Using Visualization and Search to Locate Genealogy Holes

Daniel Zappala
Computer Science Department
Brigham Young University
Provo, UT 84602

ABSTRACT

1. INTRODUCTION

One of the main challenges people face when conducting genealogical research is the task of figuring out where to focus their attention. Once a person's family tree begins to expand, it is difficult to keep track of what work has been done and what information or people are missing. With the advent of collaborative, online genealogy, this problem becomes even harder, because it is common to have large amounts of research already completed for one's ancestors, with varying degrees of quality.

Most genealogy software uses simple pedigree charts and descendant charts to show the discovered ancestors and some of their vital information in a standardize format. However, pedigree charts are limited to showing only direct ancestors and give no indication of how complete the research is for each person. Descendant charts, due to the large amount of information being presented, are often difficult to navigate. Research on visualization has produced new ways of visualizing trees of information, but the focus has generally been on static layout with few visual clues indicating research progress [**?**]. Significant work has been done on interactive visualizations of genealogical information [**?, ?, ?, ?, ?**], but with little focus on helping researchers identify holes.

In this paper we describe our recent work to address this problem by using interactive visualizations and a search engine to help researchers find holes in their genealogy. We focus strongly on usability and user studies, working directly with both novices and experts to identify and address weaknesses in our visualizations and to refine our search algorithm so that it returns useful results. This builds on our previous work on the Twenty Minute Genealogy project [**?**], where we developed an interactive ring chart and rudimentary search.

In this paper, we make the following contributions: (1) an interactive fan chart, with improved coloring and annotation to show holes for direct ancestors, (2) an interactive descendant chart, showing holes among the descendants of a common ancestor, and (3) a search engine that can be customized based on the scope and direction that a researcher wants to search. Each of these tools can be customized so that the user specifies what kind of holes she is searching for. We also describe a tagging interface that enables users to keep track of the holes they have found, so that they can conduct research on these ancestors. An application demonstrating these techniques is available at `leaf.byu.edu`.

2. REFERENCES

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