Project Ideas

Advanced JavaScript for Web Sites and Web Applications

Project Ideas

This document suggests some projects that may help advance your knowledge of JavaScript and the environment in which it operates. i.e. the Web!

Project: FormRecallPlus

For this project, you will start with the completed FormRecall module from the week 7 exercises.

The task

1. Modify the code so that it employs *progressive enhancement* and *feature detection*, as outlined in the week 10 presentation.
    - Users without JavaScript or users lacking localStorage support should be unaware of what they are missing!
2. Modify the app so that it is configurable, and will work with *any* form you point it at, regardless of the fields that are present. It should also automatically handle fields of different *types* (not just `<input type="text" />`
    - E.g. Textareas, Select menus, radio button, checkboxes, email inputs, etc.

Considerations

The `init` function will probably play a major role both in making the module flexible and applying the progressive enhancement techniques.

For maximum flexibility and ease of use, you should limit the number of configuration otions passed to the module.

Ideally, the client code should only have to tell the module which form to act upon (by passing its ID or another, uniquely identifying, attribute). But you might also allow it to configure the text used with the buttons the module creates.

You will need to do some research into the different HTML form controls that are available (clue: there are lots!).

You will particularly need to understand how JavaScript interacts with and sets the value of the different *types* of field (clue: they are all different!).

Project: Memory Map

For this project, you will start with a single HTML page that has:

- An embedded Google Map
- A HTML form input (plain text)

The task

Use google maps and the localStorage API to build an app where a user can:

- Enter a short description in the text input
- Click on a corresonding location on the map

When they do this, your app should:

- Add a marker to the map, on the location they clicked.
- Display as HTML, the longitude and latitude coordinates of the location they clicked, along with the text description from the text input
- Store the longitude and latitude coordinates in localStorage, along with the text description

When the user clicks on the marker that you placed on the map, an *Info Window* will pop up, containing the description they entered in the text input

Note, the user should be able to mark multiple locations on the map and a marker will be displayed for each of them.

You should also provide a button for the user to restore their “places” from localStorage when they revisit the page (like we did with FormRecall).

Considerations

You will need to research the Google Maps API. In particular, the bits that deal with *Info Windows*, *Markers* and *Click event*s.

You will need to plan your data storage strategy carefully. You have to store multiple items in localStorage, and each item is made up from 3 pieces of data. Theoretically, there is no limit to the number of items you may have to store.

Remember, only strings can be stored in localStorage... so you may have to resort to converting your data to JSON before storing it.

Project: Explore AJAX

There are many free web services that allow you to query their data, once you have signed up for a developer account:

- Twitter
- Google maps/calendar/mail/etc.
- YouTube
- Facebook

Investigate these services, or any other you may know of, and see if you can integrate their data in a web page.

Most of them provide their data formatted as JSON/JSONP, which you have worked with already.
