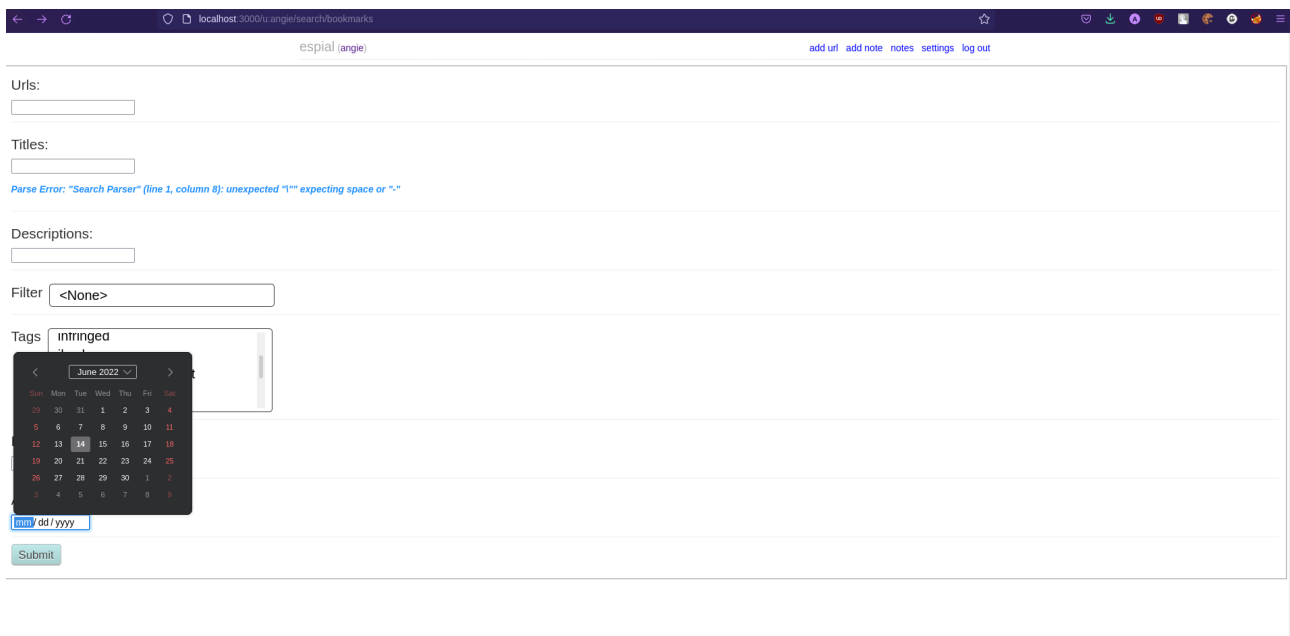


Javascript Development

a) Features

a.i. UI Elements

Trying something new is always a good idea when it comes to your website. Especially, the website development is changing regularly. Consequently, eye-catching ui elements which can be realized using Javascript or jQuery, will be noticed by the users as there are still lots of websites out there that look like as if the webmaster doesn't know much about website development. I can implement ui elements that are provided by the jQuery library such as an accordion or a tab list.



The screenshot shows a web browser window with the address bar displaying 'localhost:3000/ucangelsearchbookmarks'. The page title is 'espial (angle)'. The navigation bar includes links: 'add url', 'add note', 'notes', 'settings', and 'log out'. The main form contains several input fields: 'Urls:', 'Titles:', 'Descriptions:', and 'Filter' (set to '<None>'). Below these is a 'Tags' section with a dropdown menu showing 'intringed'. A date picker is open, displaying the month of June 2022, with the 14th selected. At the bottom, there is a date input field with the placeholder 'dd/yyyy' and a 'Submit' button.

Figure 1: Date Picker by jQuery

a.ii. Functions

Implementing javascript functions can enhance the user experience. Take the multiselect list realized in HTML for example. Such a list could include a value such as <None> which signals the server that it should discard any option as soon as the user selects <None>. However, users tend to forget to select only the none option. That's why a javascript function comes in handy.

espial (angie) [add url](#) [add note](#) [notes](#) [settings](#) [log out](#)

Urls:

Titles:

Descriptions:

Filter

Tags

<None>

ar15

bayesian

beej

Before:

After:

Figure II: The implemented function deselects all selected options if a user chooses <None>.

Form validation is another feature where javascript is heavily used. I can implement a script which starts validating a form if the user hits the submit-button. Only if the validation has been accepted, will the data be sent to the server. However, if the validation fails, a javascript function makes the user aware by displaying warning triangles together with short descriptions on why a specific input has not been accepted.

a.iii. Ajax

It can be necessary to send the data to the server as soon as the user changed or added something to the form. Usually, changing or submitting something fires an event which activates an ajax handler. I can implement such an ajax handler which grabs a specific data from the current website and sends it to the server. On the server side, a calculation using the received data or performing a database operation with this data can be done. Usually, the server will answer the request by sending a response to the user which will be handled using ajax.

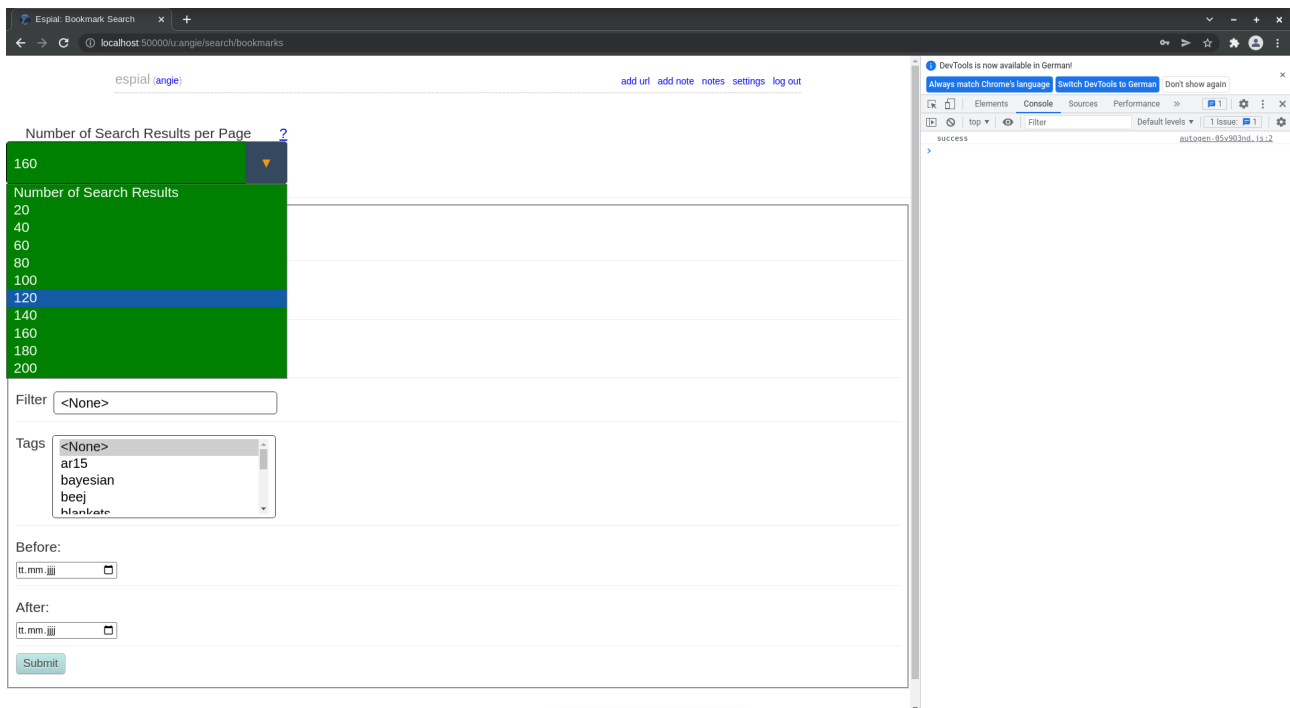


Figure III: Using ajax the number is sent immediately to the server which responds by using the keyword success.

a.iv. Animations

Animations are a feature which should appear on one's website. They catch the user's attention. As a result, your website won't give the user a boring impression. I can implement a customized slider which highlights the main purposes of your website.

Other useful animations are among others a progress bar used if the website downloads data from the server. Other animations include the automated scrolling up or down of a page if the user triggers an event. Delaying the load of a webpage could be another form of an animation.

Animating the user to do something such as sending a request or subscribing to a newsletter, usually includes a small popup window which can appear on the right side of the browser. Such a popup window represents a small form in which the user can enter a message or their email address.

b) APIs

Using APIs makes sense as they improve the user experience. However, I recommend the heavily usage of APIs only if they cannot be replaced with plain javascript. They tend to decrease the performance of the user's computer. The most well-known API is certainly jQuery. It offers for example an enhanced select list which is especially useful if the dropdown menu contains lots of entries, i.e. options. The jQuery version can be adjusted in such a way so only a specific number of entries are displayed if the user wants to scroll down the entries of the select list. Another advantage of such a select list is its live search. As soon as the user enters a phrase into the top of the select list, all relevant entries will appear.

The google map API is another famous javascript api which can be customized by for example adding markers to the website or showing a specific section of the city in which you run your business.

Instead of storing data in cookies, I can implement the storage of data on the user side by making use of the web storage API. The data is stored in a local storage by using key/value pairs. Webstorage lets you circumvent the limitation if the user doesn't allow your website to create cookies on your computer. Its size is only limited by the user's computer memory.

c) Update

From time to time your website's javascript files need to be updated. This is necessary as the widely used jQuery API changes regularly. As a result, some functions might no longer work or are deprecated. Regarding security issues outdated javascript code might harm your server. That's why, it's good to have a website using still relevant javascript files.