Package: gridpin (via r-universe)

October 31, 2026

Title Offline Geocoding with One File per Country

Version 0.6.0

Description Geocodes addresses and reverse-geocodes coordinates on the local machine, without a server, an API key or a network request per address. Each country is one memory-mapped file built from Overture Maps and open address registers, downloaded once and verified against the release checksums. Answers carry their precision (house, street, city) and a confidence score, so uncertain matches can be checked before use.

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URL https://gridpin.dev, https://github.com/gridpin/gridpin

BugReports https://github.com/gridpin/gridpin/issues

Depends R (>= 4.2.0)

Imports jsonlite, tools, utils

Suggests digest, knitr, rmarkdown, sf, testthat (>= 3.0.0), withr

VignetteBuilder knitr

SystemRequirements Cargo (Rust's package manager), rustc (>= 1.87)

Config/testthat/edition 3

Encoding UTF-8

RoxygenNote 7.3.2

Config/pak/sysreqs libclang-dev

Repository https://gridpin.r-universe.dev

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`gp_close` *Close a geocoder and unmap its sheet*

Description

Close a geocoder and unmap its sheet

Usage

```
gp_close(geocoder)
```

Arguments

`geocoder`	A geocoder from [gp_open()].

`gp_download` *Download a sheet and verify it*

Description

Fetches the sheet of the GridPin release this package was built for, checks its size and SHA-256 against the values pinned in the package, and only then moves it into [gp_home()]. A sheet that is already there is not fetched again. This is the only function that uses the network; set 'GRIDPIN_OFFLINE=1' to forbid it.

Usage

```
gp_download(country)
```

Arguments

country	A country code or name from [gp_sheets()].

Value

The path of the sheet, invisibly.

---

gp_geocode *Geocode addresses offline*

Description

Every address is matched on your machine against the sheet; nothing is sent anywhere.

Usage

```
gp_geocode(x, sheet, k = 1, sf = FALSE)
```

Arguments

x	A character vector of addresses. 'NA' gives a row without coordinates.
sheet	A geocoder from [gp_open()], a country code, or a path to a sheet.
k	How many candidates to return per address. With 'k = 1' the result has one row per address, in input order; with more, one row per candidate and 'rank' numbers them.
sf	Return an 'sf' object with WGS84 points (needs the sf package).

Value

A data frame with 'query', 'rank', 'lat', 'lon', 'precision' ('house', 'interp', 'near', 'street', 'city'), 'confidence', 'weak' ('TRUE' when the answer is too uncertain to use without a check), the matched 'housenumber', 'street', 'postcode', 'commune', and 'flags'. Addresses that are not found keep their row with 'NA' coordinates.

Examples

```
g <- gp_open(system.file("extdata", "tiny.bin", package = "gridpin"))
gp_geocode(c("3 Main Street, Springfield", "Nowhere 99"), g)
```

gp_geocode_df *Add coordinates to a data frame column of addresses*

Description

Add coordinates to a data frame column of addresses

Usage

```
gp_geocode_df(df, column, sheet, sf = FALSE)
```

Arguments

df	A data frame.
column	Name of the column with the address text.
sheet	A geocoder from [gp_open()], a country code, or a path to a sheet.
sf	Return an ‘sf‘ object with WGS84 points (needs the sf package).

Value

‘df‘ with the columns of [gp_geocode()] prefixed ‘gp_‘ (except ‘query‘ and ‘rank‘).

gp_home *Directory for downloaded sheets*

Description

‘GRIDPIN_HOME‘ if set, otherwise the user cache directory for R packages ([tools::R_user_dir()]). Sheets already downloaded by the Python package ‘gridpin-mcp‘ (‘~/.cache/gridpin‘) are found and used without a second download.

Usage

```
gp_home()
```

gp_open *Open a GridPin sheet*

Description

Loads a country sheet into memory (the file is memory-mapped, so opening is fast and several R sessions share the pages). Opening the same file again returns the same geocoder.

Usage

```
gp_open(sheet)
```

Arguments

sheet	A country code or name from [gp_sheets()] (the sheet must be downloaded, see [gp_download()]) or the path to a '.bin' sheet file.

Value

An object of class 'gridpin_geocoder'.

Examples

```
g <- gp_open(system.file("extdata", "tiny.bin", package = "gridpin"))
gp_geocode("3 Main Street, Springfield", g)
```

gp_reverse *Reverse geocode: the nearest indexed address to each point*

Description

Reverse geocode: the nearest indexed address to each point

Usage

```
gp_reverse(lat, lon, sheet, k = 1)
```

Arguments

lat, lon	Numeric vectors of WGS84 coordinates of the same length.
sheet	A geocoder from [gp_open()], a country code, or a path to a sheet.
k	How many candidates to return per address. With 'k = 1' the result has one row per address, in input order; with more, one row per candidate and 'rank' numbers them.

Value

A data frame like [gp_geocode()] with ‘distance_m‘, the distance from the point to the answer. Streets are indexed by their centre, so check ‘distance_m‘ before treating the answer as the building at the point.

---

gp_sha256 *SHA-256 of a file*

Description

Uses [tools::sha256sum()] (R 4.5 and newer) or, on older R, the digest package.

Usage

```
gp_sha256(path)
```

Arguments

path	Path to a file.

Value

Lower-case hexadecimal digest.

---

gp_sheet_path *Path of a downloaded sheet*

Description

Path of a downloaded sheet

Usage

```
gp_sheet_path(country)
```

Arguments

country	A country code or name from [gp_sheets()].

gp_sheets *Available sheets and whether they are downloaded*

Description

Available sheets and whether they are downloaded

Usage

```
gp_sheets()
```

Value

A data frame: ‘code‘, ‘country‘, ‘size_mb‘, ‘downloaded‘, ‘path‘.

Examples

```
gp_sheets()
```

gp_version *Versions, for the methods section of your study*

Description

Versions, for the methods section of your study

Usage

```
gp_version(sheet = NULL)
```

Arguments

sheet	Optional: a geocoder or sheet, to report its file and size.

Value

A named list: package version, C interface version, sheet release, and the sheet file.

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