Intersections of Internet Access, Income, and Population Density

University of Oregon Data Analytics Bootcamp
Capstone Group Project
March 2022

Presentation Rubric Requirements

- Selected topic
- Reason why they selected their topic
- Description of their source of data
- Questions they hope to answer with the data
- Description of the data exploration phase of the project
- Description of the analysis phase of the project
- Technologies, languages, tools, and algorithms used throughout the project
- Result of analysis
- Recommendation for future analysis
- Anything the team would have done differently

Live Presentation Rubric Requirements

- All team members present in equal proportions
- The team demonstrates interactivity of dashboard in real time
- The presentation falls within any time limits provided by instructor
- Submission includes speaker notes, flashcards, or a video of the presentation rehearsal

Initial Data Exploration

Topic Selection and Data Sourcing Phase

- Selected topic
- Reason why they selected their topic
- Description of their source of data
- Questions they hope to answer with the data

Data Exploration Phase

- Questions they hope to answer with the data
- Description of the data exploration phase of the project

Data Analysis Process

Data Analysis Phase

- Description of the data analysis phase of the project

Data Analysis Phase

- Database

Data Analysis Phase

- Machine Learning Model

Results + Demonstration

Data Analysis Results

- Results of analysis
  - Narrative
  - Questions answered
- Lots of visualizations / graphics
  - Map
  - Charts / Graphs
- Live interactive demonstration of dashboard
  - Dashboard built in Tableau
  - Connected with Database + Census Data APIs

Dashboard Wireframe

- Interactive Map with layers
  - Internet Access, Computer/Device, Income, Population
  - Census Map API
- Charts + graphs
  - Income level vs. Internet access (broadband, dialup, none)
  - Income level vs. Device type (desktop/laptop, smartphone, tablet, other, none)
    - Smartphone only vs. Desktop/Laptop
  - Q: income threshold for which Internet / Device becomes feasible
    - Internet + Desktop/Laptop as necessary components for remote school/work
- Map overlays for auxiliary info
  - Type of internet (broadband / dial-up)
  - Education level

Dashboard Wireframe

Interactive Map:
Data by County
Color Scaling
Detailed Information on Hover

Charts / Graphs:
Income vs. Internet Access

Charts / Graphs:
Income vs. Device Type

Auxiliary Map Overlay Options

Auxiliary Charts / Graphs as needed

Wrap Up

Technologies and Tools

- Technologies, languages, tools, and algorithms used throughout the project
- Data Limitations
  - Census Data [allocation data, margin of error, confidence level]

Future Recommendations

- Recommendation for future analysis
- Additional information on existing programs / initiatives in this area
  - Pew Research https://www.pewresearch.org/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/
  - USDA Rural Development / Rural Broadband Loans and Grants https://www.rd.usda.gov/programs-services/telecommunications-programs/rural-broadband-loans-loangrant-combinations-and-loan-guarantees
    - Map
- Anything the team would have done differently

End

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