

FLOODOF CODE

HPC HACKATHON



MIKE
30300
R=1



RAPH
20500
R=3

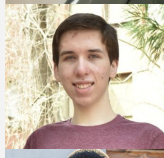
CODING NINJAS



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TEAM MENTORS



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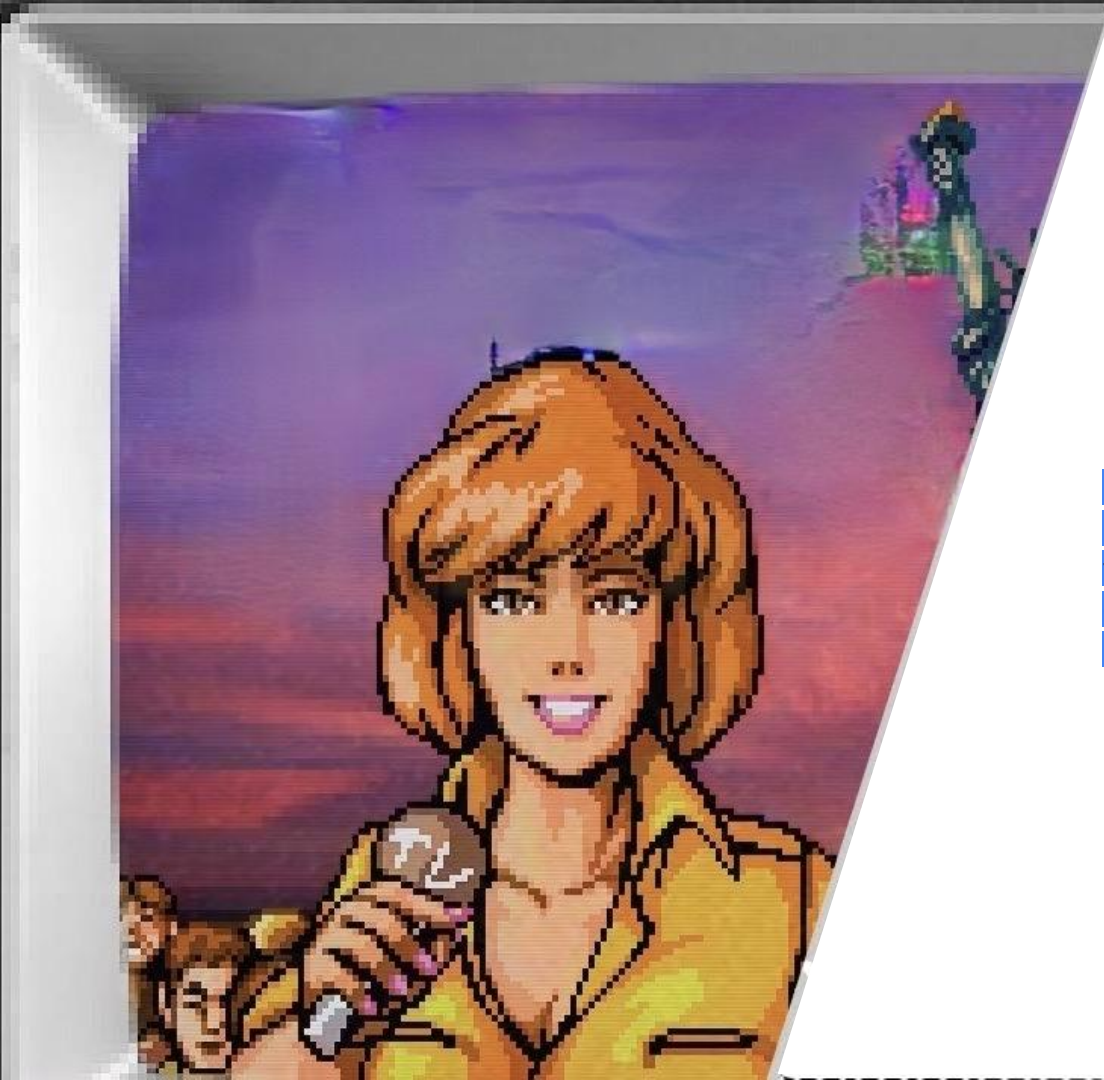


Dr. William Mobley

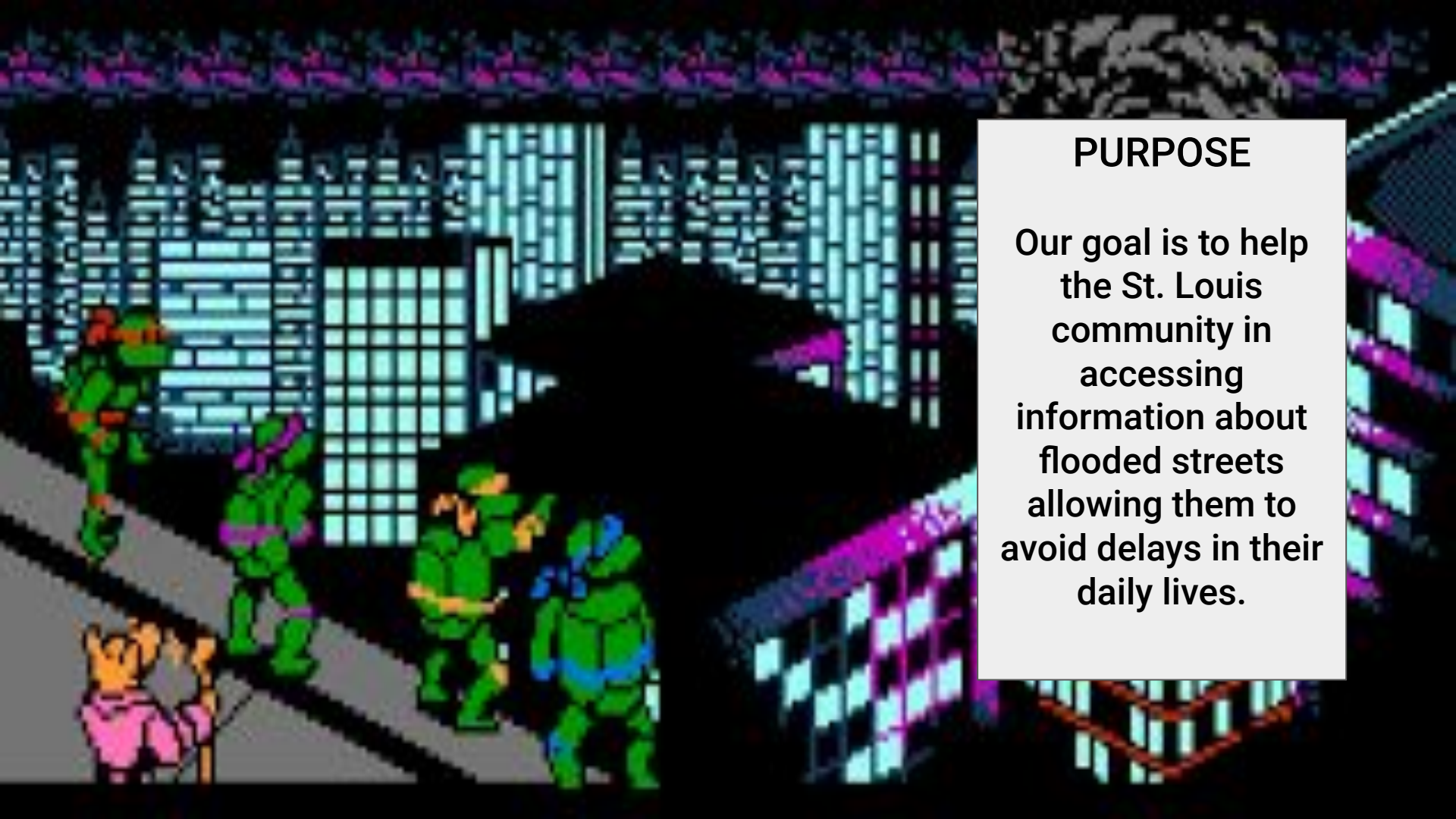


Pts. 00218

HI 00227



Floods account for more than \$1 billion in property losses in the United States each year, and everyone is susceptible to flood damage, whether from storms, water main breaks, or sewer backups.



PURPOSE

Our goal is to help the St. Louis community in accessing information about flooded streets allowing them to avoid delays in their daily lives.



Technological Resources

- Geopandas
- Jupyter on Google Collab (HPC)
- Google Cloud (HPC)
- Google Cloud Run (HPC)
- Flask
- Dash
- Docker
- Python
- Github

An aerial photograph of St. Louis, Missouri, showing the city skyline, the Gateway Arch, and the Mississippi River. The text is overlaid on the image in blue boxes.

Applications to St. Louis

- Citizens can easily view where floods are occurring in their city and what roads may be affected
- Public workers have a way to easily see on a map where they may need to focus flood relief efforts.
- Public workers can see overtime where floods may occur most.

Needed from St. Louis:

- Shapefile of roads and pathways found in their city
- Flood event data sent in a way the program can interpret it (i.e. .csv)

Future Work

- Allow for data to be received in real time
- Allow for user inputted data
- Allow the user to change the look of the map more
- Search out other methods to ingest data
- Quicken the load times
- Make a better Legend for the map
- Change what is shown when hovering over a road or point



SPECIAL THANKS

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Cole McKnight
Amy Cannon
Boyd Wilson
Je'aime Powell
Dr. Linda Hayden

Dr. Alex Nolte
Google cloud
Onmibond
Intel
SC21
TACC



Sources

- <https://www.desktopbackground.org/wallpaper/android-wallpaper-8-bit-landscapes-882090>
- https://commons.wikimedia.org/wiki/File:St._Louis_skyline_September_2008.jpg
- https://www.youtube.com/watch?v=5LgN6lVdgyQ&ab_channel=AdamEX
- <https://www.redbubble.com/i/metal-print/tmnt-16-bit-by-wil2liam4/23606674.0JXQP>
- <https://cogconnected.com/2021/08/teenage-mutant-ninja-turtles-shredders-revenge-trailer/>

Source: <https://www.stlouis-mo.gov/government/departments/public-safety/emergency-management/hazards/threats-flooding.cfm>

- eastbound I-64 near Grand
 - Lindell in the Central West End.
 - Arkansas and McKean avenues
 - <https://twitter.com/sachaheath/status/1293088486904475649>
- https://www.kmov.com/news/afternoon-storms-lead-to-flash-flooding-damage-in-st-louis-area/article_63da5640-09cf-11ec-817f-7b6ee6280348.html
- https://www.stltoday.com/business/local/st-louiss-2050-forecast-calls-for-rain-and-rising-rivers/article_83154fee-8a0e-5dfc-8598-89abc50b46a6.html