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Revised Class Diagram

Session

currentUser:user
currentOrder:order
elaspedTime:int
isValid:bool

getCurrentUser()
invalidateSession(session)

Manages

Identifies To

Order

id:int
thisOrder:audiobook
orderCreated:datetime

addAudiobook(audiobook)

User

Id:int
Name:String
Address:String
Username:String
PasswordHash:String
isEnabled:bool
Fine:int //Total Cents
IsManager:bool

ValidateCredentials(Username, Password)
chargeCreditCard()
enableUser()
disableUser()
addFineToAccount()
getFine()
getIsManager()

Manages

Associates With

SystemController

kiosk: Kiosk
menu: UiMenu
session: Session

getAvailableBookList(): vector<AudiobookTitle>
initializeViewObjects()
generateView()
handleLogIn(credentials)
handleCheckIn(audiobook)
handleCheckOut(audiobook)
handleReserve(audiobook)
handleUnReserve(audiobook)
dispenseAudioBook()
receiveAudioBook()
processReceivedBook()
generateReport(type)

Kiosk

Id:int
locationName: String
isAvailable:bool
capacity:int

getInventory()
generateReport()

Contains

Inventory

Audiobooks:List Audiobook
report:Report

setBookLocation()
queryAvailableBooks()
generateReport()
AddAudioBook()
RemoveAudioBook()
ReserveAudioBook()
UnreserveAudioBook()
UpdateAudioBookLocation(loc_ty location)
checkExpiredReservations()
generateReport()

AudiobookPhysical

Title: AudioBookTitle
isCheckedOut:bool
isReserved:bool
kioskId:int
reservedTime:datetime
checkOutTime:datetime

generateReportEntry(Report)

Report

ReportEntries : List ReportEntry

inventoryReport(Kiosk)
overdueBookReport()
bookPopularityReport()
addEntry(AudioBookPhysical)

Generates Entries In

Is Described By

AudiobookTitle

id:int
Title:String
ISBN: String
Author: String
Genre: String
Description: String

Generates

Contains a list of

Is a List of

ReportEntry

book : AudioBookPhysical

system checks for expired reservations

Time

inventory:Inventory

checkExpiredRes()

getReservations()

reservations

Loop   [Until all reservations checked]

Alt   Expired reservation found

Ref

Unreserve Audiobook

System Generates A Report

Manager | sysControl: SystemController | kiosk: Kiosk | user: User | inventory : Inventory | book : AudiobookPhysical

generateReport()

getCurrentUser

user

getIsManager()

isManager

alt

[user.isManager == true]

generateReport()

generateReport()

construct(book, report)

report : Report

loop [Audiobooks]

GenerateReportEntry(Report)

construct(book, report)

entry : ReportEntry

entry

addEntry(entry)

report

report

report

[user.isManager == false]

Failure: "Must Be Manager"

System Lists Available Audiobooks

inventory:Inventory

:audiobook

getBooks()

getAvailBooks()

Loop   [Until all audiobooks checked]

Alt   Book Available

getDetails(audiobookId)

audiobook

List audiobooks

System Checks If An Account Is In Good Standing

User

sysControl:
SystemController

session : Session

currentUser :
User

handleCheckOut(audiobook)

getCurrentUser()

currentUser

getFine()

Fine

alt [Fine > 0]

<<Error>>UserHasFine

[else]

ref.

User In Good Standing Checks Out Book

System Reserves Audiobook

User | sysControl: SystemController | session : Session | inventory : Inventory

handleReserve(audiobook) →

getCurrentUser() →

← currentUser

getIsReserved() →

← --isReserved--

alt

[isReserved = true]

← <<Error>>AudiobookAlreadyReserved

[else]

← success

System Creates an Account

user

requestAccount()

promptForDetails()

details

Alt   [Details Valid]

validateDetails(details)

:user

new(details)

user

true

success

[else]

false

fail

System Adds Audiobook

User → sysControl: SystemController : receiveAudiobook()

sysControl: SystemController → session : Session : getCurrentUser()

session : Session ⇠ sysControl: SystemController : User

sysControl: SystemController → inventory : Inventory : addAudiobook()

inventory : Inventory ⇠ User : success

System Checks Out Audiobook

User

sysControl:
SystemController

session : Session

inventory :
Inventory

handleCheckout(audiobook)

getCurrentUser()

-User

ref.

SequenceDiagram :
SystemChecksIfAccountIsInGoodStanding

queryAvailableBooks()

isCheckedOut

alt

[isCheckedOut = false]

<<error>> Book Unavailable

[else]

success