

Relative Finder Facebook Application: Generating Genuine Interest in Genealogy

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Abstract

“Am I related to any of my friends?” is a difficult question to answer. In an effort to provide an easy solution, we present the Relative Finder Facebook Application which uses pedigree information from New Family Search and logic from the Relative Finder website. It allows users to discover their familial relationship to Facebook friends, easily share results, and invite others to participate. By finding users’ familial relationships, more genuine interest in genealogy may be generated.

Introduction

The Relative Finder website (previously known as Relationship Finder, relativefinder.org) finds the relationships between users and famous people, and has the potential to generate more interest in family history. However, after being available for nearly a decade, we feel it is still under-utilized.

The Relative Finder Facebook Application (apps.facebook.com/relativefinder) has been developed to increase usability and share-ability of the Relative Finder website’s functionality. It uses New Family Search’s ancestral information, Facebook’s social networking abilities, and Relative Finder’s back-end logic to find and share how users are related to Facebook friends and famous people.

It is more than just a change of user-interface from the website version of Relative Finder. The Facebook application makes finding your relations easier. Unlike the original Relative Finder website, it doesn’t require the creation of a user account, groups and passwords, having group-admins, or publishing reports. Users simply authorize the application to access some of their information from Facebook and New Family Search, and then start finding relations.

How it Forwards Family History Technology

If you wanted to see how you’re related to people around you, how would you go about it?

A comparison of family trees is painstakingly slow. New Family Search’s API does allow you to find how users are related to one another, but not to living persons. Several applications have discovered users’ relationships to famous persons, but not necessarily to other users (Ivie and Ivie 2010).

The website version of Relative Finder is developing a beta version which also uses New Family Search, but this version operates best for well-organized groups (like college classes, businesses, or church

congregations) not for dispersed ones like friend-networks (see the section titled “How Facebook Improves Relative Finder” for more information).

Aside from possibly putting distant cousins in contact, Relative Finder does not help in discovering new ancestral information –so of what use is it? Simply put: it generates more genuine interest in genealogy.

The LDS Church emphasizes heavily the importance of family history, and although most members feel its importance, family history work is rarely done (Charles Knutson 2009). As Dr. Knutson pointed out, perhaps individuals would do more family history if they found it more interesting.

The Relative Finder Facebook Application generates interest for family history. According to Professor Sederberg, people have been brought to tears when they see their relations while using Relative Finder (Sederberg 2010). Isn't the fact that a teen is related to a girl they're dating worth talking about? Wouldn't history be more interesting if a student knew their relationship to the people in it? Facebook makes the sharing and acquiring of this information easier and hopefully can make family history a more interesting topic for both old and young.

How Facebook Improves Relative Finder

In order to see why the Relative Finder Facebook Application is an improvement from the original website version, it is good to compare their use cases.

If you want to see how you're related to your circle of friends and then share your findings, the steps to follow are as such:

Relative Finder Website Version	Relative Finder Facebook Application
Visit www.relativefinder.org	Accept a “Relative Finder Request” from a friend (or visit apps.facebook.com/relativefinder)
Create an account on the Relative Finder website	
Enter your New Family Search credentials	Enter your New Family Search credentials
Create a group and group password	
Talk to/email each of your friends, inviting them to also create a Relative Finder account and then join your group by entering the name, password, and your group owner code	(Optional: if no friends use it, invite friends to use it by clicking on their names and “Invite to Use Relative Finder”)
Once all your friends have joined the group, run a report (ie: find how you're related)	Click “Find Relatives: Facebook Friends” to view relations
Forward information about the report to your friends by either printing off the results or emailing them	
Find some way to publish the results you're especially excited about by either talking about it, blogging about it, posting it to Facebook, etc.	Publish your findings on you Facebook wall to share them

Facebook facilitates finding contact information for friends, inviting those friends to use the application, informing friends of relationship-results, and simplifies authentication and the process of finding relatives.

Facebook helps users find their friends' contact information. Services provided by Facebook include: importing information from their email's contacts list, allowing users to transitively see their friends' friends (i.e.: finding friends of friends) and deducing who might be your friends because of multiple shared friends. The Relative Finder Facebook Application can simply request this information from Facebook, instead of requiring the user to find their friends' contact information. Facebook is already commonly used (the Facebook BYU network has 52, 101 members (Facebook n.d.)) so the work of finding friends' contact information has already been done by users, and need not be repeated when they want to use Relative Finder on Facebook.

Facebook helps users invite their friends to use the application. Facebook's API is a simple interface that can be used to easily embed a professional-looking window inside Relative Finder on Facebook which has a list of all users' friends, whose pictures they click on to invite to use the application. An invitation is sent giving the invitee the option to accept and use Relative Finder or not. If they click to accept the invitation, they are redirected to Relative Finder on Facebook and it is saved in their list of used applications.

Facebook facilitates sharing/publishing information from the application. News is posted on a user's "wall." (A user's "wall" is a page on Facebook where users post their news and announcements for others to see.) Facebook users already check each other's "walls" periodically to stay up-to-date with their friends, so this is a natural place for people to broadcast their newfound relatives. Not only Relative Finder Facebook Application users will be aware of their findings, but all of their Facebook friends as well.

Facebook simplifies user login authentication. Rather than requiring the user to set up a new username and password which is Relative Finder-specific, Facebook's API can be used to identify the user according to their Facebook ID, and verify their identity. This also provides the advantage that not only is it simpler for the user to use, but the problem of authenticating the user and storing encrypted passwords is of no concern to the maintainers of the Facebook application.

Lastly, **Facebook simplifies the process of finding** relatives by automatically creating Relative Finder Groups. As previously shown in this section, in order to find a users' relatives, they must first become a member of a "Relative Finder Group." This group defines with whom relatives may be found when the backend searches for relatives. The process of creating, inviting people to, and joining groups is a little cumbersome. While not overly difficult, it does require quite a bit of organization.

The process of creating Relative Finder Groups is automated in the Facebook application. Facebook's API allows for discovery of the user's friends who use this same application. This information is acquired, and a Relative Finder Group is automatically created with these individuals in it. Thus, the user need never even know about Relative Finder Groups.

Table 1 Features Provided by Relative Finder Website Vs. Facebook Application

	Standard Website	Facebook Application
Finding Friends' Contact Information	×	<input checked="" type="checkbox"/>
Invite Friends to Use Application	×	<input checked="" type="checkbox"/>

Find Relationships to Other Users	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Notify Other Users of Relation-Information	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publish Information to Non-Application Users	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Login Authentication Provided by Facebook	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Automatic Creation of “Relative Finder Groups”	<input type="checkbox"/>	<input checked="" type="checkbox"/>

What does the Relative Finder Facebook Application Offer that other Facebook Applications Don’t?

There are other Facebook Applications that offer similar-sounding features, such as Family Tree (Family Tree n.d.) and We’re Related (We're Related n.d.). Both of these applications allow you to designate Facebook users as relatives and create a family tree. They find relatives based on the information you specify.

What they lack, that the Relative Finder Facebook Application has, is New Family Search integration. This application doesn’t require you to enter any ancestral information; instead, it uses the wealth of information already contained in New Family Search. This prevents hours of inputting this information manually, often copying it from New Family Search anyway.

Also, no other Facebook Application can find users’ relationship to famous individuals like U.S. presidents, European Royalty, and the like.

How Relative Finder Finds Relatives

As previously mentioned, the Relative Finder Facebook Application uses the same backend for finding relatives as the original website version. Thus, while no significant developments were made to improve the process of finding relatives, it may be of interest to some readers to know how it works.

The website version of Relative Finder existed before New Family Search, and thus was not originally built on New Family Search’s API. It used the Ancestral File database to find relatives, and has only recently incorporated New Family Search data.

Ancestral File is a lineage-linked database which was compiled from 1978 to 2000 containing over 36 million names. An advantage of using this static database is that, because information in it is no longer changing, its contents can be stored locally with confidence that they are accurate. There is no need to ever update it, and searching on this locally-stored information is much faster than making repeated requests to New Family Search’s API.

A clear disadvantage to using Ancestral File, however, is that if the user’s data isn’t found in it, it’s useless for finding their relatives. They can’t even add themselves to it. The website version used to resolve this problem by asking users to indicate their closest relative in Ancestral File.

With the introduction of New Family Search, the process of finding relatives was significantly simplified. While Relative Finder still primarily uses Ancestral File to find users’ relatives, it uses New Family

Search's dynamically-growing database to "fill in the gaps", and especially to find how users link-in to Ancestral File. New Family Search's API allows developers to request the Ancestral File Number of an individual in New Family Search, and thus identify matches between the two databases.

Using both Ancestral File and New Family Search represents a trade-off between speed and accuracy. While it is possible there are conflicts between the New Family Search and Ancestral File information, these differences usually only mean Relative Finder will discover a less-direct link between individuals – it will not miss finding the relationship entirely.

How The Relative Finder Facebook Application Works

The application acquires some information from Facebook, some from New Family Search, and some from the Relative Finder website's backend.

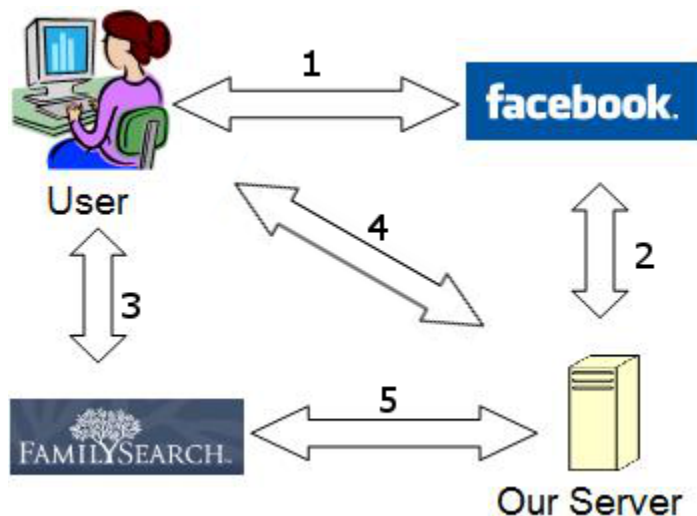


Figure 1 Communication Channels in Operation of the Facebook Application

Figure 8 provides a simplification of how information is transferred in the operation of the application. For most pages within the application, the request is actually sent first from the user to Facebook (arrow 1 in figure 8), which in turn requests some information from our server(2). Our server processes the information in PHP, and then sends a response written in FBML (Facebook Markup Language) to Facebook (2). Facebook parses the response, and responds to the user in a format the user's internet browser can display (1).

When the user's New Family Search credentials are requested (as in figure 3), the user is actually directed to a New Family Search page (3). Once New Family Search authenticates the user, they are redirected directly to our server (4) (in this special case they are not sent to Facebook) with an authenticating cookie. Our server uses the key contained in that cookie to directly request information from New Family Search (5). We request information on 5 generations of the current user's family tree, and only store as much as is necessary to link into Ancestral File. Once our server is done requesting pedigree information, we request the current user's New Family Search Person ID (3) and their

Facebook ID (2) and link the two together in our database. Finally, the user is again redirected back to Facebook (1) to render the subsequent page.

Application invitations and wall publications are done nearly entirely by Facebook. Our server specifies some details about how these should be displayed in the FBML sent to Facebook (2), but they are stored and maintained by Facebook.

When the user requests a report (ie: once it has the necessary information from New Family Search and the user requests to find their relatives), they send a request directly to our server (4). The server-end PHP code then calls the same back-end C code as the website to find relatives (the code is reused in order to reduce code-duplication). The website is setup to find relations between user-defined groups, so the Facebook application creates a temporary group of the user's friends (the list of friends is acquired from Facebook (2)) and runs the test on that group. After the test is run, the C code produces an XML document, which the PHP code parses, and sends the corresponding FBML to Facebook (2) to be forwarded onto the user.

In order to reduce code duplication, the Relative Finder Facebook Application uses web-services which are very familiar to Facebook developers and New Family Search developers (although the combination may be novel). It also makes use of Relative Finder C code and database which was previously established for the website version. Code reuse not only reduces maintenance costs of the Relative Finder Facebook Application, but it also makes code more understandable by those familiar with the respective code bases.

Walkthrough of Application

Visit apps.facebook.com/relativefinder to view the application, or view this sample walkthrough of one use-case.

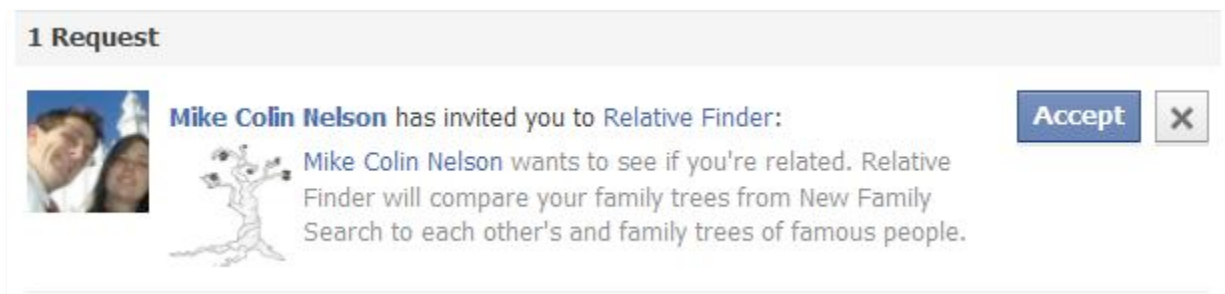


Figure 2

Typically, a user will be invited to use the application via an Application Invitation, shown in Figure 1. The user clicks "Accept" to add and be redirected to the application.

RELATIVE FINDER



What is Relative Finder?

Relative Finder uses [New Family Search](#) to find how you're related to Facebook friends and famous people.

Get Started

For Relative Finder to work, [make sure you, your parents, and grandparents appear in New Family Search](#).

After you've confirmed that,

[Enter New Family Search Info](#)

Figure 3

After clicking “Accept,” the user is redirected to the welcome page, shown in figure 2. If the user is unfamiliar with New Family Search, there are links to explain how it is used. Otherwise, the user may immediately enter their New Family Search Information (or credentials).



We are changing the sign-in system so that one user name and password works for participating FamilySearch web sites. From now on, please use your LDS Account.

User name

[Forgot?](#)

Password

[Forgot?](#)

➡ [Register for FamilySearch](#)

Figure 3 shows the New Family Search page where the user enters their credentials.

RELATIVE FINDER

[About Relative Finder](#) // [Find Relatives](#) // [Account](#)



Find Relatives:

[Famous People](#)
[Facebook Friends](#)
[Invite Friends](#)

Links:

[Our Wall](#)
[Digital Roots](#)
[Give Feedback](#)

Family Search Login Information Successfully Processed

Ok, we've processed your family search information, and found information on 30 of your ancestors. We're ready to find your relations!

[Start Finding Your Relatives!](#)

Figure 5

After the application acquires the necessary information from New Family Search, the user returns to the application, as seen on figure 4. The user now has the options to begin finding their relatives, as shown by the links on the left.

RELATIVE FINDER

[About Relative Finder](#) // [Find Relatives](#) // [Account](#)



Find Relatives: These Friends Use Relative Finder

[Famous People](#)
[Facebook Friends](#)
[Invite Friends](#)

Links:
[Our Wall](#)
[Digital Roots](#)
[Give Feedback](#)



Dustin
Patrick
Grady



Tiffany
Witherspoon



Craig
Peterson



Julia
Shumway



Peter
Henderson



Amanda
Saunders



Phil Nelson



Alysha
Gaskins



Chad
Pitcher



Michael
Hughes



Colin
Nelson



Matthew
Layton



Bethany
Cherry



Willard
Hagen



Colin
Michael
Nelson



Emmanuel
Lorenzo
Angeles



Chachi
Vallejos

Find How I'm Related

Figure 6

Upon clicking “Find Relatives: Facebook Friends,” the user sees the list of their friends currently using the application (figure 5) among which the application will test for relations.

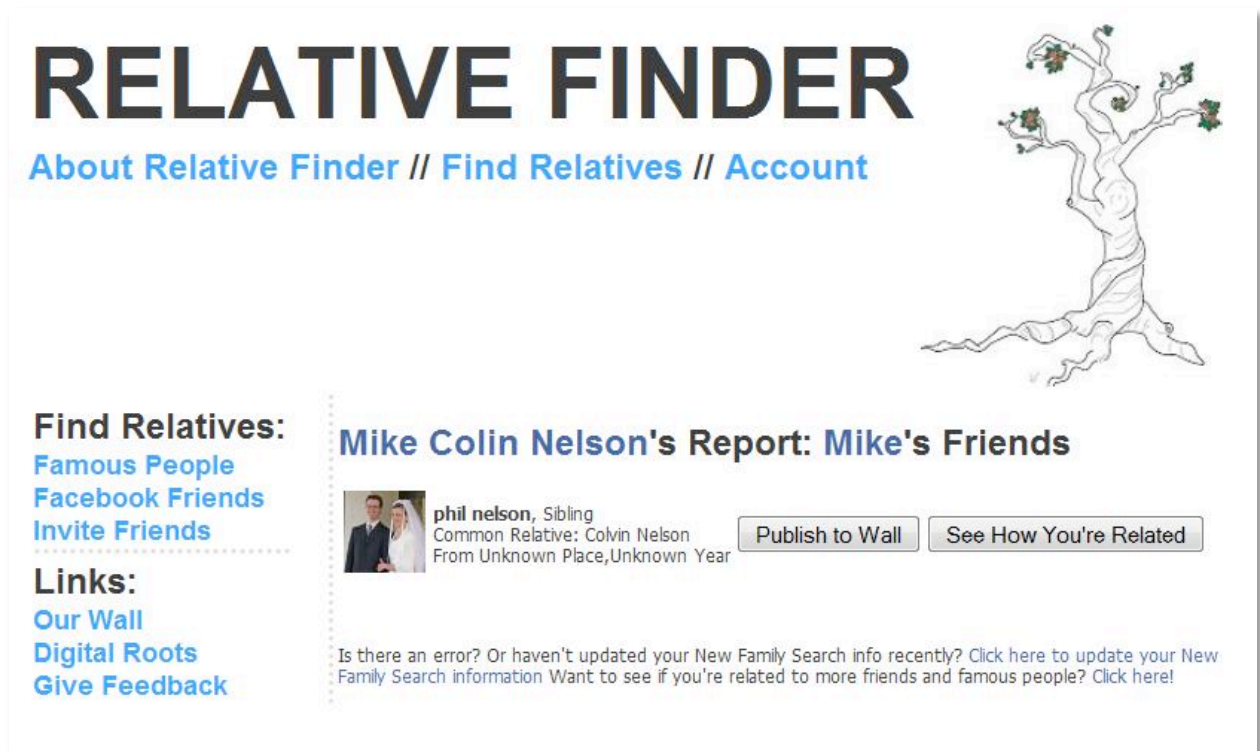


Figure 7

After clicking “Find How I’m Related”, the results are displayed as show in figure 6. The user can view their intersecting family trees by clicking “See How You’re Related”, and they can publish this relation to their FacebookWall by clickign “Publish to Wall.”



Figure 8

Figure 7 shows a sample wall post, showing that the user’s newly found relation.

Conclusion

A fair degree of performance-optimization and user-interface improvements are underway, but the application is usable and serves its basic purpose: to help users find their relatives among their friends and famous people, and by so doing generate more interest in family history.

Other future developments have been considered. Among these features include:

- finding all a user's 4th or 5th cousins among all consenting users, not just Facebook friends
- integration with the Relative Finder website, allowing a user with an account on the Facebook application to automatically have a working account on the website, and vice-versa
- finding relations among important deceased-individuals who aren't within our built-in groups (ie: U.S. presidents, European Royalty, LDS Church prophets)

For the time being our primary focus is on verifying the program's functionality, and promoting this application we feel will make family history a topic of interest and study for many more people.

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