NATIONAL CENTER FOR APPLIED TRANSIT TECHNOLOGY

APIs: A Non-Techie's Guide to a Very Techie Thing

NATIONAL CENTER FOR APPLIED TRANSIT TECHNOLOGY

- Walking small agencies through the technology landscape
  - Lessons learned, trends, strategies
  - Enabling Technology Transfer
- Tech University
  - Guidebooks: Practical, actionable information on addressing tech topics
  - Video profiles: Highlights of innovations in the industry
  - Podcasts: In-depth discussions of advances in the industry
  - Webinars: Introductions and Q&As on important tech topics
- In the Works
  - Creating tools that managers can directly use in their work
  - Cybersecurity Symposium
  - Multimodal Service Evaluation resource

Find us at: n-catt.org

STRATEGIC TECHNOLOGY TECHNICAL ASSISTANCE TEAMS (STTATS)

- One-on-one technical assistance with N-CATT staff and consultants

- Support in identifying and making progress on technology goals

  - Assess current processes and tech opportunities for improvement

  - Develop roadmaps for achieving tech goals, alternatives assessments, tech specifications, procurement strategies

  - Provide support for implementation plans and procurements

- These have led to:

  - Bus electrification strategies (feasibility analysis for rural system; transition plan for small-urban system)

  - Tech adoption strategies that help agencies plan their procurement timeline

  - Alternatives analyses and technical specifications for upgrading fare payment systems

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National Center
for Applied Transit
Technology

DOT GRANTS NAVIGATOR

- Information on Grants, Applications, TA, BIL Programs

- https://www.transportation.gov/dot-navigator

WHERE WE'RE GOING

- What are APIs?

- Why you care about APIs

- APIs in Action

- What you can do with/about APIs

FIRST: A QUESTION

Does anybody here have experience with APIs?

GOALS

- Better understanding of how your different technologies interact with each other

- Empowerment to explore internal/external data sharing

- One of you has an idea for playing with/using APIs

Understanding
Application Programming Interfaces

(APIs)

Image Credit: Sarvika Technologies
(https://www.sarvika.com/2021/05/04/understanding-apis/)

SO WHAT ARE THESE, ANYWAY?

- API = **A**pplication **P**rogramming **I**nterface

- The translation tool that allows two computer programs to "talk to" each other

  - E.g. embedding a Google Map trip planner into a website

- Open vs. Closed

  - Open = the interface is public facing and accessible to anyone

  - Closed = access to the interface is controlled/restricted

  - Partner = inter-organization interfaces, based on agreements
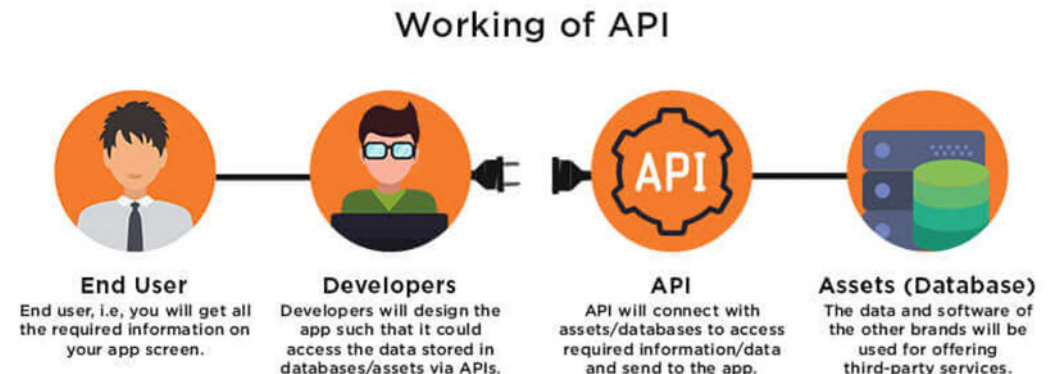

Working of API

End User
End user, i.e, you will get all the required information on your app screen.

Developers
Developers will design the app such that it could access the data stored in databases/assets via APIs.

API
API will connect with assets/databases to access required information/data and send to the app.

Assets (Database)
The data and software of the other brands will be used for offering third-party services.

Image Credit: freeCodeCamp
(https://www.freecodecamp.org/news/design-an-api-application-program-interface/)

WHY YOU CARE

- They're all around
    - MDOT MaaS Platform – you(r platforms) need APIs to connect
    - Trip planning apps
    - Fare payment technology
- Benefits:
    - Enables cloud computing
    - Enables incorporating 3rd party products (you create GTFS, others connect to it - multiple access points to your info for passengers)
    - Gets different systems talking to each other
    - Saves time and money (typically)
- Challenges
    - Diverse systems
    - Skill- and resource-intensive

WHAT YOU CAN DO WITH API'S

- In Procurement
  - Make sure technologies can talk to each other
- In-House
  - Open up your data
  - Automate messaging
  - Connect to other systems/software/platforms
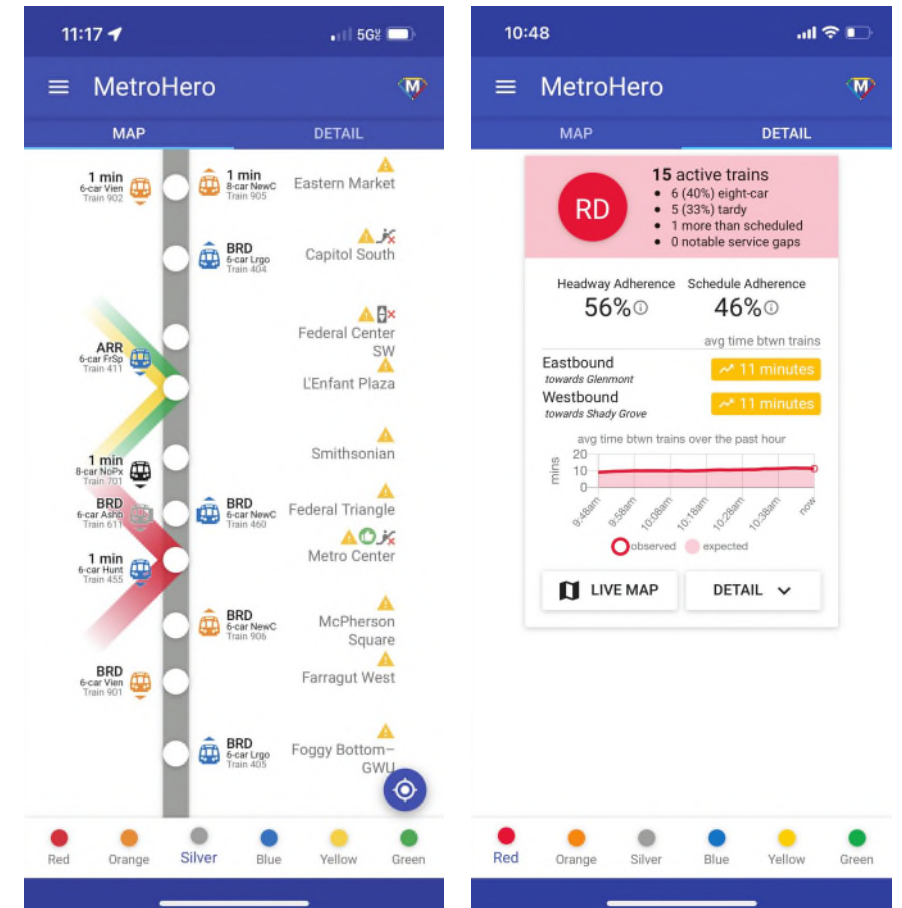
GO FORTH AND GET TECHNOLOGY

- You might not directly touch an API, but understanding how they work can help you improve how your systems talk to each other and to the public

- Lingering questions? Email me: carpenter@ctaa.org