WWII Flight Missions

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6/6/2019 - 75th Anniversary of D-Day

Why This Mission?

Today marks the 75th Anniversary of the day
More than 160,000 Allied troops landed along a 50-mile stretch of heavily-fortified French coastline, to fight Nazi Germany on the beaches of Normandy, France. Gen. Dwight D. Eisenhower called the operation a crusade in which, "we will accept nothing less than full victory." More than 5,000 Ships and 13,000 aircraft supported the D-Day invasion, and by day's end, the Allies gained a foot-hold in Continental Europe. The cost in lives on D-Day was high. More than 9,000 Allied Soldiers were killed or wounded, but their sacrifice allowed more than 100,000 Soldiers to begin the slow, hard slog across Europe, to defeat Adolf Hitler's crack troops.

Understanding our Dataset

World War II Flight Missions


```
In [9]:    # see how many times each country was targeted
           tgtCountry_count = missions.groupby('TGT_COUNTRY').count()['MSNDATE']

           # make a dataframe
           tgtCountry_count_df = pd.DataFrame(tgtCountry_count)

           tgtCountry_count_df.head()
```

Out[9]:

TGT_COUNTRY	MSNDATE
"PAPUA NEW GUINEA, MANUS ISLAND"	3
ALBANIA	150
ALEUTIAN ISLANDS	239
ALGERIA	2
ANDAMAN ISLANDS	8

JSON Format

```python
results = db.session.query(Missions.LONGITUDE,
                           Missions.LATITUDE,
                           Missions.MSNDATE,
                           Missions.YEAR,
                           Missions.AIRCRAFT_NAME,
                           Missions.TGT_COUNTRY,
                           Missions.COUNTRY_FLYING_MISSION).order_by(Missions.MSNDATE.asc())
# print(results)


master_list = []
for result in results:
    Mission_Data = {}
    Mission_Data["LONGITUDE"] = result.LONGITUDE
    Mission_Data["LATITUDE"] = result.LATITUDE
    Mission_Data["MSNDATE"] = result.MSNDATE
    Mission_Data["YEAR:"] = result.YEAR
    Mission_Data["AIRCRAFT_NAME"] = result.AIRCRAFT_NAME
    # Mission_Data["AIRCRAFT TYPE"] = result.AIRCRAFT_TYPE
    Mission_Data["COUNTRY_FLYING_MISSION"] = result.COUNTRY_FLYING_MISSION
    Mission_Data["TGT_COUNTRY"] = result.TGT_COUNTRY
    master_list.append(Mission_Data)

# print(Mission_Data)
return jsonify(master_list)
```

```json
[
    {
        "AIRCRAFT_NAME": "WHITLEY",
        "COUNTRY_FLYING_MISSION": "GREAT BRITAIN",
        "LATITUDE": 53.563056,
        "LONGITUDE": 9.967222,
        "MSNDATE": "Sun, 03 Sep 1939 00:00:00 GMT",
        "TGT_COUNTRY": "GERMANY",
        "YEAR:": ""
    },
    {
        "AIRCRAFT_NAME": "BLENHEIM",
        "COUNTRY_FLYING_MISSION": "GREAT BRITAIN",
        "LATITUDE": 53.5,
        "LONGITUDE": 8.05,
        "MSNDATE": "Mon, 04 Sep 1939 00:00:00 GMT",
        "TGT_COUNTRY": "GERMANY",
        "YEAR:": ""
    },
    {
        "AIRCRAFT_NAME": "WELLINGTON",
        "COUNTRY_FLYING_MISSION": "GREAT BRITAIN",
        "LATITUDE": 53.89504,
        "LONGITUDE": 9.104836,
        "MSNDATE": "Mon, 04 Sep 1939 00:00:00 GMT",
        "TGT_COUNTRY": "GERMANY",
        "YEAR:": ""
    },
    {
        "AIRCRAFT_NAME": "WHITLEY",
        "COUNTRY_FLYING_MISSION": "GREAT BRITAIN",
        "LATITUDE": 52.366667,
        "LONGITUDE": 9.716667,
        "MSNDATE": "Mon, 04 Sep 1939 00:00:00 GMT",
        "TGT_COUNTRY": "GERMANY",
        "YEAR:": ""
    },
```

Yearly WWII Flight Mission Data

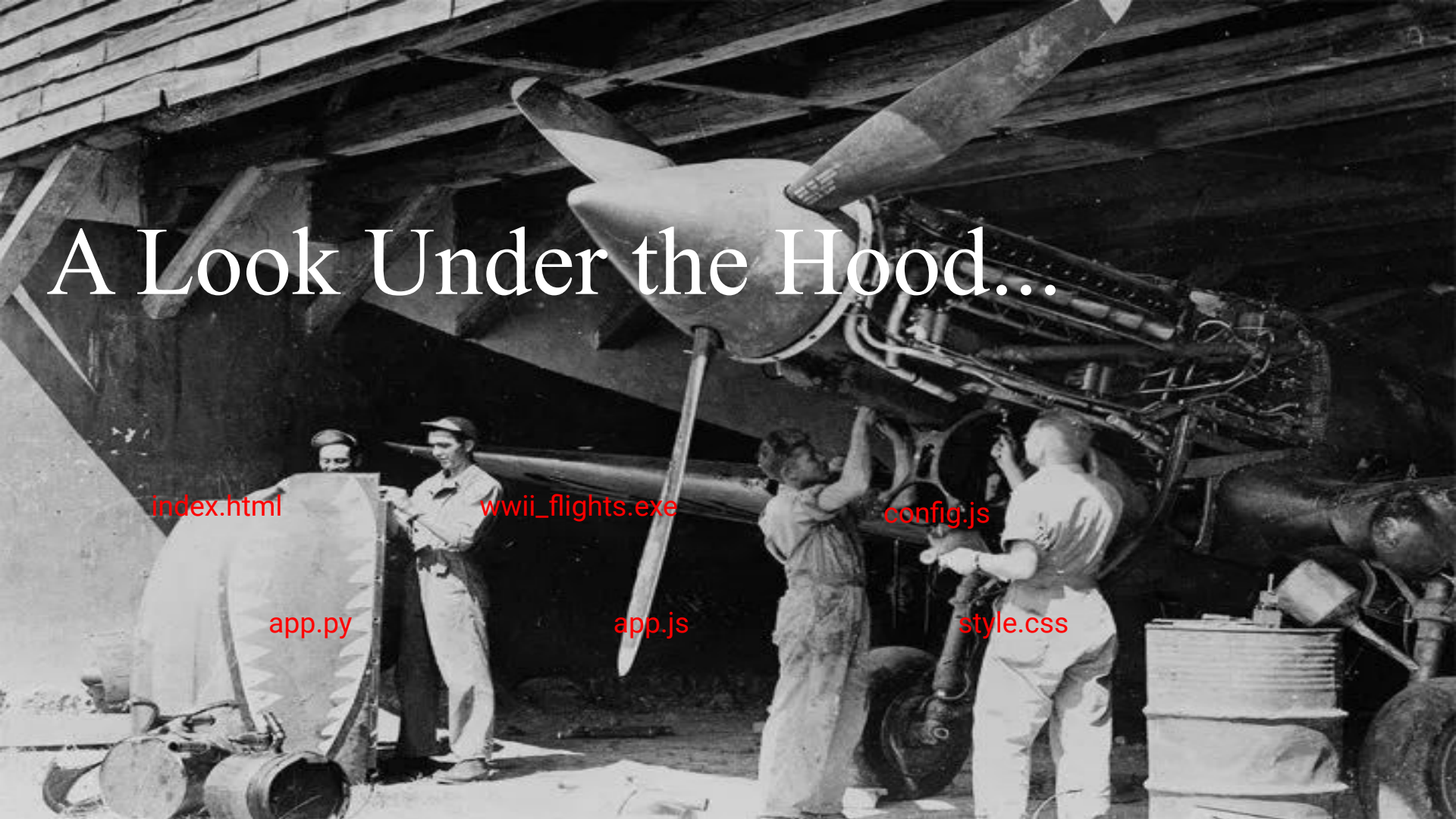Number of Missions Flown from 1939-1945
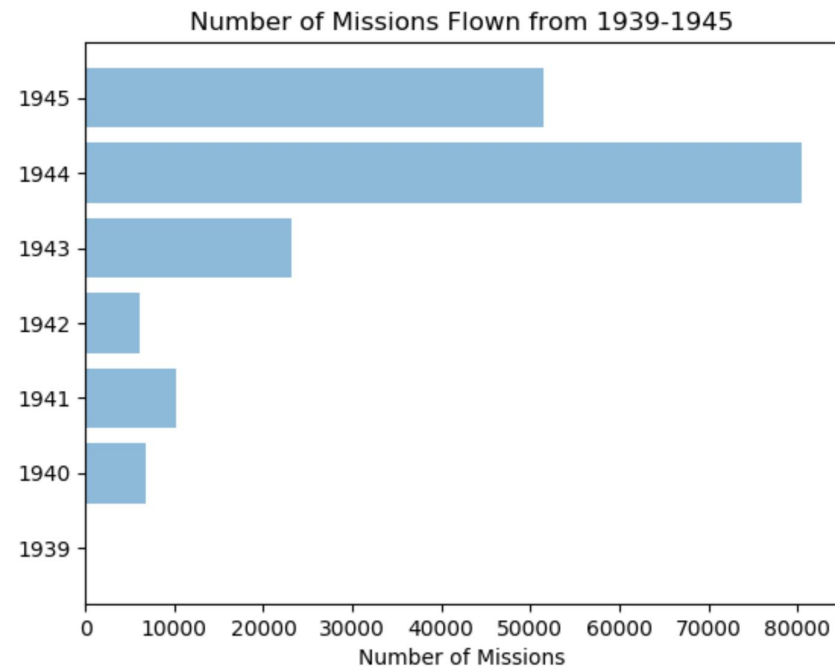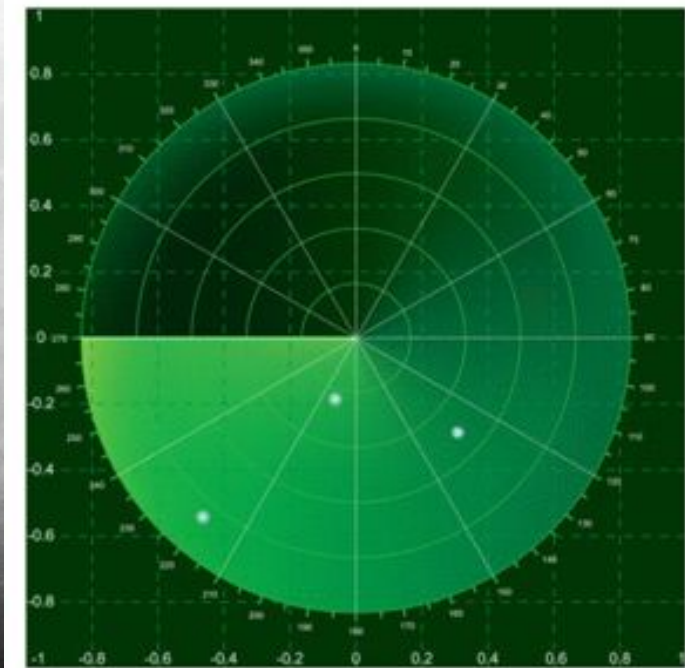
A Look Under the Hood...

index.html

wwii_flights.exe

config.js

app.py

app.js

style.css

Back-End:

.csv

sqlite.exe

SQLAlchemy

Flask

Python

Front-End:

Mapbox

HTML

CSS

Leaflet.js

d3.js

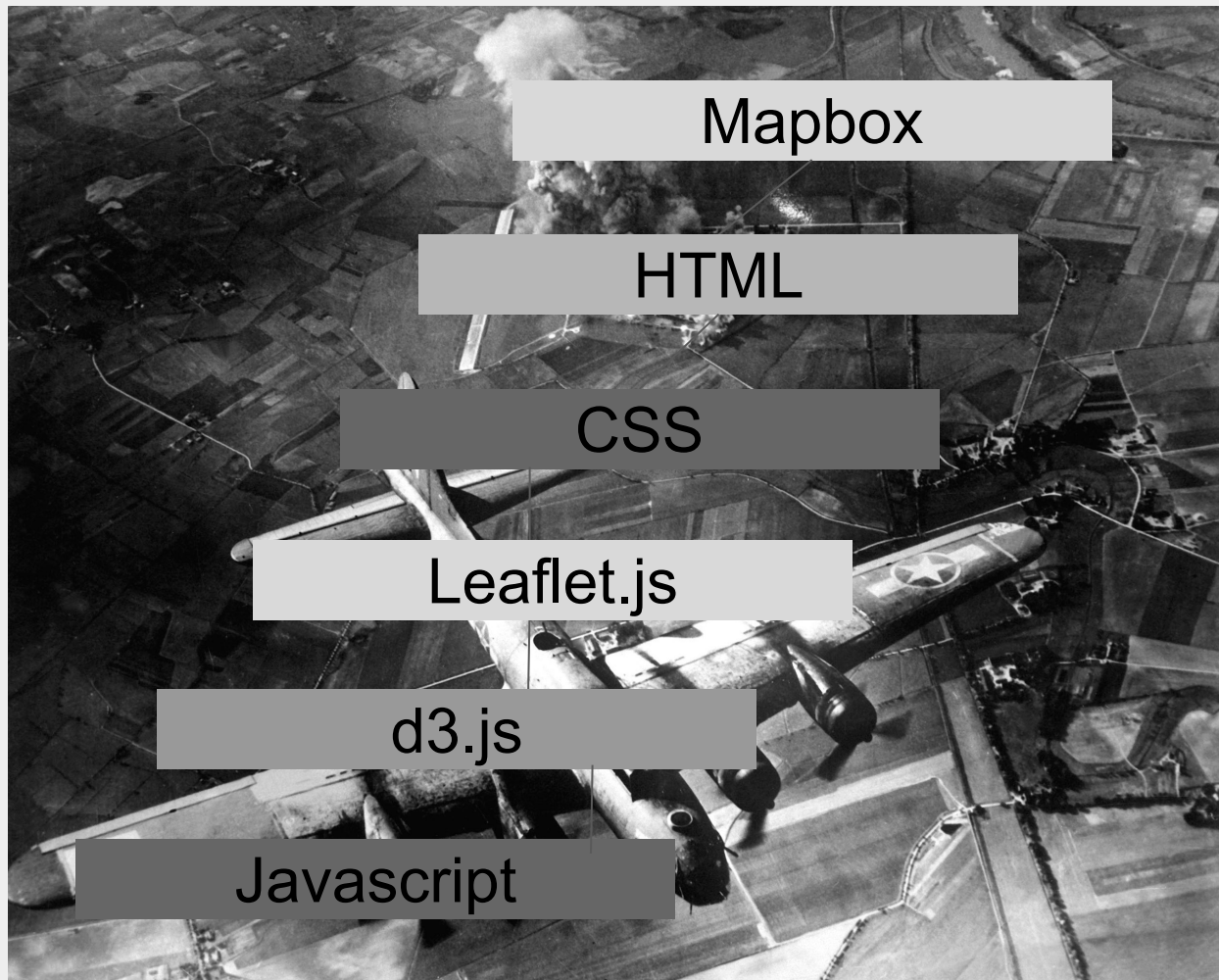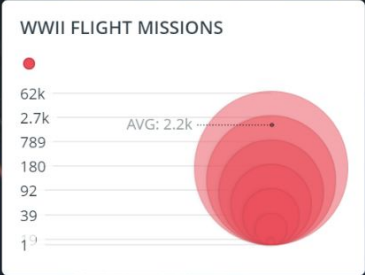Javascript
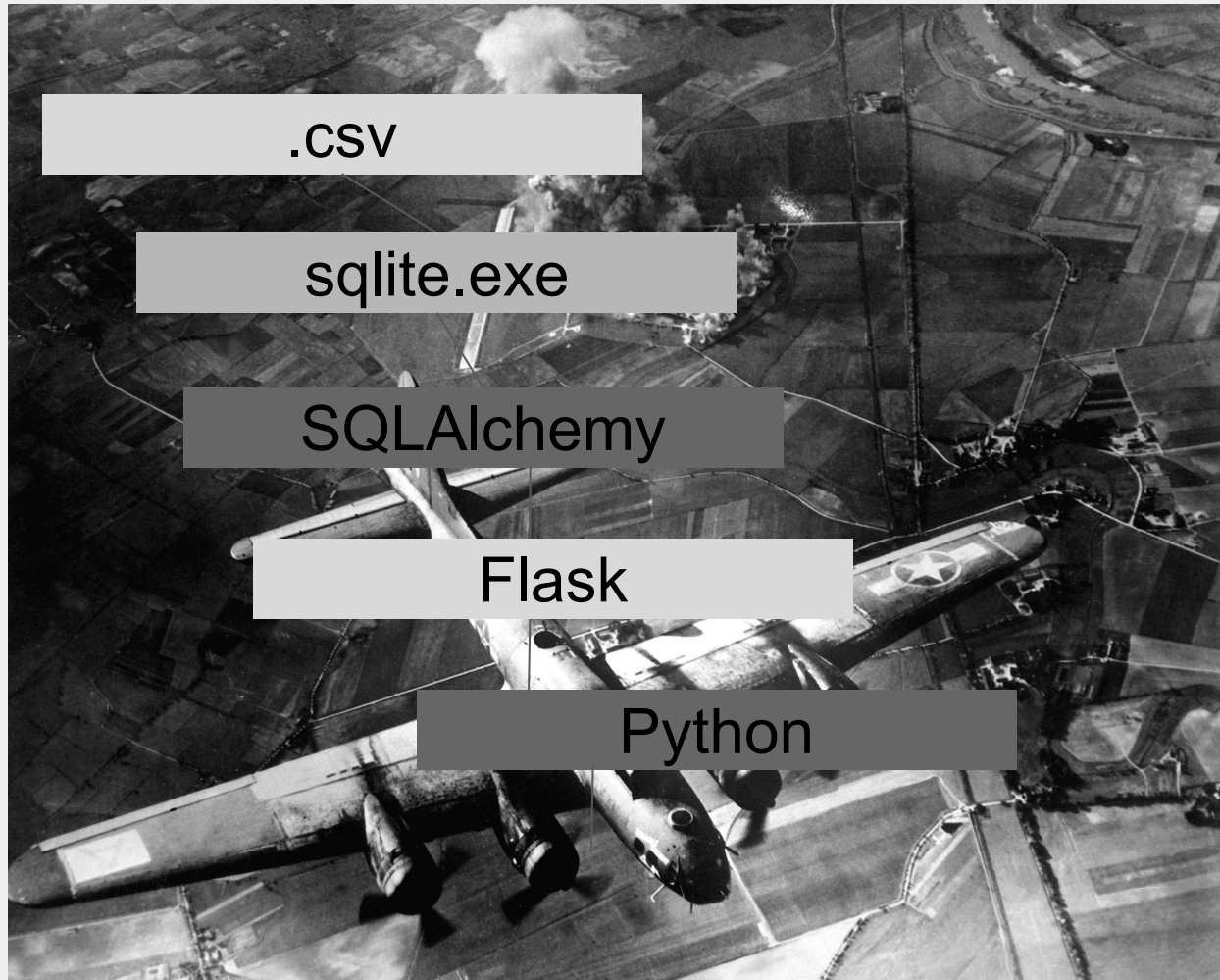
Fire away...

Amount of Missions across the globe:

A look ahead…

had some fun with Tableau using our takeoff data...
Takeoff Countries using MapBox

Not Labeled
- New Hebrides
- New Guinea
- Ellice Islands
- Borneo
- Ceylon
- Corsica
- Sicily

Conclusion

- A large portion of take off flights were from Asia

- The most amount of missions occurred in 1944

- "Gray" was the most commonly used callout sign of communication

- Model B-17 fighter plane was most commonly used on missions (41,953) - built 83 years ago in Seattle

- The most targeted location was in Berlin