**Game Inventory Management System**

**Project Proposal**

**By Jacob Weiss**

**Executive Summary**

The purpose of my proposed project is to create an inventory system for a game store. This system would allow the store to track current games and orders. It would also be able to use the information provided from the database to find games through the program in a variety of means.

**Project Overview**

The main problem being addressed is having a management system that allows staff to track a store’s game inventory and allows them to recommend games to people based on a variety of criteria. It would have a variety of methods for sorting games, including by genre, age rating, franchise, and publisher. It would also allow staff different abilities based on their current role. For example, “interns” couldn’t edit items whilst “staff” and “admin” could. “Admins” could view a log of events that have happened in the program that “staff” and “interns” couldn’t see.

**Project Scope**

The scope of this project is to design and implement an inventory management system for a game store. The system should be able to track current game stock and orders, as well as provide a variety of methods for sorting and searching through the inventory. The system should be accessible to store staff and have different levels of permissions based on their role. The system should also be able to log events within the program to allow administrators to troubleshoot issues.

**Deliverables**

The main deliverable of this project would be the program for game stores to use. This program would provide all basic systems necessary for a store to use. It would be simple to run and understand.

**Milestones and Timeline**

The project is to be presented on April 19th, 2023. The first major milestone will be to get a proper database schema running. The next is to build a basic program in Windows Forms that connects to the database. The first connectivity will be to the games database. Once that is working properly, I will attempt to add other abilities to add and edit items in the database from the Windows Forms App. After that I will add user authentication to allow different functions based on role. I will complete by doing error checking and making sure everything runs properly.

**Objectives**

1. Design and develop a user-friendly inventory management system for a game store.
2. Create a database to store game inventory and order information.
3. Implement sorting and searching functionalities based on different criteria such as genre, age rating, franchise, and publisher.
4. Provide different levels of permissions for staff members based on their role, including interns, staff, and admins.
5. Test and troubleshoot the system to ensure it is functioning properly and efficiently.
6. Train staff members on how to use the new inventory management system.

**Technical Approach**

Windows Forms will be used to create the UI. All the decisions made about what UI to display and how will be here. SQL Server will be used to store data including information for users, orders, and the video games themselves.

**Project Management**

Resources needed for development and implementation will be provided by Medicine Hat College. This includes Visual Studio and SQL Server, as well as workstations. Github will be used to allow development from different locations easily, and to have backups of the program.

**Quality Assurance and Testing**

Bug testing will consist of testing each element of the database interactivity, as well as everything in the local client. This will include methodically going through and making sure each element in the UI is displayed properly and in the right place. It will also extensively test permissions, and make sure no information is accessible to users with lesser permissions. Each element of the project must be functioning properly to pass Quality Assurance.

**Future Enhancements**

The project will be extremely scalable. It will provide the basic framework for the application in working condition. It will, however, provide room for improvement upon a variety of facets. This includes potential improvements to the database infrastructure if future functionalities are desired. It will also allow for improvement and addition upon the UI, based on user desires. Many of these will become apparent as more clients use the program.

**Conclusion**

In conclusion, the Game Inventory Management System proposed by Jacob Weiss aims to address the needs of game stores in managing their inventory efficiently. The system will allow staff to track game stock and orders, sort and search through inventory based on various criteria, and provide different levels of permissions for staff members based on their role. The project will be developed using Windows Forms for the UI and SQL Server for data storage and will undergo extensive testing to ensure proper functionality and efficiency.

For stakeholders interested in this project, it is important to note that this inventory management system has the potential to increase productivity and accuracy in managing game inventory, leading to increased customer satisfaction and profitability. We invite game store owners and managers to collaborate with us in the development and implementation of this system, providing feedback and insights that will help us improve and enhance the system to better suit their needs.

Together, we can create a user-friendly and scalable inventory management system that will streamline the process of managing game inventory and provide a competitive edge in the gaming industry.