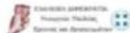


# ΑΝΑΔΕΙΞΕΤΟ: Εργαλεία Ανάδειξης Τουριστικής Εμπειρίας

T1EDK-02474

5η Συνάντηση Εργασίας, 05 Μαΐου 2021

**Ε.Κ. ΑΘΗΝΑ:** Παύλος Εφραιμίδης, Γεώργιος Δροσάτος, Σωτήρης Γυφτόπουλος,  
Γεώργιος Σταματελάτος, Ελένη Μπριόλα, Βασίλης Περηφάνης



Με τη συγχρηματοδότηση της Ελλάδας και της Ευρωπαϊκής Ένωσης

# Contents

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- Administration
- POI Search API, Support for Dotsoft
- Work in progress:
  - Social Profile Data Collection: A Demo App
    - Twitter Data Retrieval
    - Facebook Data Retrieval (Data Retrieval, POI matching, recommendations)
  - Facebook POI Matcher (script)

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# Administration

# Συμβασιούχοι έργου

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- Συμβάσεις προσωπικού (με χρονολογική σειρά):
  - Παύλος Εφραιμίδης, 6/8/2018
  - Σωτήριος Γυφτόπουλος, 14/12/2018
  - Γεώργιος Δροσάτος, 01/01/2019
  - Γεώργιος Σταματελάτος, 01/01/2019
  - Ελένη Μπριόλα, 01/01/2019
  - Βασίλειος Περιφάνης, 01/01/2021
  - Ανδρέας Σένδρος, 01/11/2020 – 31/03/2021

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# POI Search API

# Updated Database Data + API

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- ~51K POIs, 14 prefectures
- Potential of 1250 POIs / day (insertion + update)
- Majority of POIs only update
- Links with Twitter, Instagram, Tripadvisor, Facebook (+ matching API)
- New APIs for recommendation based on Foursquare Lists
- Part of the dataset is now published

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**Work in Progress:**  
Social Profile Data Collection Apps  
Federated Collaborative Filtering in Tourism  
Yelp dataset

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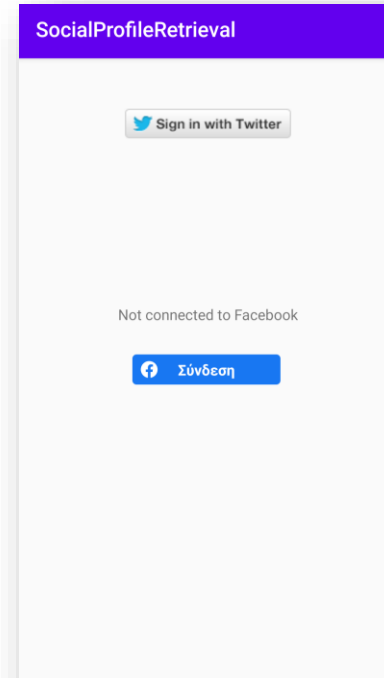
# Social Profile Data Collection: A Demo App



# Utilizing the User's Social Profile for Recommendations: The SocialProfileRetrieval App

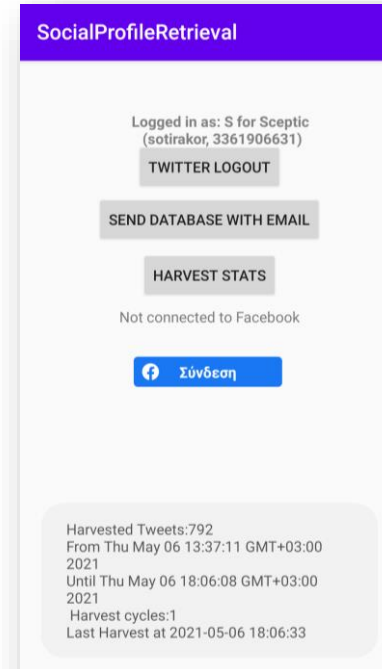
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- The aim of the app: to collect data from the user's profile in Twitter and Facebook in order to be used as input in recommendation algorithms
- The SocialProfileRetrieval App
  - Main Idea: The user's timeline in Twitter and Facebook can provide insight about the user's inclinations.



# Utilizing the User's Social Profile for Recommendations: The SocialProfileRetrieval App

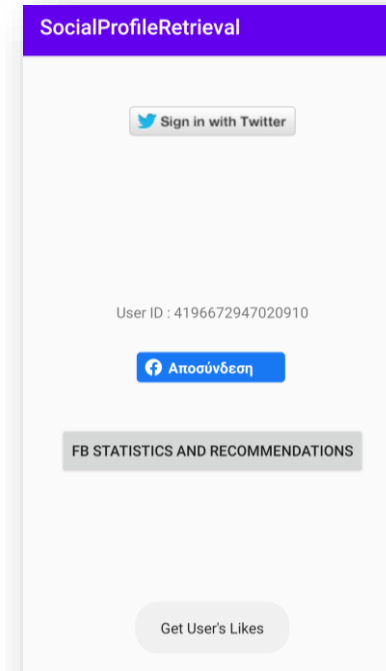
- App's features: Twitter use-case
  - The user logs in to a Twitter account.
  - The app retrieves the recent tweets of his timeline (based on the Twitter API restrictions – 800 tweets)
  - The app is periodically executed to every 15 minutes without the user's intervention to retrieve recent tweets (cumulative database).



# Utilizing the User's Social Profile for Recommendations: The SocialProfileRetrieval App

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- App's features: Facebook use-case
  - The user logs in to a Facebook account.
  - The app retrieves the posts, the events and the likes of the user (made by the user).
  - The app is periodically executed every 1 hour without the user's intervention to retrieve recent posts (cumulative database).



# Utilizing the User's Social Profile for Recommendations: The SocialProfileRetrieval App

- App's features: Facebook use-case
  - The app detects the places the user has been tagged, likes or has attended an event.
  - Matching of Facebook places to POIs based on:
    - the ID
    - the name
    - the similarity of the place's name with POIs in an extended area
  - The user retrieves recommendations based on their profile built by the matched POIs.

Screenshot of the SocialProfileRetrieval app interface. The app has a purple header with the title "SocialProfileRetrieval". Below the header, there are four radio button options for location selection: "Αμοργός Χώρα" (selected), "Ξάνθη Κεντρική Πλατεία", "Θεσσαλονίκη Λευκός Πύργος", and "Χειροκίνητη Εισαγωγή". There are input fields for "Longitude" and "Latitude". Below these are two buttons: "RECOMMEND" and "STATISTICS". At the bottom, there is a list of recommended POIs with their names, IDs, and coordinates.

Καλλιστώ (4e3ad3fe1f6e7952f32ba370)
Lat.:36.83191385842732 Long.:25.897227348239756
Youkali (5b4c8297f0b490002c9b0fb9)
Lat.:36.830883 Long.:25.865562
Ταβέρνα Γιωργαλίνης (4e47f62a52b1bac0d98a785f)
Lat.:36.798646167794374 Long.:25.820020271408058
Μύλος (4e6c2a551fb2a143e1b3fae6)

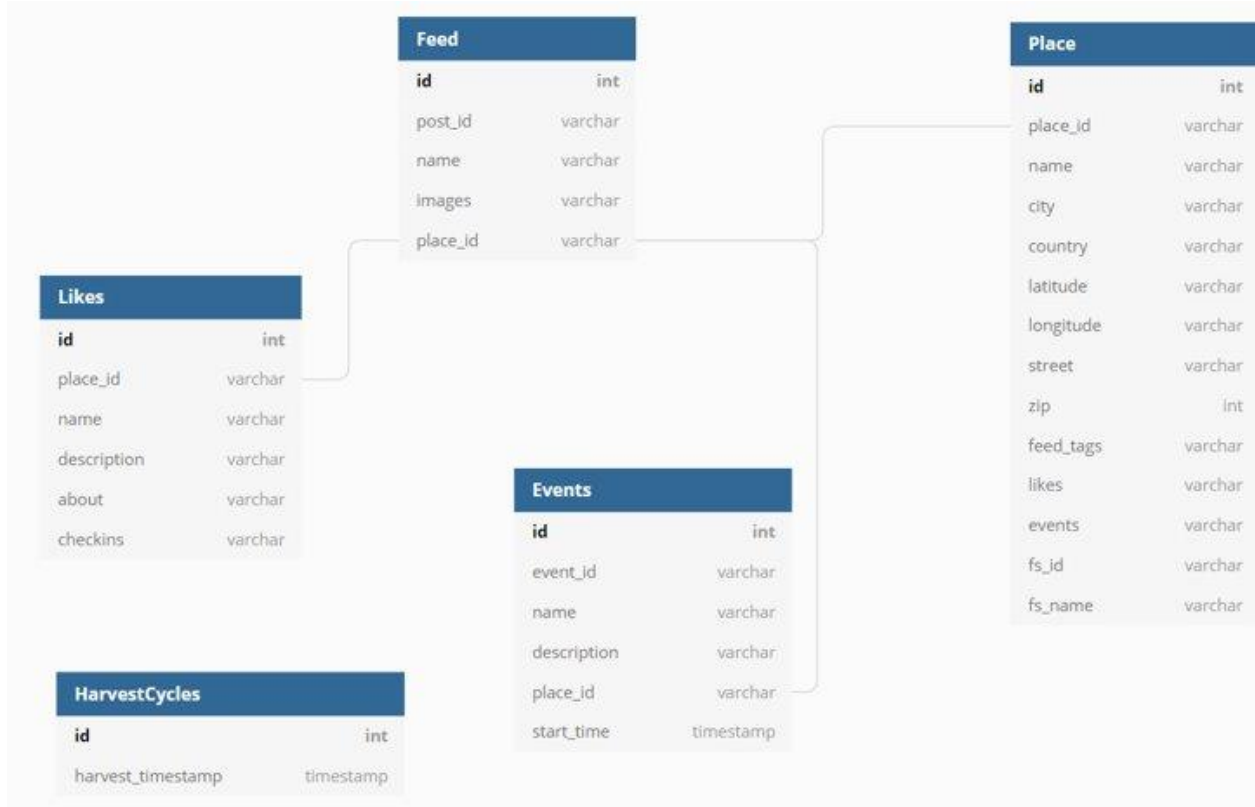
# Utilizing the User's Social Profile for Recommendations: The SocialProfileRetrieval App

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- App's features
  - The database is stored only on the user's phone (privacy preserving).
  - Available statistics about the harvest activity of the app.
  - The user can send the collected database via email.
  - Upon logout, the collected data are deleted.



# Database Schema



# Facebook POI matcher (Python script)

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- Identify a POI ID based on facebook name or/and place coordinates.
- Automatic "back-to-back" searches if POI has not been identified.
- Calculates Jaro-Winkler distance for the returned POIs in the area.

```
$ python3 facebook_poi_matcher.py --token TOKEN --name Κυβερνείο --coordinates 41.142852280936,24.888669159936
```

Match found for Κυβερνείο : 5494ad37498ead6e0c3d1fde

```
$ python3 facebook_poi_matcher.py --token TOKEN --name 'Ο Αϊ Γιώργης ο Βαρσαμίτης' --coordinates 36.808679,25.876966 --meters 100 --limit 20
```

Possible matches for Ο Αϊ Γιώργης ο Βαρσαμίτης :

POI	ID	Similarity
Άγιος. Γεώργιος. Βαρσαμιτης:	53e11982498e932e52e85449:	0.6130137981118374