Introduction to Python:
Day 6 - APIs

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The Acronym

- Application (a piece of software, a computer program, or a server)
- Programming (what you're doing with python)
- Interface (how you're communicating)

How It Works

- Every Internet page is stored on a remote server
- When you go to a website, a request goes out to their remote server
- Your browser (the client) receives the response
- When surfing the web, the API is the part of the remote server that receives requests and sends responses
- Informative, non-technical explanation: https://medium.com/@perrysetgo/what-exactly-is-an-api-69f36968a41f

How Developers Use It

Example: You're developing an iPhone app

- The app's functionality requires photography (think SnapChat)
- iPhone devs already made camera software & efficient translations of inputs to outputs
- Devs can use that software instead of writing it from scratch! (gains from trade)
- Use the iPhone camera API to embed photography functions in your app
- When Apple upgrades the camera software, your app benefits from the improvements
- Another non-technical explanation: https://www.howtogeek.com/343877/what-is-an-api/

How We (social scientists) Use It

- Tools:
  - Google Cloud Speech API
- Data:
  - Twitter
  - GoogleMaps
  - Census
  - FEC
  - Google Civic API

What Else Do I Need To Know?

- All APIs are different, and each has its own learning curve
- Some require account keys:
  - Keep these private
  - KEEP THESE PRIVATE
  - No, seriously, keep these private
- Most have request limits
- Some aren't free
- We're using python wrappers for APIs
  - R also offers API wrappers
  - Look for these to ease your coding burden

Twitter

- All API Docs
- Getting timelines (3,200 max)
- Streaming