PyUIQ Getting Started

Release 1.3.18 final

15 May 2007

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Abstract

The Python for UIQ (PyUIQ) is a scripting language solution for UIQ2.x and UIQ3.x devices. This preliminary port is based on Python for S60 (PyS60) port created by Nokia Corporation which is based on Python 2.2.2. This document highlights the recent changes, installation and usage of PyUIQ.

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CHAPTER

ONE

Introduction

This document shortly outlines the current features available in Python for UIQ version 1.3.18 final. For more information on running Python in Symbian devices, please refer to [3] and [4]. The Nokia discussion board offers also valuable information [5].

General information on Python can be found from [1] and [2]. The official Python website is located at:

http://www.python.org/

1.1 Supported Features

Note: No formal testing has been done for this release, the below list acts therefore only as a guideline.

For an overview of the supported features, please see the screenshots illustrating the current funtionality in Figure 1.1 and Figure 3.4[1].

The following native extensions are supported:

- calendar (does not show the entries in agenda application)
- e32db
- graphics ("Image.open" is not supported in UIQ21)
- inbox
- audio (not supported currently in UIQ21)

[1] The screenshots in this document are taken in a Sony Ericsson M600i – a UIQ 3 device.

Figure 1.1: Interactive prompt on left, image handling example on right

- socket
- telephone (not supported e.g. in Sony Ericsson p910i)
- zlib

The Python standard library support is as in Python for S60 1.3.18 version, refer to "API_Reference_for_Python" available from:

http://sourceforge.net/project/showfiles.php?group_id=154155

The following extensions are not currently supported:

- contacts
- location
- messaging
- sysinfo
- camera

In UIQ2.1, native UI widgets, except `appuifw.Text` and the application menu, are not supported.

In UIQ3, the following native UI widgets are supported:

- `appuifw.Text`
- the application menu (`appuifw.app.menu`)
- `selection_list`

1.2 Changes

1.2.1 Changes in version 0.2 from 0.1

- Tool `py2sis` supports making standalone SIS packages for UIQ3.x.
- `selection_list` support added to `appuifw` (see "CONTRIBUTORS") in UIQ3.x.
- font support added in "graphics" for UIQ3.x
- Module `graphics`, added `Image.open` in UIQ3.x.
- Added M600i locations to the script shell load path - This change enables scripts to be easily added to the shell with drag-n-dropping with PC Suite.
- `imgviewer.py` - Added M600i locations for pictures to script defaults.
- The import fix from PyS60 1.3.19 "[1638475] Failing import gives an incorrect error message" is included.

CHAPTER

TWO

Installation

2.1 Installation

2.1.1 Installation to a device - UIQ 2.x

Install the following SIS-packages:

```
PythonForUIQ21.SIS
PythonScriptUIQ21.SIS
```

2.1.2 Installation to a device - UIQ3.x

Install the self-signed versions:

```
PythonForUIQ3_selfsigned.SIS
PythonScriptUIQ3_selfsigned.SIS
```

For added functionality, sign the following developer certificate versions with the correct developer certificate for your device:

```
PythonForUIQ3_unsigned_freedevcert.SIS
PythonScriptUIQ3_unsigned_freedevcert.SIS
```

More information about obtaining a developer certificate is available from:

https://www.symbiansigned.com/

2.1.3 Installation to emulator

Unzip the `sdk_files.zip` to your UIQ `<UIQ_ROOT>\epoc` root folder, make sure that the folders align with your SDK installation.

CHAPTER

THREE

Usage

3.1 Usage

3.1.1 Usage in device

Using of PyUIQ in UIQ3.x terminal for testing Python scripts is simple:

1. Edit the script in your favorite text editor (any editor will do) (Figure 3.1)
2. Start the PC Suite (Figure 3.2)
3. Select the Filemanager and copy the script developed to folder `Python` under folder `Sony Ericsson File Manager\M600\Phone memory\OTHER` (you may need to create this folder) - this folder has been added to the script search path (Figure 3.3)
4. Launch the scripts by selecting `Extension - Run script` in Python script shell (Figure 3.4)
5. The script is executed (Figure 3.4)

3.1.2 Usage in emulator

Start the "Python" application from the emulator menu. This launches the script `default.py` found from:

- `<UIQ_ROOT>\epoc32\release\wins\udeb\z\system\apps\PYTHON` (in UIQ2.x)
- `<UIQ_ROOT>\epoc32\winscw\c\Private\F0201515 (in UIQ3.x)`

For testing other features and functionalities, replace `default.py` with your own script, rename it as `default.py` as the script search path is hard coded.

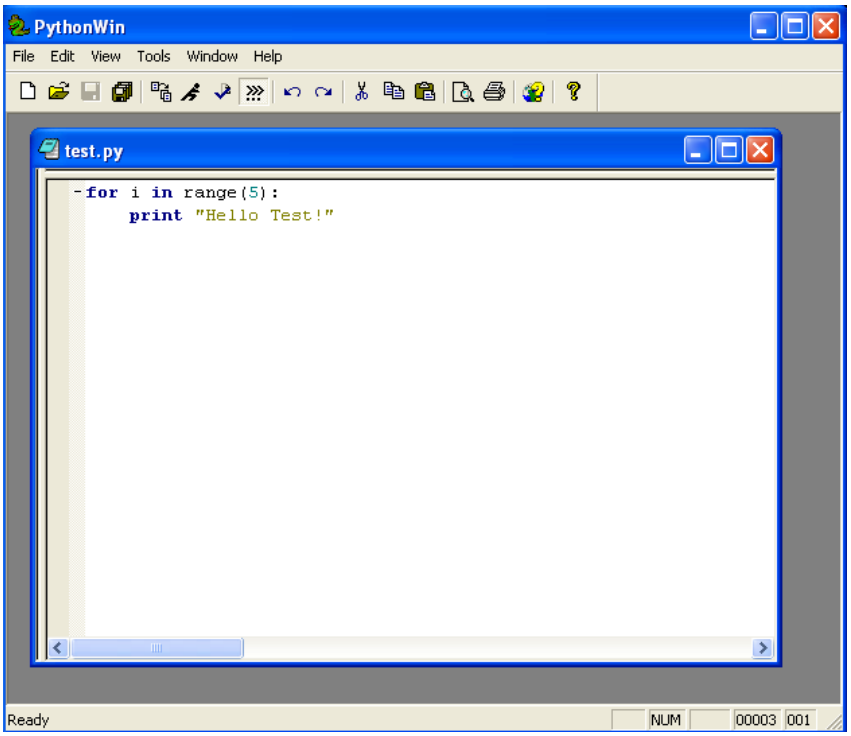

Figure 3.1: Python script editing in desktop side

Figure 3.2: PC Suite

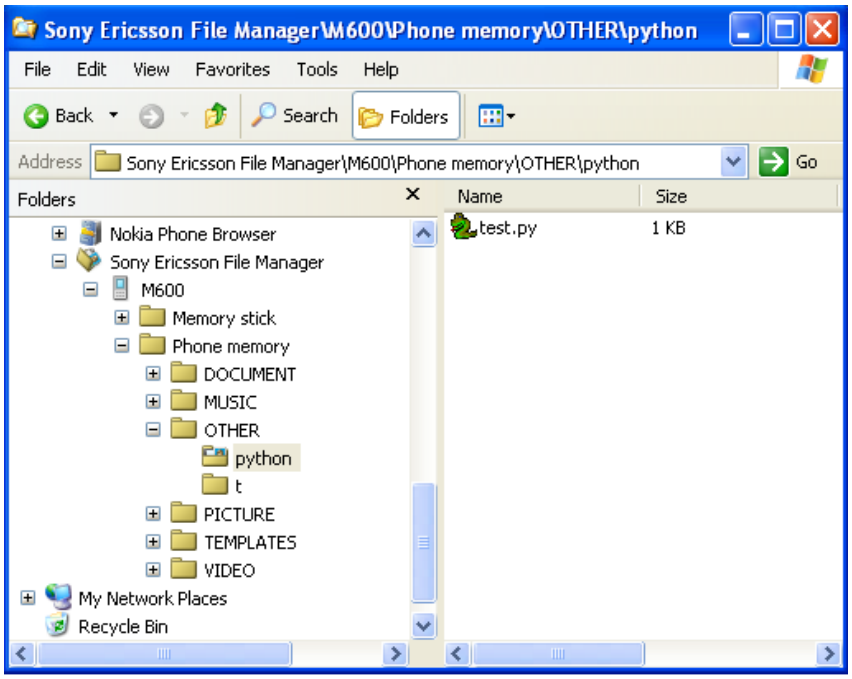

Figure 3.3: File manager in SE PC Suite

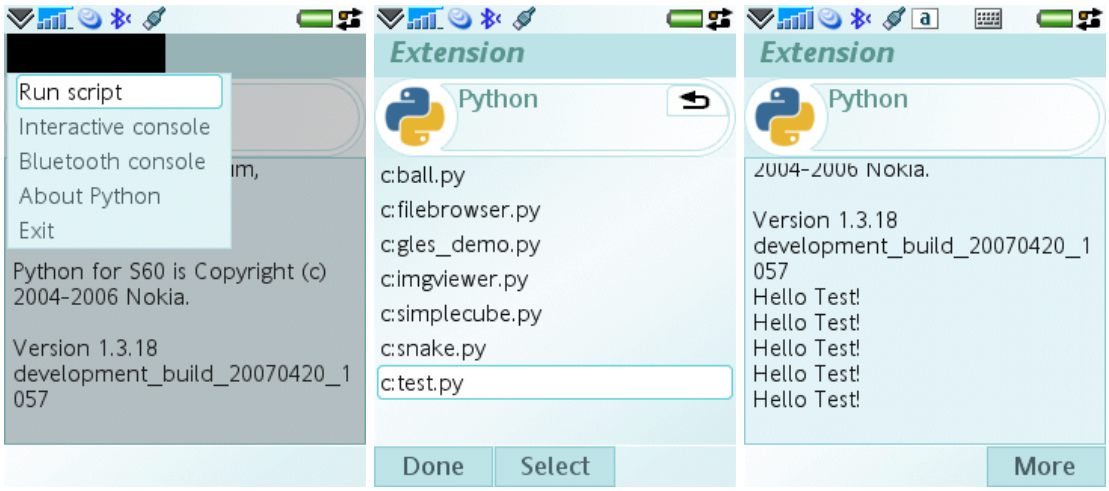

Figure 3.4: Running script, scripts listed and output of the developed script

CHAPTER

FOUR

Miscellaneous

4.1 py2sis support

Note: Only available for UIQ3.x.

The tool `py2sis` supports building standalone SIS packages installable on UIQ3.x. By using this tool, a developer can wrap any Python script to appear in the device main menu (Figure 4.1).

The package `PythonForUIQ3_x.SIS` has to be installed in the device for the standalone package generated by `py2sis` to work.

Tip:

- You can change the icons for the packages (shown e.g. in the device main menu) by replacing files `src\py2sis\templates_eka2\Python_*.bmp` with your own icons and masks.

4.2 Building

Download the Python for S60 source code version 1.3.18 from:

http://sourceforge.net/project/showfiles.php?group_id=154155

Apply the `PyS60_UIQ.patch` to the PyS60 source code downloaded.

For building Python for UIQ 3 invoke:

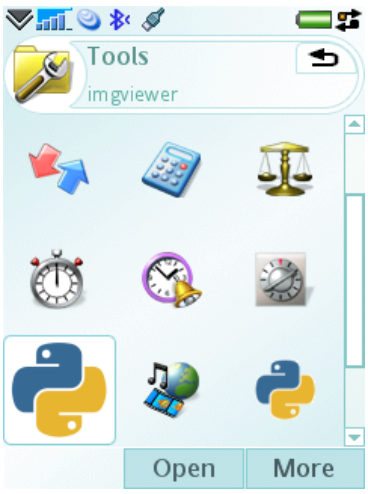

Figure 4.1: Two standalone Python scripts in the device main menu (script imgviewer.py selected)

```
N:\PyUIQ>python setup.py obb UIQ30
```

For building Python for UIQ 2.1 invoke:

```
N:\PyUIQ>python setup.py obb UIQ21
```

4.3 Supported devices

The current port has been tested in SonyEricsson p910i and SonyEricsson M600i but it should support other devices also based on UIQ 2.1 and UIQ3.x (e.g. Motorola A1000 and Benq P30 - please see http://www.uiq.com/uiqphones.html for more information).

BIBLIOGRAPHY

[1] G. van Rossum, and F.L. Drake, Jr., editor. [Python] Library Reference. Available at http://www.python.org/doc

[2] G. van Rossum, and F.L. Drake, Jr., editor. Extending and Embedding [the Python Interpreter]. Available at http://www.python.org/doc

[3] Getting Started with Python for S60 Platform, available at http://wiki.opensource.nokia.com/projects/PyS60_documentation

[4] Programming with Python for S60 Platform, available at http://wiki.opensource.nokia.com/projects/PyS60_documentation

[5] Python for S60 developer discussion board http://discussion.forum.nokia.com/