



DS5110 Final Project: **MassWeather Dashboard**

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CONCLUSION

The background is a solid teal color. It features several stylized, light blue clouds of various sizes. Some clouds have simple smiley face expressions. Scattered throughout the background are small, white, five-pointed stars.

01

Introduction

Objectives and Goals

The background is a solid teal color. It is decorated with several stylized, light blue clouds of various sizes. Some clouds have simple smiley face expressions (two dots for eyes and a curved line for a mouth). Small, white, five-pointed stars are scattered across the background. The overall aesthetic is clean, modern, and friendly.

Objectives & Goals

- Develop a data integration pipeline combining data from APIs, sensors, and historical datasets.
- Create a dashboard offering a comprehensive view of environmental trends.
- Ensure data is clean, accurate, and analysis-ready.
- Deliver user-friendly visualizations for interpreting weather data.



Project Scope

Geographical focus: Massachusetts counties

Data range: Historical (2022–2024), real-time, and 7-day forecast data



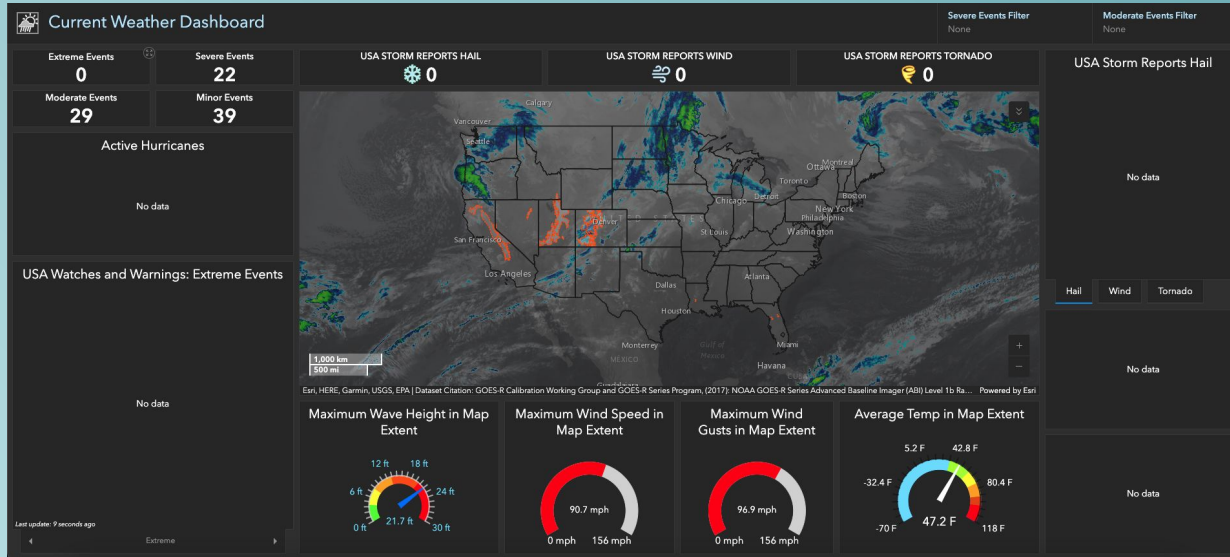
02

LITERATURE REVIEW

Summary and Relation to
Relevant Work

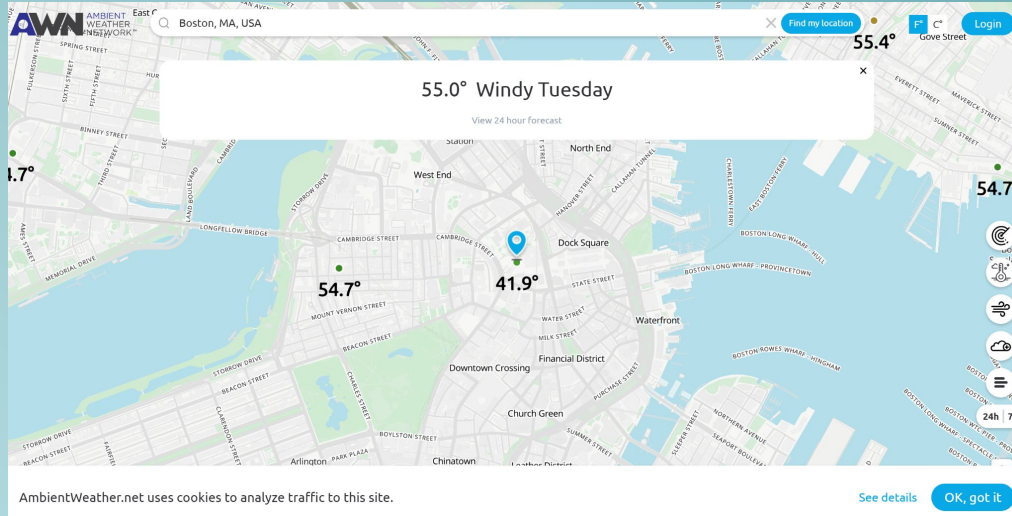


Arcgis Dashboard



The ArcGIS Weather Dashboard provides real-time U.S. weather alerts, including storms, heat waves, and hurricanes, through an interactive map

Ambient Weather Dashboard



The Ambient Weather Dashboard delivers hyper-local, real-time weather data from personal weather stations, tracking metrics like temperature, humidity, wind speed, and rainfall.




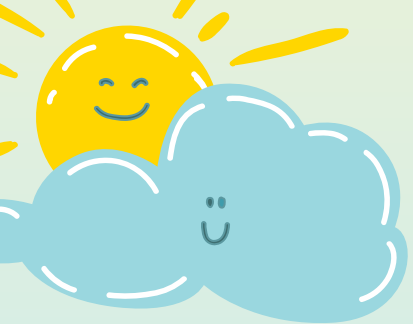
03

METHODOLOGY *

Methods and Techniques Used



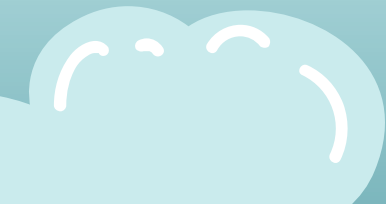
- 
- Data extraction from Open-Meteo API, OpenWeather API, and MassGIS shapefiles.
 - Preprocessing: Cleaning, normalization, and geospatial alignment.
 - Integration pipeline to merge datasets into unified formats.

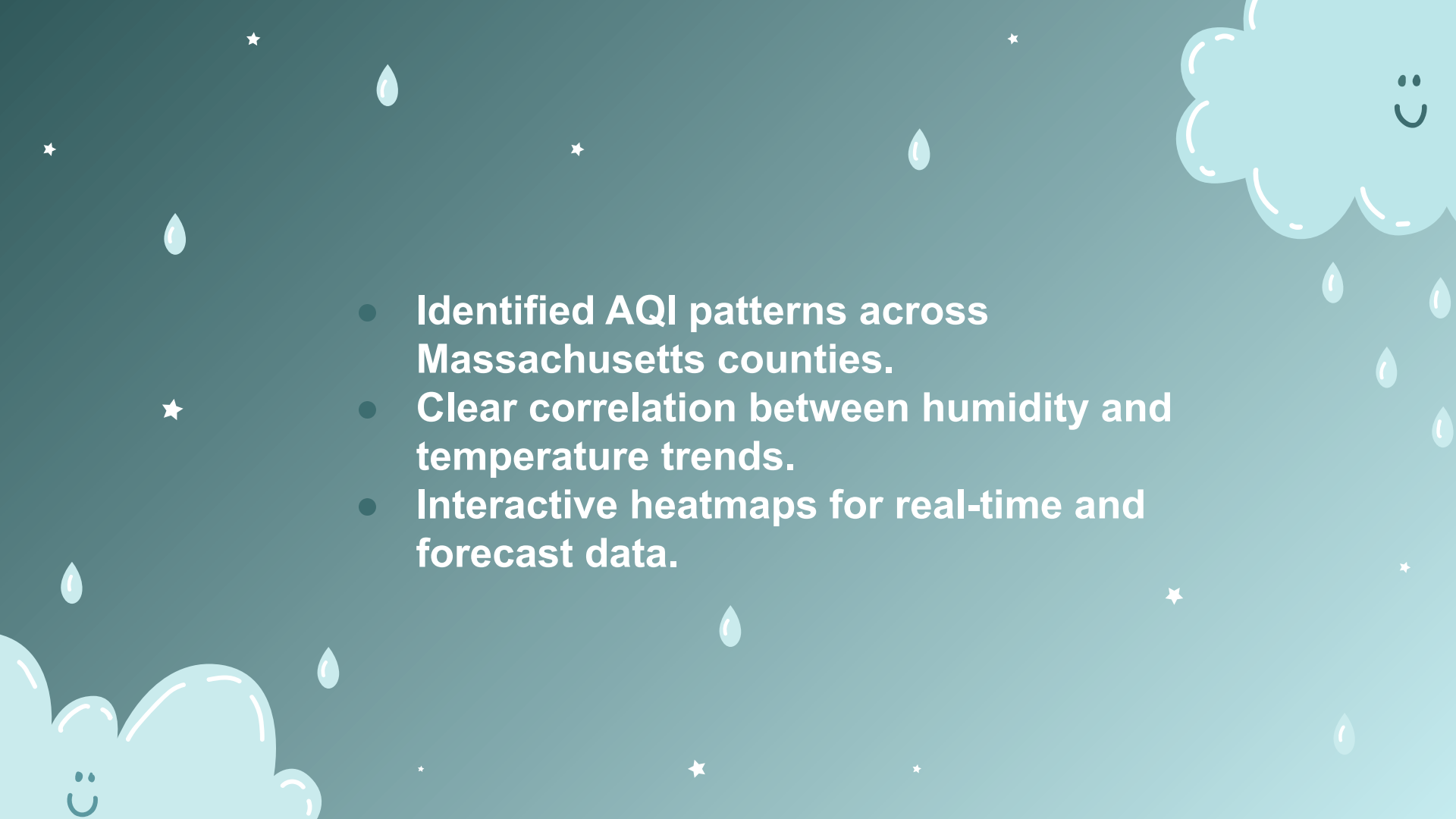


04

ANALYSIS & RESULTS

Key Findings and Insights



- 
- Identified AQI patterns across Massachusetts counties.
 - Clear correlation between humidity and temperature trends.
 - Interactive heatmaps for real-time and forecast data.



****Placeholder for visualizations/graphs****



05

DISCUSSION

Implications of Findings,
Project Limitations



CONCLUSION

Conclusions and Recommendations
for Future Work

06



03

REFERENCES

Sources

Sources

- **Open-Meteo API**
- **MassGIS shapefiles**
- **NOAA (2023). Weather Data API Documentation.**
- **OpenWeatherMap (2024). Historical Data Overview.**



ALTERNATIVE RESOURCES

Here's an assortment of alternative resources whose style fits the one of this template

VECTORS:

- Hand drawn weather effects





RESOURCES

Did you like the resources on this template? Get them for free at our other websites:

PHOTOS

- Medium shot smiley kids posing together
- People protesting in the streets front view
- Portrait of woman protesting for her rights I
- Portrait of woman protesting for her rights II
- Rain effect on nature background
- Medium shot woman taking notes

VECTORS:

- Hand drawn weather effects
- Monsoon background with cloud blowing
- Mother earth day in flat design
- Hand drawn weather effects I
- Hand drawn weather effects II



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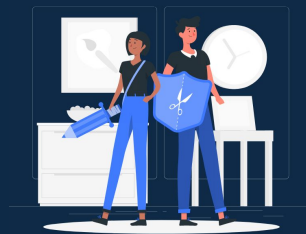
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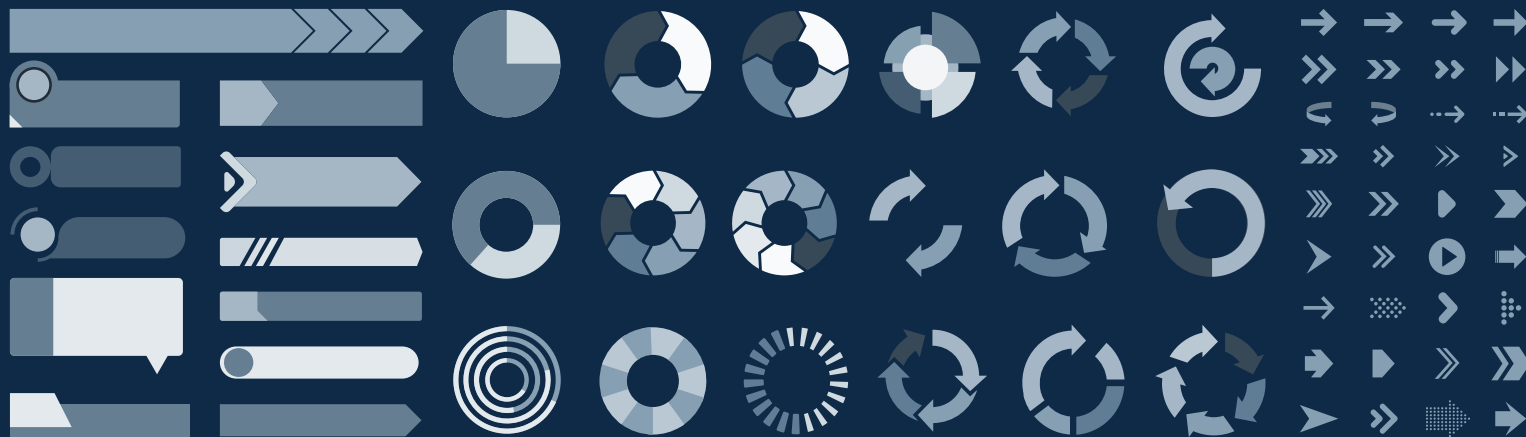


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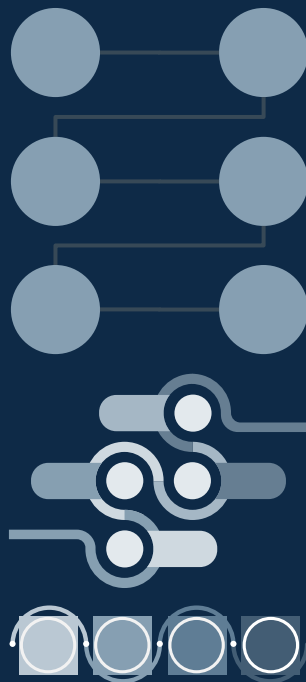
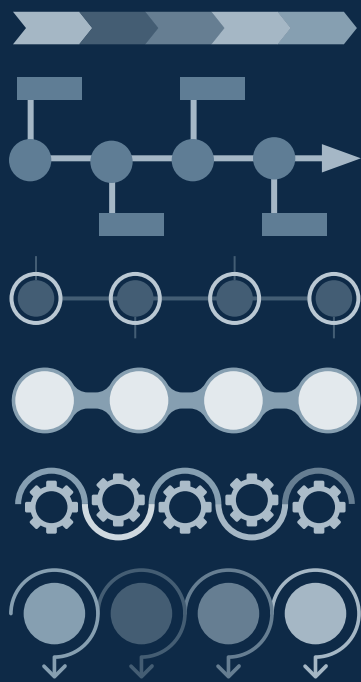
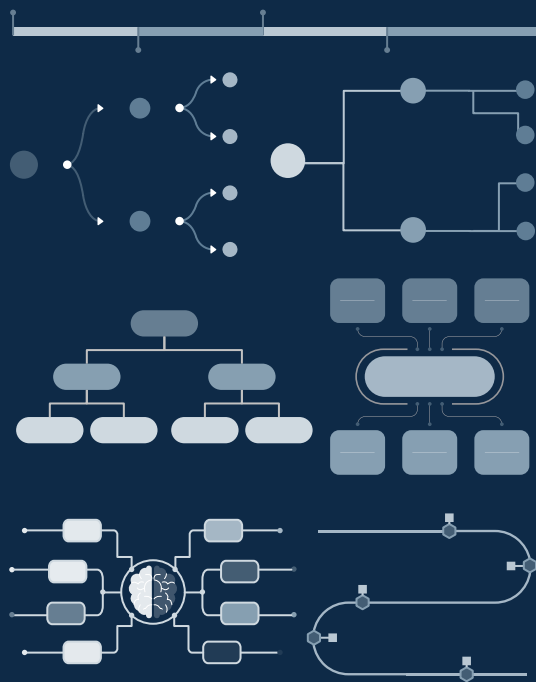
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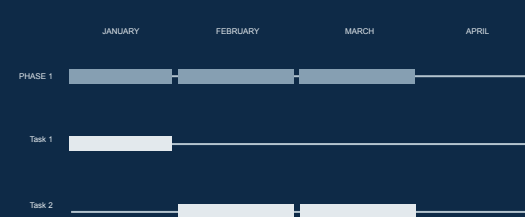
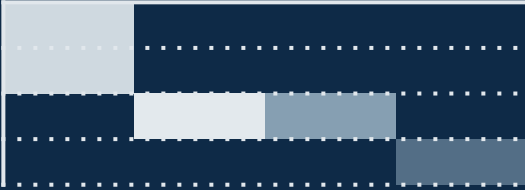
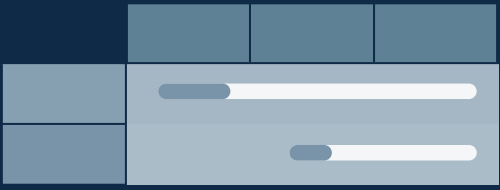
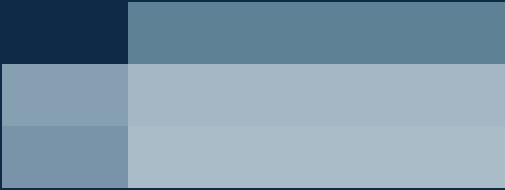
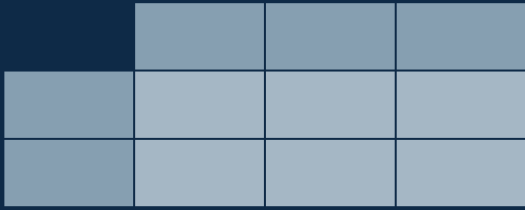
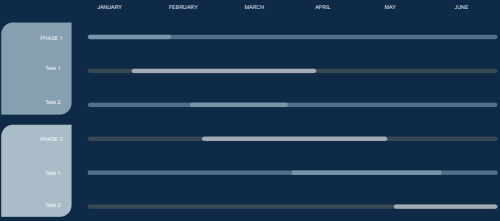
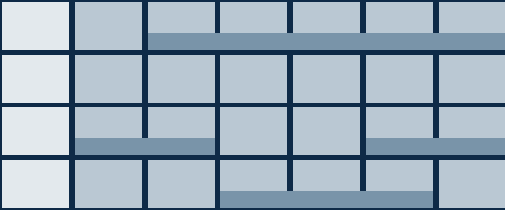
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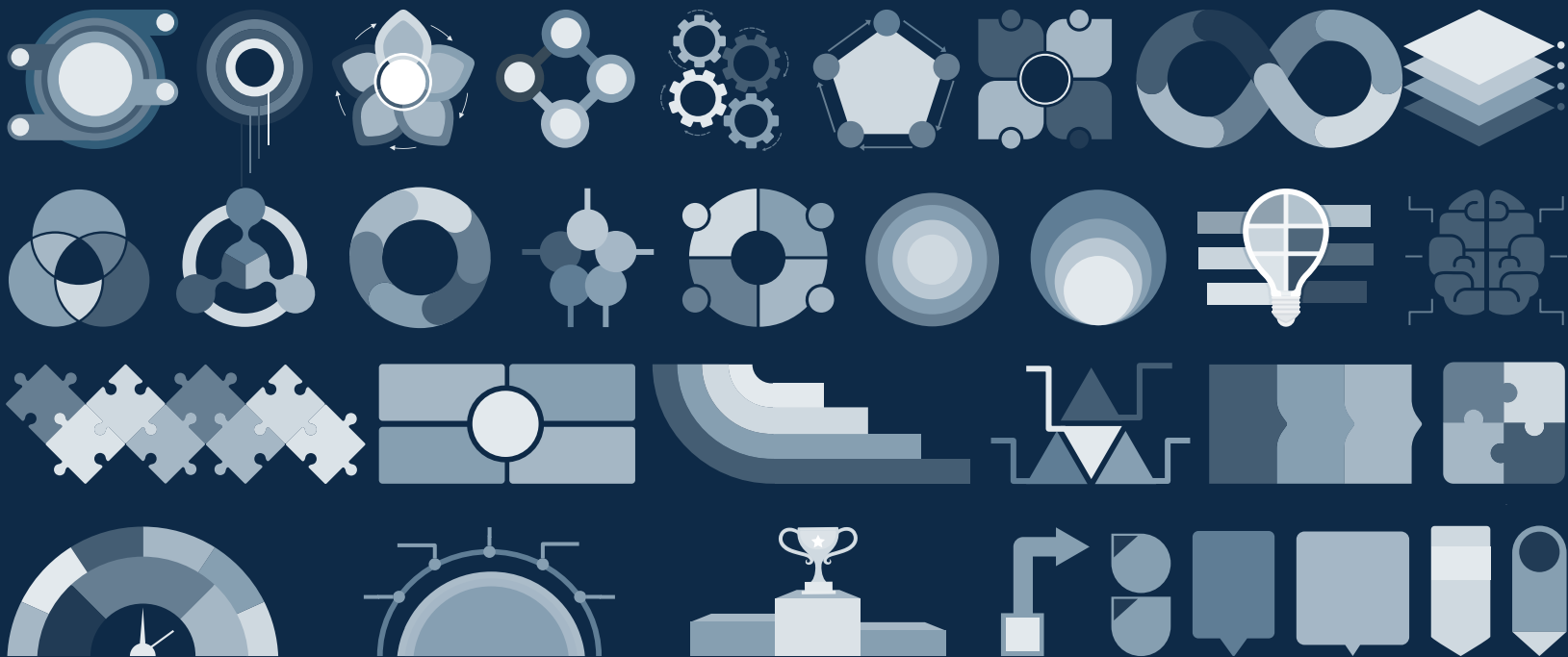
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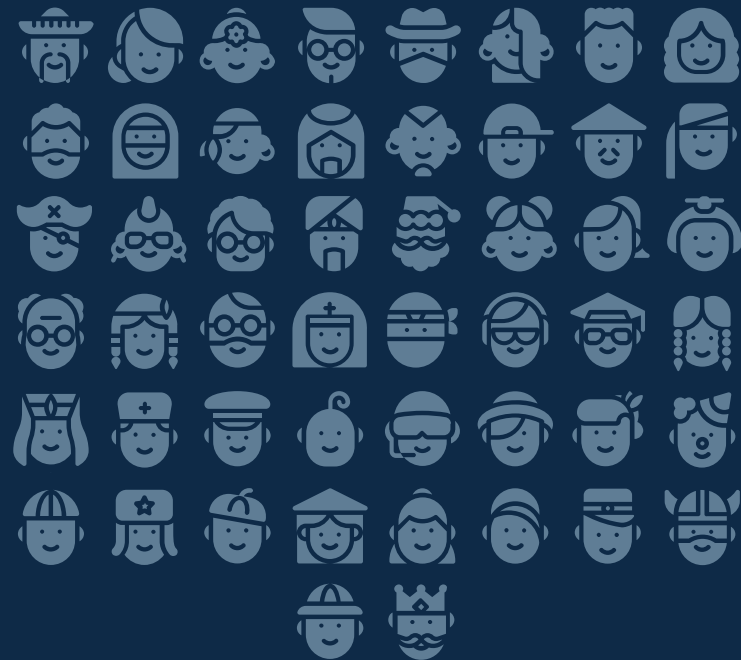
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