typed  
blah = “string”  
blah = 1

verbose

concise

```
public class HelloWorld
{
    public static void main (String[] args)
    {
        System.out.println(" Hello, world!");
    }
}
```

print “Hello World”

Java ME

Python S60

freshly open source

open source

broad manufacturer support

Symbian Series60

complex, multiple APIs (High Level, Low Level), confusing exception model, runs in sandbox

extremely terse. no checked exceptions. uses Python standard library. simpler APIs, C++ wrapper

# Capabilities of PyS60

- GUI: Menu, Forms, Listboxes, Input fields, Dialogs, Notes
- Graphics: - color, font and style attributes, - direct-screen drawing, - displaying images and icons
- Key-down and key-up events
- Sockets: **TCP/IP, Bluetooth** (RFCOMM, OBEX)
- Messaging (**SMS**) + accessing the Inbox
- Networking (**HTTP, FTP, ...**)
- Access to file system, file reading, XML, RSS
- Access to camera, telephone
- Access to calendar, contacts, sysinfo
- Location (cell-id)
- Content handler (download + open videos..)
- Python extensions can be written in C++
- Package scripts into standalone applications - (using SIS files)

A word about the syntax

# Python Syntax I

- Indentation (i.e. whitespace) signifies blocks

```
def myFunction():  
    runstuff  
  
    takeoverworld  
  
    if world == 1:  
        seize  
  
        takeabreak
```

# Python Syntax II

- No semicolons or braces { }

**if something:**

**GoThere**

**if ThereIsHere:**

**GoSomewhereElse**

**if SomewhereElse:**

**DoSomething**

# Python Syntax III

- Dynamic / Duck typing
- No need to declare types
- Creating simple lists

```
L = [1,2,3]
```

```
L = [u'Croissants',u'Wine','Baguettes']
```

# Python S60 gotchas

- All strings need to be Unicoded

**L = [u'Croissants',u'Wine','Baguettes']**

- Different capabilities for S60 Second Edition, 3rd Edition
- Difficult to package, obfuscate code
- Still under heavy development. Bi-monthly revision + release cycles

# Writing & Deploying

- Create `myscript.py`

## **Five ways to deploy:**

- 1. Test on phone: Bluetooth script to phone**
- 2. Test on phone: USB cable**
- 3. Testing the script with the emulator on PC**
- 4. Using the bluetooth console**
- 5. Using file sync from PC to phone**

# Great Resources

## 1. Forum Nokia Wiki

<http://wiki.forum.nokia.com/index.php/Category:Python>

## 2. MobilePythonBook.org

## 3. Dive Into Python

## 4. Python.org

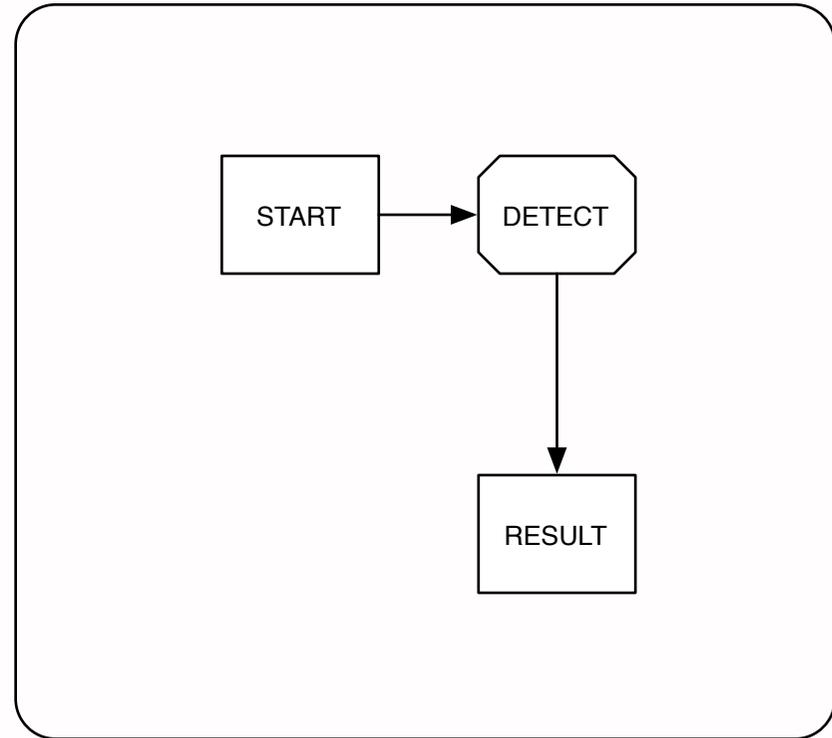
## 5. Python API Documentation

## 6. Blogs!

Go to <http://mobilenin.com>

# Exercise: Rewrite Zombie Detector in Python

- Idea = Zombie Detector
- Platform = Nokia N80
- Wireframes / IA



Zombie Detector IA v0.1

## Exercise:

Write a script which takes a string and sends it as an SMS to a number