Expanding Conventional Collection Boundaries Through Visualization
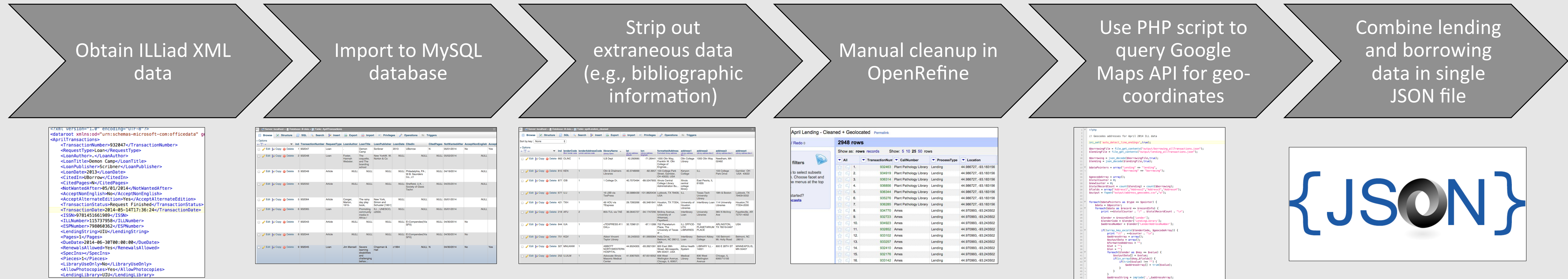
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Introduction

Traditional representations of library collections have focused on statistics such as counts of books, journals, and digital resources that ultimately depict them in a flat, purely quantitative way. We use visualization tools, D3.js along with PHP and a MySQL database, to re-conceptualize a library's collections as a living, breathing ecosystem. These strategies bring numbers to life and illuminate patterns in the lifecycle of our collections.

We created an animation of interlibrary borrowing and lending data, in order to show the geographic patterns of the movement of our collections through space and time.

Future Directions

Libraries are uniquely poised to expand how collections are defined, from daily library operations to public conceptions of what constitutes a library.
Use visualization to:
• Develop fresh perspectives on purchasing and weeding decisions
• Highlight specific collections
• Identify connections between collections that may otherwise go unnoticed

Investigate collections beyond the conventional boundaries of books and electronic resources such as:
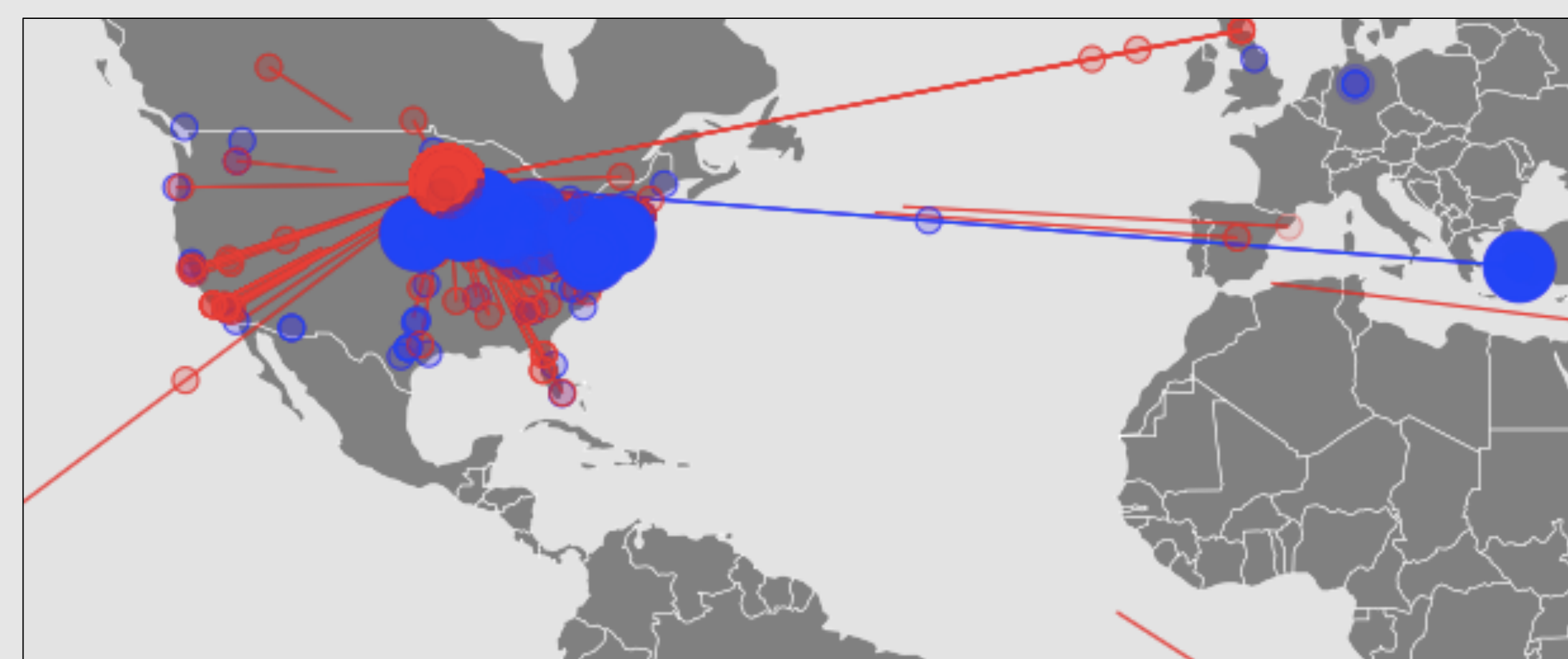• Researcher publication output
• Collaboration networks

Create interactive visualizations that would allow users to explore collections in a more dynamic and multi-faceted way.

Methods & Workflow

Obtain ILLiad XML data → Import to MySQL database → Strip out extraneous data (e.g., bibliographic information) → Manual cleanup in OpenRefine → Use PHP script to query Google Maps API for geo-coordinates → Combine lending and borrowing data in single JSON file

Results

Our workflow resulted in the following animation (shown right).

Red circles and lines indicate lending; blue circles and lines indicate borrowing. A circle appears in a location when the request is initiated and leaves the map when the request is closed.

Conclusions

This first step in our project:
• Created workflows generalizable for future work.
• Shows the interactions between UMN Libraries and other institutions through borrowing and lending.

These visualizations inform:
• Our understanding and use of the libraries.
• How our collections are distributed in time and space.

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