DarkSkyWeather plugin for openLuup

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Introduction :
This plug-in is intended to run under the "openLuup" emulation of a Vera system. It should work on a "real" Vera, but has not been tested in that environment. It is intended to capture and monitor select weather data provided by DarkSky (formerly Forecast.io) under their general terms and conditions available on the website https://darksky.net/dev/

It requires an API developer key that must be obtained from the website.

Requires:
1. A system running openLuup (or a Vera home automation controller, not tested) and the AltUI interface. For background, please see the http://forum.micasaverde.com/ forum.
2. Lua libraries “ssl.https” and “dkjson” installed (should already be in an openLuup environment (please refer to openLuup documentation)
3. A valid API developer key from DarkSky (please check their website for terms and conditions)
4. Valid location latitude and longitude coordinates for lookup, in decimal format (for example 51.5085 and -0.1257 for London, UK. please check their website for details)

Installation:
1. Install from the AltUI App Store the “DarkSkyWeather” app
2. Select the “Variables” tab of the newly created “DarkSky Weather” device and edit the “Key”, “Latitude” and “Longitude” variables to your needs (see requirements above).
3. Edit additional configuration variables as needed. See the “Configuration” section below for a description of these).
4. Reload the Luup engine…

Use:
You should now have 3 devices:
1. “DarkSkyWeather”: the main plugin device, with the configuration variables and some additional weather variables. Under the AltUI interface, the current weather/wind date will be displayed on in the device box and the device icon will reflect the current weather conditions.
2. “DarkSky Temperature”: a child device reporting the current temperature data and suitable for all usual actions/triggers in scenes for such a device.
3. “DarkSky Humidity”: a child device reporting the current relative humidity data and suitable for all usual actions/triggers in scenes for such a device.

These 3 devices can be renamed as you wish using the AltUI interface.

Configuration:
The plugin configuration parameters are stored in the following device variables of the plugin:

Key	valid API developer key from Weather Underground.
Latitude	valid location latitude in decimal format.
Longitude	valid location longitude in decimal format.
Period	plugin data refresh interval in seconds (default is 1800 i.e. 1/2h).
Units	a valid DarkSky unit code (default is auto).

Language a valid DarkSky language code (default is en for English).

The plugin will render all values in the units specific in the “Units” variable, irrespective of the Vera or openLuup system parameters.

Please note that only a very small subset of the weather data available from DarkSky has been implemented in this beta version of DarkSkyWeather. However, the code in “L_DarkSkyWeather.lua” can be easily edited to add more features.

Notice:

Appendix:

The below provides some configuration information from the DarkSky developer website, for ease of reference only and subject to all terms and conditions of their service:

Key: Your Dark Sky secret key

Latitude: The latitude of a location (in decimal degrees). Positive is north, negative is south.

Longitude: The longitude of a location (in decimal degrees). Positive is east, negative is west.

Language: Return summary properties in the desired language. (Note that units in the summary will be set according to the units parameter, so be sure to set both parameters appropriately). Language may be:

ar: Arabic
az: Azerbaijani
be: Belarusian
bs: Bosnian
ca: Catalan
cs: Czech
de: German
el: Greek
en: English (which is the default)
es: Spanish
et: Estonian
fr: French
hr: Croatian
hu: Hungarian
id: Indonesian
it: Italian
is: Icelandic
kw: Cornish
nb: Norwegian Bokmål
nl: Dutch
pl: Polish
pt: Portuguese
ru: Russian
sk: Slovak
sl: Slovenian
sr: Serbian
sv: Swedish
tet: Tetum
tr: Turkish
uk: Ukrainian
x-pig-latin: Igpay Atinlay
zh: simplified Chinese
zh-tw: traditional Chinese

Units: Return weather conditions in the requested units. Units should be one of the following:

auto: automatically select units based on geographic location
ca: same as si, except that windSpeed is in kilometers per hour

uk2: same as si, except that nearestStormDistance and visibility are in miles and windSpeed is in miles per hour
us: Imperial units
si: SI units

List of device variables and match with Dark Sky API return data :

Configuration variables: ServiceId = "urn:upnp-micasaverde-com:serviceId:Weather1"

serviceId	**variable**
urn:upnp-micasaverde-com:serviceId:Weather1	Key
urn:upnp-micasaverde-com:serviceId:Weather1	Latitude
urn:upnp-micasaverde-com:serviceId:Weather1	Longitude
urn:upnp-micasaverde-com:serviceId:Weather1	Period
urn:upnp-micasaverde-com:serviceId:Weather1	Units
urn:upnp-micasaverde-com:serviceId:Weather1	Language
urn:upnp-micasaverde-com:serviceId:Weather1	ProviderName
urn:upnp-micasaverde-com:serviceId:Weather1	ProviderURL
urn:upnp-micasaverde-com:serviceId:Weather1	IconsProvider
urn:upnp-micasaverde-com:serviceId:Weather1	Documentation
urn:upnp-micasaverde-com:serviceId:Weather1	Version

API return elements with associated plugin serviceIds and variables:

API category	**API value**	**serviceId**	**variable**
currently	apparentTemperature	urn:upnp-micasaverde-com:serviceId:Weather1	ApparentTemperature
currently	cloudCover	urn:upnp-micasaverde-com:serviceId:Weather1	CurrentCloudCover
currently	dewPoint	urn:upnp-micasaverde-com:serviceId:Weather1	CurrentDewPoint
currently	humidity	urn:micasaverde-com:serviceId:HumiditySensor1	CurrentLevel
currently	icon	urn:upnp-micasaverde-com:serviceId:Weather1	icon
currently	ozone	urn:upnp-micasaverde-com:serviceId:Weather1	Ozone
currently	precipIntensity	urn:upnp-micasaverde-com:serviceId:Weather1	PrecipIntensity
currently	precipProbability	urn:upnp-micasaverde-com:serviceId:Weather1	PrecipProbability
currently	precipType	urn:upnp-micasaverde-com:serviceId:Weather1	PrecipType"},
currently	pressure	urn:upnp-org:serviceId:BarometerSensor1	CurrentPressure
currently	summary	urn:upnp-micasaverde-com:serviceId:Weather1	CurrentConditions
currently	temperature	urn:upnp-org:serviceId:TemperatureSensor1	CurrentTemperature
currently	time	urn:upnp-micasaverde-com:serviceId:Weather1	LastUpdate

currently	windBearing	urn:upnp-micasaverde-com:serviceId:Weather1	WindBearing
currently	windSpeed	urn:upnp-micasaverde-com:serviceId:Weather1	WindSpeed
daily_data_1	pressure	urn:upnp-micasaverde-com:serviceId:Weather1	TodayPressure
daily_data_1	summary	urn:upnp-micasaverde-com:serviceId:Weather1	TodayConditions
daily_data_1	temperatureMax	urn:upnp-micasaverde-com:serviceId:Weather1	TodayHighTemp
daily_data_1	temperatureMin	urn:upnp-micasaverde-com:serviceId:Weather1	TodayLowTemp
daily_data_2	pressure	urn:upnp-micasaverde-com:serviceId:Weather1	TomorrowPressure
daily_data_2	summary	urn:upnp-micasaverde-com:serviceId:Weather1	TomorrowConditions
daily_data_2	temperatureMax	urn:upnp-micasaverde-com:serviceId:Weather1	TomorrowHighTemp
daily_data_2	temperatureMin	urn:upnp-micasaverde-com:serviceId:Weather1	TomorrowLowTemp
daily	summary	urn:upnp-micasaverde-com:serviceId:Weather1	WeekConditions