Evolving Family Structures
Representation and Visualization

J. R. Hott ¹  W. N. Martin ¹  K. Flake ²

¹Computer Science, University of Virginia
²Religious Studies, University of Virginia
Computer Science Interest

Time-evolving network

- Visualization
  - Chord diagram
  - Flow Diagram [Harris, 1996]

- Temporal metrics
Data Collaborators

Nauvoo Community Project

- [http://nauvoo.byu.edu/](http://nauvoo.byu.edu/)
- Jill Crandell
- Initial Nauvoo database
- 54,602 individuals, 17,886 marriages
- Focus on subset of this data
Cast of Characters

Visualization examples centered on the following:

- Zina Diantha Huntington
- Prescendia Lathrop Huntington
- Henry Bailey Jacobs
- Brigham Young
- Joseph Smith
- Heber Chase Kimball
- Norman Buell
Historical Research Interest

Questions to consider

• What is a marriage? What was it considered at the time?
• How does timing impact that definition?
• What is a family? What is a household?
• Do families and marriages align? What does it mean if they do not?
• How do these family structures relate to ecclesiastical relationships?
Marriage Structures

Figure: Chord diagram: Brigham Young  ▶ Live demo  ford.cs.virginia.edu/nuvoo
Marriage Structures

**Figure:** Chord diagram: Marital Unit for Brigham Young
Marriage Structures

Figure: Chord diagram: Marital Unit for Brigham Young
Marriage Structures

Figure: Chord diagram: Marital Unit for Brigham Young
Figure: Chord diagram: Marital Unit for Brigham Young
Marriage Structures

Figure: Chord diagram: Marital Unit for Brigham Young
Marriage Structures

Figure: Zina Diantha Huntington's marriages
Lineage View

Zina Diantha Huntington

Figure: Flow Diagram from Zina Huntington's point of view
Figure: Flow Diagram from Zina and Prescendia Huntington’s point of view
Conclusion

Historical Research Questions

- What is a marriage? What was it considered at the time?
- How does timing impact that definition?
- What is a family? What is a household?
- Do families and marriages align? What does it mean if they do not?
- How do these family structures relate to ecclesiastical relationships?

Computer Science Interest

- Time-evolving network
- Visualization
- Temporal metrics
Thank You

- John R. Hott  
  - jh2jf@virginia.edu  
  - www.cs.virginia.edu/~jh2jf  
  - Samples: ford.cs.virginia.edu/nauvoo  

- Institute for Advanced Technology in the Humanities  
  - www.iath.virginia.edu

References: