FINAL PROJECT: FAMILY TREE VISUALIZATION

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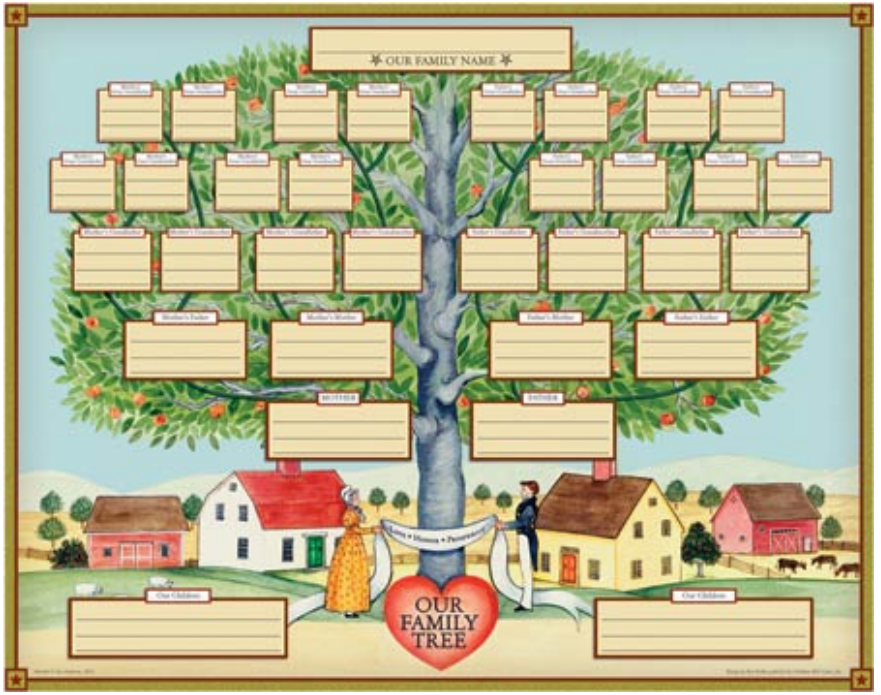
Motivation

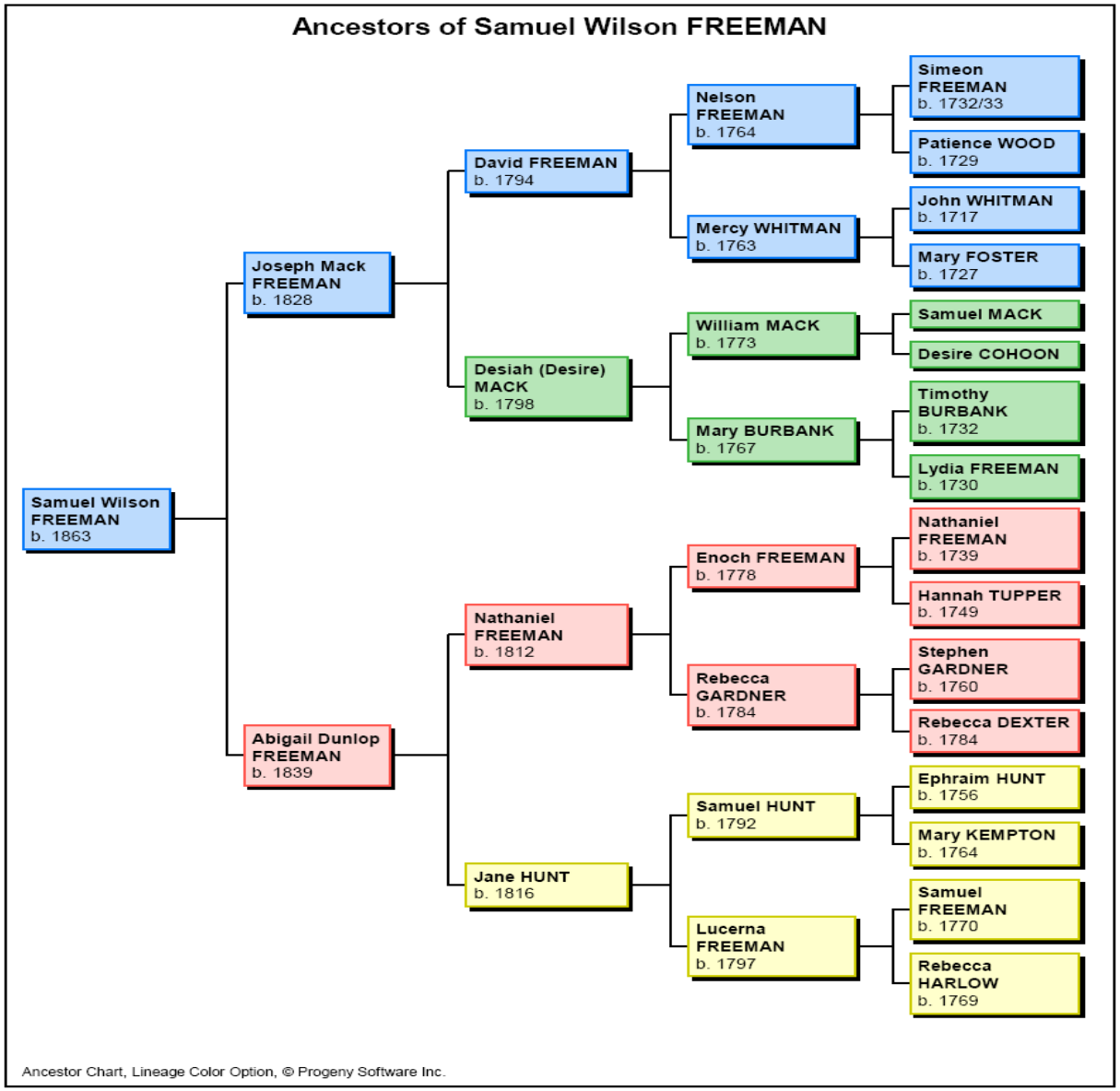
- Family Trees have been around as a hobby for a long time
- People want to collect, organize and trace their family backgrounds
- Family Trees can provide useful information for medicinal and anthropological studies



Problems

- Most software applications create static family trees, without much interaction
- It is hard to scale family trees
- Temporal or geographical data is often not depicted very well
- Relatively rare relationships, like remarriages and divorces are not well depicted
- Clustering of distant nodes makes the trees look cluttered
- Searching family trees has not received much attention

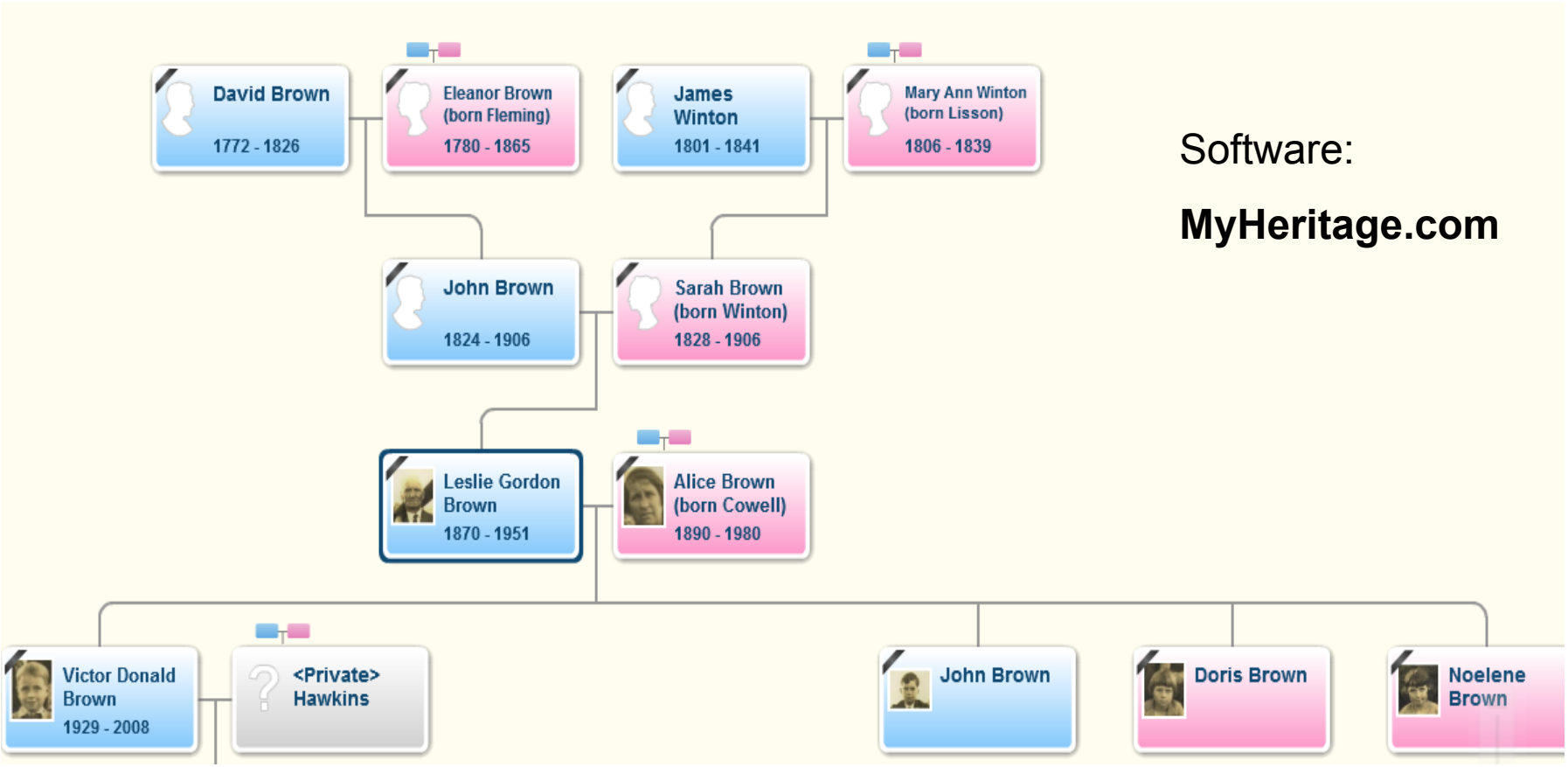
Related Work



Software:

PAF Companion 5.4

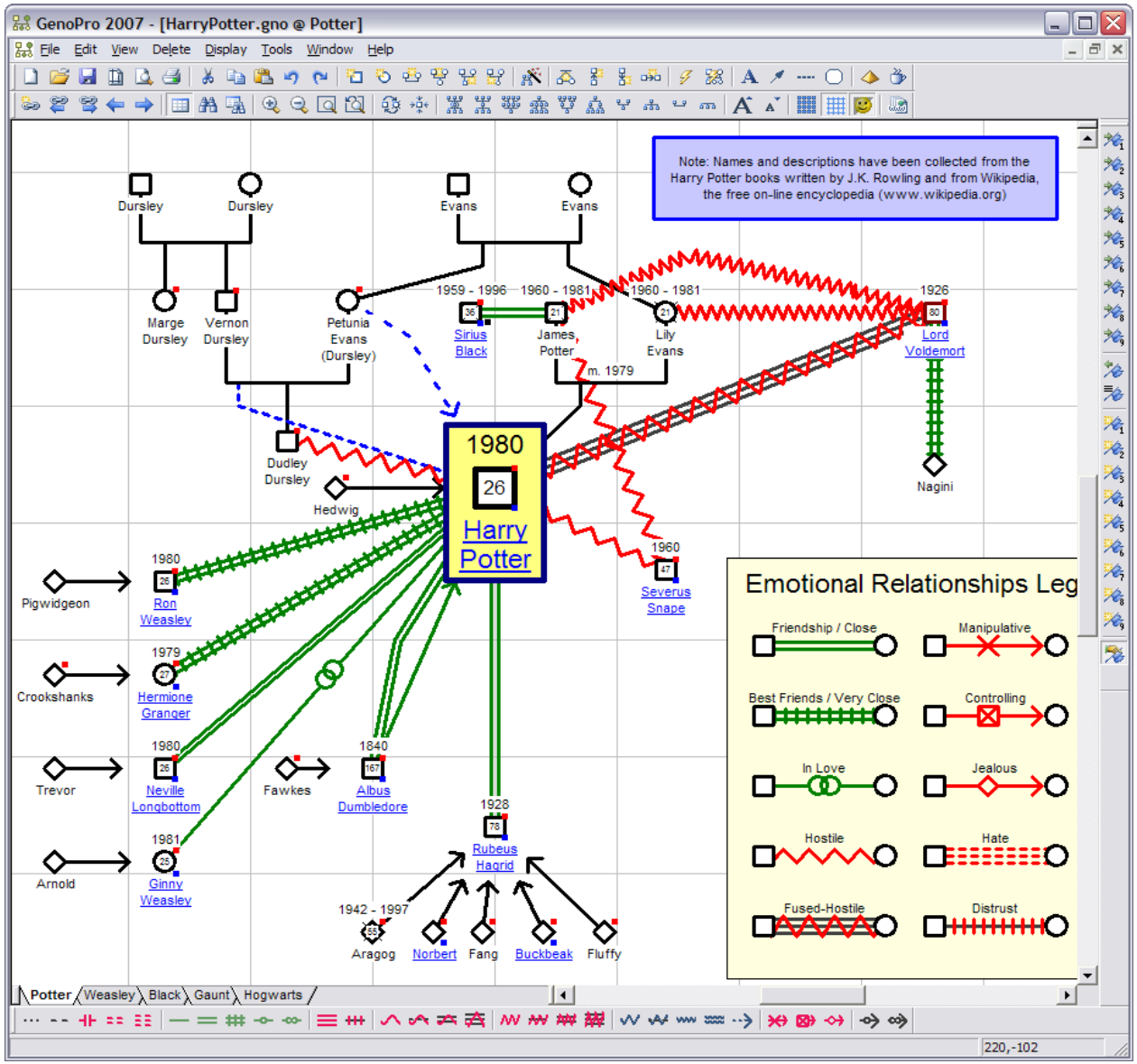
Related Work



Software:

MyHeritage.com

Related Work



Software:

GenoPro

Related Research

Concept of Fan Charts

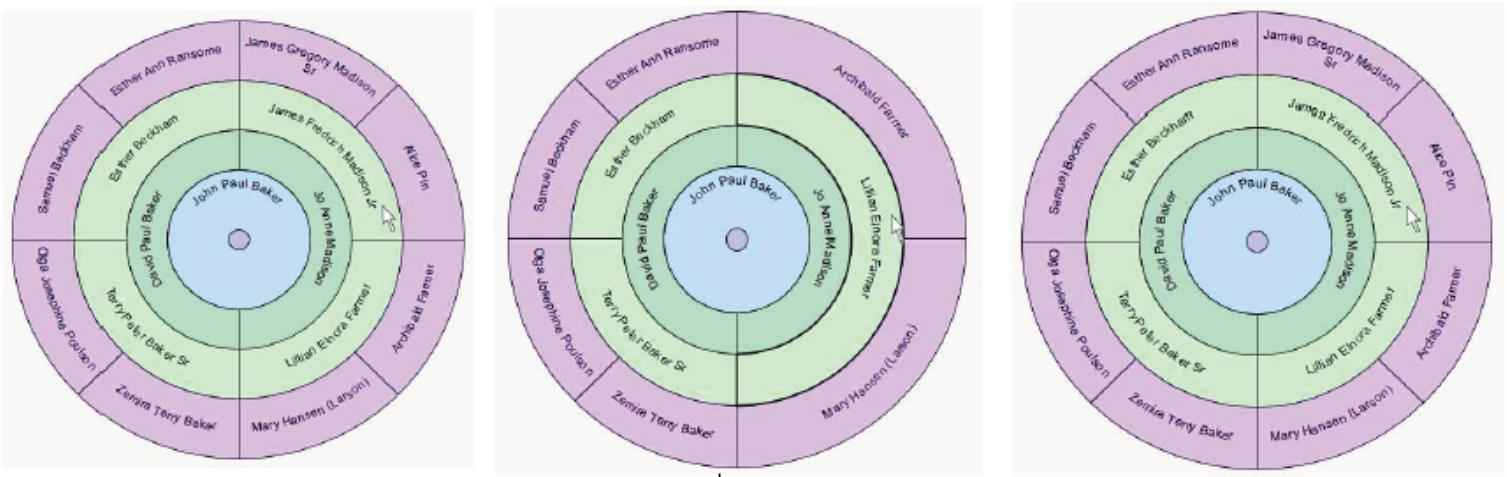
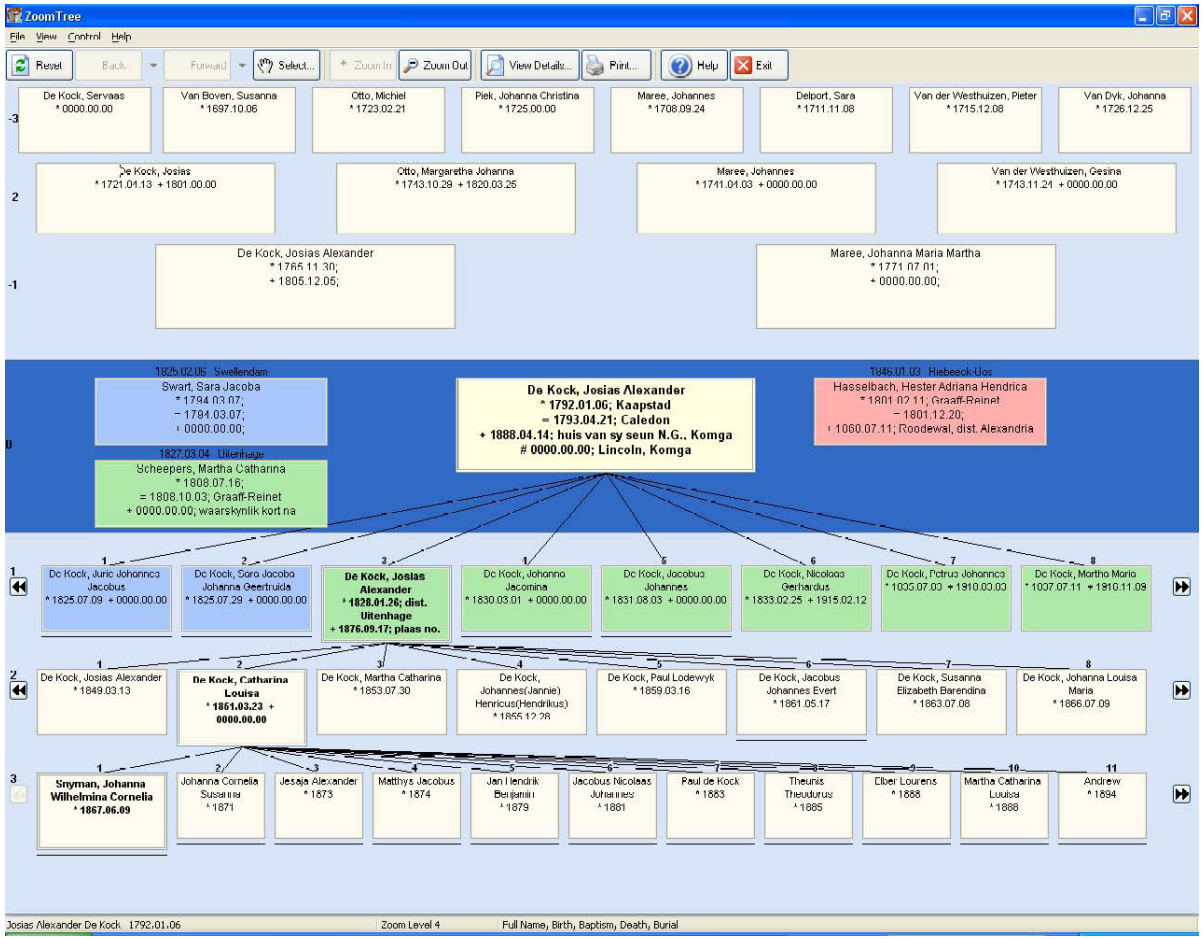


Figure 2. (left) Original view. **(center)** Selecting a node causes it to collapse, while its adjacent node expands. **(right)** Selecting the expanded node restores the nodes to their original sizes.

Geoffrey M. Draper and Richard F. Riesenfeld - Interactive Fan Charts: A Space-saving Technique for Genealogical Graph Exploration

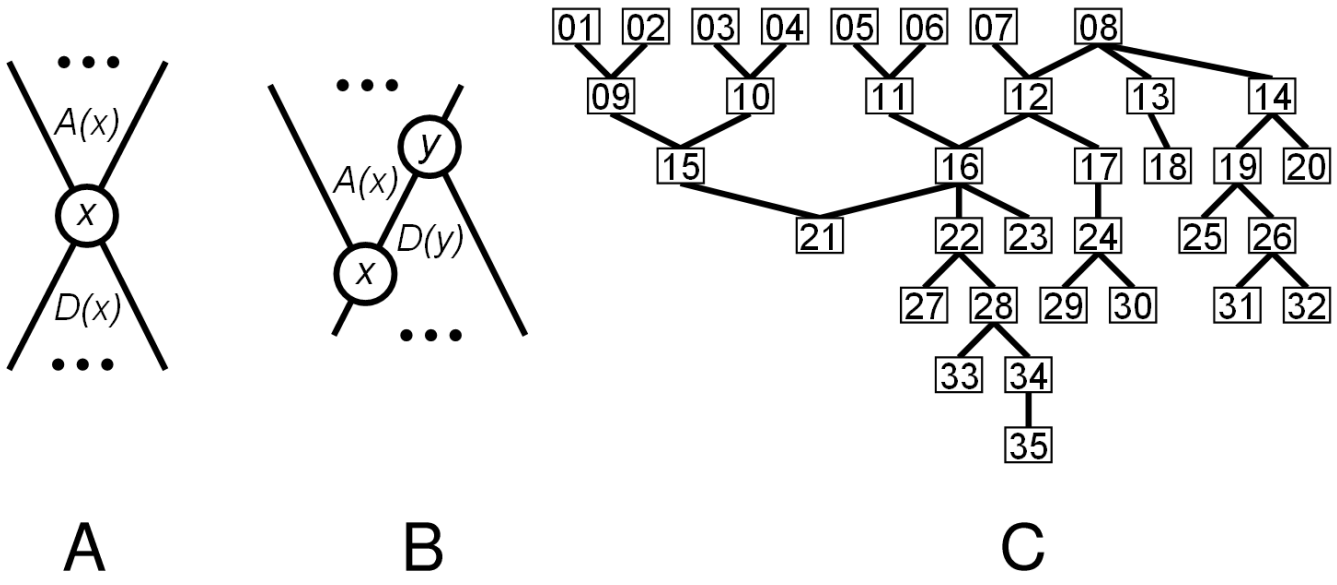
Related Research



Janet Wesson, MC du Plessis and Craig Oosthuizen – A ZoomTree Interface for Searching Geealogical Information

Related Research

Concept of Dual Trees



McGuffin: “Interactive Visualization of Genealogical Graphs”

Challenges

- Challenge #1 – Showing temporal data (age differences etc) with each node
- Challenge #2 – Showing geographical data (current and previous locations of the people)
- Other Challenges
  - Scaling when tree gets huge
  - Showing siblings/cousins etc
  - Dynamically re-arranging nodes for a “cleaner” visualization

Approach

- Displaying Temporal Data
  - Nodes placed on a vertical time line
  - Clicking on a node highlights other nodes belonging to the same generation
  - Clicking the node brings up a circle whose radius represents the age gap from the node's age and engulfs nodes that fall in the range
- Displaying Geographical Data
  - Animation showing creation and movement of nodes on a world map over time
  - Possibly allowing animation for subtrees only (selecting a couple) to avoid noise

Milestones and Division of Labor

M1: Implement a tree-like structure allowing dynamic addition of nodes

M2: Make a layout that allows maximum visual field and retains the tree structure

M3: Animate nodes to display temporal/geographical data

M4 (optional): Add additional features – hovering, zoom etc

Division of Labor

- Further research about related work
- Software tools and animation
- Data input integration with application

Questions