

# Project Overview

2024 ADMI HACKATHON

**Project Name:**

**Pandora's Programmers**

**Mentor:**

**Charlie Dey**



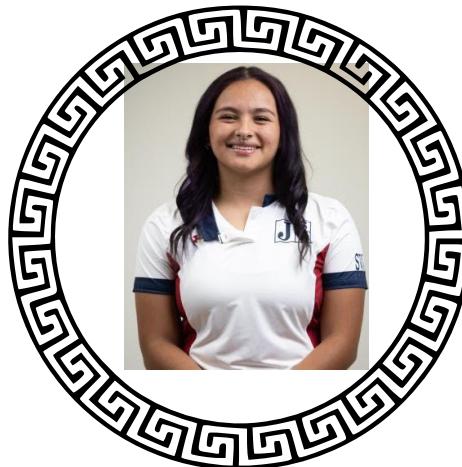
**Christian Henry**



**LeahMonet Morgan**



**Jesutofarati Ajala**



**Catalina Tovar**

## Objectives

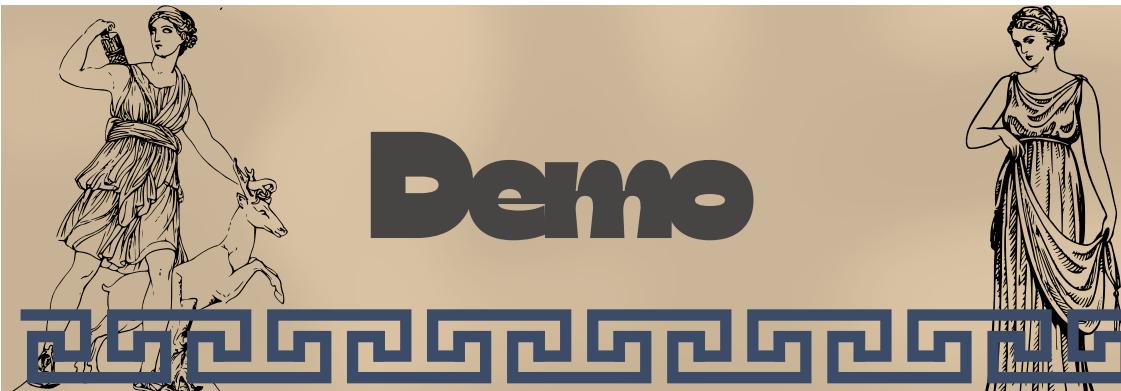
## Challenges

- Set up Flask Project
- Create data entry Form
- Store & push data to HPC-ED website

#### Time conflicts

- Unfamiliar with the coding and/or gateways
- Converting JSON file to Network X
- Getting edges to show on graph





```

import json
import networkx as nx

# Load the JSON data
with open('hpced-all.json', 'r') as file:
    json_data = json.load(file)

# Initialize the graph
G = nx.Graph()

# Extract and add nodes
for gmeta in json_data['gmeta']:
    for entry in gmeta['entries']:
        if 'content' in entry and isinstance(entry['content'], dict) and 'Title' in entry['content']:
            node_id = entry['content']['Title'] # Assuming 'Title' is the identifier for nodes
            G.add_node(node_id, **entry['content']) # Add node attributes

# Print basic graph information
print("Number of nodes:", G.number_of_nodes())
print("Number of edges:", G.number_of_edges())
print("Graph nodes:", G.nodes(data=True))

Number of edges: 0
Graph nodes: [(Spring: Spring MVC, {'Abstract': "Get acquainted with Spring MVC, an essential web framework for Java developers who work on enterprise-level projects. Throughout this practical course, instructor Shonna Smith steps through fundamental aspects of this framework, including Spring MVC controllers, models, and views. She also discusses the benefits of learning Spring MVC, explores custom app configuration, and provides exercises that can help you strengthen your understanding of key concepts. Upon completing this course, you'll have the knowledge you need to build robust MVC applications with Spring MVC.", 'Authors': [], 'Cost': None, 'Duration': 30, 'Expertise_Level': ['Advanced'], 'Keywords': ['linda'], 'Language': 'en', 'Learning_Outcome': ['Basic understanding'], 'Learning_Resource_Type': 'assessment item', 'License': None, 'Provider_ID': 'urn:ogf.org:glue2:access-ci:resource:cider:infrastructure.organizations:897', 'Rating': 1.2, 'Resource_URL_Type': 'URL', 'Start_Datetime': '2024-03-27T15:47:08.395329', 'Target_Group': ['Students'], 'Title': 'Spring: Spring MVC', 'URL': 'https://www.lynda.com/Spring-tutorials/Spring-Spring-MVC-661807-2.html', 'Version_Date': '2024-02-15T05:02:06.8834642'},) ('CLR Bytecode for Developers', {'Abstract': "If you know how to speak intermediate language (IL), you have a window into the world as the .NET runtime sees it. In this course, learn about using Common Language Runtime (CLR) bytecode to manage virtual machines in Windows applications, and discover how to speak IL like a pro. Instructor Ted Neward helps to familiarize you with the basics of IL, and walks through this assembly language's syntax. Ted dives into working with ILDasm and ILSasm, discusses classes, CIL opcodes and operands, and more.", 'Authors': [], 'Cost': None, 'Duration': 30, 'Expertise_Level': ['Advanced'], 'Keywords': ['linda'], 'Language': 'en', 'Learning_Outcome': ['Proficient'], 'Learning_Resource_Type': 'educator curriculum guide', 'License': None, 'Provider_ID': 'urn:ogf.org:glue2:access-ci:org:resource:cider:infrastructure.organizations:897', 'Rating': 1.8, 'Resource_URL_Type': 'URL', 'Start_Datetime': '2024-03-27T15:47:08.395344', 'Target_Group': ['Students'], 'Title': 'CLR Bytecode for Developers', 'URL': 'https://www.lynda.com/Windows-tutorials/CLR-Bytecode/614297-2.html', 'Version_Date': '2024-02-15T05:03:35.2677202'},) ('Residential Design and Visualization: Concept Development', {'Abstract': "All great homes start with a great concept. Residential designs take inspiration from the client, existing architecture, and the designer's imagination. This course shows how to take those ideas and incorporate them into presentation materials for a single family home. Instructor George Maestri progresses through a series of simple, easy-to-follow steps, using low-cost 2D and 3D software such as SketchUp. He introduces techniques for performing research; sketching your ideas; creating massing studies; blocking out a floor plan with walls, windows, and doors; and adding exterior and interior details. Finally, learn to create simple images, videos, and even a virtual reality walkthrough of your concepts that will help clients understand the results.", 'Authors': [], 'Cost': None, 'Duration': 30, 'Expertise_Level': ['All'], 'Keywords': ['linda'], 'Language': 'en', 'Learning_Outcome': ['Deep knowledge'], 'Learning_Resource_Type': 'textbook', 'License': None, 'Provider_ID': 'urn:ogf.org:glue2:access-ci:org:resource:cider:infrastructure.organizations:897', 'Rating': 0.8, 'Resource_URL_Type': 'URL', 'Start_Datetime': '2024-03-27T15:47:08.395371', 'Target_Group': ['Other'], 'Title': 'Residential Design and Visualization: Concept Development', 'URL': 'https://www.lynda.com/course-tutorials/Residential-Design-Visualization-Concept-Development/734635-2.html', 'Version_Date': '2024-02-15T05:02:37.2371382'},) ('iOS 10: iPhone and iPad New Features', {'Abstract': "Learn about the cool new features in Apple's latest version of iOS, the operating system for iPhone and iPad. Explore the redesigned lock screen. Remove bundled apps and redownload them later. Seamlessly change languages and use new predictive suggestions when typing with the onscreen keyboard. Author Nick Brazzi also offers a glimpse of the apps that come with iOS 10: Photos, Messages, Music, AirPlay, Notes, and more.", 'Authors': [], 'Cost': None, 'Duration': 90, 'Expertise_Level': ['All'], 'Keywords': ['linda'], 'Language': 'en', 'Learning_Outcome': ['Deep knowledge'], 'Learning_Resource_Type': 'educator curriculum guide', 'License': None, 'Provider_ID': 'urn:ogf.org:glue2:access-ci:org:resource:cider:infrastructure.organizations:897', 'Rating': 1.1, 'Resource_URL_Type': 'URL', 'Start_Datetime': '2024-03-27T15:47:08.395386', 'Target_Group': ['Innovators'], 'Title': 'iOS 10: iPhone and iPad New Features', 'URL': 'https://www.lynda.com/iOS-tutorials/iOS-10-iPhone-iPad-New-Features/499762-2.htm'},)

import networkx as nx
from pyvis.network import Network

def load_json(file_path):
    with open(file_path, 'r') as file:
        return json.load(file)

def analyze_graph(json_data):
    # Initialize the graph
    G = nx.Graph()

    # Extract and add nodes
    for gmeta in json_data['gmeta']:
        for entry in gmeta['entries']:
            if 'content' in entry and isinstance(entry['content'], dict) and 'Title' in entry['content']:
                node_id = entry['content']['Title'] # Assuming 'Title' is the identifier for nodes
                G.add_node(node_id, **entry['content']) # Add node attributes

    # Print basic graph information
    print("Number of nodes:", G.number_of_nodes())
    print("Number of edges:", G.number_of_edges())
    print("Graph nodes:", G.nodes(data=True))

    # Convert NetworkX graph to Pyvis graph
    pyvis_graph = Network(notebook=True)
    pyvis_graph.from_nx(G)

    # Save the Pyvis graph to an HTML file
    pyvis_graph.show("graph.html")

```

```

if __name__ == "__main__":
    # Specify your JSON file path
    json_file = 'HPCED-all.json'

    # Load JSON data
    data = load_json(json_file)

    # Analyze and visualize the graph using Pyvis
    analyze_graph(data)

```



```

Private < >
croakerzoisitereddeer.cloudycluster.net
Host: ip-10-0-1-159.us-east-2.compute.internal
christianh@ip-10-0-1-159 ~$ globus search query 0e8be9d5-99d7-4641-ae43-f72b40bb8a5c --limit 4 --format JSON -q \students
{
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  "@version": "2017-09-01",
  "count": 4,
  "gmeta": [
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```

# Resources

Activate Windows  
Go to Settings to activate Windows.



GitHub  
HPC-ED  
Network X



Globus  
Project Eureka  
Canvas

