

## **CREATING ONE-STEP SEARCH TOOLS**

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Many people or organizations have tables of data (e.g., name lists) that they would like to make searchable and share over the Internet. This normally involves technical skills in designing html-based search forms and programming skills in developing search engines. Even experienced programmers find this to be a time-consuming process.

This talk presents a tool that allows you to simply describe your data and it will then automatically produce the desired search form and search engine for you. All that's left for you to do is upload these items to the web and then sit back while others access your database. This tool can be found in the "Creating your own Search Forms, Search Engines, and Databases" section of the One-Step site at <http://stevemorse.org>

### **Cast of Characters**

The "cast of characters" involved in a search application are the data base, the search form, the search engine, and the results. The search form is, as its name implies, a form on which the user enters values to be searched for. When the user commences his search, the information on the search form is transmitted to the search engine. The search engine is what does the work – it accesses the database, checks to see which items match the values on the search form, and then creates a results page of those matches. The visible components are the search form and the results. The user never sees the search engine or the database. The only components for which coding is required are the search form and the search engine. This tool will generate that code from a description of the database.

### **Getting Started**

To use this tool, start by going to <http://stevemorse.org> and select "Create" in the "Creating your own Search Applications" section. This will present you with a form on which you can describe your search application. The form has three sections. These sections are titled "Describe the Form", "Define the Fields", and "Create the Results".

### **Describing the Form**

The "Describe the Form" section allows you to describe the sorts of things that you want to appear on your search form. For example, you might want to have your name at the top of the search form and optionally have your name be an e-mail link. This section has fields in which you can enter your name and your email address. You might also want to have a "Frequently Asked Questions" button and perhaps a "Home Page" button at the top of your search form. This section allows you to enter captions for such buttons along with website address that the user will be taken to when those buttons are pressed. Most important, your search form has to know where your search engine is so that it can transfer control there when the user presses the search button. This section has a place where you enter your search-engine location.

## **Defining the Fields**

The “Define the Fields” section allows you to describe the fields in your database and to specify how you want to search on each field. For example, you might have a “last name” field and you can designate which search methods you want to provide to the user for this field. You might want to allow him to find those last names in the database that start with the value he’s entered on the lastname field of the search form, i.e., a starts-with search. Or you might want to allow him to do an ends-with search, a contains search, an exact-match search, or even a sounds-like search. For numeric fields, such as age, you might want to allow him to search for all ages within a range that he specifies. For each field you can check off as many search methods as you want to provide to your user.

## **Creating the Results**

There are three things my tool needs to create for you. One is a modified version of your database that your search engine will be able to access, the second is the search form, and the third is the search engine.

## **Creating the Database**

You will probably start with your database being in a spreadsheet. My tool needs to have it in a tab-delimited text file. Your spreadsheet program makes it easy for you to save your spreadsheet as a tab-delimited text file. In some cases your search engine will be able to use that text file directly. But if you are going to provide your users with the ability to do sounds-like searches, soundex codes need to be generated for each name in the database and these codes need to be added to the database.

My tool will generate the final database (with the soundex codes) for you. You simply press the Database button in the “Creating the Results” section of my tool, and the tool will do all the work for you. All that’s left for you to do is upload the final database to your website.

## **Creating the Search Form**

This is even easier than creating the database. You simply press the Search Form button in the “Creating the Results” section of my tool, and the code for your search form will appear. All you need do is upload this code to your website.

## **Creating the Search Engine**

This is just as easy as creating the search form. In this case you press the Search Engine button in the “Creating the Results” section, and then upload the resulting code to your website.

I know this sounds too good to be true, but that's really all there is to it. You simply press one button to get your database, another to get your search form, and a third to get your search engine. You don't have to read or understand anything in the code that my tool generates for you. All you have to do is upload it, and your users are off and running.

Those are the basics. Now there are a few bells and whistles that will make your search application even better. These will be discussed next.

## **Look, No Spam!**

One problem with putting email links on your search form is that automated bots can search the web for such forms and harvest the email addresses. Then those addresses will wind up in the hands of spammers and before long you'll be getting lots of junk email to enlarge your body parts, regardless of your gender.

The problem is that most people put up email links with well-recognized email addresses. The email address that my tool puts on the search form that it generates for you does not do that. Instead it contains code to dynamically create the email address. So any bot reading the code of your website will not see a recognizable address, but your users will indeed get the right email address when they click on your email link.

## **Special Fields**

There are certain fields in the database that deserve special attention. These are fields that do not appear on the search form, fields that do not appear on the results page, fields that are drop-down lists, and fields that are indexed.

If you have a field that you don't want appearing on the search form, simply don't check off any search method when describing that field to my form. The field will be in the database, and it will appear on the results page, but the user will not be able to search on it.

Suppose you have so many fields that if all of them appeared on the results page you would have an extremely wide page. You can reduce the number of fields on the result page by specifying to my tool that certain fields are not to appear. If that is done, my tool will not display those fields but instead will display a link on each line that says "details". When the user clicks on that link, he is presented with a new page contain all of the fields for that particular record in the database.

Some fields might have only a finite number of values. For example, if the field is month-of-birth, there are only 12 values that it can have. So rather than requiring the user fill in the month, you can let him select it from a list. You do that by specifying to my tool that the field is to be a drop-down list. My tool will generate all the code to implement such a list but it does not know what values you want in the list. In this case

you'll actually have to go into the code for the search form, find the place where the drop-down list is (it is clearly marked with a comment line), and add the allowable values.

One of your fields can be designated as an indexed field. Such fields are quicker to search on. Rather than going through the entire database, line-by-line, the search engine can quickly get to those names in the database that start with the same letter as the name the user entered.

## **Customization**

Up until this point, you didn't have to understand any of the code that my tool generated. But if you are able to understand it because you have a rudimentary knowledge of html and javascript coding, you can do various customizations. For example, the search forms that my tool generates have each field on a new line. But you might want to pretty things up a bit by putting the first-name field and the last-name field on the same line. That's very easy to do if you know anything at all about html. And the more you know, the more sophisticated customizations you can make. Even if you know enough coding so that you could have created the search application yourself, this tool provides a very quick way to get an initial search form and search engine that you can then start customizing.

## **Summary**

This is just an overview of the Search-Application-Generator tool. It is not meant to be a detailed instruction manual on how to use that tool. The tool does contain such a manual, presented in a very logical and easy-to-understand manner. It is disguised as a Frequently-Asked-Questions page but don't let that fool you – it is really a logical presentation of the manual organized in a question-and-answer format. That manual is at <http://stevemorse.org/create/faq.htm>