Cognitev Internship Evaluation Task

Guidelines

1- You need to deliver this task by **maximum next Thursday the 23th of May 2019 before midnight – Cairo Time.**
2- You are **not allowed** to share this with anyone

Background

Business Problem

Being online business requires special marketing skills. Creating campaigns, managing campaigns and making sure that the money spent to get traffic from different advertising platforms became more challenging and time consuming.
Being an online businesses you need to focus on the core functionality they do instead of wasting time, money and effort managing your digital campaigns.

Instascaler.com

Instascaler, an online service that lets you acquire high quality traffic on demand. Thanks to the AI powered engine and the SAAS model you will only supply the url you want to send high traffic to and instascaler.com will do the rest.

How can you start getting traffic ?

1. Customer can sign-up, pay and supply campaign information
    a. Campaign information describes the goal of the marketing campaigns, audience and of course the url to which the visits should go.
    b. Campaign name (example: Summer Campaign The amazing product KSA)
    c. Campaign url: (example: http://example.com/somepage.html)
    d. Countries (KSA)
    e. Devices (mobile and/or desktop)
    f. Campaign goal: Awareness / Conversion *
    g. Budget **
2. Grant instascaler access to your google analytics
3. Wait for traffic and keep monitoring campaign progress at customer's dashboard.

*The campaign goal can be to increase "awareness" of a specific product and hence the campaign goal is called "Awareness" or to optimize towards specific actions related to the target website (i.e. increase signups in a website) and hence this campaign's goal is "Conversion".

**Campaign budget will be either 149, 399 or 999 USD.
Campaign category should represent the category of the target website.

Behind the scenes

1. Instascaler engine will extract data points from the supplied url including
   a. Website category
   b. Keywords
   c. Images
   d. Competitors
   e. Countries
   f. Audience information
   g. More
2. Instascaler will use this data to publish very accurate campaigns for your website based on the supplied configuration (for example Google Ads campaign in KSA with Keywords, countries, images) supplied or extracted.
3. Since Instascaler has access to your google analytics it can evaluate the performance of these campaigns and hence pause these campaigns, bid higher on some keywords, create a whole new campaign on different traffic sources say Bing.
4. Instascaler will keep optimizing till you get the entire visits allowed by your budget.
5. Instascaler consumes many apis and provides many apis to fulfill this automated campaign optimization promise.

Your task

Given the following url category extraction service
https://ngkc0vhbrl.execute-api.eu-west-1.amazonaws.com/api/
You can pass the url as a query parameter.
Example:
https://ngkc0vhbrl.execute-api.eu-west-1.amazonaws.com/api/?url=https://arabic.cnn.com/
And get the website category example (

```
{
  "url": "https://www.cars.com/",
  "category": {
    "name": "Automotive",
    "id": 1
  }
}
```
)

Tasks

1. Create a RESTful *campaign* resource. Campaign data will be
   a. Name
   b. Country
   c. Budget
   d. Goal
   e. category. If category is not provided you need to extract it from the provided *dummy* category extraction service.
2. Create a reporting endpoint that accepts
   a. **Dimensions** (used to group data by these fields)
   b. **Fields** (Array of fields to return in each campaign)
   c. **Duration [**start and end dates**]**
3. Develop a UI to draw the analysis results generated from the analyze service (mentioned in point 2)
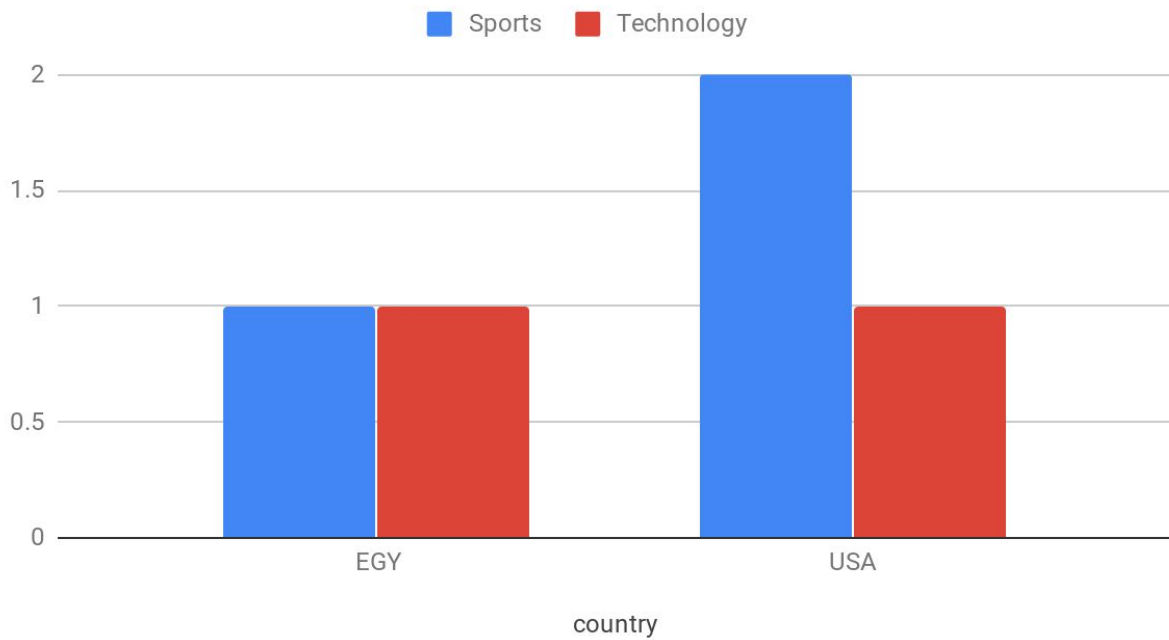
Example: if the provided data are

```
[{
  "name": "n1",
  "country": "USA",
  "budget": 149,
  "goal": "Awareness",
  "category": "Technology"
}, {
  "name": "n2",
  "country": "USA",
  "budget": 149,
  "goal": "Awareness",
  "category": "Sports"
}, {
  "name": "n3",
  "country": "EGY",
  "budget": 149,
  "goal": "Awareness",
  "category": "Technology"
}, {
  "name": "n4",
  "country": "USA",
  "budget": 149,
  "goal": "Awareness",
  "category": "Sports"
}, {
  "name": "n5",
```

```
  "country": "USA",
  "budget": 149,
  "goal": "Conversion",
  "category": "Sports"
}]
```

A chart like this should be drawn

Analysis by country and category

Notes:

1- You can put any assumptions you want as long as you don't invalidate any given requirement

2- You have to provide a clear readme file and a script to build, test (if any) and run your code