

Visualisation design:

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The selected questions for analysis:

Global Insight Question: *Which characters appear in the most scenes across all episodes and seasons?*

Subset Comparison Question: *Which pairs of characters appear together most frequently, and how does this relationship evolve over time?*

1. Visual Mapping

Name	D	F	D'	X	Y	Z	T	R	—	□	CP
Node Size	Q: Appearances	> (Proportional)	Q	Algorithmic	Algorithmic						Node positions are determined by a force-directed graph layout algorithm.
Node Color	N: House	> (Categorical)	n								Categorical colors differentiate house affiliations.
Tooltip	O: Text	sl>	Textual info: Appearances by season								Provides season-by-season breakdown on hover.
Edge Thickness	Q: Co-Apearances	> (Proportional)	Q	Algorithmic	Algorithmic			Direct Relationship			Edge positioning depends on node positions in the graph layout algorithm.
Edge Color	N: Temporal	Gradient: Early (Blue) → Late (Red)	Categorical				Temporal Mapping				Encodes the timeline of co-appearances through color gradients.
Tooltip	O: Text	sl>	Textual info: Episodes/Seasons of interaction								Displays the total shared scenes and key episodes/seasons on hover.

2. Design Rationale

Why This Mapping?

1. **Global Insight (Node Focus):**
 - Nodes naturally represent individual entities (characters). Sizing nodes by total appearances provides a clear visual hierarchy of prominence.
 - House affiliation adds a thematic layer, aiding quick identification of relationships.
2. **Subset Comparison (Edge Focus):**
 - Edges intuitively represent relationships (pairs). Thickness encodes frequency, allowing easy identification of strong connections.
 - Temporal color gradients (blue to red) provide insight into how relationships evolve over time.

Smooth Transition:

- The graph structure remains the same, but emphasis shifts:
 - From **nodes (characters)** in the global insight phase.
 - To **edges (pairs)** in the subset comparison phase.
- This ensures continuity while allowing detailed exploration of relationships.

3. Interaction Description

Global Insight Phase:

- **Hover on Node:**
 - Highlights the node and displays:
 - Total appearances across all seasons.
 - Season-by-season breakdown in a tooltip.
 - Dims unrelated nodes for clarity.
- **Click on Node:**
 - Filters the graph to show only the clicked character and their direct connections.
 - Transitions smoothly to the relationship (co-appearance) view.

Subset Comparison Phase:

- **Hover on Edge:**
 - Highlights the edge and displays:
 - Total co-appearances between the connected characters.
 - Key episodes/seasons where they co-appeared most frequently.
- **Click on Edge:**
 - Expands a timeline visualization in a side panel, showing:
 - Co-appearance frequency over seasons.
 - Notable shared events (e.g., alliances, betrayals).
- **Multiple Edge Selection:**
 - Enables comparison between pairs.
 - A side panel shows:
 - Metrics for each selected pair (e.g., total co-appearances, timeline overlap).
 - Common connections (e.g., shared third-party characters).

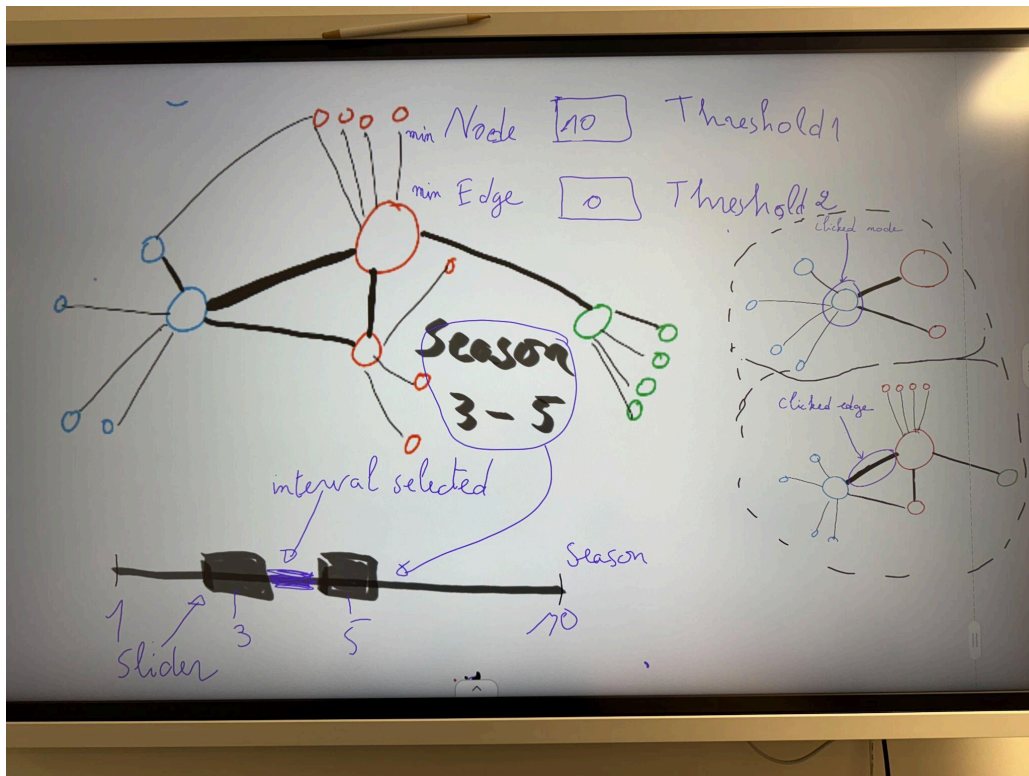
Global Filters:

- **Season Interval Slider:**
 - Filters nodes and edges dynamically based on seasons.
 - Highlights newly added/removed elements during adjustments.
- **Threshold Sliders:**
 - Node threshold: Filters characters with fewer than X appearances.
 - Edge threshold: Filters pairs with fewer than Y co-appearances.

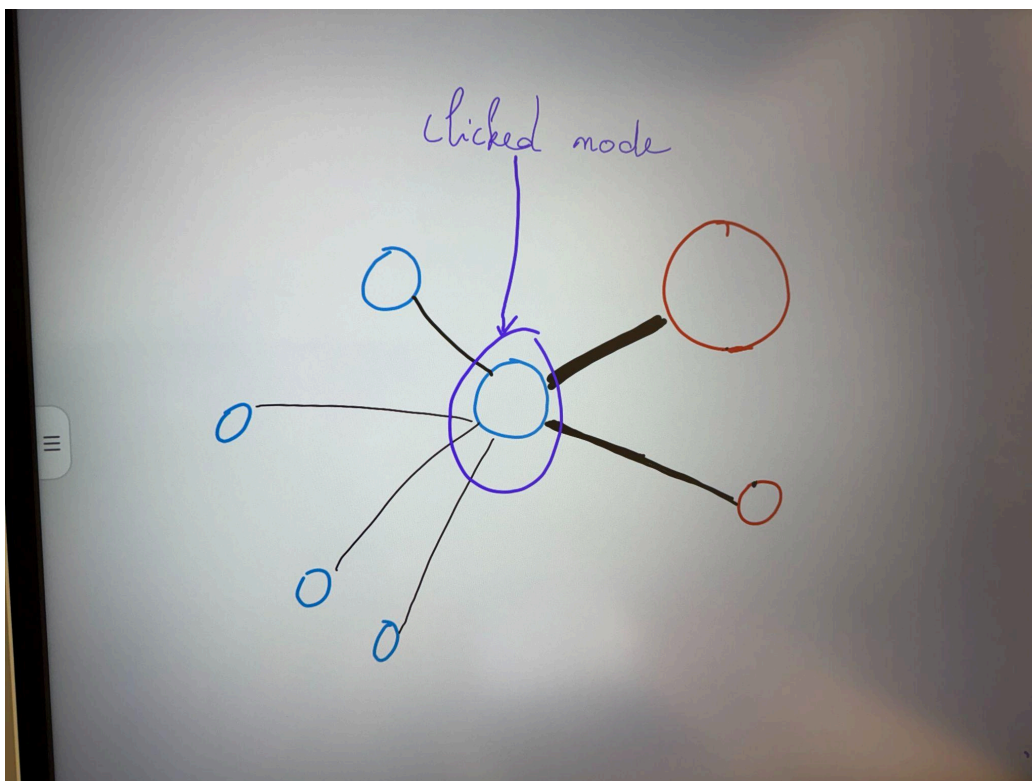
4. Sketch of Visualisations:

sketch1:

Default view:



sketch2:
Node clicked view



sketch3:
Edge clicked View

