**Business Case**

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| **Project Name** | **Project Manager** |
| **Web Scrapper** | **Uchenna Ofodile** |
| **Client** | **Duration** |
| **Emmanuel** | **Due April 1st** |

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| **Executive Summary** | * **The application scrapes the web for cars meeting the user’s criteria and then sends a notification to the user when the car is found (Email &/or Text) with a link to the car** |

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| **Mission Statement** | * **Define the vision, goals and objectives of the project.** * **Vision – Users will be able to quickly see when the car they desire is found** * **Mission – We will pull data from relevant sources and notify the user when it is found to get the user the best deal** |

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| **Product/ Service** | * **Explain what the product or service and how it fits a niche or serves a need.** * **The product fits a niche because it serves a subset of car buyers who are concerned with getting the best price for their vehicle** |

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| **Project Definition** | * **Provide general information about the project, such as a project plan outline.** * **The project will be implemented using Scrum using the stages of the software development life cycle** |

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| **Project Organization** | * **What is the structure of the project, such as functional, matrix, projectized or composite** * **Projectized** |

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| **Financial Appraisal** | * **Estimate the cost of executing the project plan over the schedule of the project.** * **$5 a month for serving** |

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| **Market Assessment** | * **Research the market opportunities and threats, including competitors.**   **Opportunities:**   * **Increasing demand for data-driven insights in the automotive industry** * **Growing popularity of online car sales and marketplaces** * **Increased interest in sustainability and fuel efficiency, leading to more demand for data on electric and hybrid cars** * **Rising interest in autonomous driving technology, which may require more data to train machine learning models**   **Threats:**   * **Potential legal and ethical concerns around web scraping and data privacy** * **Competition from other web scraping applications and data providers in the automotive industry** * **Difficulty in obtaining reliable and high-quality data due to variations in car models, specifications, and pricing** * **Rapidly changing technology landscape in the automotive industry, leading to potential obsolescence of data and models**   **Competitors:**   * **Scrapinghub: offers web scraping services and tools for a variety of industries, including automotive** * **Octoparse: offers a web scraping tool specifically for extracting data from automotive websites** * **DataCrops: offers a web scraping tool for the automotive industry that can extract data from dealer websites, car classifieds, and more** * **Carstory: offers a data analytics platform for the automotive industry that provides insights on car prices, features, and trends** |

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| **Marketing Strategy** | * **Show how your product or service with be distributed, what its pricing will be, the target audience, etc.** * **Distributed online for free** * **Target Audience – 20-45 year old car buyers in the USA who are concerned about price** |

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| **Risk Assessment** | * **Figure out risks to your project and work on how to identify and mitigate them.** * **Legal and ethical risks: Scraping data from websites may be subject to legal and ethical considerations. There may be risks associated with violating copyright laws, privacy regulations, or terms of service agreements. Additionally, ethical concerns may arise around the collection and use of personal data.** * **Technical risks: Technical risks may include issues with data quality, data storage and retrieval, data normalization, and data transformation. Additionally, the scraping process may be vulnerable to technical issues such as network connectivity, security breaches, or website downtime.** * **Performance risks: Scraping large amounts of data may result in performance issues such as slow response times, data duplication, or data loss. The amount of data being scraped may also impact the bandwidth of the network.** * **Business risks: There may be business risks associated with the use of a car scraping application. For example, the application may become obsolete if the targeted websites change their structure, data format, or policies. Additionally, there may be competition in the market for similar applications, which may affect the adoption and usage of the car scraping application.** * **It is important to identify, evaluate, and address these risks to ensure the success of your car scraping application.**   **Here are some potential strategies to mitigate the risks:**   * **Legal and ethical risks: To mitigate legal and ethical risks, you should ensure that you have a clear understanding of copyright laws, privacy regulations, and terms of service agreements related to web scraping. Obtain permission where necessary and comply with regulations. You should also have a clear privacy policy that explains how you collect, store, and use personal data.** * **Technical risks: To mitigate technical risks, you should ensure that your application is capable of handling errors gracefully, such as by retrying failed requests, catching exceptions, and logging errors. You can also optimize the scraping process to minimize the impact of network issues or downtime. Consider using a rate limiter to control the frequency of requests, and use a distributed architecture that can handle high volumes of data. Additionally, you should regularly test your application to identify and address any technical issues before they become major problems.** * **Performance risks: To mitigate performance risks, you should carefully design your application's architecture and data storage to accommodate large amounts of data. Use caching techniques to avoid scraping the same data multiple times and optimize the data retrieval process. You can also use load testing tools to identify bottlenecks in the system and improve performance.** * **Business risks: To mitigate business risks, you should stay up-to-date with changes in website structures, data formats, and policies. You can also differentiate your application by providing unique features and value propositions. You should also regularly monitor the competition and make changes to your application as needed to stay ahead of the competition.** |