

# **A Control for Navigating Pedigrees**

**Greg Jones**  
**Department of Computer  
Science**  
**Utah State University**  
**([Greg.Jones@usu.edu](mailto:Greg.Jones@usu.edu))**

# Fundamental Concepts

- Graphical user interfaces are expected
- Valuable characteristics...
  - **high bandwidth** visual information processing
  - manipulate screen elements in a natural way
  - use **innate spatial senses** based on:
    - relative and absolute position
    - size, color, and shape
- Important attributes of any user interface
  - maximum user flexibility
  - user **control** of the process
  - **backtracking**, to encourage experimentation
  - user **always informed** of the overall state

# Limitations of Current Pedigree Navigation

- Navigation is **linear**, restricted to single jumps between parent and child.
- A relatively **small portion** of the pedigree is displayed on the screen.
- The user is **unable to select** (within the control) many individual records.
- It is easy to **lose one's sense of place**.
- It is **hard to see relationships** of individuals, and particularly their relationship to the individual at the root.

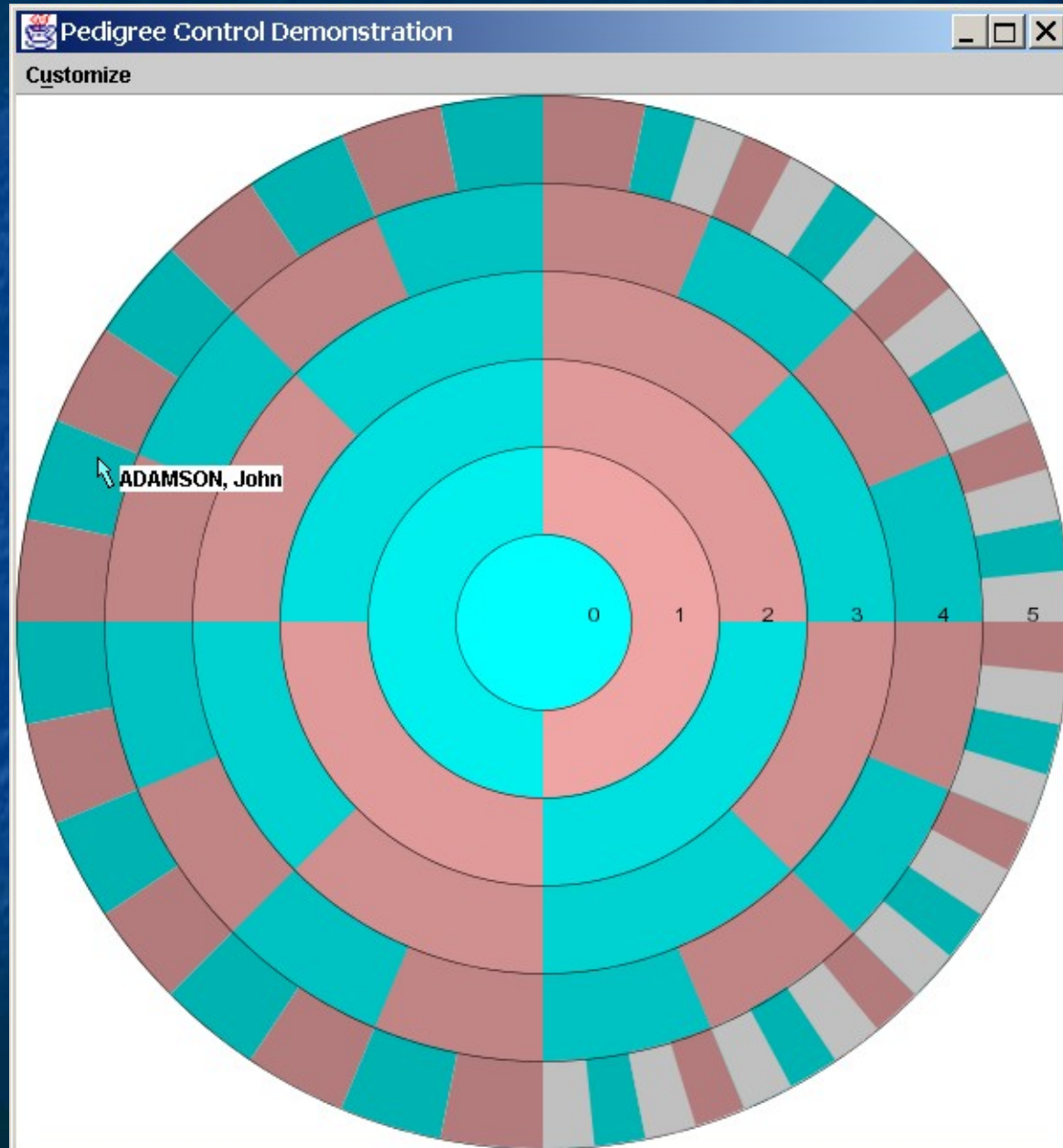


# A Control for Pedigree Navigation

- Graphical User Interface Controls
  - interactive **screen components**
  - **access data** stored in separate data models
  - based on familiar **metaphors**
- Data Navigation
  - **find**, in a variety of ways, then modify
  - random **hopping** should be possible
  - **global view** (or map) should be available
  - history and **backtracking**

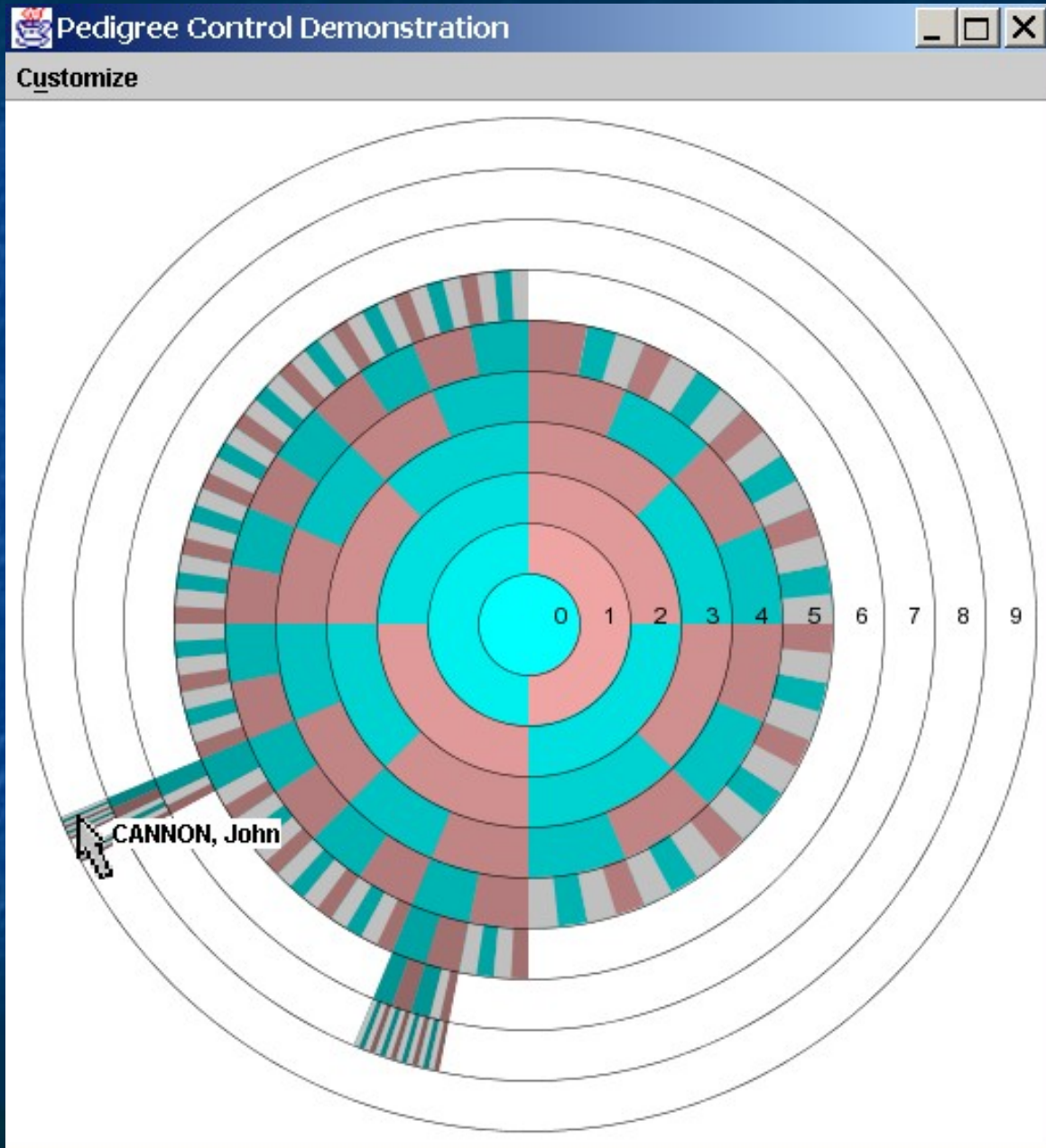
# Ancestry Control

- Interaction?  
mouse over
- Data access?  
name shown
- Metaphor?  
circular tree
- Hopping?  
mouse to  
any person
- Global view
  - up to limit
  - generations  
highlighted



# Additional Generations

- Global view?
  - captured from screen with low resolution
  - 1023 people
- Data access?
  - Missing people
  - Incomplete records





# Control Customization

- The specific fields of information displayed for an individual
- The colors used for:
  - Male, Female, Root, Incomplete, Missing
- The number of generations displayed
- The presence or absence of scrollbars
- Recentering the display

# Mouse Button Interactions

- Double clicking brings up a text editing box displaying data for the individual



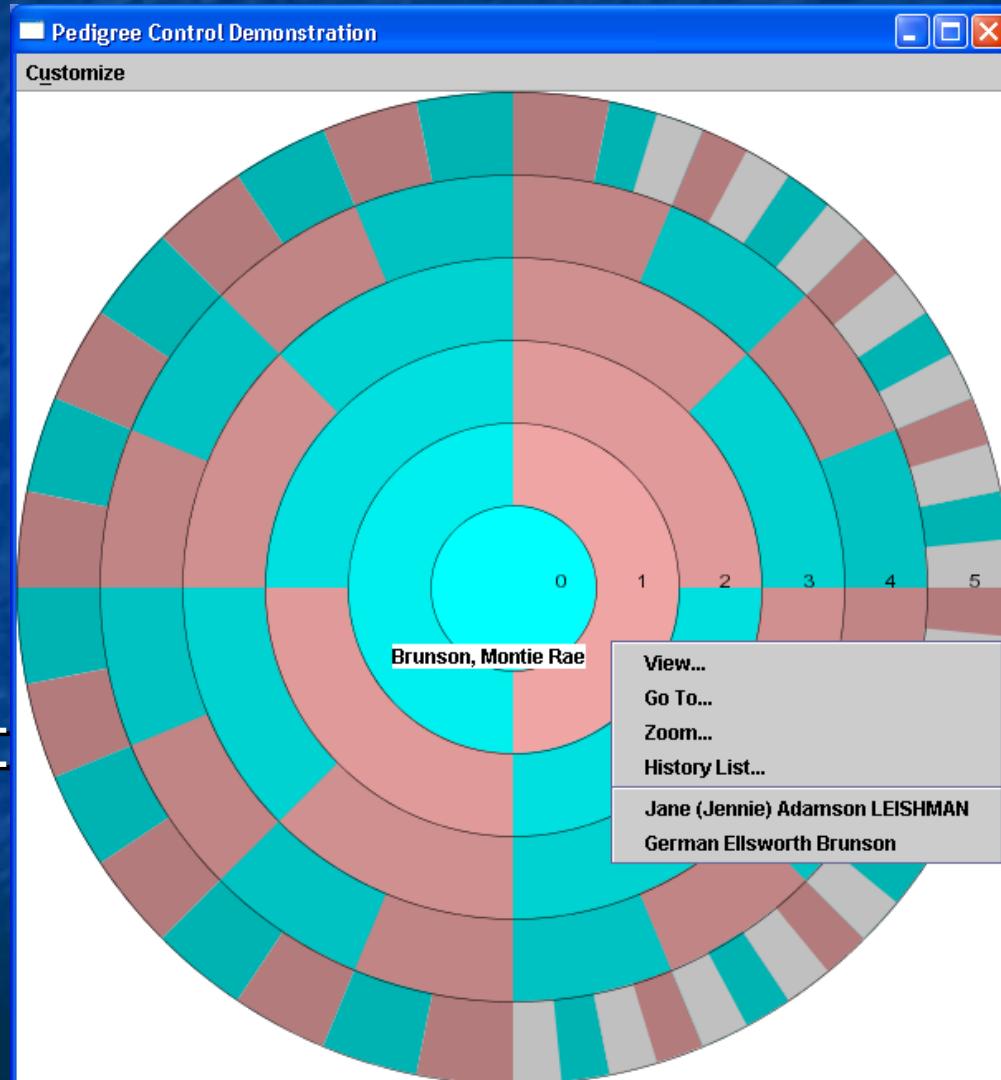
A screenshot of a software window titled "Individual" with a standard Windows-style title bar (blue background, white text, and a red close button). The window contains a form with six text input fields, each preceded by a label in blue text. The fields contain the following data: "Jones" for Family Name, "Gregory Walter" for Given Names, "4 Jan 1943" for Birth Date, "Salt Lake, Salt Lake, UT, USA" for Birth Place, "Living" for Death Date, and "Living" for Death Place. At the bottom of the window are two buttons: "OK" and "Cancel".

Field Label	Value
Family Name:	Jones
Given Names:	Gregory Walter
Birth Date:	4 Jan 1943
Birth Place:	Salt Lake, Salt Lake, UT, USA
Death Date:	Living
Death Place:	Living



# Mouse Button Interactions

- Right clicking displays a popup menu
- Data access? view for marriage and family
- Finding? go to target
- Backtracking? history list



# View and Go To

**View Related Details**

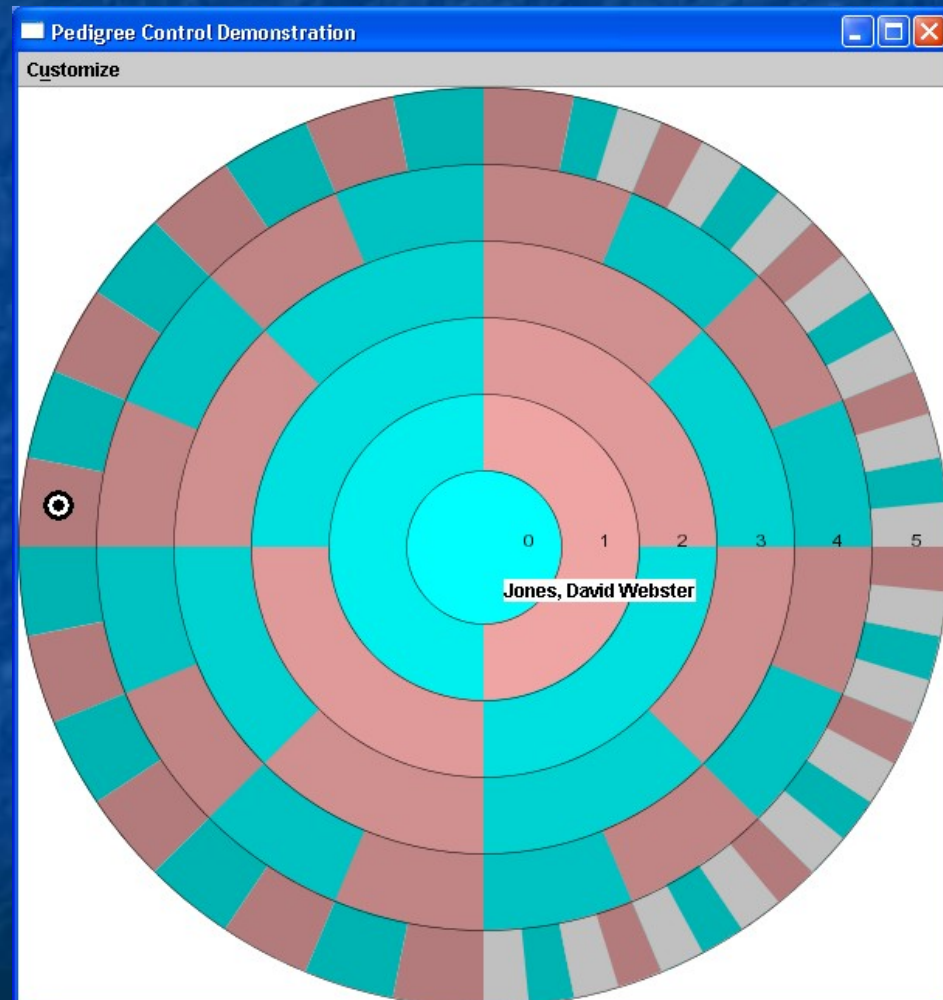
**Marriage** **Family of Parents**

Father: Thomas Allan LEISHMAN

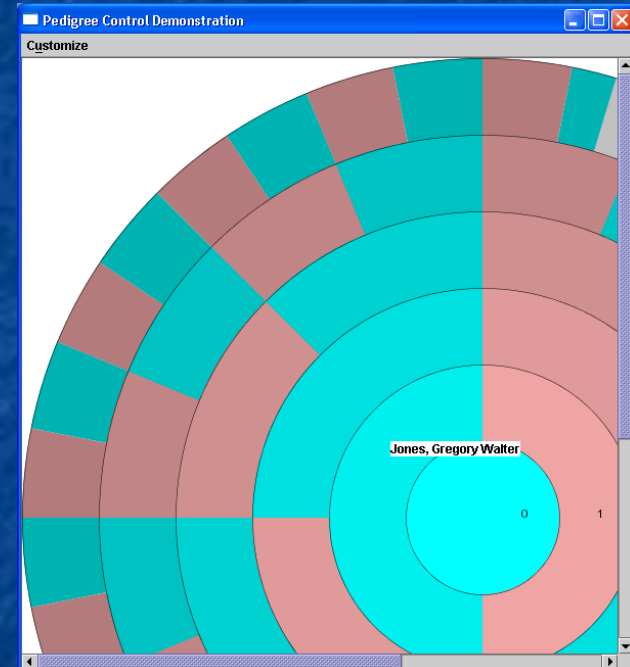
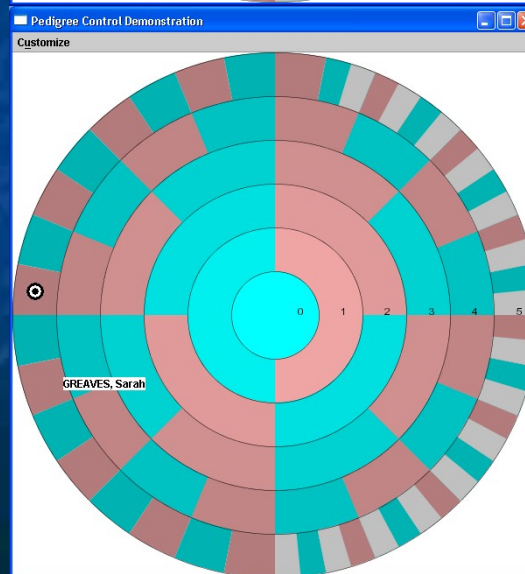
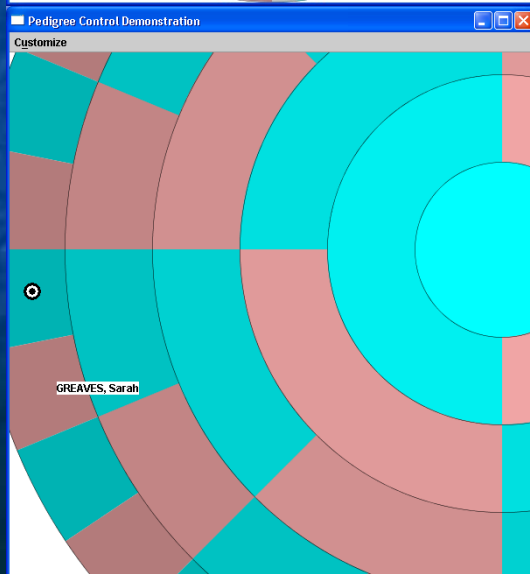
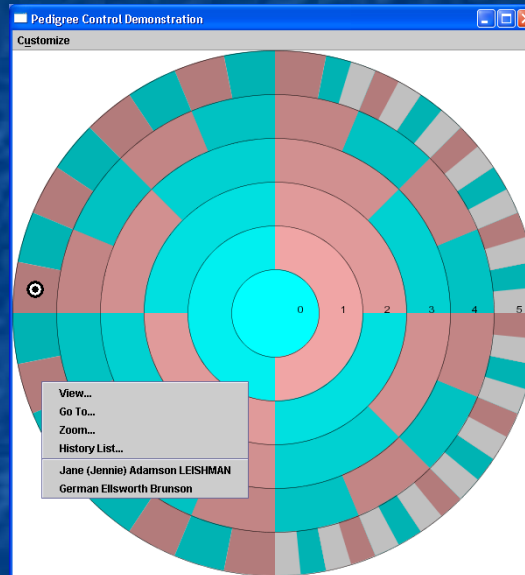
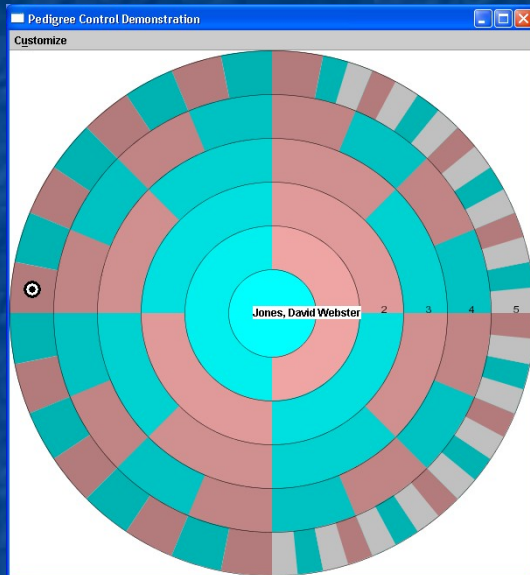
Mother: Elizabeth ADAMSON

1 Andrew LEISHMAN  
2 Daniel Adamson LEISHMAN  
3 Jane (Jennie) Adamson LEISHMAN  
4 Margaret Marvella Adamson LEISHMAN  
5 Robert Adamson LEISHMAN  
6 Thomas Adamson LEISHMAN  
7 James Adamson LEISHMAN  
8 Andrew Adamson LEISHMAN

OK



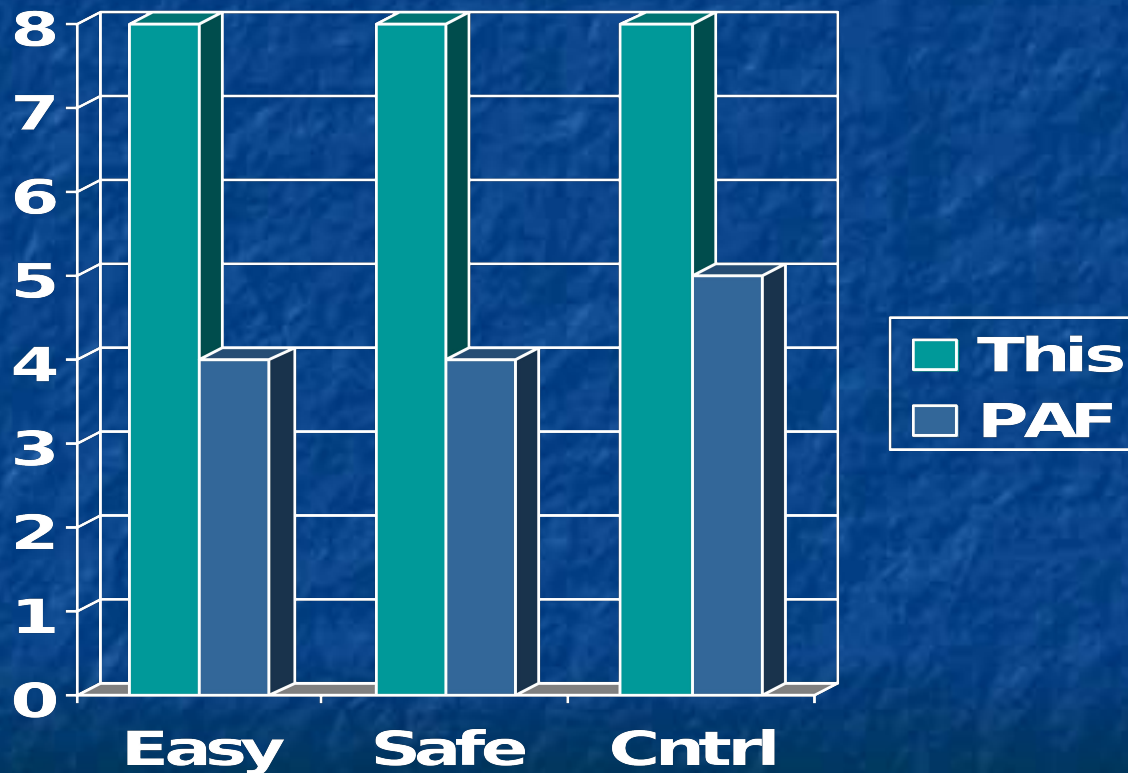
# Zoom, Reset, and Scrolling





# Preliminary Qualitative Results

- Users feel this is more usable than the PAF pedigree
- Users feel less anxiety
- Users feel more in control



# Preliminary Quantitative Results

- Users jump from one person to another much more rapidly
- Users find people more easily
- Users find incomplete records much more easily
- Error rate cut to 1/3 – much more accurate

