

MacFamilyTree 7 Usability Report

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ABSTRACT

This paper is to investigate the usability of Synium Software's MacFamilyTree 7's family tree tool. The aspect of usability in ISO 25010's quality in use factors I will be looking at will be Efficiency with respect to how a user adds their ancestors to their tree.

Author Keywords

Genealogy; Family Tree; Software;

ACM Classification Keywords

H.5.2. Information interfaces and presentation (e.g., HCI): User Interfaces;

INTRODUCTION

The main aspect of the family tree tool I wish to pay particular attention to as regards to efficiency is fundamentally the most primitive and most repeated action within the app - how users add people to their tree. The software allows different paths of adding family members, utilising an "Interactive Tree" view and a separate "Edit Person" screen with buttons, allowing users to add parents and children to the person being edited.

ASPECT TO BE MEASURED

The aspect I wish to measure is the time and the number of clicks it takes for a user to carry out the designated procedure. This, along with an SUS score, a short set of questions and my observations will allow me to understand why the participants efficiency was helped or hindered by specific features within the software.

EVALUATION PROCEDURE

The procedure I intend to look at in relation to efficiency is the the methods in which participants add people to their tree. In an effort to try and get usable data, I suggested participants add only themselves, their parents and one set of grandparents. Having them carry out this instruction over

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simply entering two generations of their family avoided the effect different sizes of families would have on the overall time it took them to complete the task.

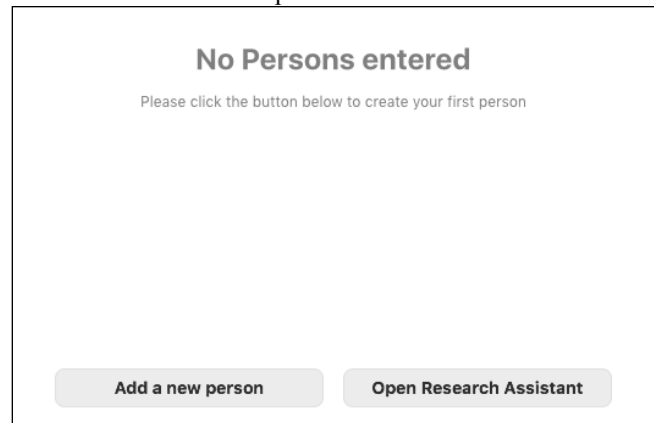


Figure 1. "Add a new person" Button [4]

When the application is in the initial state, it is immediately obvious that to add themselves, the large "Add a new person" button must be pressed (see Figure 1). A text prompt in the middle of the screen along with a button featuring a different colour and font style from the surrounding background draws attention to itself from the offset. Upon clicking this button, the software brings up the Tree Interface with an overlaying popup containing input forms requiring different attributes such as "First Name" and "Last Name" (see Figure 2). I requested participants simply add only the aforementioned attributes to clearly distinguish the added people and allow us to concentrate on the process of adding relatives over adding information.

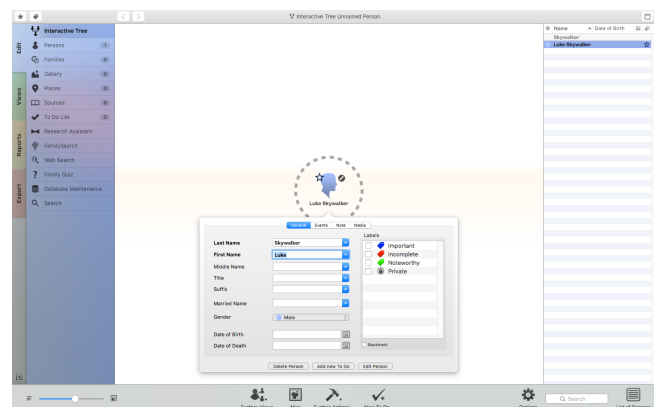


Figure 2. Interactive Tree with Attribute Overlay [4]

Clicking outside of the Attribute Popup closes it to reveal the Tree Interface wherein further relatives can be added by clicking a own name and specifying which one of their parents they wish to create (see Figure 3). An Attribute Popup identical to the previous one appears here and the user would continue to add information in the same way as did for themselves. The user may however choose to double click themselves on the Tree Interface which brings them to the Edit Screen.

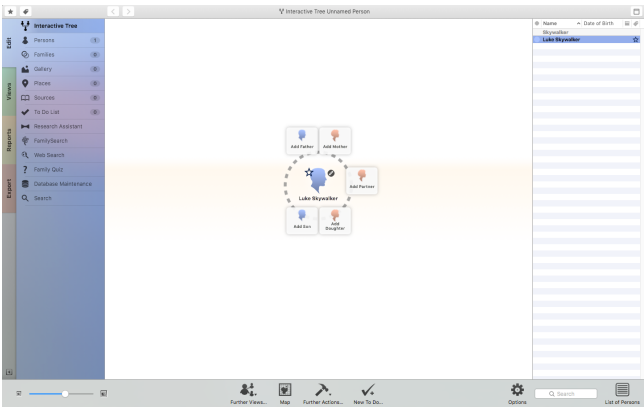


Figure 3. Adding relatives on the Interactive Tree [4]

The Edit Screen (see Figure 4) acts as an expanded version of the Attribute Popup, offering a larger set of attributes which can be added in input forms. New parents may also be added from this screen, bringing the user to another Edit Screen for the newly added relative. Pressing the “Interactive Tree” button at the top would get the user back to the Tree Interface allowing them to see what their tree looks like. Users would repeat these actions until they were left with a tree which featured themselves, their parents and one set of grandparents.

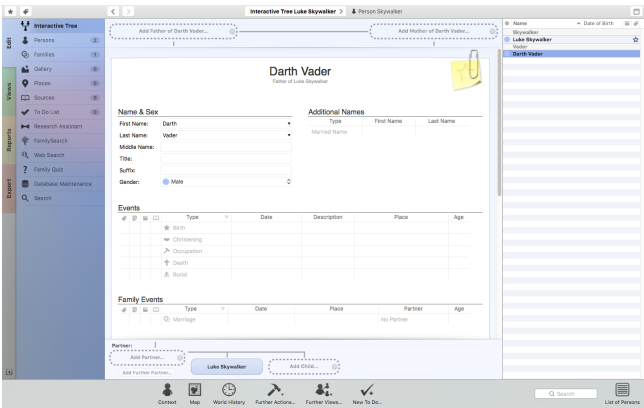


Figure 4. Edit Person screen [4]

USER TESTING

I had two participants, a 21 year old male Software Engineer, Sam and a 51 year old female Scientific Officer, Lesley. Both have experience in using software, but neither had used family tree software in the past. My testing methodology was to tell them what I wanted them to do before handing them the laptop with the software open at the initial state. I had their permission to record both the screen and the audio. This allowed me to later count the

number of clicks and gave me an exact time of how long it took them to complete the task.

Following observations of the participants adding themselves and their relatives, I asked each of them the following questions to gain a better insight into their experience using the software:

- What do you think think about process of adding your ancestors?
- What did you think about the visual tree builder?
- What was good and bad about the user interface?

I also asked them to carry answer questions on UsabilityNet.org’s System Usability Scale (SUS) [5] to asses the participant’s opinion of the System’s usability. My findings are documented in the section below (see Table 1).

KEY FINDINGS

Participant	Time Taken (seconds)	Number of Clicks	SUS Score
Sam	146	30	40
Lesley	245	33	70

Table 1. Participant Testing Results

Sam’s experience [3] started with him not knowing how to click off of the Attribute Popup. He spent several seconds looking for a way to add his initial person going so far to start clicking irrelevant buttons at the bottom of the screen. He looked to be apprehensive towards clicking off the popup, simply due to fear he lost the information that was entered.

After a several more erroneous clicks, he successfully added his parents, but accidentally double-clicked himself, resulting in him being taken to the Person Editor screen. It was here he exclaimed “There’s far too many ways of doing this” as he tried to work out what to do next. He was able to add the rest of his ancestors from the Person Editor screen before clicking erroneous things in an attempt to get back to the Tree Interface before giving up and finally asking how to get back to the Tree Interface.

On questioning Sam, he felt “it wasn’t very clear how to add people” due to a “cluttered UI with too many things going on at once and too many ways of doing the same thing”. His comments praised the Tree Interface, stating it was “the best part of it”. His SUS score of 40 along with his large time taken and large number of clicks suggest he didn’t have a high level of satisfaction due to how inefficient he was with the software. Too much time was spent looking for how to get back to what he wanted to see.

Lesley’s experience [2] however was slightly different. Like Sam, she initially struggled to get past the lack of a button to hide the Attribute Popup. She also had trouble finding the controls to add relatives on the Tree Interface. Her clicking didn’t include the person on which she was trying to add the parents and thus never ended up on the Person Editor

screen, so I was not able to observe her actions within the different layers of the application. Lesley's slow learning of the same system allowed her not to be frustrated, remarking "I'm just getting the hang of it!" when her family tree was fully added.

In response to my questions, she stated that "Once I'd done one or two entries, it was much easier". Her reasoning for this was that initially she found "there was no real prompts to do things" and that she would've had an easier time following a tutorial within the software. We see that despite having a larger click count and time taken to carry out the task, she had a much higher SUS score than Sam. This I believe is because of both her lower amount of experience with software and less critical outlook but also the fact that she didn't have the frustration of getting stuck on the Person Editor screen.

We see the problem of both participants in terms of efficiency is not being able to do what they want to do on screen, be that returning to specific states within the application or finding the correct functionality to carry out the task they have in mind. This is due to the overwhelming amount of information within the Edit Person screen and due to the lack of information on the Tree Interface, causing them to waste time, searching for lost or hidden buttons which do what they want.

RECOMMENDED IMPROVEMENTS

A tutorial or information popups within the application suggesting how things are done would go a long way in solving the problem of participants trying to figure out what to click on next. These may be perceived to hinder efficiency at the start, but as seen by both participants, being told how to do it from the beginning would likely improve their overall efficiency. This would primarily involve the Tree Visualiser, an aspect both participants liked once they figured out how to add relatives using it.

Both participants lost time looking for a way of closing the Attribute Popup. A small button such as "Add Person" or "Save" on the Attribute Popup would have gone a long way to increasing Efficiency here. What is confusing about the methodology the application uses at this point is it creates an empty person before attributes can be assigned, thus a "Save" button would likely be the most appropriate.

My final recommendation for the Person Editor screen is a very clear way back to the Tree Interface. The buttons to do it are too small and get lost within all the other available functionalities. Scaling these controls to allow them to stand out, giving size preference to the most used would make the application more accessible among early users, improving efficiency as less time will be spent looking for the desired functionality.

CONCLUSION

My recommended changes such as the tutorial would affect overall efficiency minimally over long term use of the app. It will only be experienced once at the start, but would ease the learning curve without becoming a hinderance later on when the user is more experienced.

The visual recommendations such as the "Save" button on Attribute Popup add to the application's ethos of being able to do the same tasks using different methods. Having the button would most definitely increase efficiency as the user is learning the system. Once they are more confident however and perhaps discover clicking off the Attribute Popup has the same functionality in a more efficient manner, it is something they can effortlessly transition into doing as an experienced user.

Increasing the size of the controls to get back to the Tree Interface however could be problematic as regards to effectiveness. Yes, short term efficiency would be increased as the user learns the system, but the size of the controls would be increased at the detriment of other buttons, prompting the developer to hide more functionality behind menus. This, over the long term, could lower effectiveness, keeping the user unaware of potential features within the application.

I believe efficiency is tied very closely to effectiveness and satisfaction. Gilbert Cockton suggests that "designers can or should trade off factors such as efficiency, effectiveness and satisfaction against each other." [1] This seems to be what has happened here. The application has traded off efficiency and early satisfaction for a more effective, complicated application, giving the most satisfaction to the users that have hours of experience with the software. This has created a steep learning curve which ultimately benefits the more frequent user due to both the quantity of functionality and amount of potential information which can be stored; good, given that it is the point of a family tree application is to preserve knowledge but bad also as we want many users to be able to access it easily.

ACKNOWLEDGMENTS

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