**Reviewer Approved** 

Many Widset/Widget applications are limited by the fact that their APIs does not provide support for much of the functionality that is available to native applications. This could be functions like:

- Getting locations using the GPS module
- Taking photos with the camera
- Bluetooth connections
- Accessing Contacts, Inbox or External Applications
- Sending SMS
- and much more..

As for now, according to the Web Developers' Library- messaging, media and location are available since WRT 1.1. An easy fix to obtain these functions in Widgets is to use the Mobile Web Server to provide these functions.

This can be achieved in a few steps:

## Connecting to MWS from a Widset/Widget

The examples below shows how to get information from MWS

*** Widget Example**

```
function queryMWS()
{
   // This code uses Prototype, but a standard javascript request will work just as well
   new Ajax.Request("http://localhost/hello.py",
   {
      method: 'get',
      asynchronous: 'false',
      onSuccess: function(transport, json)
      {
         return true;
      },
      onFailure: function()
      {
         return false;
      }
    });
}
```

*** Widset Example**

```
void queryMWS()
{
   // Prepare the URL.
   String URL = "https://MWS_username:MWS_password@MWS_username.mymobilesite.net/hello.py";

   // Fetch from the URL.
   call(null, "httpLocalhost", "get", ["url" => URL], success, failure);

   void success(Object state, Value ret)
   {
      setBubble(null, "The server successfully returned " + ret);
```

```
      return;
   }

   void failure(Object state, String error)
   {
      setBubble(null, "Local server is not responding properly.");
      return;
   }
}
```

## Using Python modules with MWS to provide local device functionality

Two files is necessary to get python executing on MWS:

***ht.acl**

```
AuthType Basic
AuthName 'Hello'
AuthBasicProvider file
AuthUserFile conf/passwords.txt
AuthGroupFile conf/groups.txt

# If you want to give access to all users
#Require valid-user

# If you want to give access to only yourself or some groups (add all needed groups delimited wit
Require group admin

# If you want to give access to some users (add all needed users delimited with space)
#Require user quest

AddHandler mod_python .py
PythonHandler hello
PythonDebug On
Options None

Order Deny,Allow
Allow from all

<FilesMatch "\.(pyc)$">
   Deny from all
</FilesMatch>
```

***hello.py**

```
def handler(req):
   from mod_python import apache
   import httplib

   try:
      #
      # Execute any python code here
      #
      req.write("Hello World")
      req.status = 200
      return apache.OK

      except Exception, e:
```

```
        req.status = 404
 return apache.OK
```

Good examples of how to use python modules can be found at the Mobile Python Book and Python section.

*** Example of using python to get the current location**

```
def handler(req):

   from mod_python import apache
   import location
   import positioning

   req.content_type = 'text/xml'

   req.write("<?xml version='1.0' encoding='utf-8'?>")
   req.write("<twitnflick>")
   req.write("<modules count='" + str(len(positioning.modules())) + "' default='"
    + str(positioning.default_module()) + "'>")
   for n in range(0, len(positioning.modules())):
      req.write("<module id='" + str(positioning.modules()[n]['id']) + "'>")
      req.write("<name>" + positioning.modules()[n]['name'] + "</name>")
      req.write("<available>" + str(positioning.modules()[n]['available'])
       + "</available>")
      req.write("</module>")

   req.write("</modules>")

   positioning.set_requestors([{"type":"service","format":"application","data":"test"}])
        gpspos = positioning.getpositioning()
   req.write("<position>")
   req.write("<latitude>" + str(gpspos['position']['latitude']) + "</latitude>")
   req.write("<longitude>" + str(gpspos['position']['longitude']) + "</longitude>")
   req.write("<altitude>" + str(gpspos['position']['altitude']) + "</altitude>")
   req.write("<horizontal_accuracy>" + str(gpspos['position']['horizontal_accuracy'])
    + "</horizontal_accuracy>")
   req.write("<vertical_accuracy>" + str(gpspos['position']['vertical_accuracy'])
    + "</vertical_accuracy>")
   req.write("</position>")

   req.write("</twitnflick>")

   return apache.OK
```