Version Two of the WPRM Online Tour

- Kenneth Finnegan

Anyone who has visited the museum property this year probably didn't make it very far before noticing one of the distinctive black and white chevron signs hung on just about every other piece of rolling stock in the FRRS collection. These signs are the physical part of a second generation of the WPRM Audio Tour built several years ago by Paul Finnegan, which I felt deserved a more focused user interface and experience as its own dedicated website.

The original audio tour was the result of a series of brainstorms where we tried to figure out how to improve the level of interpretation around the museum and make our remarkable collection of rolling stock more engaging for the new visitor. Printing and mounting long form signs has been done in the past, and those efforts are still a valuable part of the museum interpretation, but each of those signs require quite a bit of effort to typeset and proof-read the content, and are relatively expensive to have each sign made. So making literally hundreds of these signs to cover the museum collection has been a sisyphean effort for the society to grapple with.

Inspired by the "audio wand" systems used at some other museums where you're handed a device which will narrate the exhibits as you are looking at them, we realized that we could avoid the prohibitive expense of the hardware and the logistical challenge of trying to prevent visitors from wandering off with our rather expensive audio players by leveraging the audio player that practically all visitors to the museum already bring with them; their smartphones! By recording 30-60 second long MP3 files interpreting each piece of equipment in our collection, we could post them on the WPLives.org website and guests could access the content on their phones, but not need to depend on being able to read their phone screen while standing outside next to our exhibits by playing the recording.

Generating the original set of over 100 short two paragraph descriptions of our equipment and recording a dictation of each one was a substantial amount of effort on Paul Finnegan's part, and the resulting feedback from visitors about the content was interesting and a valuable addition to the museum. Unfortunately, the usage statistics from those same visitors was less encouraging, in that relatively few of the tour pages on the main website were getting accessed, and practically no one was accessing the pages for equipment not displayed immediately next to the museum entrance and signage promoting this tour system.

After a year of experience with how guests interacted with the original audio tour system, I took on the task over the remarkably long 2020 off-season to build a more dedicated and mobile-first user experience to present the same content in a clarified manner while encouraging users to continue looking up information on new pieces of rolling stock as they walk around the museum. The initial inspiration for this new tour framework for the society was the tour system I experienced at the Illinois Railway Museum, where they had an Android application that you installed and they had three digit numbers in big blue circles scattered around the museum grounds. I liked the experience of being able to pull up the exhibit by typing in a short code, but felt that it being an installed app wasn't justified versus just being a mobile friendly website, and this allowed the same content to be available on any platform with a web browser with little to no additional effort on our part.

To accomplish that, I created the dedicated tour.wplives.org subdomain, which is separate from the main FRRS website and focused entirely on guests pulling up information for the piece of rail equipment

they're standing in front of while holding their phone. I then assigned an "exhibit code" to each piece of equipment, which is short like the 3 digit numbers at the IRM, but based on the actual road number of the equipment when possible, so it is rather easy to guess when you haven't found the exhibit code sign for the piece yet.

There are three principle ways that guests are encouraged to navigate to the piece of equipment they're interested in:

1.   Each of the exhibit code signs has a QR code, or "Quick Response" two dimensional barcode, which contains a URL pointing at the page for that piece of equipment. Guests can then scan this barcode with their phone's camera, and with one tap they've opened the web page for that piece of equipment.

2.   Once the visitor has a browser open to the tour.wplives.org website, every page has a navigation bar at the top to type in any other exhibit code that the visitor is interested in. This navigation bar uses client-side javascript to try and offer autocomplete options based on what the user has already typed, so even if the user doesn't start at the beginning of an exhibit code and just starts typing "2… 0… 0…" the navigation bar will suggest "WP2001" and selecting that will take them to the desired page without needing to open their QR scanner or walk all the way over to the next QR code to scan it.

3.   Each exhibit code sign has the full URL at the bottom of the sign in plain text, in case the visitor is unfamiliar with or unable to get QR codes working with their specific device. The URLs were all designed to be as short as possible to make typing them in easier.

The heavy reliance on QR codes as part of this tour system was designed in before the COVID-19 pandemic, but it's obvious that the pandemic has helped introduce lots of people to QR codes. This was a fortunate alignment which only seemed to help encourage guests to scan these QR codes on the museum property and learn more about what they were looking at. On a typical day the museum was open in 2021, we saw about 4-8 visitors using the tour system, and some of those visitors clearly found the system highly engaging; visitors were regularly seen scanning practically every QR code they saw while walking around the grounds.

The fact that each exhibit code is only a pointer to a web page means that the printed sign hung on each piece of equipment can always stay the same, but it makes correcting mistakes and updating pages for recent events low effort and extremely low cost compared to needing to print a whole new sign to hang on the piece of equipment when the content of the exhibit needs to be updated. Offering the content as both text on the web page and as an MP3 audio recording has made the content more accessible for guests depending on how they're more comfortable consuming the content.

Inside the Engine Compartment

- The tour web pages are built using the Jekyll static site generator framework.
- The navigation bar autocomplete is driven by custom javascript written for this project based on the JQuery javascript library.
- The Liquid template system is used to populate the navbar autocomplete list and the site index page with all the exhibit codes.
- The sign artwork was all generated automatically from the exhibit code database using the Unix 'qrencode' and ImageMagick tools.
- The first round of signs were made with laminated 65# cardstock and VHB double-sided tape, and held up quite well for the summer.