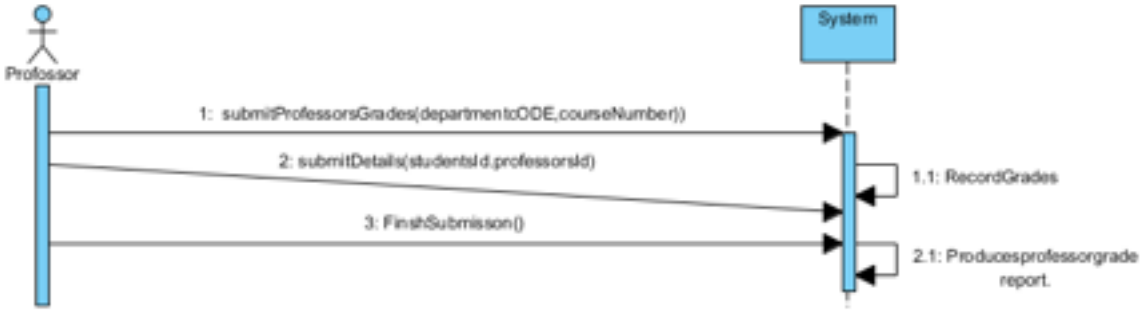
Lab Week 3
Robert Gabriel
R00102430
Web Development Year 2

Q1. Prepare a system sequence diagram for use case *"`professor submits grades"*

(Specification created in Lab 2)



Q2. Consider an Event table for a library system.

Make appropriate assumptions to limit the scope of the system. Focus on events related to the circulation of books. Ignore the acquisition and disposal of lendable items.

Event Number	Event Description	System Input	Actor Providing Input	System Out Put	Actor Receiving
1	Patron takes a book out	Card and Book Details	Patron, Staff	, Return date and patron information	Patron
2	Paton returns a book.	Book and Id Card	Patron, Staff	Thank you	Staff
3	Paton Pays Fine	Money , Id	Patron, Staff	Receipt	Patron
4	Patron receives a Book	Book Id and Id Card	Patron, Staff	Booking Id, Patrons ID	Patron

Q3.

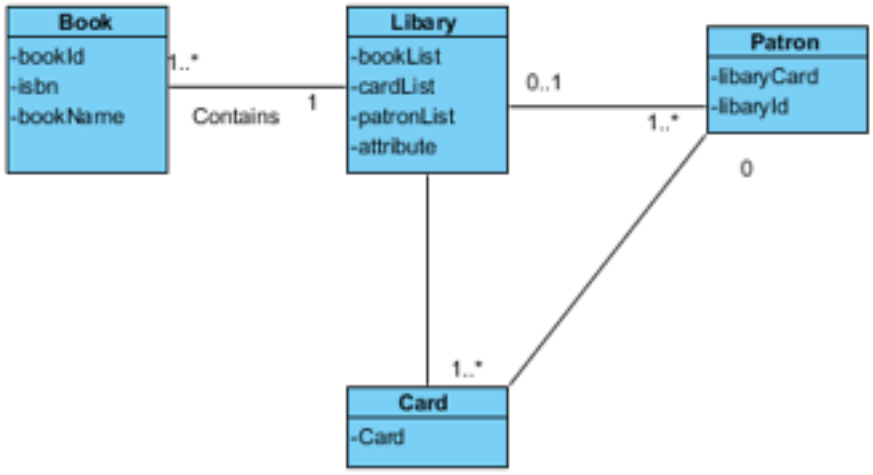


FIGURE 4.10 Example of the format for the flow of events in an expanded use case narrative

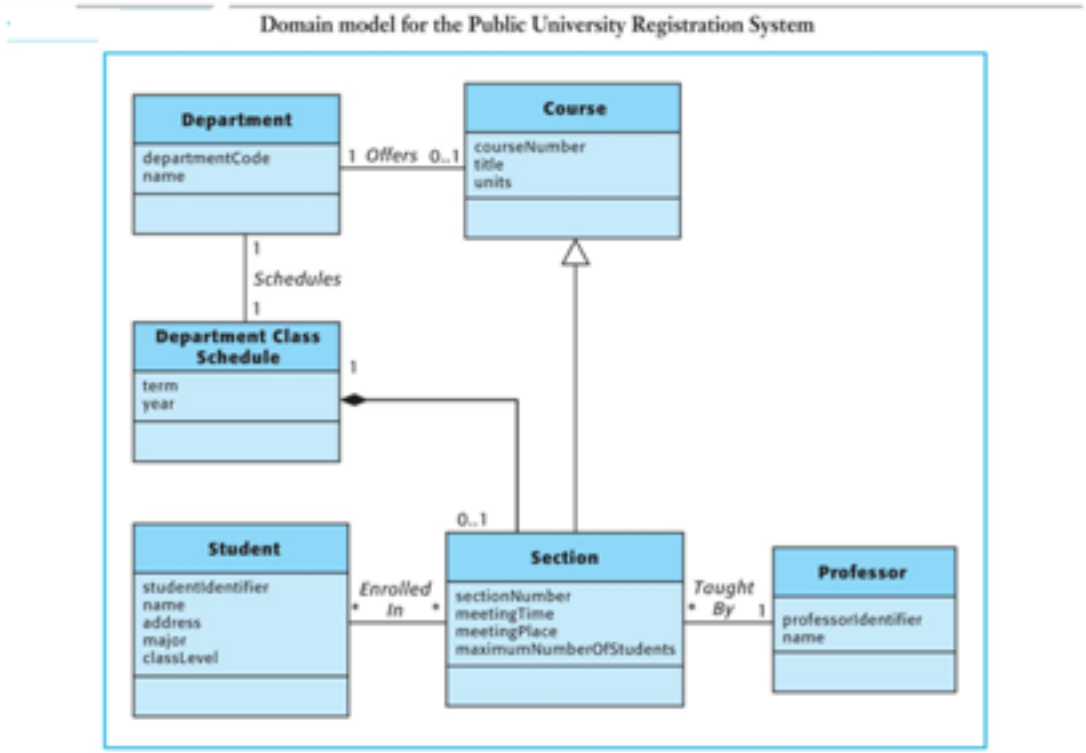
1. The use case starts when a library patron arrives at the checkout counter with a book.
2. The library patron enters a library card number.
3. The system verifies the library patron's status and then displays a message indicating that the status is good.
4. The library patron enters a book's identification number.
5. The system verifies that the book is available and records the transaction. Then it displays the due date.
6. The library patron leaves with the book and the due date.

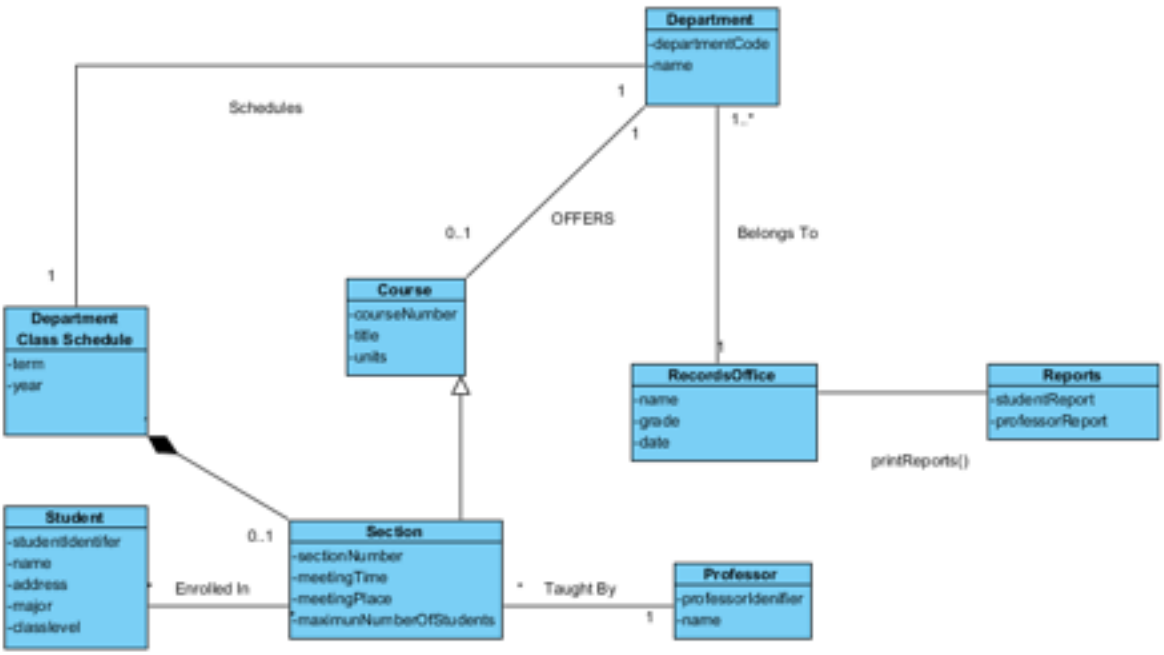
FIGURE 4.11 Example of a two-column format for the flow of events in an expanded use case narrative

ACTOR ACTION	SYSTEM RESPONSE
1. The use case starts when a library patron arrives at the checkout counter with a book.	
2. The library patron enters a library card number.	
	3. The system verifies the library patron's status and then displays a message indicating that the status is good.
4. The library patron enters a book's identification number.	
	5. The system verifies that the book is available and records the transaction. Then it displays the due date.
6. The library patron leaves with the book and the due date.	

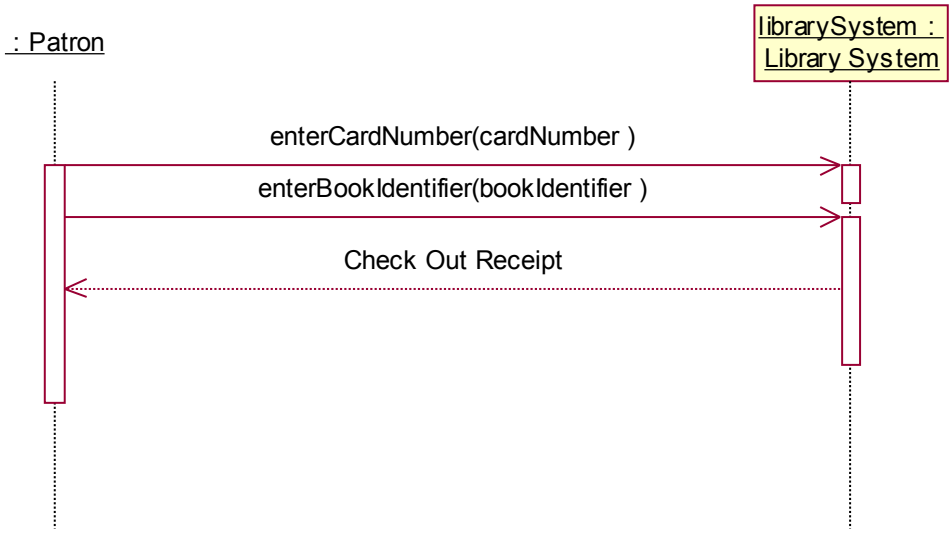
[6]Originally proposed by Rebecca Wirfs-Brock in "Designing Scenarios: Making the Case for a Use Case Framework," *Smalltalk Report* (New York: SIGS Publications, November-December 1993).

Q4 Modify the domain model Figure 5.23. for the Public University Registration System to accommodate the new events identified in lab 2





Q5 Write a system operation contract for each of the operations shown in your system sequence diagram below



Contact

Name: enterCardNumber(cardNumber)

Responsibilities: Accept and validate the library card Number for that person.

Type: System

Exceptions: if the library card is not valid , indicate that it was an error.

Card and Patron is known to the system.

Preconditions: Patron is known to the system.

Library card is known to the system

Postconditions : None.

Output : None

Contact

Name: enterBookIdentifier(bookIdentifier)

Responsibilities: Accept and validate the book and book Identifier are own to system.

Type: System

Exceptions: if the book and book Identifier is not valid, indicate that it was an error.

Book and book Identifier is known to the system.

Preconditions: book and book Identifier is known to the system.

Book and book Identifier is known to the system

Post conditions: None

Output : Display receipt to Patron.