

Introduction to API's

HackHERS, Spring 2016

Rutgers University

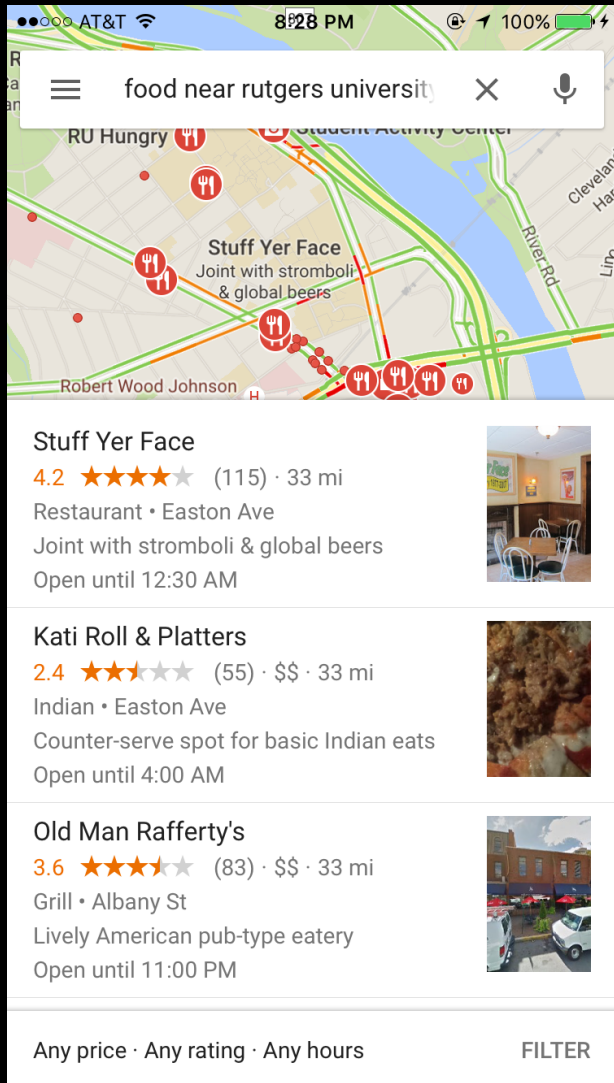
What is an API?

Application Programming Interface

Why API's?

- **Hackathon Idea:** An app that takes in two zip codes from a user, returns a list of restaurants between those zip codes.
- **Input:** Two zip codes, user inputs.
- **Output:** A list of restaurants near the midpoint.
- **Question:** How can we find a midpoint? How can we find restaurants near that midpoint?

Google Developers



```
{
  "html_attributions" : [],
  "next_page_token" : "CpQCAQEAAJiL6oR_jR1285ZQGfcPWz5NIKno05dDA_yhmjnFpTd0j3pxyc5qcWkHjdm8UKF_P_bNsC4HggVaseKhWFLwA5u7Yj6FsOnxxNMzZilHI1SSNZF_zJ7r9JsgMuOQnzbwauEGJ_Fw2HrhZe679PLDSJkErH5vCQ_JvVJbpRgm0DpK04HatUs2vgG6w0vqXYb0MscqRPoMCkc3VZXbG-Ty_dcYvNDTY48bmeZSUPOGGYVWKwzNaBziWPCoiV0N1",
  "results" : [
    {
      "geometry" : {
        "location" : {
          "lat" : 40.4966065,
          "lng" : -74.443781
        }
      },
      "icon" : "https://maps.gstatic.com/mapfiles/place_api/icons/generic_business-71.png",
      "id" : "7a2f78f76dd3fa7d50446f56cbc02502594a83e2",
      "name" : "Rafferty Gourmet",
      "photos" : [
        {
          "height" : 3120,
          "html_attributions" : [
            "\u003ca href=\"https://maps.google.com/maps/contrib/108427399698816213863/ph"
          ],
          "photo_reference" : "CmRdAAAASHmZmtNkhcj3m0eQA_10CM5HxD9Zen2OuCLmAXTHMAiZAP0tRO7SoFw8w1E05Va_pgLge79PKq4TKgDKjZQ47JA4U0SbB9EhCTKqzSXzEHY37ZtIoKp0gYChQ9mH5gJE7BqvFtPQO1emmDXV-f",
          "width" : 4160
        }
      ],
      "place_id" : "ChIJFlggdlHGw4kR-F_WAaHTQBY",
      "reference" : "CnRjAAAA5D6WX_QBvtJbm6STeB4_eWhcgql2Ai4MN_KI9tPYPPqf7rh_vrwRC3s9Jx2PMr1gXc3Y2Yds9TKpljQ9i8MB9Kzd6dCO40dg5tj7_nRSIdakgl3nu0BIQpmEETXVLc4_tUZ-sH0Y1TRoUJBF1FG3KT3P511UGG",
      "scope" : "GOOGLE",
      "types" : [ "restaurant", "food", "point_of_interest", "establishment" ],
      "vicinity" : "106 Albany Street, New Brunswick"
    },
    {
      "geometry" : {
        "location" : {
          "lat" : 40.4964749,
          "lng" : -74.4438018
        }
      }
    }
  ]
}
```

REST API

- RESTful or **Representative State Transfer**
- Requests over HTTP/HTTPS
- Responses are in JSON
 - JavaScript Object Notation

```
{
  "html_attributions" : [],
  "next_page_token" : "CpQCAQEAAJiL6c
P_bNsC4HggVAseKhWFLwA5u7Yj6FsOnxxNMrZi
JvVJbpRgm0DpKO4HatUs2vqG6w0vqXYbOMscqF
  "results" : [
    {
      "geometry" : {
```

SDK's

- Software Development Kit
- An SDK is an API, an API is not always an SDK!
- Examples:
 - UIKit for iOS
 - Twilio and Clarifai for Python

/jayrav13

