UNIVERSITY OF THE
WEST *of* SCOTLAND

UWS

School of Computing, Engineering and Physical Sciences

MSc Information Technology

COMP11113 Information Systems Analysis and Design

GROUP COURSEWORK 2 (60% of the marks)

Session 2024/2025 Term 1

Students

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Declaration

I have carefully read and fully understand Regulations 3.49–3.55 of Chapter 3 of the Regulatory Framework of the University of the West of Scotland, which outline the rules and policies regarding cheating and plagiarism.

I confirm that this assessment is the collective work of our group, with each member contributing to the completion of this task. Where applicable, we have clearly referenced and acknowledged the contributions or ideas of others outside our group.

I also affirm that no part of this assessment has been written, in whole or in part, by anyone outside the group, except for explicitly referenced sources.
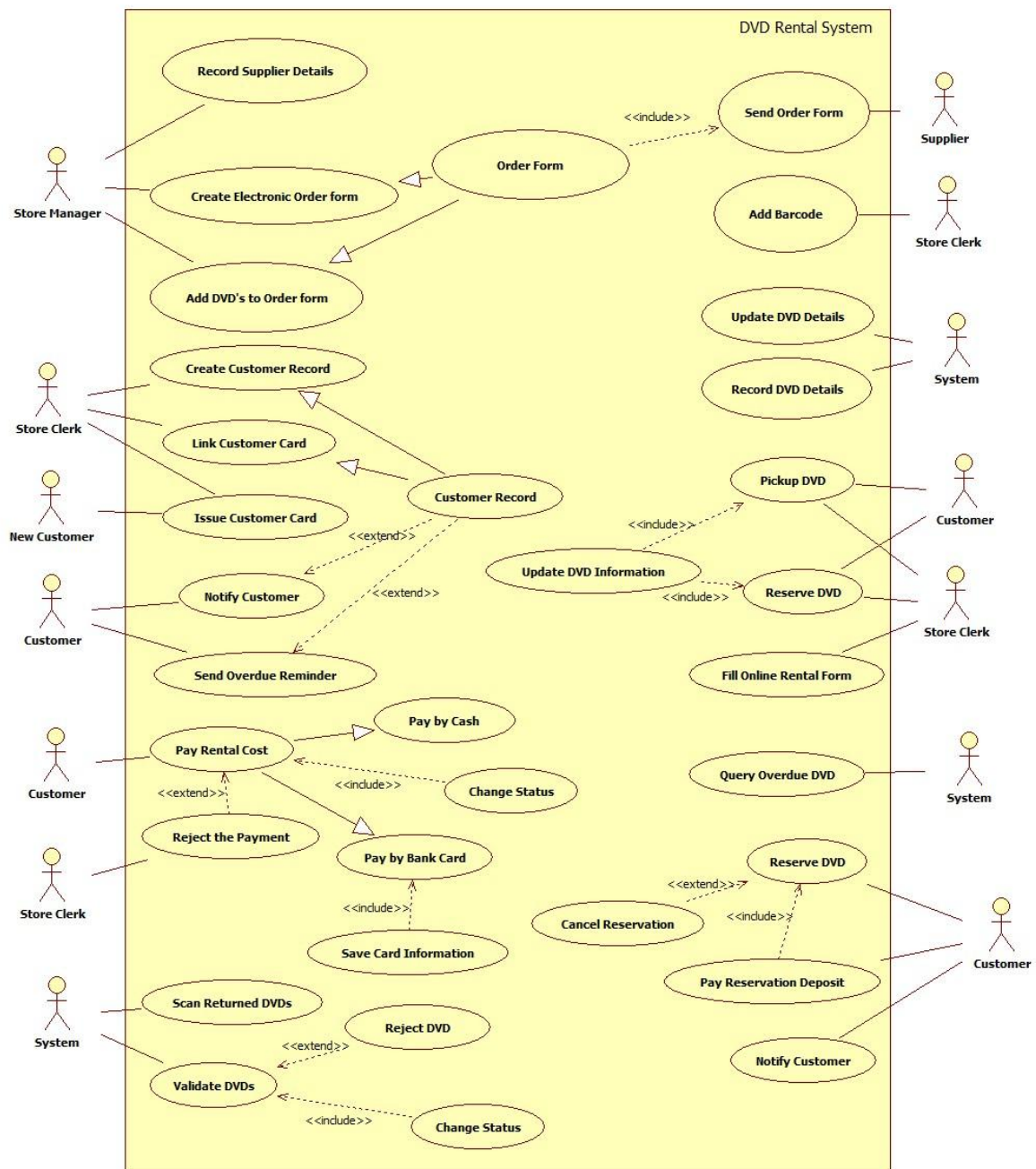
Furthermore, I confirm that this assessment has not been submitted previously, either partially or fully, for any other module or academic purpose, ensuring it does not fall under self-plagiarism.

This declaration is made with honesty and integrity in adherence to the University's academic standards.

Table of Contents

1. Use Case Diagram

2. Structured English

Customer picks up DVDs

Clerk gets customer card to scan in the machine

If (the system accepts the card) (**special case**)

        Clerk clicks the RENTAL button

        Fills Online Form for the Customer

End if

Repeat

        system validates barcode stored in the system

        if (barcode does not match)

                system reject the DVD

        else

                System will add a new rental line in new form with details

                rental price is added to total rental cost

until (All DVDs are scanned)

Customer pay the Total Money by Cash or Card

If (card is used for the 1st time) (**special case**)

        Clerk save the details of Customer and Card in System

End if

Clerk process the Payment manually

If (payment is invalid) (special case)

        Clerk rejects the Payment & Clicks Cancel button (**error case**)

Else

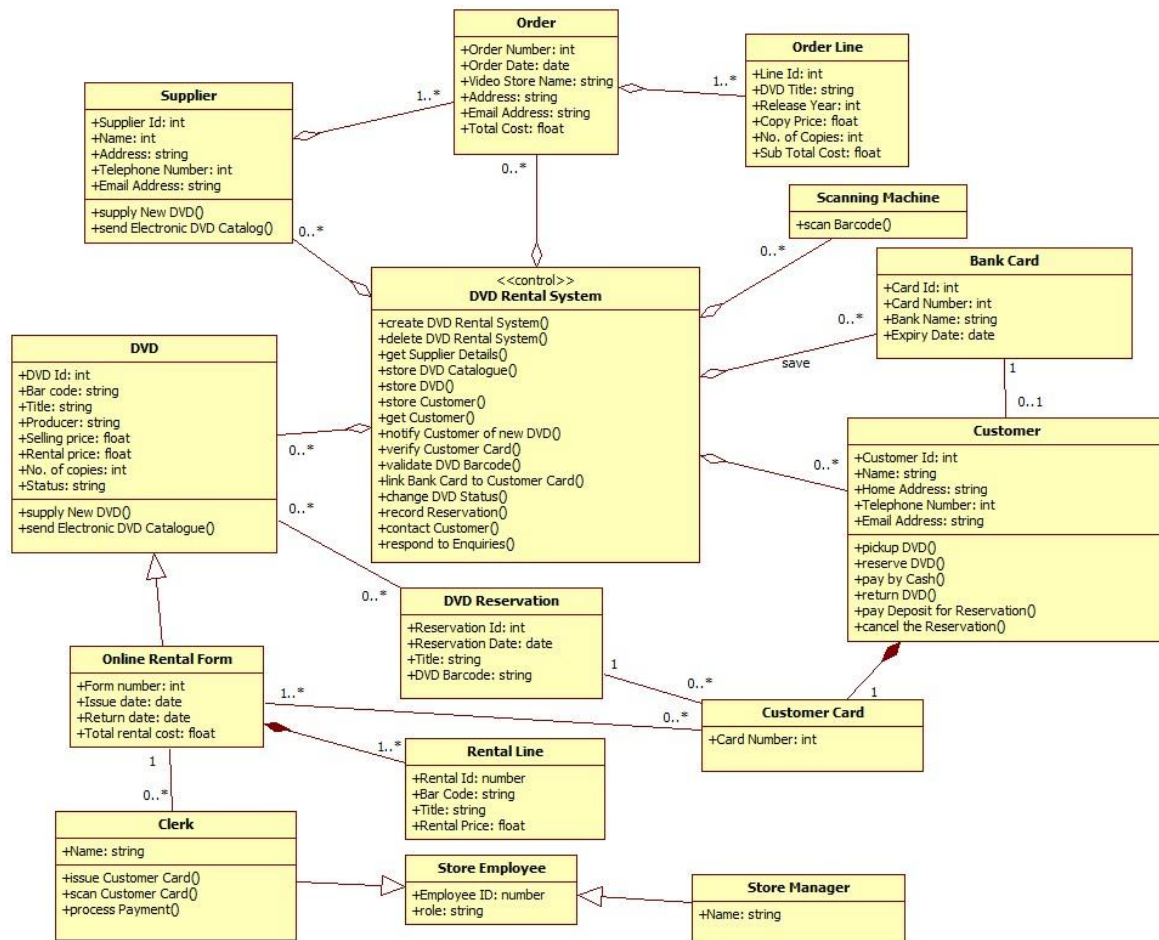   Clerk clicks COMPLETE button to Save in the System

End if

Status changes for all DVDs from "**in**" to "**out**" in the system
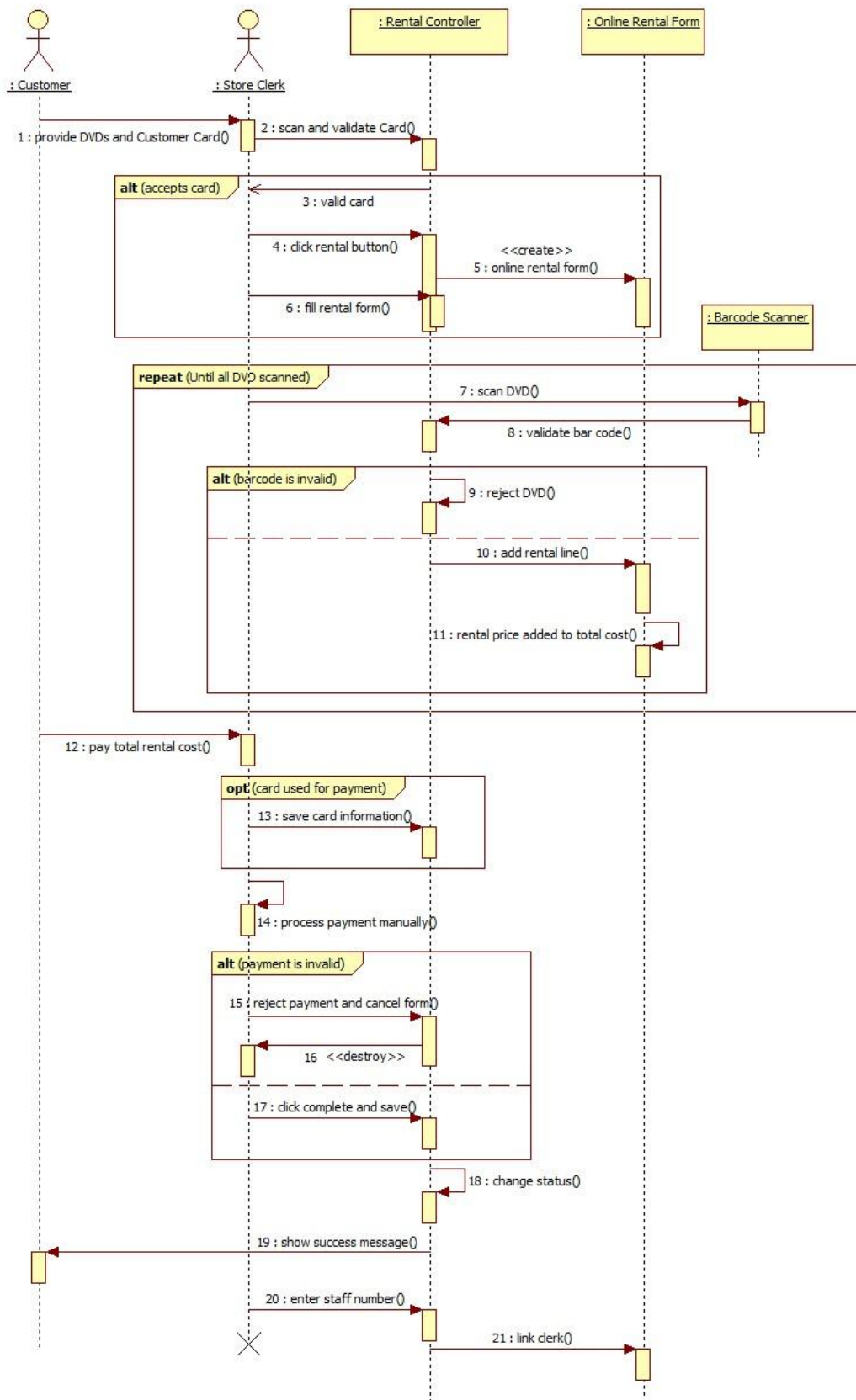
Show Success Message

Clerk Enters Staff number in the system

System links Clerk record to Rental form

3. Class Diagram

Order

+Order Number: int
+Order Date: date
+Video Store Name: string
+Address: string
+Email Address: string
+Total Cost: float

Order Line

+Line Id: int
+DVD Title: string
+Release Year: int
+Copy Price: float
+No. of Copies: int
+Sub Total Cost: float

Supplier

+Supplier Id: int
+Name: int
+Address: string
+Telephone Number: int
+Email Address: string

+supply New DVD()
+send Electronic DVD Catalog()

Scanning Machine

+scan Barcode()

Bank Card

+Card Id: int
+Card Number: int
+Bank Name: string
+Expiry Date: date

<<control>>
DVD Rental System

+create DVD Rental System()
+delete DVD Rental System()
+get Supplier Details()
+store DVD Catalogue()
+store DVD()
+store Customer()
+get Customer()
+notify Customer of new DVD()
+verify Customer Card()
+validate DVD Barcode()
+link Bank Card to Customer Card()
+change DVD Status()
+record Reservation()
+contact Customer()
+respond to Enquiries()

save

DVD

+DVD Id: int
+Bar code: string
+Title: string
+Producer: string
+Selling price: float
+Rental price: float
+No. of copies: int
+Status: string

+supply New DVD()
+send Electronic DVD Catalogue()

Customer

+Customer Id: int
+Name: string
+Home Address: string
+Telephone Number: int
+Email Address: string

+pickup DVD()
+reserve DVD()
+pay by Cash()
+return DVD()
+pay Deposit for Reservation()
+cancel the Reservation()

DVD Reservation

+Reservation Id: int
+Reservation Date: date
+Title: string
+DVD Barcode: string

Online Rental Form

+Form number: int
+Issue date: date
+Return date: date
+Total rental cost: float

Customer Card

+Card Number: int

Rental Line

+Rental Id: number
+Bar Code: string
+Title: string
+Rental Price: float

Clerk

+Name: string

+issue Customer Card()
+scan Customer Card()
+process Payment()

Store Employee

+Employee ID: number
+role: string

Store Manager

+Name: string

1..*   0..*   1..*   0..*   0..*   0..*   0..*   0..*   1   0..1   0..*   0..*   0..*   1   0..*   1..*   0..*   1..*   1   0..*

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4. Sequence Diagram

Group Meeting Form

Group Meeting Number: 1	**Meeting Date/Time**: 01-12-2024

Attendees Full Name/Banner ID: B01759301, B01746656, B01764963, B01755979

Progress
☑ Complete tasks
1. Discussed about the case study and outlined important keywords.
2. Assigned tasks to group members.

Tasks To Be Completed by Next Meeting (Date/Time)
1. Make a list of all the use-case actions, actors and possible connections.
2. List out the entities for the class diagram.

Group Meeting Number: 2	**Meeting Date/Time**: 04-12-2024

Attendees Full Name/Banner ID: B01759301, B01746656, B01764963, B01755979

Progress
☑ Complete tasks over the last week
1. Listed all the actions and actors for use-case diagram.
2. Listed out all the entities for the class diagram.
☒ Incomplete tasks over the last week
1. Did not listed connections.
Reason: All members needed to understand the concept clearly.

Tasks To Be Completed by Next Meeting (Date/Time)
1. List all the connections and create a use-case diagram.
2. Draw the class diagram using the entities listed with relationship between them.
3. Understand the use-case description and try to create a draft version.

Addition Note: After making use-case description, understand the concepts of sequence diagram.

Group Meeting Number: 3	**Meeting Date/Time**: 08-12-2024

Attendees Full Name/Banner ID: B01759301, B01746656, B01764963, B01755979

Progress
☑ Complete tasks over the last week
1. Completed the draft version of the use-case diagram.
2. Completed the class diagram with relationship.

3. Started the use-case description and sequence diagram.

Tasks To Be Completed by Next Meeting (Date/Time)

1. Complete the Use-case description.
2. Complete the Sequence diagram.

Addition Note: Recheck the use-case & class diagrams if anything is missing.

Group Meeting Number: 4	**Meeting Date/Time**: 11-12-2024

Attendees Full Name/Banner ID: B01759301, B01746656, B01764963, B01755979

Progress

☑ Complete tasks over the last week
   1. Completed the Use-case description.
   2. Completed the Sequence diagram.
   3. Aligned the diagrams to look professional and clearly.
   4. Created a Word file and added all diagrams.