

## **Wanted: A Geographical, Time-Period-Based User Interface**

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I am truly grateful to be a participant at this workshop. Jesus Christ's influence and blessings upon me have made it possible. I pray that His influence will be with us so that our communication will not only be technical but spiritual as well.

My family and friends have also contributed in many ways. They helped me overcome the obstacles to my presenting this workshop. The last slide lists most of their names.

In December 1991 I envisioned a user interface for family history and genealogical research based on geography and time. I was unable to follow up on that idea at the time. The idea has been with me for some time. It really grabbed my attention periodically. This usually happened when I knew that the interface would help someone's research.

In March 2001 we have more and better research tools in the Family History Centers and on the Internet. We also have more data to search.

The Merced California Stake Family History Center will serve as a typical example. Its staff is helpful. It is well equipped. The available resource types include computer programs and data, microfiche and microfilm, and printed media.

Alphabetically the program names range from 'A' to 'V'. They start with Ancestral File and go to Mormon Immigration Index. Then they continue with Pedigree Resource File and end with Vital Records Indexes. The staff has networked the computers. Many programs are on the file server. CD-ROMs store the others.

Similarly, the microfiche collection ranges from the Accelerated Index System through the Registry in alphabetical order. The microfilm collection holds various films requested by patrons and Vital Statistics films. Gazetteers, genealogical how-to books, maps and the U.S. Census Index are in the printed media collection.

Finding a missing person or family is possible but usually difficult and time consuming. Each family has at least one. The search usually involves searching multiple data sources looking for the information. Time has to be split between computer, microfiche, microfilm and printed media, often within the same hour. Researchers spend time waiting for advice and assistance from the staff on what to do next and where to search next. They then spend time waiting for films and microfiche that they have ordered. Lists, maps, and gazetteers rapidly become a necessity in the search. The researcher either is overwhelmed and gives up, or is forced to become a geographer and historian for that area. A genealogy researcher told me of spending years searching for a family member. When the individual was found, he had been across the river in another county. A geographic proximity search of the data for that period could have saved much time.

One problem to solve with this interface is from my family history. My mother has a great-grandfather by the name of Albert Brock Ryckman. We have his father's name, William Ryckman, and his mother's name, Elizabeth Wirick. His father and mother died while he was young. Different stories vary on the details. One account says William died while at sea. We have not found William's birth or death certificate. Members of the Ryckman family moved around a lot at this time. Some family members believe that William is the son of Albert Ryckman, born 12 Aug. 1766, in Schenectady, N.Y. Albert died 23 Apr. 1850, London, Ontario. Albert was a United Empire Loyalist. Research has not established a definite link. A geographic area or worldwide search for that time could solve this problem.

I have looked and asked of others. However, I have not found what I will describe.

The interface incorporates family history data and data references with maps, gazetteers, etc. Indexes, cross-references, and links allow the system to portray the relationships accurately. Zooming in or out

with respect to the genealogical data, geography and time can be done. The zoom functions are independent of each other.

It operates like a browser. Several windows or panes are visible. Each window may be opened, closed, or resized.

A navigation window shows a three-dimensional globe. Rotate the globe to the desired area and select it to display that area in the main window. This window will always show the part of the globe where the main window is viewing.

Page-like map views are presented in the main window. Links reveal more information when selected. Bookmarks can be placed. Scroll bars or cursor keys incrementally adjust the viewed area to the north, south, east or west. Buttons or keys zoom in for more detail or out for more area viewed. These viewing area changes also affect the search area. All of the search area should be visible in this window.

In a third window, select a date range for which to display links in the main window. This may range from a day to the entire historical period covered by the database.

Enter the genealogical information to search for in a fourth window. This may be a family name or an individual. Specifying an event narrows the search. Wildcard and soundex searches may be done.

The interface provides benefits. Many users are familiar with browsers. Referencing multiple data sources is done in one search. The user, experienced or not, does not have to be either a geographer or a historian for that area to be productive in their research. Finding missing persons is much easier.

The job needs to be done properly. We will use existing and developing technologies. Evaluation of these technologies followed by a comparison of their relative strengths and weaknesses must be done.

Some questions to ask are:

1. Will this be available on the Internet, on a network, or on a standalone computer?
2. Where will the data come from?
3. How will we handle data updates?
4. What security steps will we take to protect data integrity?
5. Do we build or buy the browser?
6. Is all the necessary technology available?

This is not an exhaustive list. I am sure more questions will come along.

I hope that it eventually becomes available on the Internet. More likely it will first be available as a standalone and then as a network application. The lessons learned in creating the Family Search Web Site should help shorten the transition.

The Church of Jesus Christ of Latter-day Saints has data, but we need more. Also, I have heard that some information donors have restricted their data from electronic distribution. If that is true, what needs to happen to encourage those donors to lift the restrictions they have imposed? We need to convert and store more data so that it is accessible. Peer-to-peer file sharing, Electronic Data Interchange (EDI), Web Crawlers, "Knowledge Management Systems" (KM), "Enterprise Knowledge Portals" (EKP), and "Supply-Chain Management" (SCM) are useful in sharing and collecting data.

We must translate some information. RosettaNet, BizTalk, and Extensible Markup Language (XML) or other markup languages, are proving useful as data interfaces. Other interfaces may become available. The data should support users of different spoken languages.

We must understand and categorize unstructured data for it to be useful. Neural Nets, Taxonomy Technology, and the Product of Experts Algorithm (PoE) are reportedly useful for this.

Data will require protection and may need auditing. The system may need protection. This is especially true for an Internet application. Digital Rights Technology, "Read-only" drives, Firewalls, Split Domain Name Service (S-DNS), and applications for virus or intrusion detection are available solutions.

We need a visual interface. An existing browser such as Netscape, Internet Explorer or Folio Views requires little development effort. Hypertext Markup Language (HTML), Dynamic HTML, XML or Java will present the data. Other developing technologies such as ebooks may have a use.

About three years ago, my mother, who lives in southern California, was trying to learn more of William Ryckman. I had a dream about that time. It was quite vivid. I saw a map of the Great Lakes area. In particular I saw Lake Superior. I then traveled on the waters of Lake Superior. We were heading north into Lake Superior. We encountered shoals on the east end of the lake. It seems that we sustained damage but did not sink. We sank by Thunder Bay between Isle Royale and the north shore of the lake. On the east end by the shoals, I walked out of the lake. I then walked into a building with glass walls and stood like a statue on display. About six months or more after this dream, my mother discovered a shipwreck museum on the east end of Lake Superior in Michigan. Relatives live in Ontario, Canada. However, it is at least a 12-hour drive for them. The museum has a web page but it provides no access to information about their collection. They have links to other shipwreck web sites. However, the information is not easily searchable. Also, the museum is only open from April through October of each year. It is my desire to make such information more readily available.

I bear testimony that God lives and that Jesus is the Christ, our Savior and Redeemer. We have a living prophet and living apostles on the earth. The Church of Jesus Christ of Latter-day Saints is the kingdom of God on the earth. This work of family history and genealogical research is the work of God. I have shared but one unsolved and vexing problem. Many spiritual experiences and successes have accompanied our efforts in this work. I pray that we will all have labored sufficiently so at the last day the family history of this world will be acceptable to the Lord. This I say in the name of Jesus Christ, Amen.