Capstone Assessment

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My senior design project is creating a web application that uses data and algorithms to help assist in planning trips to MLB stadiums. This project will allow me to gain experience from developing an application from start to finish allowing me to learn more about the design process. I also will gain experience creating algorithms that are relevant to real situations. Using MLB schedules and distance between stadiums will play a role in these algorithms. Lastly, I will gain exposure to creating an interactive user interface that is easy to use and understand for users. This area is something I have struggled with in the past, not making the interface too complicated.

I have focused my college curriculum on data and UI/UX. I added a minor in business analytics along with mathematics to assist in developing skills in these areas. An important class that will help me throughout this project is CS 5124 (Visual Interfaces for Data) this class gained me exposure to HTML, CSS, and JavaScript, all significant to web application design. Other classes that have shown me how to manage and manipulate data are BANA 4080 (Data mining), CS 4092 (Database Design and Development) and STAT 3041 (Data Science and Statistics). These classes showed me numerous languages with a focus on data. EECE 3093C (Software Engineering) allowed me to create a simple web application for my course project which sparked further interest for my senior design project. Lastly Web Application Programming and Hacking taught me where vulnerabilities in a application can come from and how to prevent them which will allow me to create a secure application.

My co-op experiences have been limited due to being a transfer student but the one I have had will play an important role in my project. I have been co-oping for Cincinnati Insurance as an IT Developer in IT Business Intelligence and Development. I have had the opportunity to work with the Cloud Data Warehouse team. In this role I have been exposed to correcting data defects and creating dashboards and applications to share the data we receive. I have used tools such as Streamlit, jsp, and Python which has diversified my knowledge surrounding different ways to create applications. I also have worked with SQL Server and Snowflake to manage data which I can use in my project to store my data and use SQL to manipulate and access. Not only have I learned technical skills in this role but also non-technical skills including how to ask questions and for help. Instead of going in circles on a struggle I learned that others may be able to share their input to come up with a solution quicker.

I have grown up loving sports and the analytics surrounding them. One of my favorite web tools is baseball savant which was what I had inspired to create years ago when I was thinking about what I wanted to do for this project, but it was developed without many issues to be addressed. My dad and I have set the goal to visit all 30 MLB stadiums and plan trips to numerous stadiums at a time. This task is not always simple finding which teams are home for the desired path and timeline. I have investigated existing tools online, but many are hard to use or do not work as intended. When I am designing my solution for this, I am going to look at

current examples and see what they have done that I like versus what I don't like. I am going to consider ease of usability and an interactive interface. I am also going to design my solution to have different elements that can be continued to be added past the base functionality to enhance the solution.

My expected result for this project is to create a fully functional web/mobile application that allows users to plan MLB stadium trips with ease. Different accomplishments will be set as I want my project to continue to be improved upon past what this time allows. I will know that base functionality works when I can plan see a wide variety of trips, I can plan for the 2025 MLB stadium. I will also know I have accomplished my goal of ease of use when others understand how to use my application and what it does. I know there is a lot I can add to this project as I go, so I will have different versions. I will know if I have done a good job by personally being happy with my application along with it being an application I would use. I know if I would use this regularly it would be something I did good work on.