Prototyping for Urban Planners with Open Data

Course Description

This course explores how to build an app prototype using open-source urban data and servers. It will start with a critique of existing use cases (e.g. Uber, AirBnb) and then explore potential use cases for urban planners. We will discuss concepts of product development pipelines and building use cases. The end assignment will be a proposal pitch that outlines (i) the planning concepts, (ii) feasibility assessment, (iii) visual mock-ups of a prototype. The class will investigate how to develop custom digital tools for topics on transportation, land use, and housing.

Course Expectations

Grading Schema -

- Class Participation - 10%

- Initial Proposal - 15%

- Refined Proposal - 15%

- Elevator Pitch - 10%

- Final Prototype Proposal - 25%

- Final Pitch - 25%

Attendance -

Mandatory classroom attendance

Assignments -

- Group Formation (due 10/27)

- Initial Proposal (due class 3)

- Refined Proposal (due class 5)

- Elevator Pitch (due class 5)

- Final Report + Presentation (due class 6)

Course Materials

Readings -

- Articles will be provided during class

System requirements -

- ArcGIS

- Excel

- Tableau

- R (optional)

- Powerpoint (or other presentation software)

Data Sources for Final Project

(Some will be available in Canvas or will be taught how to download from open sources)

- Transportation

- MTA

- Taxi

- Citibike

- LODES

- Housing

- StreetEasy

- NYC DOF

- Land use

- PLUTO

- Google Places

- Others

Weekly Schedule

Class 1 (10/23):

- Class Intro /Survey
- Planning Theories/ Why is an understanding of technology important in planning?
- Framework of Final Deliverable (1) - Topics and Use Cases
- Assignment- Form groups due (10/27) Add on discussion board

Class 2 (10/30):

- Framework of Final Deliverable (2) - Datasets
  - How to describe a dataset? (Temporal and spatial granularity, accuracy, methodology, limitations in use cases, access rights)
  - What questions can or can you not answer with these data?
- Exercise: Planning for a Citibike station. Decision-making journey and how data can help
- Homework: Initial Proposal (Research Question, Hypothesis etc.) (due class 3)

Class 3 (11/13):

- Hands-on exercise using Tableau on one of the assigned data sets
- Refining proposal and start defining the technical methodology

Class 4 (11/20):

- Exercise: Joining/ Processing Data. ArcGIS.
- Lecture/ Introduction on Technology Stack (Front- vs back-end, free vs proprietary etc)
- Homework: Refined Proposal (due class 5)

Class 5 (11/27):

- Application elevator pitches
- UI/ UX Design - Wireframing
- Presentation Skills - Storylining/ Narratives

Class 6 (12/4):

- Final Pitches
- Final Proposals Due (12/11)

Class 7 (12/11):

- Topic TBD