

MICHIGAN STATE

UNIVERSITY

Alpha Presentation

High Frequency Ingestion System

The Capstone Experience

Team GM

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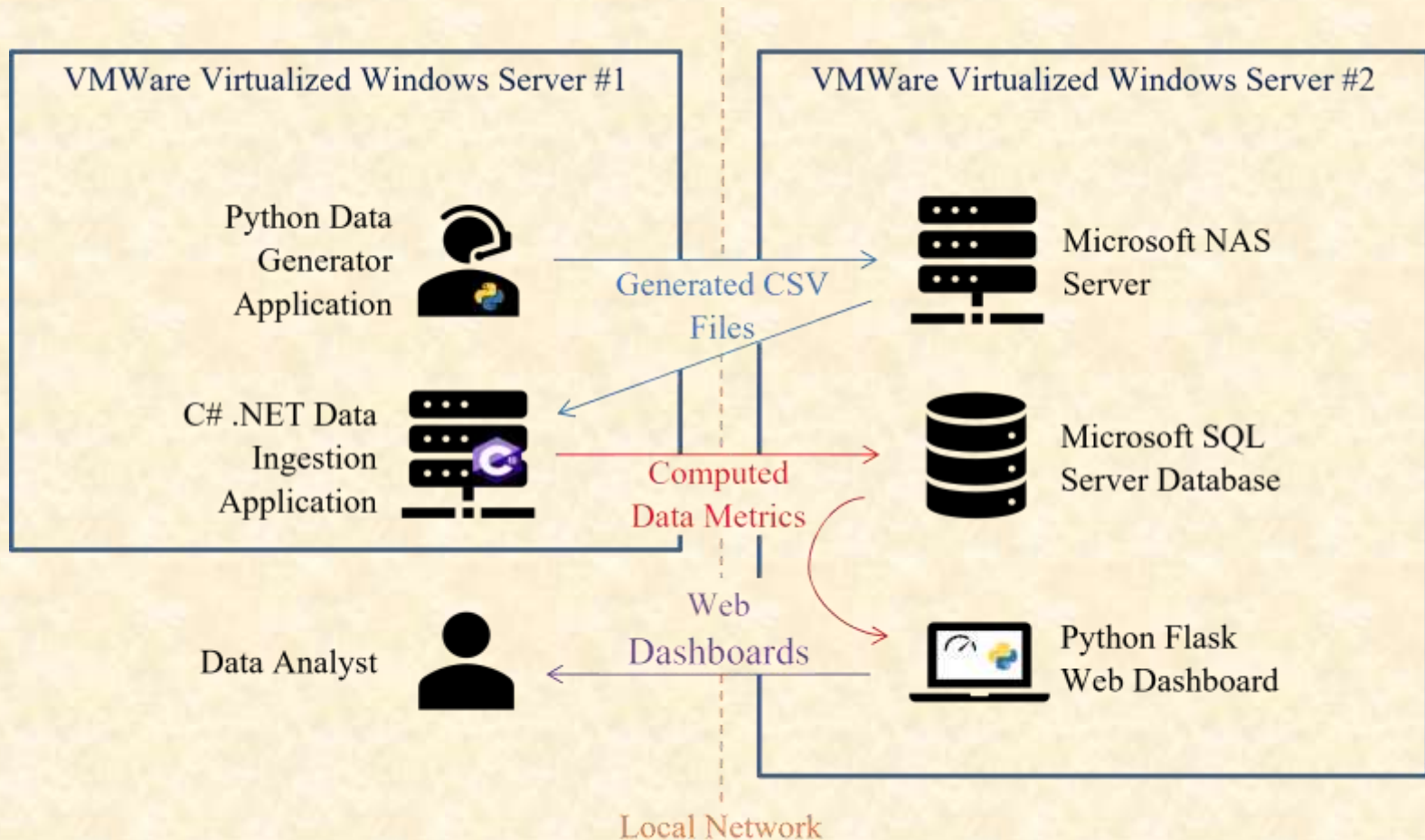
*From Students...
...to Professionals*

Project Overview

- Create a data generator to simulate the influx of OnStar representative CSV data to a central network file drive
- Process the massive influx of files in an efficient manner
- Display ingested data metrics on a web dashboard
- New: create a ranking system for OnStar representatives based upon their internet metrics over time



System Architecture



Data Generator

```
C:\Users\admin\source\repos\team-gm\dataGeneration>python DataGenerator.py --help
```

```
usage:
```

```
python DataGenerator.py [-h | --help] [-f <path>] [-r | --rate] [-t | --thread]
```

```
Example:
```

```
python DataGenerator.py -f "C:\Users\admin\Desktop\Data" -r 1000 -t 5
```

```
C:\Users\admin\source\repos\team-gm\dataGeneration>python DataGenerator.py -f "C:\Users\admin\Desktop\Data" -r 1000 -t 5  
Generating Files...
```



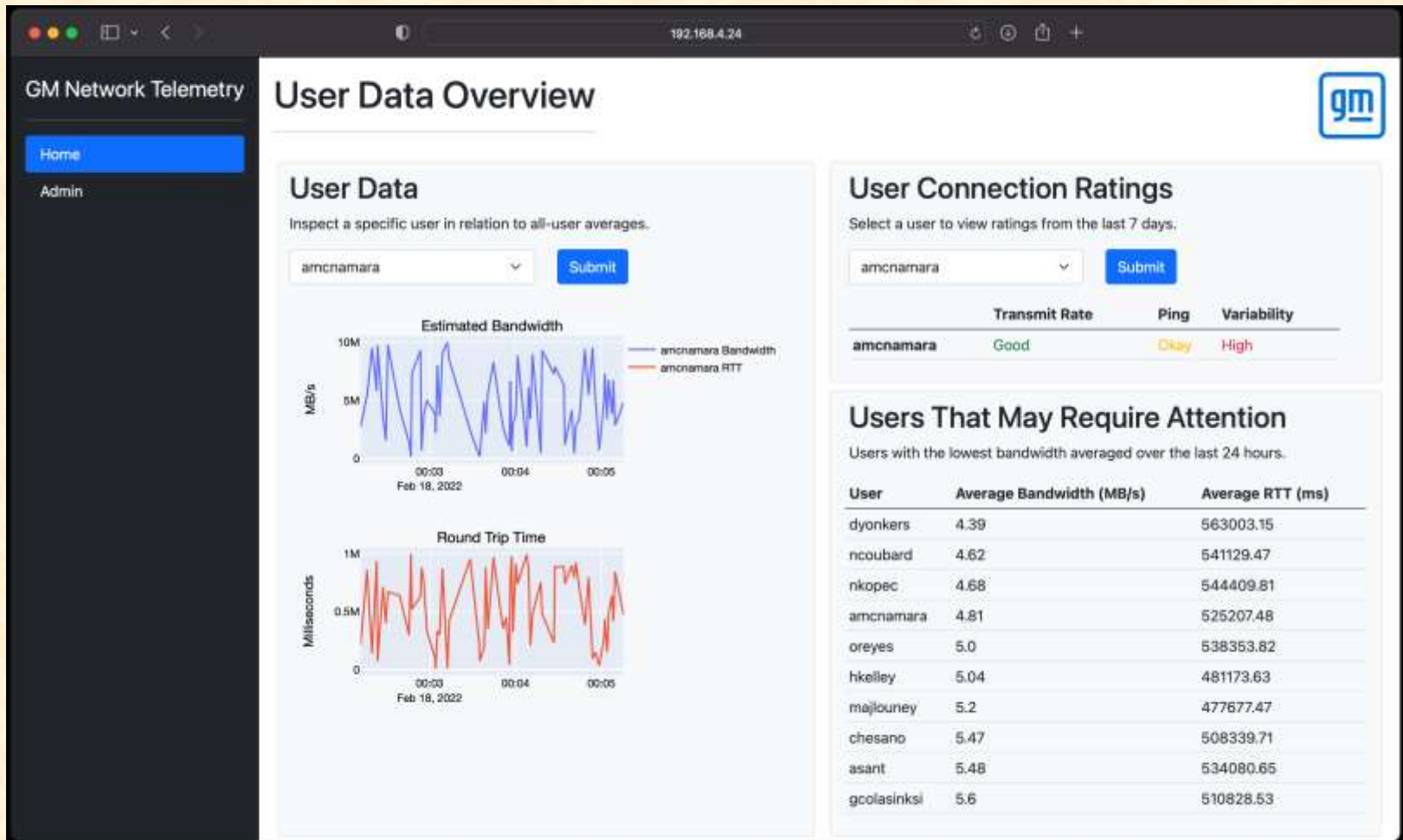
Ingestion Application

```
Command Prompt - ingestion -f "C:\Users\Kory_Gabrielson\Desktop\DataTest" -b 50
C:\Users\Kory_Gabrielson\Desktop\DataTest>ingestion --help
Usage:
  ingestion -f "<fully-qualified-folder-path>" -b <batch size>
Example:
  ingestion -f "D:\TelemetryData\DataTest" -b 50.
Press a key to continue:

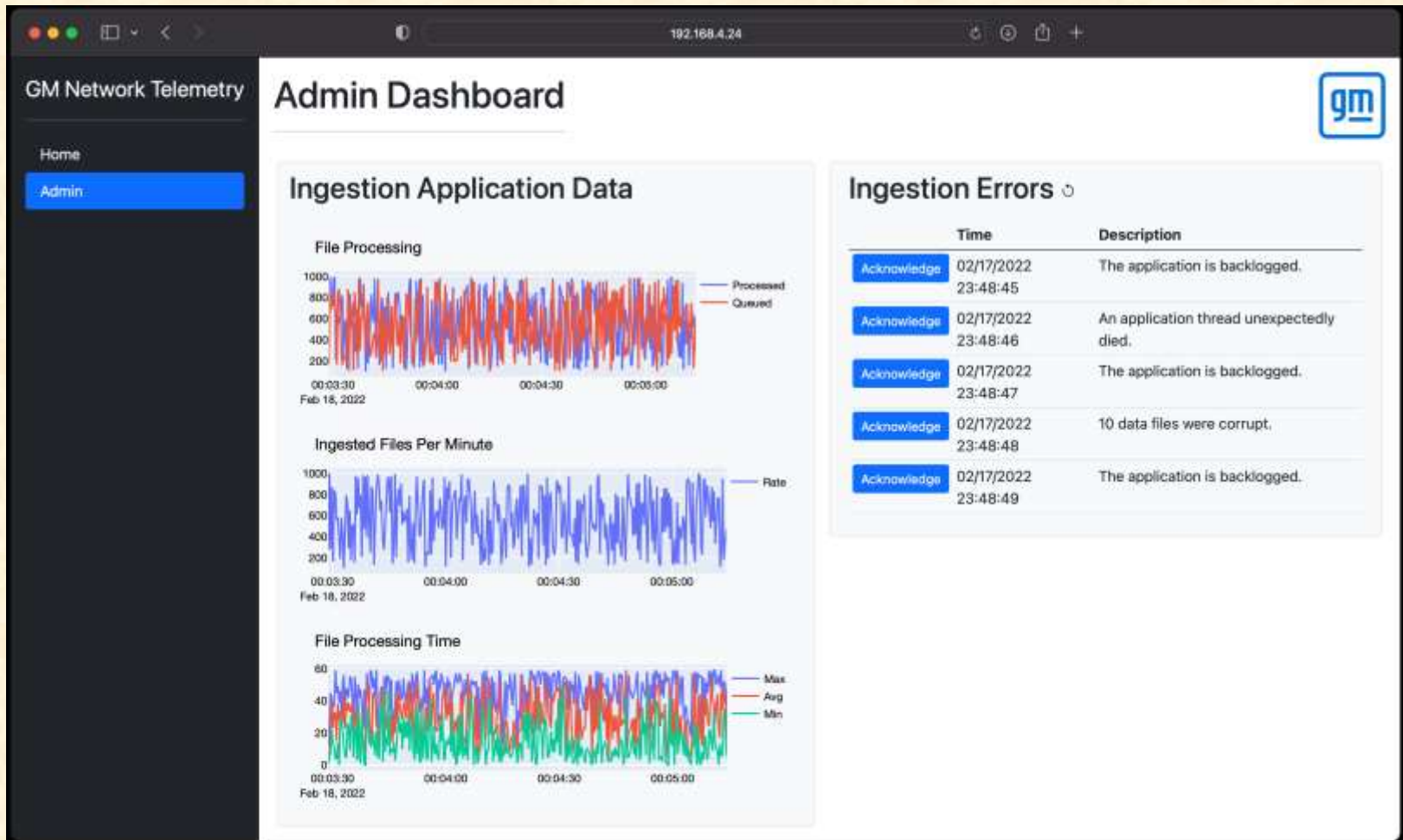
C:\Users\Kory_Gabrielson\Desktop\DataTest>ingestion -f "C:\Users\Kory_Gabrielson\Desktop\DataTest" -b 50
Processing files...
```



Web Dashboard Main Page



Web Dashboard Admin Page



What's left to do?

- Implement backlog resolution
 - The ingestion application will assign certain files priority based upon the scarcity of data for the file's user
- Adapt to and test on GM's hardware
 - This will give us an idea of where efficiency improvements can be made
- Wrap up web dashboards
 - Error handling, layout adjustments, and additional user rating information needs to be added



Questions?

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