



Hoosier Veterans Assistance Foundation

Lucas Johnson – Blake Robbins – David Fugate

Butler EPICS 2020

EPICS@BUTLER

The Team

David Fugate – Junior – Computer Science
Lucas Johnson – Sophomore - Computer Science/French
Blake Robbins – Junior – Engineering/CS



The Mission is Working

“We are working to end homelessness among veterans. Through a unique partnership with U.S. Department of Veteran’s Affairs and many community organizations, we provide housing and re-integration services for homeless veterans and programs to prevent at-risk veterans from becoming homeless.”

Objectives

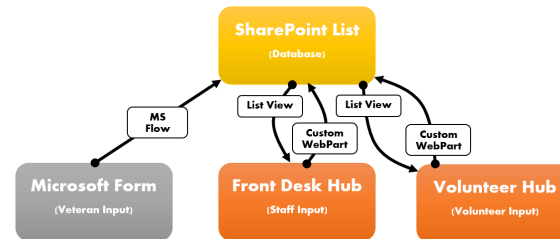
The driving force behind this project was COVID-19. HNAF had previously operated using a clipboard and paper to handle all records, but due to new restrictions and a desire to provide a safer environment for the Veterans, drastic change was needed. Our objectives were to:

- Create web form to fully replace the current paper form
- Create an online database to store form responses
- Provide an interface for Staff and Volunteers to manage and update database records with information about individual visits
- Allow for simple transfer of said updated information to other database services

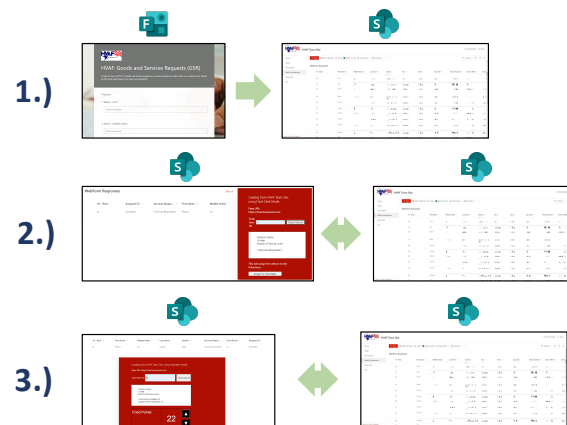
The Plan

Since HNAF already had a MS 365 Subscription, we thought it best to attempt to build the entire project using Microsoft services. Since we wanted the app to be web-based, and to authorize directly from HNAF Microsoft Accounts, we decided to use SharePoint, Microsoft’s service for building cloud-based intranets. Ultimately, we landed on 3 key components:

- Microsoft Form as an input method
- SharePoint List as a database
- Custom WebPart (js app) as an interface



In Action



- 1.) Form Input > SharePoint List
- 2.) SharePoint List View + WebPart (Front Desk) > SharePoint List
- 3.) SharePoint List View + WebPart (Volunteers) > SharePoint List

Challenges

Form Complications

- Setting up validation rules to prevent edge cases from breaking our formatting scripts

SharePoint Complications

- Creating the three synchronized views of a single database, asynchronously refreshing pages
- Implementing custom features, obtaining signed dev certificates to allow our apps to run

TypeScript Complications

- Taking limited knowledge of JavaScript and applying it to a superset, TypeScript
- Casting and selecting certain HTML elements using TypeScript
- Implementing spHttpClient to handle auth headers

Conclusion/Reflection

We came into this project very passionate at the idea of helping HNAF, as we had family members who had served. We found the project itself to also be an exciting opportunity, as the simple web base form, we didn’t have much experience in the rest. Having to learn proper techniques in SharePoint to craft the site pages, as well as Microsoft’s Typescript, we found the project challenging and rewarding. We believe that each team member gained considerable knowledge when it comes to those various aspects, as well as working in a team setting for an extended amount of time such as the length of a semester. We are all proud of the work we did, and grateful for the opportunity given by the class, as well as HNAF.

Acknowledgements

We would like to thank the following for the opportunity, and the assistance making the project possible

HNAF Members

Dewayne Orender -----

Emmy Hildebrand -----

Alan Ariel -----

Butler Faculty

Dr. Linos -----

