Package 'frheritage'

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Title R Interface to Get French Heritage Data

Version 0.1.0

Description Get spatial vector data from the Atlas du Patrimoine (<http://atlas.patrimoines.culture.fr/atlas/trunk/>), the official national platform of the French Ministry of Culture, and facilitate its use within R geospatial workflows. The package provides functions to list available heritage datasets, query and retrieve heritage data using spatial queries based on user-provided sf objects, perform spatial filtering operations, and return results as sf objects suitable for spatial analysis, mapping, and integration into heritage management and landscape studies.

License GPL (>= 3)

Encoding UTF-8

RoxygenNote 7.3.3

Imports jsonlite, happign, httr2, sf, xml2

Depends R (>= 4.1.0)

LazyData true

Suggests knitr, rmarkdown, testthat (>= 3.1.7), httptest2

Config/testthat/edition 3

NeedsCompilation no

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Contents

`all_ids` *Available layer datasets*

Description

A dataset containing available layer datasets from the French Ministry of Culture's "Atlas du Patrimoine" service.

Usage

```
all_ids
```

Format

A `data.frame` with 5 columns:

id (character) Layer id.

title (character) Layer title.

guid (integer) Layer guid.

code (character) Internal code, determined from tile.

departement (character) Layer department

Details

Contains only data available on the 96 departments of metropolitan France.

`get_heritage` *Retrieve and download heritage spatial data for a given sf object*

Description

This function retrieves and downloads spatial heritage datasets from the French Ministry of Culture's "Atlas du Patrimoine" service, based on the spatial extent and department(s) of a given `sf` object. It first identifies relevant dataset IDs and then downloads corresponding shapefiles for each requested heritage code.

Usage

```
get_heritage(
  x,
  data_code,
  buffer = 2500,
  crs = 2154,
  spatial_filter = "intersects",
  verbose = TRUE
)
```

Arguments

x	An sf object defining the area of interest.
data_code	A single character heritage dataset codes to retrieve. Valid codes can be obtained with get_heritage_layernames().
buffer	A numeric value (default = 2500). Buffer distance in meters used to slightly expand geometries before querying.
crs	An integer or sf::st_crs object (default = 2154). Coordinate reference system used for spatial processing.
spatial_filter	A character string (default = "intersects"). Spatial predicate to filter downloaded features.
verbose	Logical. If TRUE (default), prints progress and diagnostic messages.

Details

This functions only works for the 96 departments of metropolitan France.

Internally, the function:

1. Validates the requested heritage codes.
2. Checks the spatial filter.
3. Prepares the geometry and aggregates nearby geometries using buffer input.
4. Determines the corresponding INSEE department code for each geometry, using happign::get_wfs().
5. Computes the bounding box of each geometry.
6. Filters layers ids for the requested data_code by using frheritage::all_ids.
7. Builds the URL and downloads the zip archive containing the shapefiles.
8. Reads and merges shapefiles into sf objects.

Value

A single sf object if one heritage code was processed. Returns an empty sf if no matching data is found.

Examples

```
if (interactive()) {
  # Create a minimal sf object defining the area of interest.
  # The geometry is used to identify relevant departments and
  # to build spatial queries against the Atlas du Patrimoine.
  my_sf_layer <- sf::st_sf(
    geometry = sf::st_sfc(
      sf::st_point(c(2.21, 48.82)),
      crs = 4326
    )
  )

  # Download spatial heritage data for a given heritage code.
  # The function returns an sf object containing the retrieved features.
```

```
  heritage_data <- get_heritage(
    x = my_sf_layer,
    data_code = "IMMH",
    buffer = 2000,
    spatial_filter = "intersects"
  )
}
```

`get_heritage_ids` *Retrieve heritage layer IDs for a given sf object*

Description

This function retrieves available layer identifiers from the French Ministry of Culture's "Atlas du Patrimoine" service feed, based on the spatial extent and department(s) of a given `sf` object.

Usage

```
get_heritage_ids(x, buffer = 2500, crs = 2154, verbose = TRUE)
```

Arguments

`x`	An `sf` object defining the area of interest.
`buffer`	A `numeric` value (default = 2500). Buffer distance in meters used to slightly expand geometries before querying.
`crs`	An `integer` or `sf::st_crs` object (default = 2154). Coordinate reference system used for spatial processing.
`verbose`	Logical. If `TRUE` (default), prints progress and diagnostic messages.

Details

Internally, the function:

1. Aggregates nearby geometries using `buffer` input.
2. Determines the corresponding INSEE department code for each geometry, using `happign::get_wfs()`.
3. Computes the bounding box of each geometry.
4. Queries the "Atlas du Patrimoine" service feed for all available metadata records (IDs, titles, GUIDs) within each bounding box.

Progress is shown for each request.

Value

A `data.frame` with the following columns:

id Numeric identifier extracted from the record GUID.

title Record title as published in the service feed.

guid Full GUID (unique resource identifier).

code Internal code associated with the layer.

Returns an empty `data.frame` if no records are found or the request fails.

Examples

```
if (interactive()) {
  # Create a minimal sf object defining the area of interest.
  # A simple point geometry is sufficient to trigger spatial queries.
  my_sf_layer <- sf::st_sf(
    geometry = sf::st_sfc(
      sf::st_point(c(2.21, 48.82)),
      crs = 4326
    )
  )

  # Retrieve available heritage dataset identifiers intersecting
  # the spatial extent derived from the sf object.
  ids <- get_heritage_ids(my_sf_layer)
}
```

`get_heritage_layernames` *Get heritage layer codes and labels*

Description

This function provides a reference table mapping internal codes to explore heritage layer available datasets from French Ministry of Culture's "Atlas du Patrimoine". Optionally, it can filter the table to return only selected codes.

Usage

```
get_heritage_layernames(code = NULL)
```

Arguments

`code`	Optional `character` vector of layer codes to filter. If `NULL`, the full reference table is returned.

Details

The available codes and their meanings are:

- `IMDN` — Domaines nationaux
- `IMMH` — Immeubles classes ou inscrits
- `IMUN` — Patrimoine Mondial UNESCO – Emprise surfacique des biens
- `LACR` — Architecture Contemporaine Remarquable
- `PADN` — Protection au titre des abords de domaines nationaux
- `PAMH` — Protection au titre des abords de monuments historiques
- `PAUN` — Patrimoine Mondial UNESCO – Zone tampon des biens
- `SICI` — Sites classes ou inscrits
- `SIPR` — Sites patrimoniaux remarquables
- `ZPPA` — Zones de presomption de prescriptions archeologiques

Value

A `data.frame` with two columns:

code Official heritage layer code (character).

label Descriptive label (character).

Examples

```
# Get the full table of heritage layer codes
get_heritage_layernames()

# Filter for specific codes
get_heritage_layernames(c("IMMH", "SICI"))
```

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