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Software Dev 1

Try to get the UML diagrams into this document. You can create them with a drawing tool.

Milestone for Project 2

Abstract – The system I am creating will manage the reservation of movies from a movie rental store. It will store user account info and create an account which they can use to rent movies without needing to be in the store. It will also inform the user if their movie has been rented for too long and how much they will be charged based on the amount of days it is late.

Introduction – I wanted to create a system that would keep track of customers rentals online in a file system because I always enjoyed movies as a kid and I especially liked going to Blockbuster to get them. I think it would be very convenient to be able to “check out” a movie without needing to be in the store. This paper will show how a user enters their info, reserves movies to be checked out, and checks their current movies checked out to see if a late fee has been charged.

Detailed System Description – The main parts of the system include the class “account” which will contain all the data fields that let a user input their info into the database. This would include their name, email, phone number, password, billing address. Another class will be called MovieList and it will contain an array that has slots of int values which indicate the available movies that can be reserved. There will be a method called checkMovieAvailability which will search the array for that specific movie’s corresponding place in the array and if it is greater than 1, it will decrease the value by 1. If the number value at that place is 0, then the program will inform the user that the movie can’t be checked out. Then, another method reserveMovie will take the users string input and place it into their account file as part of their accounts info. Two more methods will be added, one called checkOverdue which will ask the user how many days they have had a given movie out for and it will tell them how many days

they have left and if they are at the max amount of days or higher, the system will inform them that it is overdue. The last method I will have is one that calculates the amount of money a person owes based on how many books they have overdue. This method will be called `calculateAccountCharge` and it will have a set amount that each movie overdue costs with k factor multiplied by the number of movies overdue as a sort of deterrent from holding on to too many overdue movies. I will potentially add more classes and methods to implement extra features in the future but for now this is the progress I have made and come up with.

Requirements – The system fulfills many requirements, the most important ones being that the user no longer must go to the store to find out if there is a movie he or she wants and if they can rent it. The system will also allow users to better understand their standing when it comes to currently check out movies and how much money they can expect to pay if they fail to bring back x number of movies. Finally, the account class allows users to have a “place” within the store itself as a registered customer that the store can keep track of and send information to about upcoming movies and deals.

Literature Survey – There are many applications available right now for renting movies online but most of them deal with virtual copies of said items like Netflix, Hulu, Amazon Prime etc. My concept stands out as a system meant for a small business interested in distributing hard copies of movies through a store, like how Block Buster was run before it closed.

User Manual - The user will create an account ID as well as fill in their name, number, email, password, and billing address. With this information stored, they are now free to reserve the movies they wish to rent from the store and check the time remaining on their current rentals and what the theoretical charge would be for a specified number of overdue movies on their account. They can search for the movies they want by name to reserve them.

Goals – The goals accomplished by this system would be an easy way to check if movies are available and to reserve said movies for checkout later at the store. It also keeps track of a user's account with the store to allow for billing, information about deals and charges, as well as notifications about late rentals etc.