A Control for Navigating Pedigrees

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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
Mouse Button Interactions

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

<table>
<thead>
<tr>
<th>Marriage</th>
<th>Family of Parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>Thomas Allan LEISHMAN</td>
</tr>
<tr>
<td>Mother</td>
<td>Elizabeth ADAMSON</td>
</tr>
</tbody>
</table>

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