

# WIKI BY PLACE

Extracting Wikipedia entries in a specific area



# Introduction



This project was done in the TDK - Technion Data & Knowledge Lab of the CS faculty.



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This presentation purpose is to described and explain the implementation of the project.



In order to understand the project purpose, it's will be useful to read the README file – until “Getting Started”.



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# Data resources

## 1. dbpedia-hebrew.

**This is a former project in the TDK.**

URL :<https://github.com/TechnionTDK/dbpedia-Hebrew>

**This former project is using Wikipedia dump files to produce 2 json files containing all entries in Wikipedia Hebrew with the following data:**

"label" - headline of the Wikipedia page.

"url" - url of the Wikipedia page.

"abstract" - this name is taken from Wikipedia dump files and contain the same data. This data is based on the information in the Wikipedia page. Some labels have no abstract.

*As a preparation to my project, I fixed the abstract this project was generating. Then I extract the 2 files to directory named "input".*

# Data resources

## 2. MediaWiki API

**This is an API by Wikipedia.**

URL: <https://he.wikipedia.org/w/api.php>

This API has a lot of uses, the following one is used in this project:

For a given Wikipedia page label:

    If the page has no location:

        return the page has no location.

    Else:

**return the location.**

Notice: not all pages on Wikipedia has location.



# Elastic\_builder.py

## Class dataLoad:

- This class is extracting the data from the 2 files in “input” directory (slide 4).

The data is saved in dataLoad's members as **public data**.

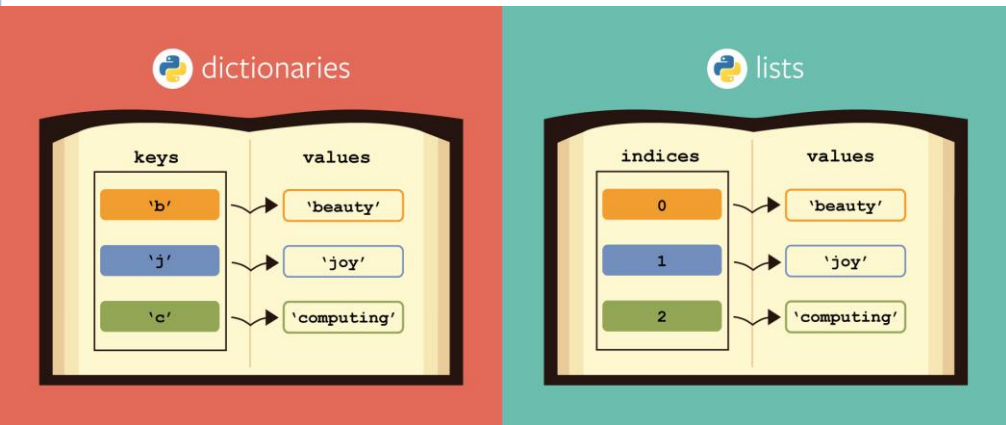
`allLabels = []` (list)

`labelsToUrls = {}` (dict)

`urlsToAbstract = {}` (dict)

The data is saved this way for complexity reasons of the full script:

The relevant labels would be united after finding their coordinates.



# Elastic\_builder.py

**saveWithCoordinates** - method.

Input: one parameter from type dataLoad.

Algorithm:

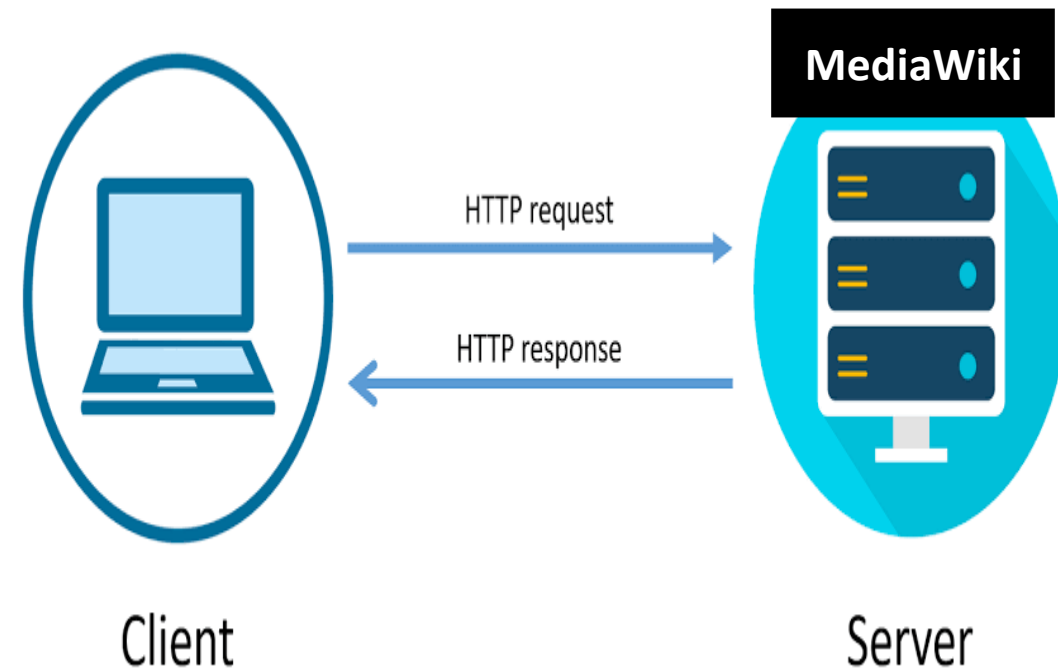
Result = []

**For every label at allLabels :**

**If label has coordinates (using MediaWiki API):**

**Result.append(doc{label})**

**Return Result**



doc{label}:  
Label  
Coordinates  
url  
Abstract



# Elastic\_builder.py

**elasticBuilder** - method.

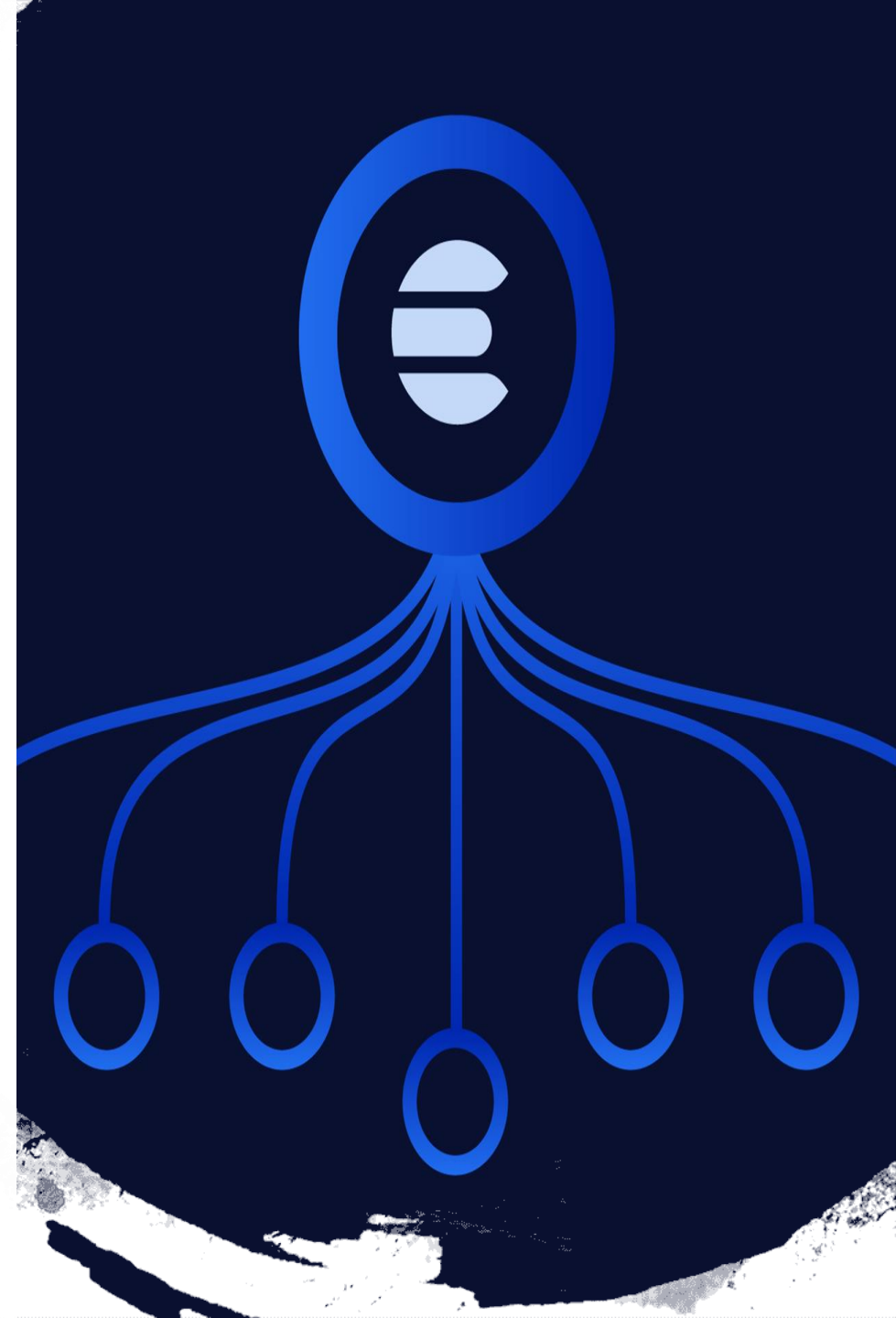
Input: one parameter from type list. Assuming list's items has coordinates and coordinates are saved in a specific way.

Algorithm:

**Init elasticsearch engine.**

**Insert all list's items to the engine.**


**restartElasticIndex()** is another method that is used to delete the engine in case it's not the first build.





# Elastic\_builder.py

Full build-up algorithm:



```
data = dataLoad()  
elasticDocs = saveWithCoordinates(data)  
restartElasticIndex()  
elasticBuilder(elasticDocs)
```

# search.py

This file is used for the implementation of one method:

**search** - method.

Input: one parameter from type list.

Assuming list's items are the following strings:

1. radius - number and its unit [mm, cm, m, km...].
2. Latitude – number. 3. Longitude – number.

Algorithm:

**Call the built engine to get doc{label} of all labels in the defined area.**

**For every label – add the distance from the input.  
Return all this data as list of dicts.**

doc{label}:

Label

Coordinates

url

Abstract

server.py

This file is a wrapper between the user and the method 'search'.

It's using flask to create http request.

Its input is:

location - latitude and longitude ("lat,lon").

radius - number and its unit [mm, cm, m, km...] ("radius").

Algorithm:

Extract the input to the format search is expecting (detailed in the previous slide).

Call 'search'.

Return 'search' result as a json.