**Golf Stats Tracker – James Donohue**

## **Introduction**

This document details the technology stack and implementation plan for the Golf Stats Tracker website. This project aims to create a dynamic website that allows users to log, track, and analyze their golf scores and statistics. The Golf Stats Tracker will provide golfers with insights into their performance, helping them to improve their game by tracking various metrics such as average scores, fairways hit, greens in regulation, and putting statistics.

To ensure the success of this project, careful consideration has been given to the choice of hosting provider, front-end and back-end technologies, database management, and development environment. This document will outline each of these components in detail.

By the end of this project, the Golf Stats Tracker will be a fully functional and user-friendly web application, capable of providing valuable data and insights to its users. This document serves as a comprehensive guide to the technology choices and planning that will drive the project's development and implementation.

## **Hosting**

**Hosting Provider:** Self-hosted using VirtualBox and a FileZilla server

**Setup Details:** To host the Golf Stats Tracker project, I have set up a local server using FileZilla within a Virtual Machine (VM) running on VirtualBox. This approach provides a controlled environment for development and testing, ensuring that the website can be thoroughly tested before any potential deployment to a live server.

**Virtual Machine Configuration:**

* **Virtualization Software:** VirtualBox
* **Operating System:** Windows 10
* **Server Software:** AMPPS
* **FTP Server:** FileZilla Server for managing file transfers

Choosing a self-hosted environment using VirtualBox and FileZilla allows for full control over the server configuration and environment. This setup is ideal for development and testing purposes, enabling me to simulate a live server environment without incurring additional hosting costs. Additionally, this approach provides flexibility in managing the server settings and resources, ensuring that the development process is smooth and efficient.

## **Technology Stack**

**Front-end:**

* **HTML:** Used to structure the content on the web pages.
* **CSS:** Employed to style the web pages, ensuring a visually appealing and user-friendly interface.
* **JavaScript:** Utilized to add interactivity and dynamic elements to the website.

**Back-end:**

* **PHP:** Selected for server-side scripting to handle form submissions, user authentication, and database interactions.

**Database:**

* **MySQL:** Chosen for managing the database that will store user information, golf statistics, and other relevant data.

**Server:**

* **Apache:** Part of the AMP stack, Apache will be used to serve the website's files and handle HTTP requests.

**Development Environment:**

* **Virtual Machine:** The development environment is set up on a VM running Windows 10, hosted on VirtualBox.
* **FileZilla:** Used to manage file transfers between the local machine and the VM.

**Additional Tools:**

* **MySQL Workbench:** For database management, including designing and executing SQL queries.
* **Visual Studio Code:** Employed as the code editor for writing and editing HTML, CSS, JavaScript, and PHP files.
* **GitHub:** Utilized for version control, allowing for efficient tracking of changes and collaboration if needed. [Link to GitHub.](https://github.com/Ranger-Jim/Golf-Stat-Tracker.git)

The chosen technology stack provides a robust and efficient setup for developing the Golf Stats Tracker website. HTML, CSS, and JavaScript form the foundation for creating a responsive and interactive user interface. PHP, in conjunction with MySQL, offers powerful capabilities for server-side scripting and database management. The use of Apache ensures reliable handling of HTTP requests. By leveraging a VM with Windows 10 and FileZilla, the development environment remains flexible and under full control.

## **Cost**

* **HTML, CSS, JavaScript:** Free and open source
* **PHP:** Free and open source
* **MySQL:** Free and open source
* **Apache:** Free and open source
* **VirtualBox:** Free and open source
* **Windows 10:** Free version
* **FileZilla:** Free and open source
* **MySQL Workbench:** Free and open source
* **Visual Studio Code:** Free and open source
* **GitHub:** Free and open source

**Total Cost:** Leveraging free and open-source software, the total cost of the technology stack is minimal, with no direct costs associated with the chosen technologies.

## **Conclusion**

The technology stack and development environment chosen for the Golf Stats Tracker project are designed to provide a robust, efficient, and flexible foundation for the website. By leveraging self-hosted solutions and open-source tools, the project remains cost-effective while allowing full control over the development and deployment process. The combination of HTML, CSS, JavaScript, PHP, MySQL, and Apache ensures a comprehensive and reliable setup capable of delivering a dynamic and user-friendly web application. This document serves as a guide to the technology choices and planning that will support the successful development and implementation of the Golf Stats Tracker.