

Appendix B

TouchDevelop Services

This appendix reproduces material found on the TouchDevelop website at <https://www.touchdevelop.com/docs/api>. It is provided here to make the book more self-contained. Appendix B covers the objects (known as *resources* or *services*) provided by the API. The datatypes are covered in Appendix C.

B.1 bazaar

Browse and review scripts from the bazaar.

ast of(id : String) : Json Object	Returns Abstract Syntax Tree JSON object for specified script
leaderboard score : Number	Gets the current score for the current script
post leaderboard score(score : Number)	Posts the current game score to the script leaderboard
post leaderboard to wall	Posts the current game leaderboard to the wall
script id(which : String) : String	Returns an identifier for either the top-level script or the current library

B.2 box

Access current box element on the page.

edit(style : String, value : String, changehandler : Text Action)	Display editable text, with the given binding
on tapped(handler : Action)	Set what happens when the box is tapped
page height : Number	Get the total height of the page
page width : Number	Get the total width of the page
pixels per em : Number	Get the number of pixels in an em
set background(color : Color)	Sets the background color

set border(color : Color, width : Number)	Set the color and width of the border
set border widths(top : Number, right : Number, bottom : Number, left : Number)	Set the width of each border
set font size(font size : Number)	Set font size in this box
set foreground(color : Color)	Sets the foreground color of elements
set height(height : Number)	Set the height of this box
set height range(min width : Number, max width : Number)	Set lower and upper limits on the width of this box
set horizontal align(arrange : String)	Specify how to arrange the content of this box; arrange is "left" "center" "right" or "justify"
set horizontal stretch(elasticity : Number)	Specify how to compute box width (0 = shrink to fit content, 1 = stretch to fit frame, 0.5 = stretch to half width)
set margins(top : Number, right : Number, bottom : Number, left : Number)	Set the margins of this box (to leave space around the outside of this box)
set padding(top : Number, right : Number, bottom : Number, left : Number)	Set the padding of this box (to leave space around the contents of this box)
set scrolling(horizontal scrolling : Boolean, vertical scrolling : Boolean)	Specify whether to use scrollbars when box contents overflow
set text wrapping(wrap : Boolean, minimumwidth : Number)	Set whether to break long lines, and specify what length is too short for breaking
set vertical align(arrange : String)	Specify how to arrange the content of this box; arrange is "top" "bottom" "center" or "baseline"
set vertical stretch(elasticity : Number)	Specify how to compute box height (0 = shrink to fit content, 1 = stretch to fit frame, 0.5 = stretch to half height)
set width(width : Number)	Set the width of this box
set width range(min width : Number, max width : Number)	Set lower and upper limits on the width of this box
use horizontal layout	Arrange boxes inside this box from left to right
use overlay layout	Arrange boxes inside this box as layers on top of each other
use vertical layout	Arrange boxes inside this box from top to bottom; this is the default

B.3 collections

Create collections of items.

create link collection : Link Collection	Creates an empty link collection
create location collection : Location Collection	Creates an empty location collection
create message collection : Message Collection	Creates an empty message collection
create number collection : Number Collection	Creates an empty number collection
create number map : Number Map	Creates an empty number map
create place collection : Place Collection	Creates an empty place collection
create string collection : String Collection	Creates an empty string collection
create string map : String Map	Creates an empty string map (case and culture sensitive)

B.4 colors

Access predefined colors or create new colors.

accent : Color	Gets the accent color in the current theme
background : Color	Gets the background color in the current theme
black : Color	Gets the color that has the ARGB value of #FF000000
blue : Color	Gets the color that has the ARGB value of #FF0000FF
brown : Color	Gets the color that has the ARGB value of #FFA52A2A
chrome : Color	Gets the chrome color in the current theme (control background)
cyan : Color	Gets the color that has the ARGB value of #FF00FFFF
dark gray : Color	Gets the color that has the ARGB value of #FFA9A9A9
foreground : Color	Gets the foreground color in the current theme
from ahsb(alpha : Number, hue : Number, saturation : Number, brightness : Number) : Color	Creates a color from the alpha, hue, saturation, brightness channels (0.0-1.0 range)

from argb(alpha : Number, red : Number, green : Number, blue : Number) : Color	Creates a color from the alpha, red, green, blue channels (0.0-1.0 range)
from hsb(hue : Number, saturation : Number, brightness : Number) : Color	Creates a color from the hue, saturation, brightness channels (0.0-1.0 range)
from rgb(red : Number, green : Number, blue : Number) : Color	Creates a color from the red, green, blue channels (0.0-1.0 range)
gray : Color	Gets the color that has the ARGB value of #FF808080
green : Color	Gets the color that has the ARGB value of #FF008000
is light theme : Boolean	Indicates if the user is using a light theme in his phone
light gray : Color	Gets the color that has the ARGB value of #FFD3D3D3
linear gradient(c1 : Color, c2 : Color, alpha : Number) : Color	Computes an intermediate color
magenta : Color	Gets the color that has the ARGB value of #FFFF00FF
orange : Color	Gets the color that has the ARGB value of #FFFA500
purple : Color	Gets the color that has the ARGB value of #FF800080
random : Color	Picks a random color
red : Color	Gets the color that has the ARGB value of #FFF0000
sepia : Color	Gets the color that has the ARGB value of #FF704214
subtle : Color	Gets the subtle color in the current theme (light gray)
transparent : Color	Gets the color that has the ARGB value of #00FFFFFF
white : Color	Gets the color that has the ARGB value of #FFFFFFF
yellow : Color	Gets the color that has the ARGB value of #FFFFF00

B.5 contract

Statements that test whether correctness requirements are satisfied.

assert(condition : Boolean, message : String)	Checks for a condition; if the condition is false, execution fails. Does nothing for published scripts.
requires(condition : Boolean, message : String)	Specifies a precondition contract for the action; if the condition is false, execution fails. Does nothing for published scripts.

B.6 invalid

Create an invalid value for any datatype.

Action : Action	Creates an invalid Action instance
appointment : Appointment	Creates an invalid Appointment instance
appointment collection : Appointment Collection	Creates an invalid Appointment Collection instance
board : Board	Creates an invalid Board instance
boolean : Boolean	Creates an invalid Boolean instance
camera : Camera	Creates an invalid Camera instance
color : Color	Creates an invalid Color instance
contact : Contact	Creates an invalid Contact instance
contact collection : Contact Collection	Creates an invalid Contact Collection instance
datetime : DateTime	Creates an invalid DateTime instance
device : Device	Creates an invalid Device instance
device collection : Device Collection	Creates an invalid Device Collection instance
form builder : Form Builder	Creates an invalid Form Builder instance
json builder : Json Builder	Creates an invalid Json Builder instance
json object : Json Object	Creates an invalid Json Object instance
link : Link	Creates an invalid Link instance
link collection : Link Collection	Creates an invalid Link Collection instance
location : Location	Creates an invalid Location instance
location collection : Location Collection	Creates an invalid Location Collection instance
map : Map	Creates an invalid Map instance
Matrix : Matrix	Creates an invalid Matrix instance
media link : Media Link	Creates an invalid Media Link instance

media link collection : Media Link Collection	Creates an invalid Media Link Collection instance
media player : Media Player	Creates an invalid Media Player instance
media player collection : Media Player Collection	Creates an invalid Media Player Collection instance
media server : Media Server	Creates an invalid Media Server instance
media server collection : Media Server Collection	Creates an invalid Media Server Collection instance
message : Message	Creates an invalid Message instance
message collection : Message Collection	Creates an invalid Message Collection instance
message collection action : Action	Creates an invalid Message Collection Action instance
motion : Motion	Creates an invalid Motion instance
number : Number	Creates an invalid Number instance
number collection : Number Collection	Creates an invalid Number Collection instance
number map : Number Map	Creates an invalid Number Map instance
oauth response : OAuth Response	Creates an invalid OAuth Response instance
page : Page	Creates an invalid Page instance
page button : Page Button	Creates an invalid Page Button instance
page collection : Page Collection	Creates an invalid Page Collection instance
picture : Picture	Creates an invalid Picture instance
picture album : Picture Album	Creates an invalid Picture Album instance
picture albums : Picture Albums	Creates an invalid Picture Albums instance
pictures : Pictures	Creates an invalid Pictures instance
place : Place	Creates an invalid Place instance
place collection : Place Collection	Creates an invalid Place Collection instance
playlist : Playlist	Creates an invalid Playlist instance
playlists : Playlists	Creates an invalid Playlists instance
position action : Action	Creates an invalid Position Action instance
song : Song	Creates an invalid Song instance
song album : Song Album	Creates an invalid Song Album instance
song albums : Song Albums	Creates an invalid Song Albums instance
songs : Songs	Creates an invalid Songs instance
sound : Sound	Creates an invalid Sound instance
sprite : Sprite	Creates an invalid Sprite instance
sprite action : Action	Creates an invalid Sprite Action instance
sprite set : Sprite Set	Creates an invalid Sprite Set instance
sprite set action : Action	Creates an invalid Sprite Set Action instance
string : String	Creates an invalid String instance
string collection : String Collection	Creates an invalid String Collection instance
string map : String Map	Creates an invalid String Map instance

text action : Action	Creates an invalid Text Action instance
textbox : TextBox	Creates an invalid TextBox instance
vector3 : Vector3	Creates an invalid Vector3 instance
vector action : Action	Creates an invalid Vector Action instance
web request : Web Request	Creates an invalid Web Request instance
web response : Web Response	Creates an invalid Web Response instance
webresponse action : Action	Creates an invalid WebResponse Action instance
xml object : Xml Object	Creates an invalid Xml Object instance

B.7 languages

Translation, and speech to text services.

current language : String	Gets the current language code, to be used in the 'translate' method
detect language(text : String) : String	Automatically detects the language of a given text using Bing.
picture to text(lang : String, pic : Picture) : String	Extracts text in the picture using Project Hawaii from Microsoft Research
record text : String	Converts the microphone dictation to text using Project Hawaii from Microsoft Research
speak(lang : String, text : String) : Sound	Speaks the text in the specified language using Bing
speech to text(lang : String, speech : Sound) : String	Converts a sound to a text using Project Hawaii from Microsoft Research
translate(source lang : String, target lang : String, text : String) : String	Translates some text between two languages using Bing. Empty source language to auto-detect

B.8 locations

Geo coordinates services.

create location(latitude : Number, longitude : Number) : Location	Creates a new geo coordinate location
create location list : Location Collection	Creates an empty list of locations
describe location(location : Location) : String	Looks for an address near a location using Bing
search location(address : String, postal code : String, city : String, country : String) : Location	Looks for the coordinate of an address using Bing

B.9 maps

Maps, location to address and address to location services.

create full map : Map	Creates a full screen Bing map. Use 'post to wall' to display it.
create map : Map	Creates a Bing map. Use 'post to wall' to display it.
directions(from : Location, to : Location, walking : Boolean) : Location Collection	Calculates the directions between two coordinates using Bing.
open directions(start search : String, start loc : Location, end search : String, end loc : Location)	Shows the directions in the Bing map application. If search term is provided, location is ignored. Provide search term or location for start and end.
open map(center : Location, search : String, zoom : Number)	Opens the Bing map application. zoom between 0 (close) and 1 (far)

B.10 math

Mathematical constants, operators, and functions such as cos, sin etc.

∞_- : Number	Returns negative infinity
∞_+ : Number	Returns positive infinity
abs(x : Number) : Number	Returns the absolute value of a number
acos(x : Number) : Number	Returns the angle whose cosine is the specified number
asin(x : Number) : Number	Returns the angle whose sine is the specified number
atan(x : Number) : Number	Returns the angle whose tangent is the specified number
atan2(y : Number, x : Number) : Number	Returns the angle whose tangent is the quotient of two specified numbers
ceiling(x : Number) : Number	Returns the smallest integral value greater than or equal to the specified number
cos(angle : Number) : Number	Returns the cosine of the specified angle
cosh(angle : Number) : Number	Returns the hyperbolic cosine of the specified angle
create matrix(rows : Number, columns : Number) : Matrix	Creates a matrix of zeros of a given size

<code>create vector3(x : Number, y : Number, z : Number) : Vector3</code>	Creates a 3D vector
<code>deg to rad(degrees : Number) : Number</code>	Converts degrees into radians
<code>e : Number</code>	Returns the natural logarithmic base, specified by the constant, e
<code>ε : Number</code>	Returns the machine epsilon, the smallest positive number greater than zero
<code>exp(x : Number) : Number</code>	Returns e raised to the specified power
<code>floor(x : Number) : Number</code>	Returns the largest integer less than or equal to the specified number
<code>gravity : Number</code>	Returns the value of standard gravity (9.80665) in meters/sec ²
<code>ieee remainder(x : Number, y : Number) : Number</code>	Returns the remainder resulting from the division of a specified number by another specified number
<code>is ∞(x : Number) : Boolean</code>	Indicates whether number evaluates to negative or positive infinity
<code>is ∞_(x : Number) : Boolean</code>	Indicates whether number evaluates to negative infinity
<code>is ∞+(x : Number) : Boolean</code>	Indicates whether number evaluates to positive infinity
<code>is nan(x : Number) : Boolean</code>	Indicates that value cannot be represented as a number, i.e. Not-a-Number. This usually happens when the number is the result of a division by zero.
<code>log(x : Number, base : Number) : Number</code>	Returns the logarithm of a specified number in a specified base
<code>log10(x : Number) : Number</code>	Returns the base 10 logarithm of a specified number
<code>loge(x : Number) : Number</code>	Returns the natural (base e) logarithm of a specified number
<code>max(x : Number, y : Number) : Number</code>	Returns the larger of two numbers
<code>min(x : Number, y : Number) : Number</code>	Returns the smaller of two numbers
<code>mod(x : Number, y : Number) : Number</code>	Returns the modulus resulting from the division of one number by another number
<code>π : Number</code>	Returns the constant pi
<code>pow(x : Number, y : Number) : Number</code>	Returns a specified number raised to the specified power
<code>rad to deg(radians : Number) : Number</code>	Converts rad into degrees
<code>random(max : Number) : Number</code>	Returns a random integral number x: $0 \leq x < \text{max}$

random normalized : Number	Returns a random floating-point number x : $0 \leq x < 1$
round(x : Number) : Number	Rounds a number to the nearest integral value
round with precision(x : Number, digits : Number) : Number	Rounds a number to a specified number of fractional digits.
sign(x : Number) : Number	Returns a value indicating the sign of a number
sin($angle$: Number) : Number	Returns the sine of the specified angle
sinh($angle$: Number) : Number	Returns the hyperbolic sine of the specified angle
sqrt(x : Number) : Number	Returns the square root of a specified number
tan($angle$: Number) : Number	Returns the tangent of the specified angle
tanh($angle$: Number) : Number	Returns the hyperbolic tangent of the specified angle

B.11 media

Pictures and music.

choose picture : Picture	Chooses a picture from the media library
choose song : Song	Chooses a song from the media library (planned addition to the API)
create board($height$: Number) : Board	Creates a new game board
create landscape board($width$: Number, $height$: Number) : Board	Creates a new game board in landscape mode. On rotatable devices it will take the entire screen when posted.
create picture($width$: Number, $height$: Number) : Picture	Creates a new picture of the given size
create portrait board($width$: Number, $height$: Number) : Board	Creates a new game board in portrait mode. On rotatable devices it will take the entire screen when posted.
picture albums : Picture Albums	Gets the picture albums
pictures : Pictures	Gets the pictures on the phone
playlists : Playlists	Gets the playlists on the phone
saved pictures : Pictures	Gets the saved pictures on the phone
search marketplace($terms$: String, $type$: String)	Searches the Windows Phone Marketplace (type in applications or music)
song albums : Song Albums	Gets the song albums on the phone
songs : Songs	Gets the songs on the phone

B.12 phone

Phone numbers, vibrate, etc.

choose address : Link	Chooses an address from the contacts
choose phone number : Link	Chooses a phone number from the contact list
dial phone number(number : String)	Starts a phone call
power source : String	Indicates if the phone is on 'battery' or 'external' power source.
save phone number(phone number : String)	Allows the user to save the phone number
vibrate(seconds : Number)	Vibrates the phone for a number of seconds (0.02 minimum)

B.13 player

Play, stop or resume songs

active song : Song	Gets the active song if any
is muted : Boolean	Indicates if the player is muted
is paused : Boolean	Indicates if the player is paused
is playing : Boolean	Indicates if the player is playing a song
is repeating : Boolean	Indicates if the player is repeating
is shuffled : Boolean	Indicates if the player is shuffled
is stopped : Boolean	Indicates if the player is stopped
next	Moves to the next song in the queue of playing songs
pause	Pauses the currently playing song
play(song : Song)	Plays a Song
play home media(media : Media Link)	Plays an audio/video file from the home network
play many(songs : Songs)	Plays a collection of songs
play position : Number	Gets the position in seconds within the active song
previous	Moves to the previous song in the queue of playing songs
resume	Resumes a paused song
set repeating(repeating : Boolean)	Sets the repeating on and off

set shuffled(shuffled : Boolean)	Sets the shuffling on and off
set sound volume(x : Number)	Sets the sound volume level from 0 (silent) to 1 (current volume)
sound volume : Number	Gets the sound volume for sounds from 0 (silent) to 1 (current volume)
stop	Stops playing a song

B.14 senses

Camera, location, microphone and other sensors.

acceleration quick : Vector3	Gets filtered accelerometer data using a combination of a low-pass and threshold triggered high-pass on each axis to eliminate the majority of the sensor low amplitude noise while trending very quickly to large offsets (not perfectly smooth signal in that case), providing a very low latency. This is ideal for quickly reacting UI updates.
acceleration smooth : Vector3	Gets filtered accelerometer data using a 1 Hz first-order low-pass on each axis to eliminate the main sensor noise while providing a medium latency. This can be used for moderately reacting UI updates requiring a very smooth signal.
acceleration stable : Vector3	Gets filtered and temporally averaged accelerometer data using an arithmetic mean of the last 25 'optimally filtered' samples, so over 500ms at 50Hz on each axis, to virtually eliminate most sensor noise. This provides a very stable reading but it has also a very high latency and cannot be used for rapidly reacting UI.
battery level : Number	Gets the charge level of the battery between 0 (discharged) and 1 (fully charged). Returns invalid if this information is not available.
camera : Camera	Gets the primary camera
current location : Location	Gets the current phone location. The phone optimizes the accuracy for power, performance, and other cost considerations.
current location accurate : Location	Gets the current phone location with the most accuracy. This includes using services that might charge money, or consuming higher levels of battery power or connection bandwidth.
front camera : Camera	Gets the front facing camera
has gyroscope : Boolean	Indicates if the gyroscope is available on the device

heading : Number	Gets the compass heading, in degrees, measured clockwise from the Earth's geographic north.
is device stable : Boolean	Indicates whether the device is 'stable' (no movement for about 0.5 seconds)
motion : Motion	Gets the current phone motion that combines data from the accelerometer, compass and gyroscope.
orientation : Vector3	Gets the current orientation in degrees if available. (x,y,z) is also called (pitch, roll, yaw) or (alpha, beta, gamma).
record microphone : Sound	Records audio using the microphone
rotation speed : Vector3	Gets the gyroscope rotational velocity around each axis of the device, in degrees per second.
take camera picture : Picture	Takes a picture and returns it. This picture does not contain the gps location.

B.15 social

Emails, sms, contacts, and calendar services.

choose contact : Contact	Chooses a contact from the contact list
choose email : Link	Chooses an email from the contact list
create contact(nickname : String) : Contact	Creates a new contact
create message(message : String) : Message	Creates a message to share
create place(name : String, location : Location) : Place	Creates a place
link email(email address : String) : Link	Creates a link from an email
link phone number(phone number : String) : Link	Creates a link from a phone number
save contact(contact : Contact)	Saves a new contact
save email(email address : String)	Allows the user to save the email address (email)
search(network : String, terms : String) : Message Collection	Searches for recent messages in a social network (twitter, facebook)
search appointments(start : DateTime, end : DateTime) : Appointment Collection	Searches for appointments in a given time range
search contacts(prefix : String) : Contact Collection	Searches for contacts by name.
search places nearby(network : String, terms : String, location : Location, distance : Number) : Place Collection	Searches for places nearby. The distance is in meters.
send email(to : String, subject : String, body : String)	Opens the mail client

send sms(to : String, body : String)	Opens the short message client (to, body)
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B.16 tags

2D barcodes, QR codes and NFC tags..

send nfc(value : String, type : String)	Sends a url or text using NFC
tag text(text : String, size : Number, bw : Boolean) : Picture	Generates a 2D barcode pointing to the text using Microsoft Tag. text must be less than 1000 character long and size must be between 0.75 and 5 inches.
tag url(url : String, size : Number, bw : Boolean) : Picture	Generates a 2D barcode pointing to the url using Microsoft Tag. url must be less than 1000 character long and size must be between 0.75 and 5 inches

B.17 tile

Windows 8 and Windows phones have tiles displayed on the start screen which initiate an application program when tapped. A tile may be associated with a TouchDevelop script through use of this service. Note: this resource replaces the Tile datatype which is no longer supported.

pin default	prompt the user whether a tile should be pinned to the start screen
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set default counter(n : Number)	Set a counter (a number) which is displayed on the tile; only values in the range 1 to 99 are displayed; other values are hidden
set default text(title: String, text : String)	Displays a short title and a longer piece of text on the tile

B.18 time

Time and date operations.

create(year : Number, month : Number, day : Number, hour : Number, minute : Number, second : Number) : DateTime	Creates a new date instance
fail if not(condition : Boolean)	Aborts the execution if the condition is false.
log(message : String)	Appends this message to the debug log. Does nothing when the script is published.
now : DateTime	Gets the current time
sleep(seconds : Number)	Waits for a specified amount of seconds
stop	Stops the execution and stays on the wall.
today : DateTime	Gets today's date without time
tomorrow : DateTime	Gets tomorrow's date without time

B.19 wall

Ask for or display values on the wall.

add button(icon : String, text : String) : Page Button	Add a new button. icon must be the name of a built-in icon, text must be non-empty.
ask boolean(text : String, caption : String) : Boolean	Prompts the user with ok and cancel buttons
ask number(text : String) : Number	Prompts the user to input a number
ask string(text : String) : String	Prompts the user to input a string

button icon names : String Collection	Gets the list of available page button names.
clear	Clears the background, buttons and entries
clear background	Clears the background color, picture and camera
clear buttons	Clears the application bar buttons and hides the bar
create text box(text : String, font size : Number) : TextBox	Creates an updatable text box
current page : Page	Gets the current page displayed on the wall
display search(on : Boolean)	Indicates whether to show or hide the search icon
pages : Page Collection	Returns the current back stack of pages, starting from the current page to the bottom page.
pick date(text : String, caption : String) : DateTime	Prompts the user to pick a date. Returns a datetime whose date is set, the time is 12:00:00.
pick string(text : String, caption : String, values : String Collection) : Number	Prompts the user to pick a string from a list. Returns the selected index.
pick time(text : String, caption : String) : DateTime	Prompts the user to pick a time. Returns a datetime whose time is set, the date is undefined.
pop page : Boolean	Pops the current page and restores the previous wall page. Returns false if already on the default page.
prompt(text : String)	Prompts the user with an ok button
push new page : Page	Pushes an empty page on the wall
screenshot : Picture	Takes a screenshot of the wall
set background(color : Color)	Sets the wall background color
wall→set background camera(camera : Camera)	Sets the wall background camera
set background picture(picture : Picture)	Sets the wall background picture. The picture will be resized and clipped to the screen background as needed
set foreground(color : Color)	Sets the wall foreground color of elements
set reversed(bottom : Boolean)	Reverses the elements on the wall and inserts new ones at the bottom.
set subtitle(title : String)	Sets the subtitle of the wall
set title(title : String)	Sets the title of the wall
set transform matrix(m11 : Number, m12 : Number, m21 : Number, m22 : Number, offsetx : Number, offsety : Number)	Sets the 3x3 affine matrix transformation applied to the wall

B.20 web

Search and browse the web.

base64 decode(text : String) : String	Decodes a string that has been base64-encoded
base64 encode(text : String) : String	Converts a string into an base64-encoded string
browse(url : String)	Opens a web browser to a url
connection name : String	Gets a name of the currently connected network servicing Internet requests
connection type : String	Gets the type of the network servicing Internet requests (unknown, none, ethernet, wifi, mobile)
create form builder : Form Builder	Create a form builder
create json builder : Json Builder	Creates a json builder
create request(url : String) : Web Request	Creates a web request
csv(text : String, delimiter : String) : Json Object	Parses a Command Separated Values document into a JsonObject where the headers is a string array of column names; records is an array of rows where each row is itself an array of strings. The delimiter is inferred if not specified.
download(url : String) : String	Downloads the content of an internet page (http get)
download json(url : String) : Json Object	Downloads a web service response as a JSON data structure (http get)
download picture(url : String) : Picture	Downloads a picture from internet
download song(url : String, name : String) : Song	Create a streamed song file from internet (download happens when playing)
download sound(url : String) : Sound	Downloads a WAV sound file from internet
feed(value : String) : Message Collection	Parses the newsfeed string (RSS 2.0 or Atom 1.0) into a message collection
html decode(html : String) : String	Decodes a string that has been HTML-encoded
html encode(text : String) : String	Converts a text string into an HTML-encoded string
is connected : Boolean	Indicates whether any network connection is available
json(value : String) : Json Object	Parses the string as a json object

json array : Json Object	Returns an empty json array
json object : Json Object	Returns an empty json object
link image(url : String) : Link	Creates a link to an internet image
link media(url : String) : Link	Creates a link to an internet audio/video
link url(name : String, url : String) : Link	Creates a link to an internet page
oauth v2(oauth url : String) : OAuth Response	Authenticate with OAuth 2.0 and receive the access token or error. (See oauthv2 for more information on which Redirect URI to choose.)
open connection settings(page : String)	Opens a connection settings page (airplanemode, bluetooth, wiki, cellular)
play media(url : String)	Plays an internet audio/video in full screen
search(terms : String) : Link Collection	Search the web using Bing
search images(terms : String) : Link Collection	Search for images using Bing
search images nearby(terms : String, location : Location, distance : Number) : Link Collection	Search for images near a location using Bing. Distance in meters, negative to ignore.
search nearby(terms : String, location : Location, distance : Number) : Link Collection	Searching the web near a location using Bing. Distance in meters, negative to ignore.
search news(terms : String) : Link Collection	Search for news using Bing
search news nearby(terms : String, location : Location, distance : Number) : Link Collection	Search for news near a location using Bing. Distance in meters, negative to ignore.
upload(url : String, body : String) : String	Uploads text to an internet page (http post)
upload picture(url : String, pic : Picture) : String	Uploads a picture to an internet page (http post)
url decode(url : String) : String	Decodes a string that has been url-encoded
url encode(text : String) : String	Converts a text string into an url-encoded string
xml(value : String) : Xml Object	Parses the string as a xml element