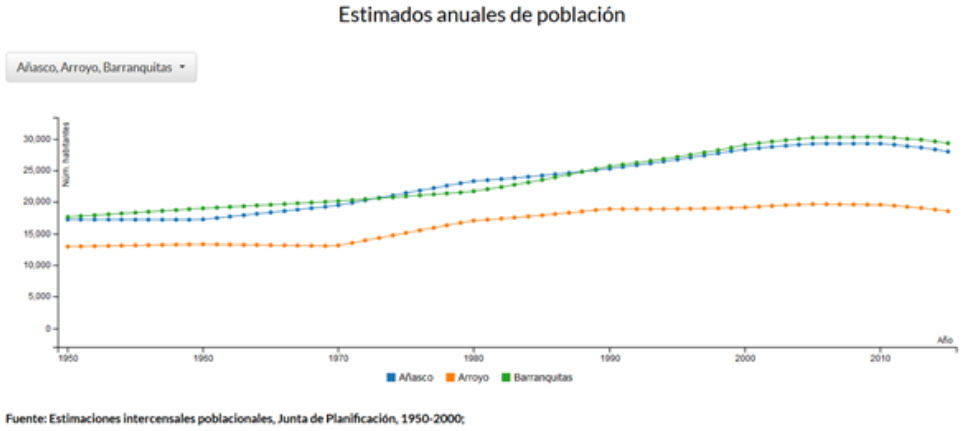
Challenge #1: Mobile-First Web App for Visualizing Structured Statistics from APIs

The Puerto Rico Institute of Statistics has a large Open Data portal dedicated to "indicadores" or "time series statistics". See: http://www.indicadores.pr. The Institute wishes to develop a mobile web application that works in both IPhone and Android to visualize the evolution of the statistics in this portal over time (Time series line graphs). The web app should use the APIs available on this platform as the source for the data. Help the Puerto Rico Institute of Statistics develop its first web app for visualizing official statistics. Here is an example of a similar app developed by the Census Bureau: https://www.census.gov/mobile/economy/

Example of a Time series line graph:



Fuente: Estimaciones intercensales poblacionales, Junta de Planificación, 1950-2000;

User Experience:

1. User opens browser and loads web application
2. User chooses which dataset to visualize
3. User chooses which time series (columns) to include in the visualization
4. App displays on mobile screen the resulting Time series visualization (line graph, bar chart, etc.)

Requirements:

- Use SoQL (Socrata Query Language) or SOAP
- Responsive design. e.g. 640px (iPhone 5) and up
- Publish to public Github repository
- Mobile first web design

Guidelines:

- Responsive mobile first design encouraged
- Usage of the U.S. Web Design Standards
- W3C Accessibility Standards

Challenge #2: Create a personalized Cost Of Living Index calculator

The Puerto Rico Institute of Statistics gathers data that allows the San Juan Metro Area to participate in the Cost-of-Living Index (COLI) of the Council for Community and Economic Research (C2ER). COLI is prepared using prices from a selected group of 57 specific products. The results are shared with users through a "COLI calculator"; see for example here. These products were chosen many years ago to be representative of the consumption of middle-to-upper class professional households. However, not every individual will choose to buy all 57 specific products. Therefore, there is an interest to be able to allow the data user to select which categories are of interest to their particular circumstances. In this challenge, teams will develop a COLI calculator that allows individuals to select which of the 57 categories are relevant to their circumstances, the app will calculate the resulting COLI index and allow the user to determine their comparable salary in one of the other almost 300 regions where COLI is calculated.

Requirements:

- Use of provided Cost of Living data provided by IEPR
- Responsive design. E.g. 640px (iPhone 5) and up
- Publish to public Github repository
- Create a user customized COLI calculator, where users can add/remove items to calculate their estimated Cost Of Living in different cities.
- Data source update functionality

Guidelines:

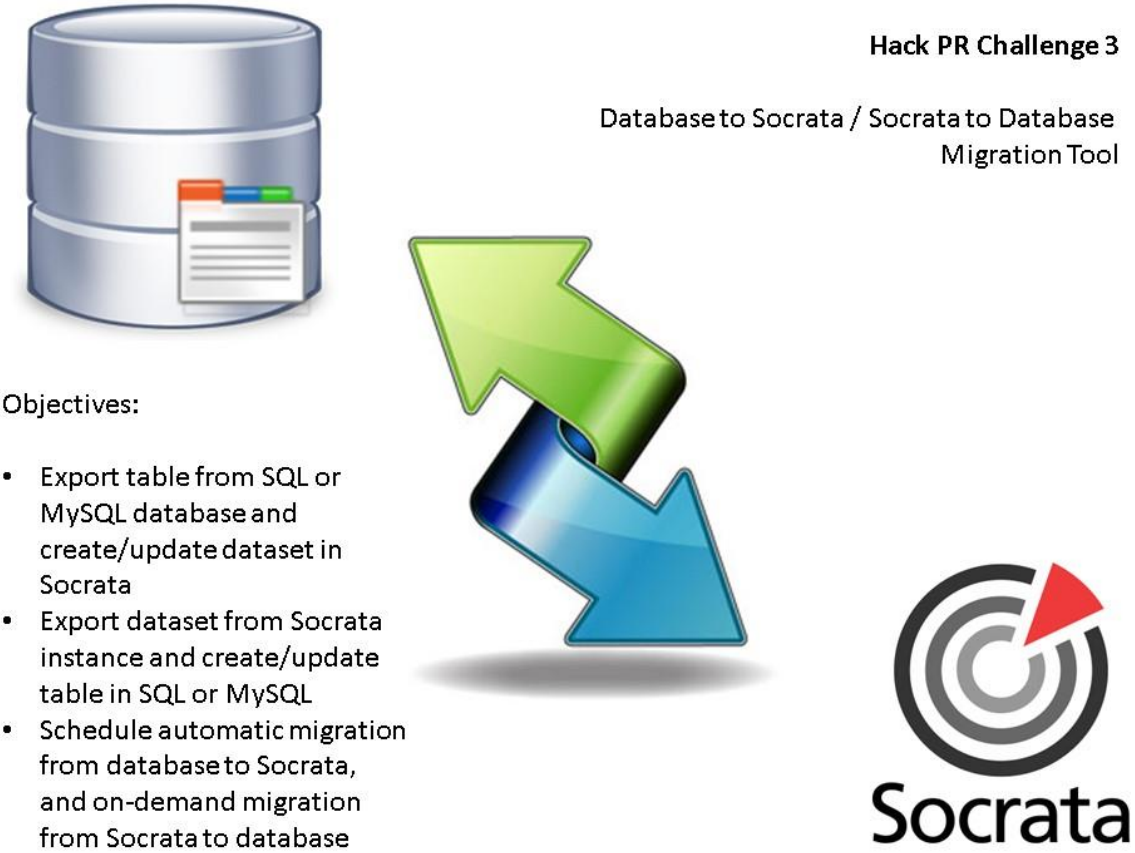
- Responsive design encouraged
- Usage of the U.S. Web Design Standards
- W3C Accessibility Standards

Data resources:

1) Data file: COLI 2014Q3 – 2015Q3.xls [contains the data for the time period covering from the 3rd quarter of 2014 to the 3rd quarter of 2015 that will be used for this challenge]
2) Compiler file: Puerto Rico Index Compiler 2014 Q3 – 2015 Q3.xls [contains equations that show how individual category prices are aggregated to calculate the overall COLI]

Challenge #3: Socrata to Database Migration Tool

The purpose of this challenge is to create a web-interface migration tool that allows a user to migrate a database table (like SQL Server or MySQL) directly to an instance of Socrata, and migrate a dataset as a table for a database (like SQL Server or MySQL). This tool should extend the capabilities of the current Socrata tools, that allow the upload of CSV and TSV files and download of CSV, XLS and JSON formats.



The solution must integrate:

- Socrata Query Language (https://dev.socrata.com/docs/queries/)
- OData Connector (https://dev.socrata.com/odata/)
- App Tokens (https://dev.socrata.com/docs/app-tokens.html)
- SODA API (https://dev.socrata.com/consumers/getting-started.html)
- OLEDB, ODBC connectors or other open source tools and resources available to create an automated service for direct migration of data between a database and a Socrata instance.

Each group must create a Socrata account with a valid email address, and generate an app token with their Socrata accounts (https://opendata.socrata.com/login). Each group must notify the IEPR Group the emails used to create the accounts, in order to elevate their permissions.

Evaluation Criteria for all Challenges:

- Innovation - 15%
  Judged based on degree of originality, and creativity displayed by the team during the development of the app.
- Implementation - 20%
  Judging based on whether a working product was produced, meaning that the app is available to public users. Amount of maintenance required and ability to enhance the original implementation is also measured.
- Relevance - 10%
  Judges consider the degree to which the app addresses the stated problem.
- Quality/Usefulness/Usability - 15%
  Scoring in this category concerns the workability of the app and how much the app will have to be re-written or fixed later. Apps are judged as-is at the end of the challenge or in the final presentation. A code review may be required.
- Presentation - 15%
  Team's ability to demonstrate how their concept design and app prototype can enhance the consumption of data for its users. Preparedness, organization, and professionalism is given attention. Participants should pitch their app and what differences it from its competitors.
- User Experience - 15%
  Judges will consider the degree to which the app is user-friendly, interactive, and the degree of adherence to W3C accessibility standards/U.S. Web Design Standards.
- Use of Data Sources/SODA API - 10%
  Judges will consider the amount of use given to the provided SODA API's.

Prizes:

For each challenge, teams will be awarded:

1st place prize:	$300 in Amazon gift cards and Institute pen drives for all team members
2nd place prize:	$200 in Amazon gift cards and Institute pen drives for all team members
3rd place prize:	$100 in Amazon gift cards and Institute pen drives for all team members

In addition, there will be a GRAND PRIZE for one of the teams that obtained 1st place in one of the three challenges. Specifically, the grand prize team will be selected to work by contract for the Puerto Rico Institute of Statistics to complete the app after Hack.PR. As such, the grand prize team will receive a compensation of $2,000 for their work, they will be able to use office space in the Institute of Statistics as they complete their app, and will be able to interact and receive mentorship from the IT experts at the Institute of Statistics.