

Ozark Creek Gauges Website Redesign

Karen Alas, Mira Cary, Dakota Dale, Kruz Higginbotham, Morgan Maness
 University of Arkansas College of Engineering: *Computer Science*

Introduction

For this project, we have updated the website to allow for more easily understood information and an overall better user experience. While the original website was written in Perl, we used more modern programming languages to integrate a web scraping API and a Mapbox interface. We seek to better inform paddlers of streams that do not have suitable conditions for paddling.

Purpose

On the original Ozark Creek Gauges website [1] while the information is mostly accurate, the overall site needs updating. Due to naturally occurring changes, it is not as accurate as it was years ago. Therefore the designation levels of some streams may be somewhat inaccurate.

For this project, we have updated the website to allow for more easily understood information and an overall better user experience. While the original website was written in Perl, we used more modern programming languages to integrate a web scraping API and a Mapbox interface. We seek to better inform paddlers of streams that do not have suitable conditions for paddling.

Methods

Front End

- A modernized front end is crucial to attracting users to the site
- The Mapbox interface provides a visual tool to boaters to help plan their excursions

Back End

- An auto-updating table is a primary task of the project. This requires the use of the USGS Water Services API [2]
- To keep the website fresh, email provides a way for users to have a hand in the content of the website

Result

Homepage/Gauge Table tab: Contains a modernized take on the old gauge table (Figure 1). This version features multiple sorting function, a key which follows the user as they scroll, and updates every 30 seconds to ensure the table is as accurate as possible.

River Map tab: Provides users with a map powered by Mapbox that displays polygons of streamlines and markers of put-ins and take-outs as shown in Figure 2.

About tab: Displays website information and shows pictures of local paddlers. The submission form allows users to fill out a form that requests a new river be added to the website.

Conclusion

The goal of this project is to make the Ozark Creek Gauge website more readable, useful for non-experienced boaters, and add more functionality. Therefore, there is more information that a user could access to make their boating trips as safe as possible. There are three different tabs on our newly designed website, the Homepage, the River map tab, and the About tab. Users can get data about the gauges on the Homepage tab, see where the rivers are located and the location of the rivers' put-ins and take-outs on the River Map tab, and learn more about the site and request new rivers be added through the submission form on the About tab.

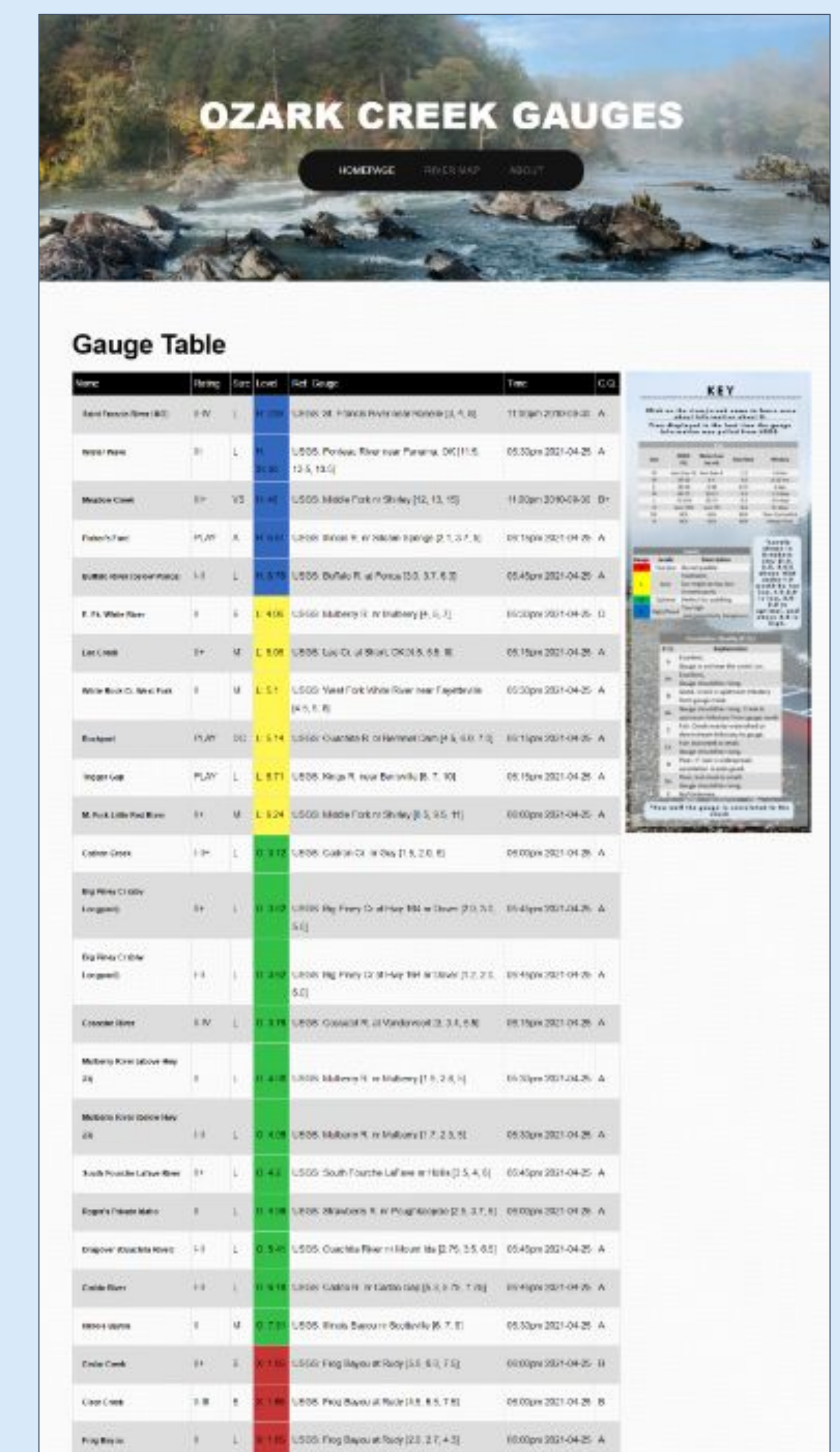


Figure 1 - Gauge Table Home tab with sticky key (above)

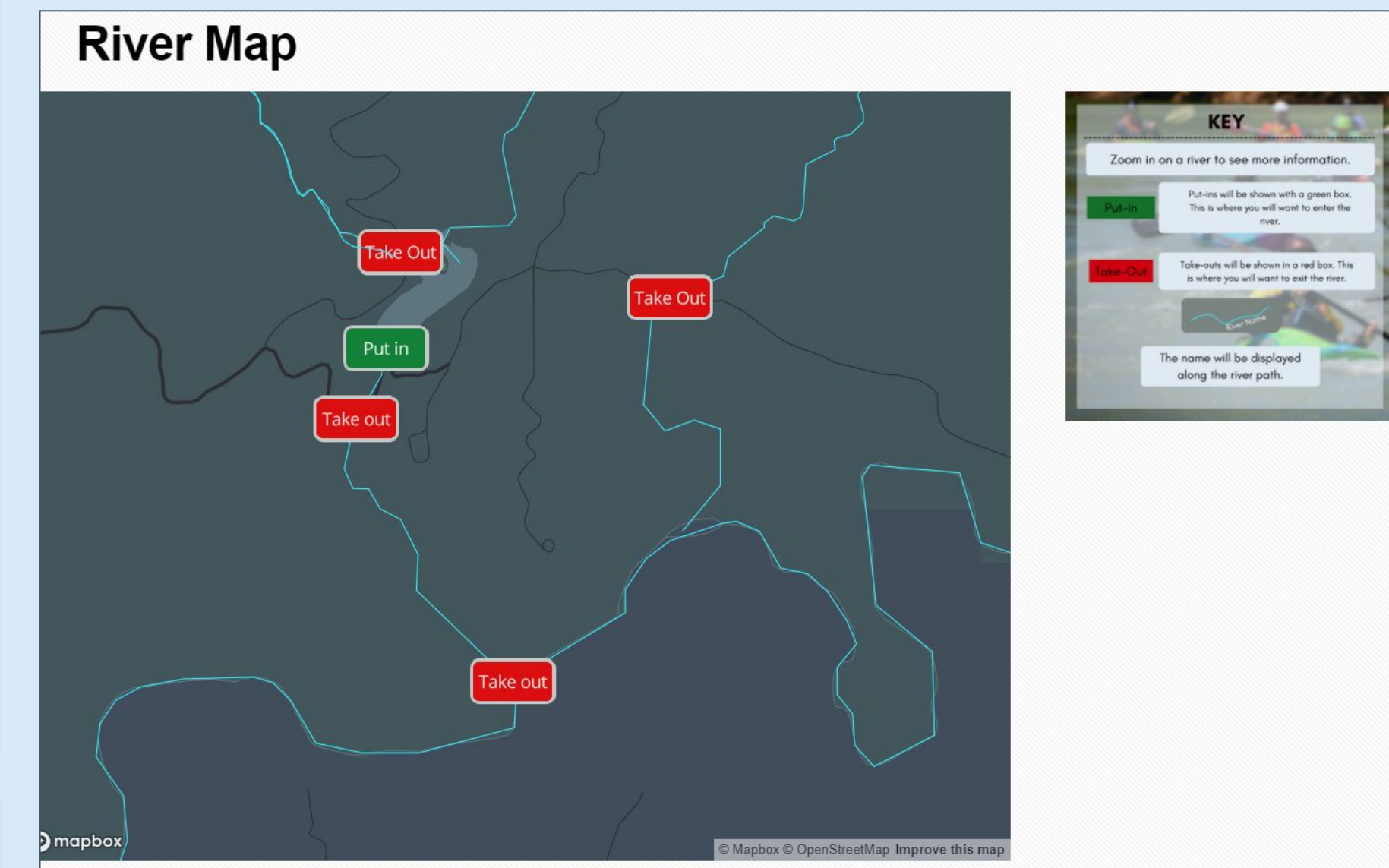


Figure 2 - River Map tab with Mapbox Interface with key (above)

Citations:

- [1] Ozark Creek Gauge Website, <http://www.ozarkpages.com/cgi-bin/stages.pl?ST=level>
 [2] United States Geological Survey (USGS) Water Services API, <https://waterservices.usgs.gov/rest/IV-Test-Tool.html>