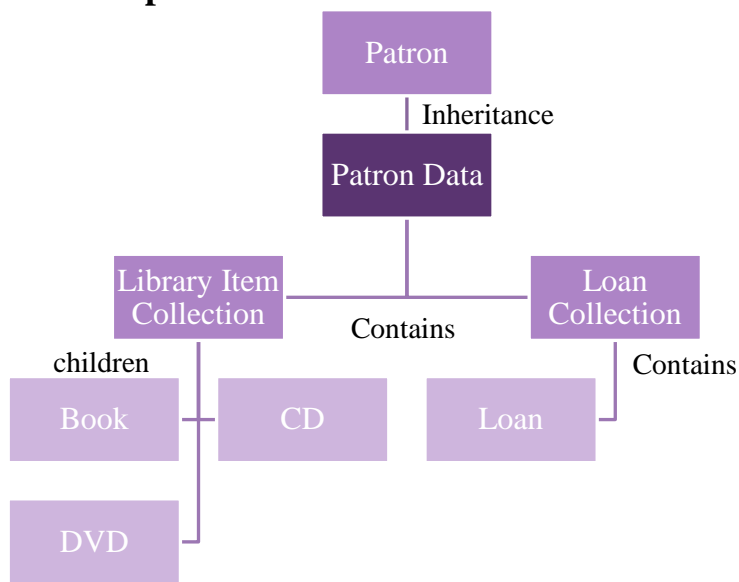


Homework 4 Report Document

CSCE 1040

ANIELLE JOLEANNE GO – ANIELLEJOLEANNEGO@MY.UNT.EDU

Class Relationships



Class Content Diagram



Book

Title
Author
ISBN Number
Category
Get / Set Title
Get / Set Author
Get / Set ISBN Number
Get / Set Category

CD

Title
Artist
Number of Tracks
Release Date
Genre
Get / Set Title
Get / Set Artist
Get / Set Number of Tracks
Get / Set Release Date
Get / Set Genre

DVD

Title
Category
Run time
Studio
Release Date
Get / Set Title
Get / Set Category
Get / Set Run time
Get / Set Studio
Get / Set Release Date

Color Key

double

int

string

function

bool

Loan Collection

Vector of Loans
Add Loan
Delete Loan
Edit Loan
Pay Fines
Update Status
Number of Overdue
List Overdue

Item Collection

Vector of Items
Get Number of Items
Add Item
Delete Item
Find Item
Edit Item
Print Collection

Patron Data

Vector of Loans
Vector of Items
Check In
Check Out
Report Lost
Renew Checkout

Function Pseudocode

Item Collection

Add Loan

Takes a parameter of loan

Adds to vector of loans

Add Item

Takes a parameter variant of book, CD or DVD

Adds to the vector of Items

Find Item

Takes a parameter Library ID

Finds book in vector through Library ID

Returns Item found

Delete Item

Takes a parameter Library ID Number

Finds item in vector through Library ID

Deletes the item from the vector

Edit Item Information

Takes a parameter item

Finds book in vector through ISBN Number

Checks which private values are default

Updates non-default values to the book in vector

Pay Fines

Make sum variable

Makes temp loan variable

Goes through the vector of loans

Finds Loans with a status of overdue

Gets Book ID

Calls Find Book and checks if status is lost

If lost, calls GetCost for book

Adds cost to sum

If overdue, gets Number of Days Late

Multiplies 0.25 to Numbers of Days Late and stores it in temp loan

Add temp loan to sum

Subtract sum from Fine Balance

Print All

Loops through Item and prints

Print Patron Information

Gets Patron Name

Gets Patron ID

Gets Fine Balance

Gets Number of Books Checked Out

Prints Everything

Loans

Check In

Enter parameter for Patron

Checks if Patron has 6 books (Current Number of Books Checked Out)

If there are 6, prints out a message and ends transaction

Prompts to enter book Title

Prompts to enter book Author

Prompts to enter book ISBN Number

Prompts to enter book Library ID Number

Creates a book

Calls Add Book

Makes a Loan with Patron's ID, Book's ID, and creates its own Loan ID

Sets Due Date & Time to exactly 10 days from current date

Calls Add Loan function of Patron

Prints out due date for patron

Check Out

Enter parameter for Patron

Checks Number of Days Late

If greater than zero, prints out fine amount. And prompts reader to pay first

If zero, calls Delete Book

Calls destructor and deletes loan

List Overdue

Takes parameter patron

Searches books for status overdue

If overdue, calls Print Book Information

List Patron Item

Takes parameter Patron

Calls Print Collection

Update Loan Status

Takes current date

Compares it to Due Date & Time

If Due Date and Time is later than the current date, does nothing and exits

If Due Date and Time is sooner than current date, sets status to loan overdue

Renew Check Out

Checks the variable Renewed

If true, prints out that the book has already been renewed

If false, adds 10 days to Due Date and Time

Sets Renewed to True

Edit Loan

Accepts parameter loan

Finds which values are not default

Sets the non-default values to the values of the object

Report Lost

Accepts Parameter Patron

Calls Find Book

Calls Set Book Status to Lost

Sets Current Status to Lost

Print Loan Information

Gets Loan ID

Gets Book ID

Gets Patron ID

Gets Due Date and Time

Gets Current Status

Prints out all the information

Design Experience Homework 2

Overall, during the assignment, I faced little difficulties with completing the report. I started creating the diagrams on Wednesday, February 17, and completed the Title Page, the Class Relationships Diagram, as well as some of the Function Pseudocode. During this, it was a little difficult to figure out how to use Microsoft Word to create the diagrams and manipulate it to fit the relationships I wanted to display between each class. I had to settle with the SmartArt that Microsoft Word provided.

However, after I continued work on Thursday, February 18, I found myself having a hard time understanding my own diagrams and realized that the most difficult aspect of creating relationship diagrams like this, was trying to envision how each method interacted with each class and its elements. It was truly difficult trying to figure out what additional methods would make it easier for me to do certain things. When revisiting my Function Pseudocode after doing a little of it the day prior, I had to take a few minutes to go over what I had done to immerse myself on my thought processes that day. While completing the Function Pseudocode, many times I had to move different elements through the diagrams, delete them, or add new ones as new ideas came along.

I finalized everything on Tuesday of February 23 after a long break from the computer due to the snowstorms and power outages. I read over everything one last time to create the report on the Design Experience at the very end. I think planning out code through reports will definitely help me out when I code during the next assignment, as it takes away the time needed to plan and think about how certain methods should be made. Next assignment and the assignments after, I hope to implement a type of planning process before I code to sort out my ideas, and implement the work flow I used in this assignment to divide my work into 2-3 days so that I can have time to reset my brain and look at the code under new eyes.

Design Experience Homework 3

I started doing simple code for the creation of Book, Loan and Patron one week before the due date to think about how they were going to interact with each other. At this time, I had not learned about inheritance and other class relationships, so it was difficult to code bigger things like collections. I got back into coding on Thursday, one day before it was due, and started thinking about the collections.

Many of the plans from homework 2 had to be redone, because I simply lacked the knowledge to understand what I was supposed to do. It was definitely difficult dealing with classes and which class did what. On the next assignment, I will definitely give myself more time to work.

Design Experience Homework 4

I spent a total of three days on the assignment. The concepts around the homework proved to be a little difficult, especially with the inclusion of variants and heterogeneous collections. After a while, keeping track of all the functions is difficult, and so keeping a list of the function names can be a good thing to do while coding. Problem-solving was a little different on this assignment. Because most of the code had already been created by me, it was a matter of finding out which functions to alter, and what can stay. Of course, doing this all-in-one file can be difficult, especially when you are trying to keep track of ten other files. I find that it is best to start over and keep the reference file opened up so that everything isn't mixed up in one file. The implementations of the classes were the most difficult to keep track of in this assignment. I had to separate the main file into the menu commands and the actual implementations so that I can still look at everything in one go and check as I continue. Time is definitely a factor that can

make me better. Code can always be more elaborate and adding new parts of the code can make it more convenient to the user, but there is just not enough time to create these types of code.