

## Homework Assignment 7: Baby Names

### EXTRA FEATURES

The following are four **extra features** you can optionally complete. Every student **must complete one** of these four features to get full credit on the assignment.

If you choose to do additional extra features beyond that, the next extra feature you complete is worth **+1 extra point** on HW7; this can be used to make up for a -1 you might receive on some other part of the program. But you cannot get more than 20/20 on HW7, and the extra point cannot be applied to any other programs besides HW7. If you choose to complete even more extra features beyond this, each additional feature you complete is worth **+1 late day**. In your JavaScript file's comment header, indicate which feature(s) you have completed.

Regardless of how many additions you write, the page behavior and appearance **should still work as specified**. You may not modify the XHTML/CSS files; each feature must be done entirely through JavaScript. If you have a different idea for an addition to the program, please ask us and we may approve it.

#### Extra Feature #1. Better loading feedback

The page as currently described does not give the user very good feedback while it is loading its data, both when initially loading the list of names, and later when a name is chosen and that name's XML data must be fetched. For this feature, add code to display a **"Loading" message**, loading styles on the page ("graying out" items or putting placeholder text into them), and an hourglass mouse cursor (achieved by using the CSS `cursor` property).

- [http://www.w3schools.com/css/pr\\_class\\_cursor.asp](http://www.w3schools.com/css/pr_class_cursor.asp)

You should also show a **"Loading..." image** of some kind to indicate to the user that the page is waiting. You can find good Ajax "Loading" animation images at <http://ajaxload.info/> and other sites found on Google. Put your image on your space on Webster and link to it using an absolute path, not a relative path, in your code.

To help you test, the [babynames.php](#) service can accept an optional query parameter `delay`, whose value should be an integer for a number of seconds of delay that the server should wait before sending its response. For example, requesting the following URL would retrieve the rankings for the name "Stefanie" after a delay of 10 seconds:

<https://webster.cs.washington.edu/cse190m/babynames.php?type=rank&name=stefanie&delay=10>

#### Extra Feature #2. Ability to compare multiple names

By default the page displays data about one name at a time. For this feature, add code so that if a second name is chosen, the previous data remains, with the new data superimposed in a different color. This provides a way to compare their relative popularity. Add some kind of "Clear" button/feature so the user can erase previous names.

You can decide details such as what to show in the Origin/Meaning box, and how to show both sets of bars. There is no exact specification of the appearance, so long as both sets of bars can be seen. You can decide what should happen if the user chooses a third name: Does the first go away? Do all 3 show? Etc.

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### Extra Feature #3. Animation effects

Once the user chooses a baby name, use **Scriptaculous** (found in book Ch. 12, and taught in class soon) to make the bars animate into existence rather than simply appearing immediately on the page. Add at least one other animation effect to the page, such as fading in ranking numbers or shrinking/growing an element on the page.

### Extra Feature #4. Auto-complete babies' names

Use the DOM to remove the **select** box from the page and replace it with an **input** text box where the user can type a name. As the user types, use **Scriptaculous** (found in book Ch. 12, and taught in class soon) to display any names in the data that contain or start with the partial text. The program should fetch rank/meaning data for the name when the user selects a from the auto-complete list and/or clicks a Search button that you inject into the page.

To help you write this feature, there are three additional optional parameters that our **babynames.php** service can accept when you are performing a list query. First is **format**, which, if set to **html**, will output the list of names as a **ul** list. The other two are **prefix** and **substring**, indicating an optional beginning or substring to filter on (case insensitive). For example, the following query would output a list of names in HTML that begin with "mar":

<https://webster.cs.washington.edu/cse190m/babynames.php?type=list&format=html&prefix=mar>

```
<ul>
  <li>Mara</li>
  <li>Maranda</li>
  <li>Marc</li>
  <li>Marcel</li>
  <li>Marcelina</li>
  ...
</ul>
```