Social Network Analysis of Skyrim

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Description

Skyrim is a country within the fictional universe of Elder Scrolls. This is the social network analysis of said country.

Dataset Source:

The dataset was created by me using the Unofficial Elder Scrolls Pages as a resource.

Credit to the Elder Scrolls Pages:

https://en.uesp.net/wiki/Skyrim:People

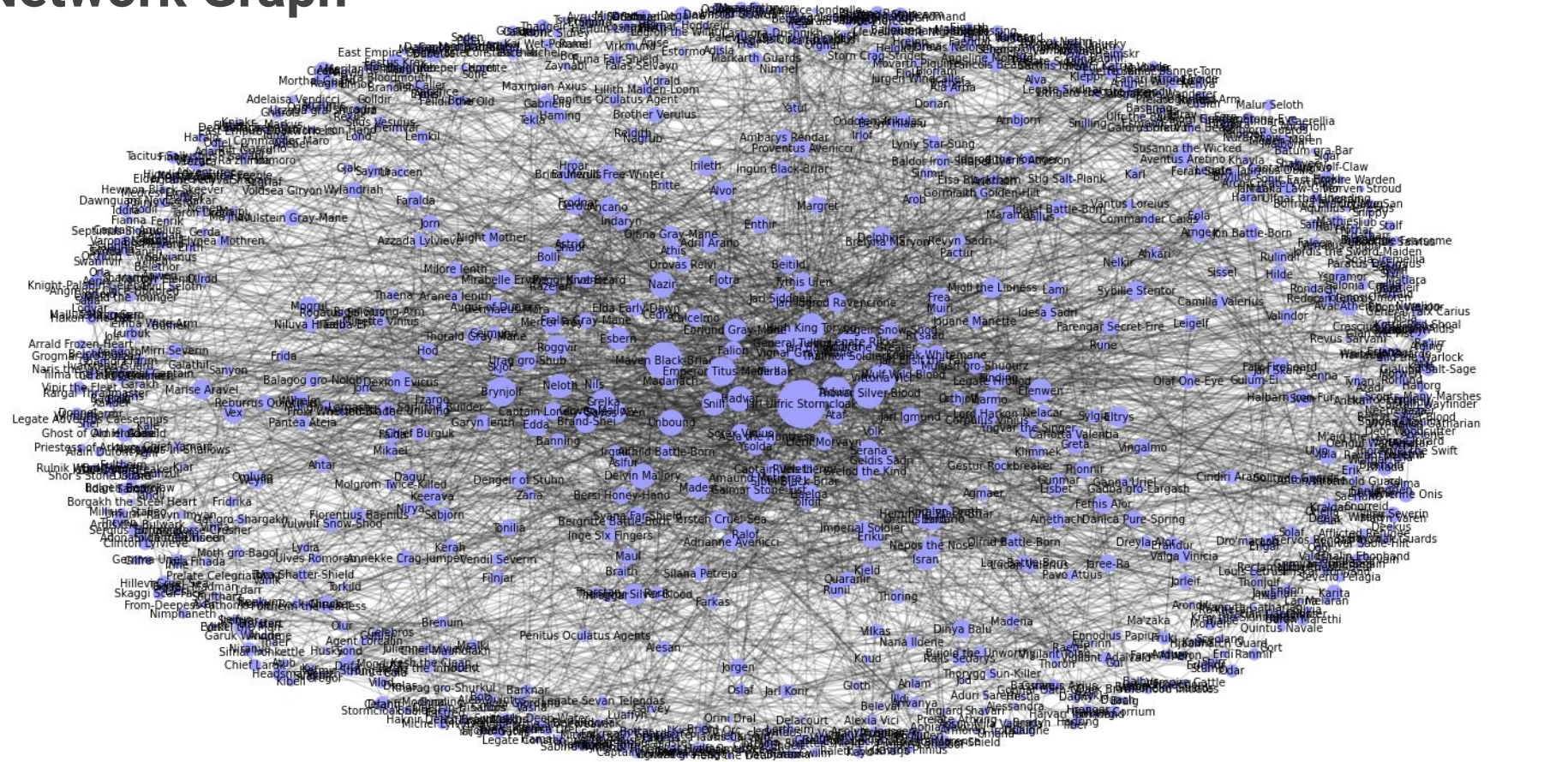
Graph Description:

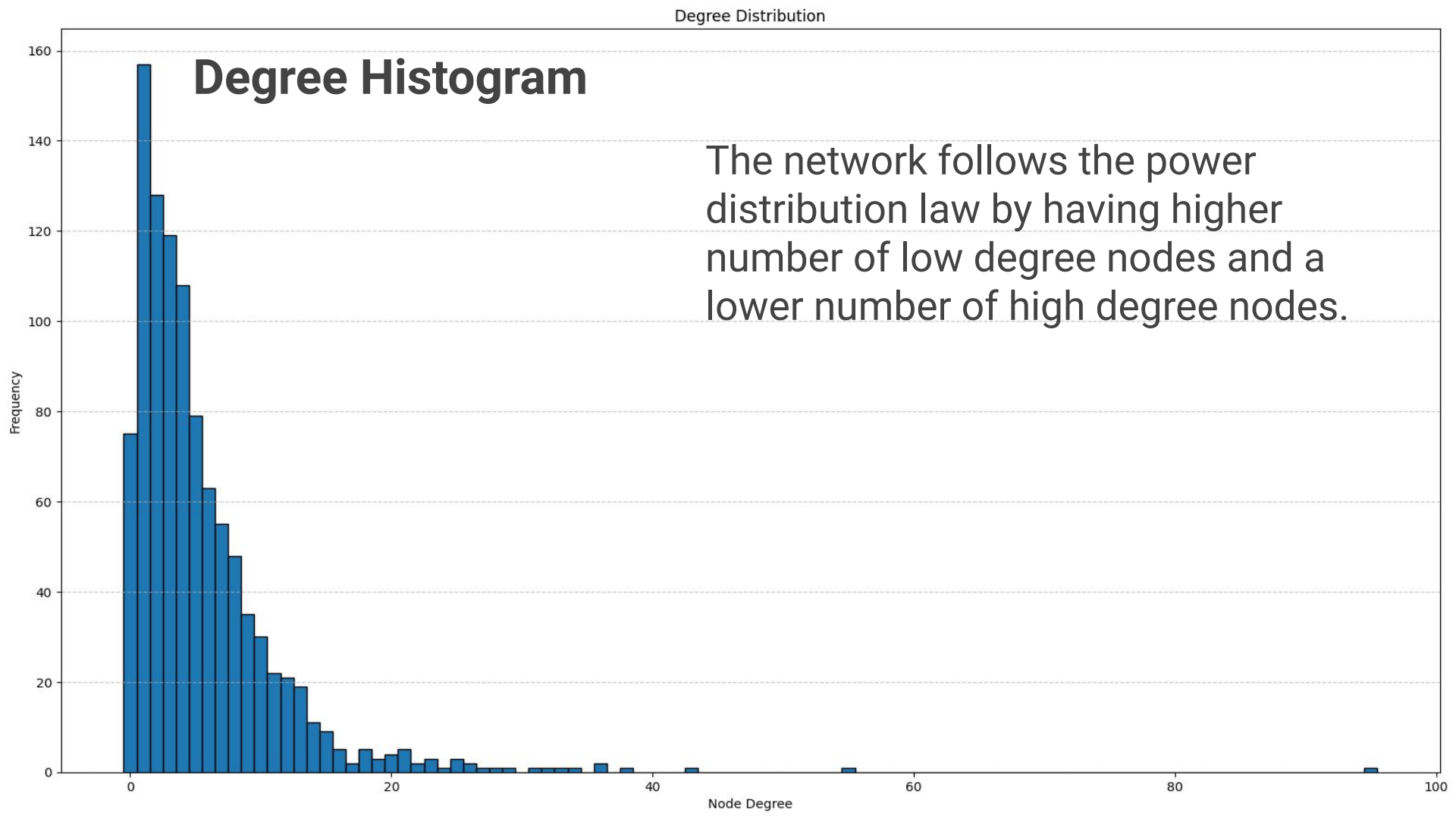
The nodes in this graph represent each unique character in the game. The sizes of the nodes are proportional to the number of edges they have. The edges shows the acquaintance relationship between two nodes.
It’s an unweighted, bidirectional and unsigned graph.

Network dimensions: 1027 Nodes and 2808 Edges

Diameter: 11

Network Graph




Degree Distribution
Degree Histogram
The network follows the power distribution law by having higher number of low degree nodes and a lower number of high degree nodes.
Frequency
Node Degree
0
20
40
60
80
100
0
20
40
60
80
100
120
140
160

Degree Centralities

Most Popular 5 people and their degrees:
1. ('Jarl Ulfric Stormcloak', 95), 2. ('Maven Black-Briar', 55),
3. ('General Tullius', 43), 4. ('Jarl Balgruuf the Greater', 38),
5. ('Thonar Silver-Blood', 36)

The most popular people are powerful people like the leader of the rebellion, the head of a powerful family, generals and Jarls.
The higher degrees of these people show us that powerful people in Skyrim will have more acquaintances than less powerful people.

Maximum Betweenness Centrality: Jarl Ulfric Stormcloak

Average clustering coefficient: 0.38756719768068837
This value indicates a moderate tendency for nodes in the network to form clusters with their neighbors.

Edge Density: 0.005329780146568954
The edge density of 0.0053 signifies a sparse network where only a small fraction of possible connections among nodes are realized

Measuring Structural Similarity Between two nodes
The Jaccard similarity between Jarl Balgruuf the Greater and Jarl Igmund is: 0.085106382978723 4

Average closeness Centrality: 0.27280369402214044
The closeness centrality of 0.2728 suggests that, on average, nodes in the network are relatively close to each other.

Average degree Centrality: 0.037037037037037035
With a degree centrality of 0.0370, nodes in the network exhibit a relatively low degree of connectivity.

Average Shortest Path: 4.542885864317554
The average shortest path of 4.5429 represents the typical minimum number of steps required to navigate from one node to any other in the network.

Small-world coefficient: 0.07794376147148481
The small-world coefficient of 0.0779 indicates a degree of small-worldness in the network, suggesting that it possesses characteristics of both local clustering and short average path lengths

Conclusion:

This Social Network Analysis of Skyrim reveals intricate social structures within the game. The power-law distribution of degrees, small world and the moderate clustering coefficient are indicative of a diverse social network. The nodes with the highest degrees are powerful figures in Skyrim, such as the rebellion leader, head of powerful families, generals, and Jarls. The degree distribution suggests that powerful characters have more acquaintances than less powerful ones.

Potential For Future Expansion:

Dataset can be expanded to include more details for the characters like their ideologies and which side of the conflict they are in and the relations between them can be categorised as adversary or ally. If these changes are implemented, more information can be extracted from the analysis

Thank you for your time