

Topic Notes: Query Strings

We have as yet ignored a common mechanism that can be used to pass information to a web page: the *query string* of a URL.

The query string is a sequence of name/value pairs that can be included in a URL. The portion following a ? is treated as the query string, consisting of name=value pairs, separated by &'s

For example, the query string of this URL:

```
http://a.com/b.html?c=d&e=17
```

is

```
?c=d&e=17
```

This tells the browser that a data item named *c* has the value *d* and a data item named *e* has the value 17.

Query strings are used for many purposes, but all involve sending some additional information to a browser.

If we perform a Google search and look at the URL of the results page, we can see that it includes a long and complicated query string.

A search for “query” brings up a page with the following URL:

```
https://www.google.com/?q=query#sclient=psy-ab&hl=en&source=hp&q=query&pbx=1&oq=query&aq=f&aqi=g-e2g2&aql=&gs_sm=e&gs_upl=138328113985211113999217151111.31410&bav=on.2,or.r_gc.r_pw.r_cp.,cf.osb&fp=690aec14232744b8&biw=1134&bih=721
```

Most of this is meaningful only to Google, but we can see that one of the name-value pairs is *q=query*, which tells us what we entered in the search box.

You may notice that web sites sometimes include a link which takes you directly to the results of a Google search. The following URL would take us directly to the first page of search results for “query”:

```
https://www.google.com/search?q=query
```

Query strings can also be used to provide information from a form to a subsequent page following a form submit. Consider this form, similar to one you developed for a previous lab:

See Example: `submitform.html`

If we fill this out and submit, we see that the new URL includes the values we placed in the form elements as query string parameters.

As is the case with HTTP cookies, there are many mechanisms to generate and access query string parameters. Given our experience with JavaScript, we will look at how a page can access its query string parameters through JavaScript.

See Example: `printqs.html`

The query string is available to JavaScript in a special variable `window.location.search`. It includes everything from the `?` to the end of the URL. If we wanted to make use of the query string, we would need to parse out the specific values.

This example replaces the `action` attribute of the `<form>` element to transfer control to `printqs.html` when the form is submitted:

See Example: `submitform.html`

This, however, is not a typical usage. Query string parameters are most commonly processed by tools such as PHP or CGI scripts, which are both beyond the scope of this course.