
Project Proposal For “Better Automobile Inventory Management”

Proposal
Software Engineering
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1 Team Profile

At this time, we don't feel that there is a need for a team leader. The three of us should be able to work together as a team to complete the project successfully.

Profiles of each team members follow:

1.1 Paul Whitely

Paul is a senior at FHSU studying computer science and has worked as an information technology professional for many years. Paul's experience with project management and developing specifications from user requirements will help keep the project on track.

1.2 James Cox

James is a senior at FHSU studying computer science, and is proficient in C, C++, C#, and Java. James' experience working as a software tester will also help the team as they strive to learn the software development process this semester.

1.3 Grant Culver

Grant is proficient with Java, C++, PHP and MySQL. He is also experienced with presentation skills.

2 Project Proposal

The team would like to propose a tool for better inventory management at car dealerships in the car dealerships that Grant works at. This will be discussed in detail below.

For the project, this team would like to work on an inventory management system for new vehicles for a car dealership. Our goal is to create a web-based application that would streamline the new car ordering process for a car dealership.

2.1 Problem Diagnosis

In the current franchised car dealership change is happening very quickly. With the advent of the computer and internet the car business has evolved very quickly and the level of change and uncertainty is vast. 15 years ago it was largely unheard of for major corporations, e.g. Carmax, AutoNation, Pensky, etc., to be involved in automobile retailing. In addition, numerous online startups have started marketing vehicles online without the overhead encountered by traditional brick-and-mortar dealerships. This serves as a major disadvantage and a challenge for the future. One of the major expenses encountered by car dealerships is the amount of capital invested in new car inventory. Currently, car dealerships can have anywhere between a few million in inventory to over thirty million dollars in new car inventory. With this amount of capital investment coupled with the current business climate it is paramount to have a business solution that maximizes the return of capital. Our proposal is to utilize software to create a new vehicle inventory program that will analyze past selling trends and make recommendations for future stocking levels. This program will integrate with existing databases or technology platforms and will allow the user to customize settings to achieve a model inventory.

2.2 Proposed Treatment

The proposed software solution to this problem will solve the domain problem in several ways. First, the solution will consolidate and remedy the problem of having to log into several systems to get piecemeal information. Second, the solution will provide and integrate the users desired model inventory with past sales history to provide a better understanding of current and future inventory needs.

Metrics used to evaluate success of of targeted problem include click-to-result. It is believed that users should be able to find information desired within 3 mouse clicks. In addition, these three actions should be completed within a designated time frame of 3 minutes per request. Also, user interface testing will be conducted prior to deployment that will have to pass

attached industry guidelines. In addition, the system will be required to update inventory every 24 hours from designated API feed or database request.

Overall, with proposed software solution, it is believed that considerable time and effort will be alleviated to provide information in a convenient and all-inclusive web application. Not only will the solution save time but it will also ensure, through API requests and database integration, that information will be accurate and relevant that will produce more reliable and up-to-date information.

2.3 Plan Of Work

The plan of work is first to create code that will aggregate the available new car inventory and make it available to a consolidated database. Second, code will be created to analyze the new car inventory and compare to historical sales and calculate suggested purchases or sales. Third, code will be created to allow the users to sort and filter information to help with the purchasing and selling processes.

2.3.1 Database integration/api feed

For the proposed software solution, the project will need to have access to dealerships inventory. Currently, there are two alternatives for collecting inventory from the dealership. The current inventory is stored in the dealership's DMS (Database Management System) and feeds out to Dealerfire.com. Dealerfire hosts the inventory and via API feeds provides inventory to 3rd party vendors and dealerships other factory websites. Currently, it looks like the inventory will need to flow from Dealerfire to our application through an API or FTP connection.

2.3.2 Application Design

The application will need to be easy to use and will also have to allow the inventory manager to change dealership settings so that the model inventory can be calculated. This will require a clean and interactive user interface and also a backend, easy to navigate and change, setup. In addition, there will be a login page that will authenticate the respective users.

2.3.3 Application Deployment

As our proposed solution is web based it will need to be hosted on a remote production server.

3 Product Plan of Work and Ownership

The proposed software solution will require our group to assign specific functions or roles to the respective team members. This will allow traceability and accountability. According to text, this will allow us/potential customer of finding person for a specific function for the project to consult on product questions or issues. It is possible, and practical, that respective functions or roles will need to utilize cross-collaboration with other team members based on skill level.

The team will track changes and versions in a Git repository and will work together to complete all aspects of the project.