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Project: Overwatch SEO

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Assignment: CST-451 Capstone Project Proposal

School: Grand Canyon University

Instructor: Professor Mark Reha

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ABSTRACT

Overwatch SEO is a software technology developed to speed up SEO Analyst's data collection. Search Engine Optimization, or SEO, is the process of getting search engines like Google or Bing to rank a website higher in their search results. From the team's personal experience from working in the SEO industry, much time is lost as SEO Experts gather information. The process generally starts with an SEO Analyst requesting important information about a website from multiple services. After each service sends back a report and the data is available to the SEO Analyst, more time is lost as the SEO Expert combines different pieces of data into one spreadsheet in order to make the information useful. The purpose of Overwatch SEO is to develop a technology that will expedite this process through automation.

Overwatch SEO will speed up the data collection process as an all-in-one data collection program. When a user starts data collection, the program begins requesting data from multiple services and waiting for the reports to be generated. Once Overwatch SEO receives the reports, it will then combine the different data points together before displaying the data to the user. The user can then use this information by reading it from the program or they then can choose to create a CSV file of the latest data, which can easily be transferred into a spreadsheet program of their choice.

History and Signoff Sheet

Change Record

Date	Author	Revision Notes
9/21/2022	Rhese Soemo	Initial draft for review/discussion

Overall Instructor Feedback/Comments

Overall Instructor Feedback/Comments

Integrated Instructor Feedback into Project Documentation

☐ Yes ☐ No

Project Approval

☐ Professor Mark Reha

TABLE OF CONTENTS

PROJECT OVERVIEW AND PROJECT OBJECTIVES	5
PROJECT SCOPE.....	7
PROJECT SUCCESS MEASURES.....	8
PROJECT HIGH-LEVEL SOLUTION	9
PROJECT CONTROLS`	11
PROJECT COST AND SCHEDULE	13
APPENDIX A – REFERENCES.....	14
APPENDIX B – COPYRIGHT COMPLIANCE	15

Project Overview and Project Objectives

The Problem and Background

Search Engine Optimization, or SEO, is very important to any business in our modern digital age. Because of a frontend customer's ease of access to the online web, competitors are only a few clicks away. Competitor's websites also can be more accessible and easier to enter because of where the site is positioned on a search engine's results. Consequently, good SEO is essential to every business which seeks to have an online presence.

Unfortunately, SEO is not a cut and dry process. Instead, it is measured with several different statistics and numbers, which are used by a SEO Strategist to develop a plan to help a business move up search rankings. Additionally, these numbers come from many different sources such as Google Analytics, SEM Rush, Moz, and many others. A search engine's process for determining a website's rank is not simple and many factors can play a role. Consequently, each service acts as a different tool in a SEO Expert's arsenal and are useful for gathering different data points. These services are used to pull different data about a website in order to study and fix its' weaknesses within SEO.

The use of these services quickly becomes a problem, as logging into at least five different websites and starting the process to collect data is time consuming. The team has personally have worked through this data collection process as part of their careers at Big Guy Digital, also known as BGD, a digital marketing firm that specializes in SEO. Individual team members have been assigned the task of gathering this data and it has at least taken them a whole workday to finish this process. The standard data collection process is currently to open several tabs open on a browser, paste information into the website services, wait for a couple minutes before receiving an output that then would be pasted into a spreadsheet.

By automating the data collection process, employees' time will be saved for more useful tasks, clients will be able to receive feedback quicker, and SEO Experts will be able to get the data they need more rapidly. All these consequences of automating the process will lead to an SEO firm or team saving more money and working faster.

Christian Worldview

A theme exemplified through the Biblical Book of Ecclesiastes is the concept of time and how little of it people have. This is also true in business, as time is a resource. Another Biblical Theme, that is applicable to this project, is the overarching theme in the Bible of service. Many people think that a business' end goal is to make money. This is true, however at the same time every business should also have a goal to best serve their customers and clients. However, corporations and their employees do not have unlimited time to put towards helping their customers and clients succeed. Consequently, to improve their service, a company needs to find new ways to speed up or replace their slower processes. This project speeds up a necessary time-consuming process by automating it and freeing up employee's time, which in the end allows a company to better serve their customers.

Project Objectives

Overwatch SEO has four broad objectives as a project. The goal is to create a program that accomplishes the following objectives within the scope of the project:

- Allow a user to input their credentials to access online SEO data service tools
- Allow a user to input a website URL that is taken and sent to SEO data service tools
- Allow a user to read the received data from the online service tools after it has been gathered and stored

- Allow a user to save the data as an CSV file

Challenges

Overwatch SEO has two broad challenges that will need to be addressed in order to create a successful implementation of the project:

- Communicating with multiple SEO services that all have differently formatted outputs
- Creating the best implementation of the project, as there are many valid ways to approach a solution.

Benefits and Opportunities

The use of a successful implementation of Overwatch SEO will give the following benefits to an SEO company or team:

- A benefit of this completed project will be the automated collection of SEO data
- A benefit of this completed project will be ability to directly import data to a spreadsheet through the use of CSV files
- An opportunity of this completed project will be time saved through its implementation as part of a workflow

Project Scope

The main goal of Overwatch SEO is to automate the process of gathering SEO data on websites from online tools and services.

Stakeholder Name	Role(s)	Responsibilities
Rhese Soemo	Lead Developer and Designer	Design and develop the project

Work Breakdown Structure										
ID	Task	Dependencies	Status	Effort Hours	Cost	Start Date	Planned Completion	Estimate to Completion	Actual Completion	Resource
1	Initial Design	NA	Incomplete	10 Hours	\$0	8/5/2022	9/30/2022	3 Hours	NAY	NAY
2	Initial Prototype that can ping a REST service	NA	Incomplete	0 Hours	\$0	9/26/2022	Unknown at this time	30 Hours	NAY	NAY
3	Secondary Prototype that can save results	NA	Incomplete	0 Hours	\$0	Unknown at this time	Unknown at this time	30 Hours	NAY	NAY
4	Tertiary Prototype that can export CSV	NA	Incomplete	0 Hours	\$0	Unknown at this time	Unknown at this time	30 Hours	NAY	NAY
5	Final Prototype that can ping multiple services, save results, and export data	NA	Incomplete	0 Hours	\$0	Unknown at this time	Unknown at this time	30 Hours	NAY	NAY

Project Success Measures

A successful creation of Overwatch SEO will have the following in-scope features:

1. Storage of credentials
2. Input of target site
3. Connection to services
4. Collection of data
5. Saving of data
6. Displaying of data
7. CSV exportation of data

There are some other features that would be of additional use to a SEO team, however they are out of scope and will only be added if there is enough time to implement them:

1. A frontend GUI
2. Automatic data collection
3. Assurance of multi-system
4. Data table modification

Project Completion Criteria	
1 – Create an application that allows the user to enter their credentials for supported online SEO services and tools	
2 – Create an application that allows a user to input a target site	
3 – Create an application that, on user input, goes to supported online SEO services, requests, pulls, and saves data	
4 – Create an application that interprets and combines received data that it has pulled back from online	
5 – Create an application that displays the data that has combined and interpreted	
6 – Create an application that saves the data that it has combined and interpreted	
7 – Create an application that allows a user to export a CSV file of the data that it has gathered	

Assumptions and Constraints					
ID	Description	Comments	Type	Status	Date Entered
1	That I can communicate with various SEO tools through REST Service API's	My preliminary research so far has proven that each service has a REST API that I can work with	Assumption	Still Researching	9/23/2022
2	C# and .NET can run on more OS's than just Windows	My research thus far has shown that C# and .NET should be able to run on Linux and Mac	Assumption	Still Researching	9/23/2022

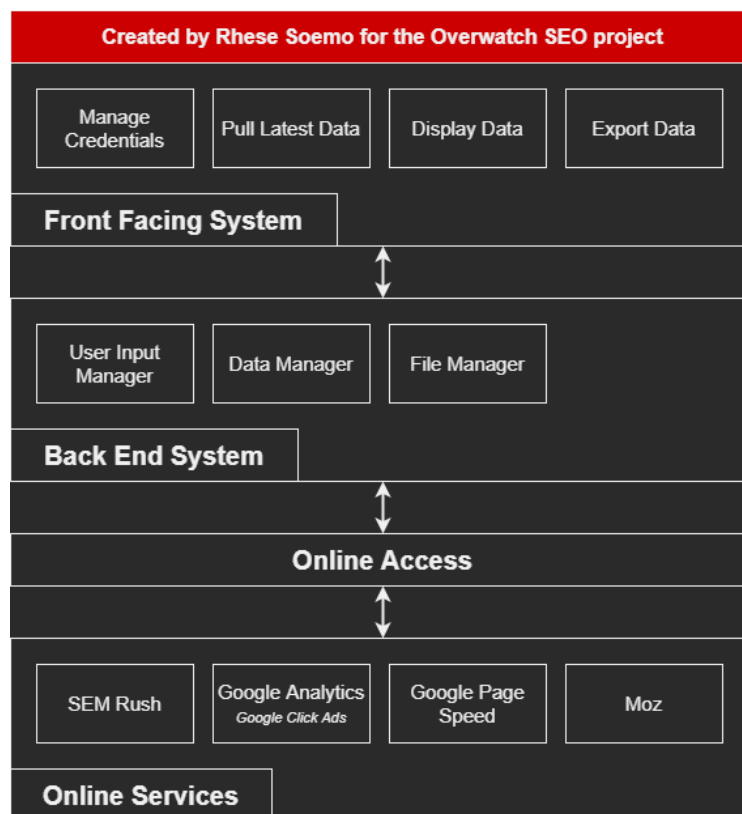
Project High-Level Solution

Introduction

Overwatch SEO is planned to be built primarily on the C# language and .NET framework. Additional packages may be installed into the project add functionality or allow more efficient development. Users will input their credentials so that the application can access the online services. Upon a user's request, the program will reach out to these online services to request SEO data. Once that data request is completely fulfilled, the system will then combine the data into a table to be output to the user. The user will have the option to export their data as a CSV file, which will allow them to easily load it into a new or existing spreadsheet that is tracking SEO data.

Solution

The following is the design of the high-level solution of Overwatch SEO:



Overwatch SEO will primarily run on the normal system level of a computer. However, it will require online access as well as being developed as two central systems. The first system is the front facing

system that the user interacts with, while the second is the backend where the logic runs. By developing the frontend as a separate system to the backend, it will allow possible future iterations of Overwatch SEO to swap in more user-friendly frontends.

Project Controls

Risk Management				
Event Risk	Risk Probability	Risk Impact	Risk Mitigation	Contingency Plan
	(high, medium, low)			
Responses from the REST API's are hard to read	Medium	More time is spent on writing code to decode responses	Learn service API's so that I don't run into major API issues when trying to pull data	If this risk occurs, we will need to pull extra time to work on the problem
Taking the wrong approach to the project	High	A complete restart of the project in a different system or environment	Discussing different approaches to the problem with BGD, so that I do not get part way through and realize I'm barking down the wrong tree	Program modularly and documenting as we go so that if we need to restart, we can use parts that have already been completed
Taking the wrong approach to the storage model	Medium	Time is spent rewriting the storage model	Researching the best way to model data storage	If this risk occurs, we will need to add extra time to our schedule to fix this problem

Issues Log								
ID	Description	Project Impact	Action Plan/Resolution	Owner	Importance	Date Entered	Date to Review	Date Resolved
1	What is the issue?	How will this impact scope, schedule & cost?	How do you intend to deal with this issue?	Who manages this issue?				
2								
3								

Change Control Log									
ID	Change Description	Priority	Originator	Date Entered	Date Assigned	Evaluator	Status	Date of Decision	Included in Rev. #
1									
2									

Roles and Responsibilities			
Name	Team	Project Role	Responsibility
Rhese Soemo	Overwatch SEO Team	Lead Developer and Designer	Design and develop the project
Austin Hamilton	Big Guy Digital	Mentor	Mentor, guide, and give feedback on the project
Patty Hamilton	Big Guy Digital	Advisor	Provide feedback on the project through the eyes of a project manager
Steven Economides	Big Guy Digital	Advisor	Provide feedback on the project through the eyes of a SEO Expert

Bart Good	Big Guy Digital	Advisor	Provide feedback on the project through the eyes of a SEO Analyst
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Project Cost and Schedule

Currently, the development of Overwatch SEO has no need for monetary resources.

Appendix A – References

Currently, there are no references for this project.

Appendix B – Copyright Compliance

- As of this revision of the project proposal, 1.0, the name of this project is Overwatch SEO. To the team's knowledge, the project is within copyright compliance. We have checked search engines, application stores and repositories, as well as the United State's official copyright and trademark website.
- The C# language and the .NET Framework License are both completely free and open source for all uses and applications (<https://dotnet.microsoft.com/en-us/platform/free>). As of project proposal 1.0, the project plan is to develop Overwatch SEO's main application using the C# language and .NET framework.