Software Requirements Specification (SRS)

Online Cinema Reservation

Team members:

Deny Čavka

Rania Weiss

Sarajevo, 2022

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Project Proposal

Project Title: Online cinema reservation system for Cinestar	
Start Date: 26.10.2021	**End Date:** 12.1.2022.
Project Manager: Rania Weiss	
Project Sponsor: Cinestar	
Purpose and business need: with our system we would improve traffic of the cinema**,** the world is currently in a pandemic, by using an online system we prevent additional and unnecessary health problems	
Customers/Users: cinephiles who are committed to enjoy the cinema experience, people who have packed schedules and like to plan their activities ahead	
Goals and objectives: improving general customer satisfaction, improving traffic of the cinema, improving the cinema's website	
Business requirements: listing movies as well as premiers much ahead of time so customers have time to book the tickets (booking tickets include picking the seats, picking the time of projection, and choosing from 2D, 3D, etc.), ordering snacks and drinks for the projection, giving customers the option to pay online with debit/credit/visa cards or at the cinema, assuring safety of personal information	
Constraints and special issues: the developers are not experts in web development, therefore they will take an additional few week to develop their skills.	
Risks and obstacles to success: certain customers' knowledge about using online reservation systems is limited, therefore they would not be interested	
<u>Technical Leads:</u> Deny Čavka, Rania Weiss	

Requirements

Functional Requirements

1. **Feature name: Register**

Role(s): Customer, Administrator

Feature description/steps:

1. The user is given a form to fill in name and surname, the user will be provided with two choices whether they are an employee or customer, e-mail, and password (password is minimum 8 characters, combination of letters and numbers, no special symbols)

2. The password will be entered twice for confirmation

3. The user will confirm they're human via captcha.

4. The user will receive a verification e-mail

5. Users who register as employees will also have to enter a code given to them physically at the workplace to verify their account and become administrators

6. The user will open the verification link in the e-mail to finish registration

Dependencies/constraints: if any field is left empty registration must be attempted again, the e-mail must be unique to the system and valid, administrators will automatically

2. **Feature name: Login**

Role(s): Every user that is registered

Feature description/steps:

1. The user will open login menu

2. The user will enter e-mail and password

3. The user will click the login button

Dependencies/constraints: the user must be registered to login, if the user enters a wrong password three times, they will be given the option to reset password via e-mail, if the user isn't registered a message will appear: "Username or password are incorrect".

3. **Feature name: Pick Movie**

Role(s): Customer

Feature description/steps:

1. The user will be provided with the list of movies on the homepage of the cinema website

2. The user can choose a movie to watch which will lead them to the page of the movie

3. The user can click the "reserve seat" button which will lead them to the reservation page

4. The user can see a trailer for the chosen movie on this page.

Dependencies/constraints: The user doesn't have to be registered to view the movies showing

4. **Feature name: Reserve Seat**

Role(s): Customer

Feature description/steps:

1. The user can choose the date and time of the chosen movie projection

2. The user can choose a seat they would like to reserve

3. Once the user has chosen a seat they proceed to the optional “snacks and drinks page”

Dependencies/constraints: The user must be a registered customer to reserve a seat

5. **Feature name: Order Snacks and Drinks**

Role(s): Customer

Feature description/steps:

The user can order snacks and drinks on this page, that will be waiting at the cinema

Dependencies/constraints: the user can proceed to the next page without ordering snacks and drinks

6. **Feature name: Redeem Coupon**

Role(s): Customer

Feature description/steps:

If the user has a physical or digital copy of a coupon for a discount, it can be redeemed on this page by entering or scanning the code from the coupon. When the user pays for three movies, they will receive a coupon for 50% discount on any projection that they can use within 14 days

Dependencies/constraints: the user can proceed to the next page without redeeming a coupon

7. **Feature name: Payment**

Role(s): Customer

Feature description/steps:

1. The user will have to enter credit card information (card number, name and surname of card-holder, MM/YY, CVV)

2. In fine print it will say that cancelation will give a refund for the movie ticket, snacks and drinks, but not the reservation fee

3. Once payment is completed the user will receive an e-mail with a pdf containing QR code and information about their reservation

4. At the bottom of the e-mail, the user will be provided with the “cancel reservation button”

Dependencies/constraints: The user must be a registered customer

8. **Feature name: Cancel Reservation**

Role(s): Customer

Feature description/steps: When clicking on the cancel button in the e-mail, they receive a cancellation e-mail and refund.

Dependencies/constraints: The user must have booked a seat to cancel it

9. **Feature name: Provide Feedback and Movie Review**

Role(s): Customer

Feature description/steps:

The user will be able to give feedback about the system at any time with a button located at the bottom right corner of the page

The user can leave a review after viewing the movie at the movie page

Dependencies/constraints: The user has to have had a ticket scanned corresponding to the reservation including payment in order to leave a review about the system, the user had to have seen the movie to leave a review

10. **Feature name: Receive e-mail about upcoming premieres**

Role(s): Customer

Feature description/steps: The user can see which movies will be premiering in the future, bookmark them, and receive an e-mail to reserve a seat on time

Dependencies/constraints: The user must be a registered customer to receive an e-mail

11. **Feature name: Modify Information in Database**

Role(s): Administrator

Feature description/steps:

1. An administrator can enter data about movie projections (date, time, number of seats available, etc.)

2. An administrator can delete data about movie projections

3. An administrator can update data about movie projections

Dependencies/constraints: the administrator must be authorized to modify the database (depending on the role of the administrator)

12. **Feature name: Send E-Mail with pdf Ticket**

Role(s): Administrator

Feature description/steps:

Administrator will check payment process and send the customer their ticket once payment is approved via e-mail

Dependencies/constraints: the administrator must be authorized to send the e-mail

13. **Feature name: Scan QR of Customer**

Role(s): Cinema Employee

Feature description/steps:

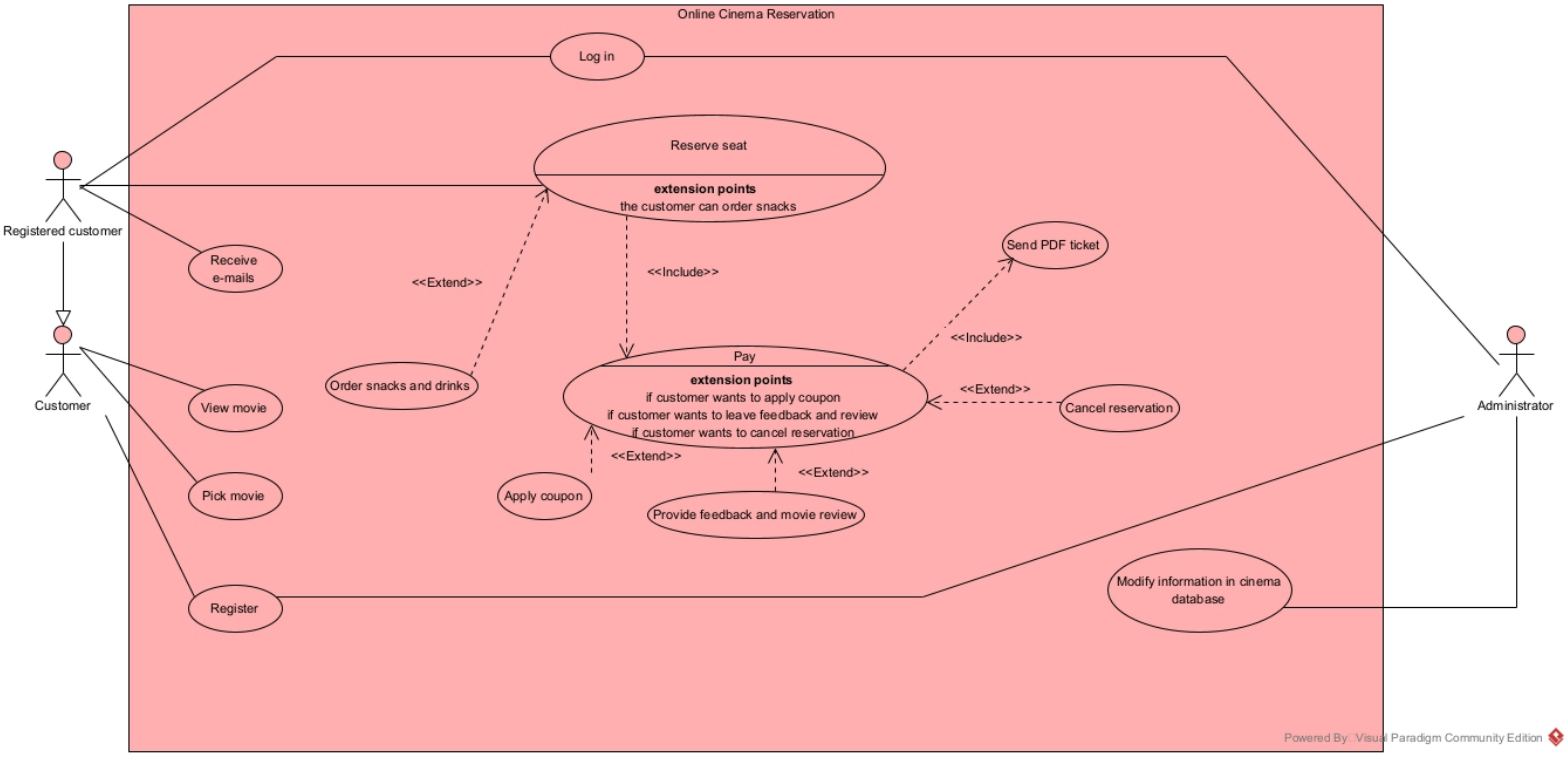
At the theatre the employee will scan the customer's QR code that was sent by an administrator

Dependencies/constraints: all employees are authorized to scan the QR code and check the code's credibility

Nonfunctional Requirements

1. All sections of the reservation segment of the website should load under 5 seconds.
2. A confirmation mail for newly registered users should arrive under 1 minute.
3. The scanned QR code will show all the information regarding the customer's reservation, thus confirming it.
4. The system should be functional in any web browser.
5. The payment verification e-mail must arrive within 2 minutes

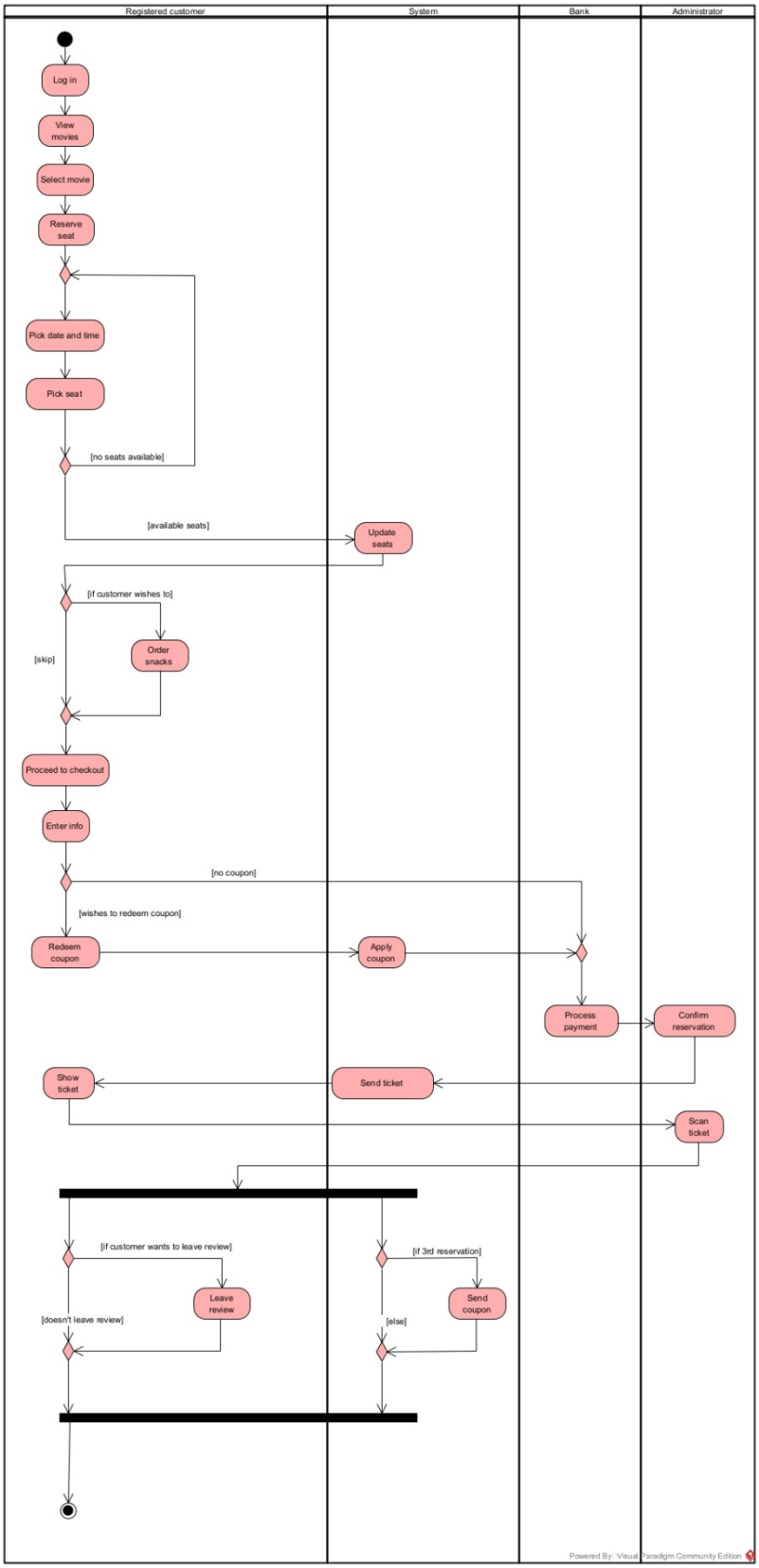
Use Case Diagram



The use case diagram shows how users will interact with the system. It has the requirements listed as use cases.

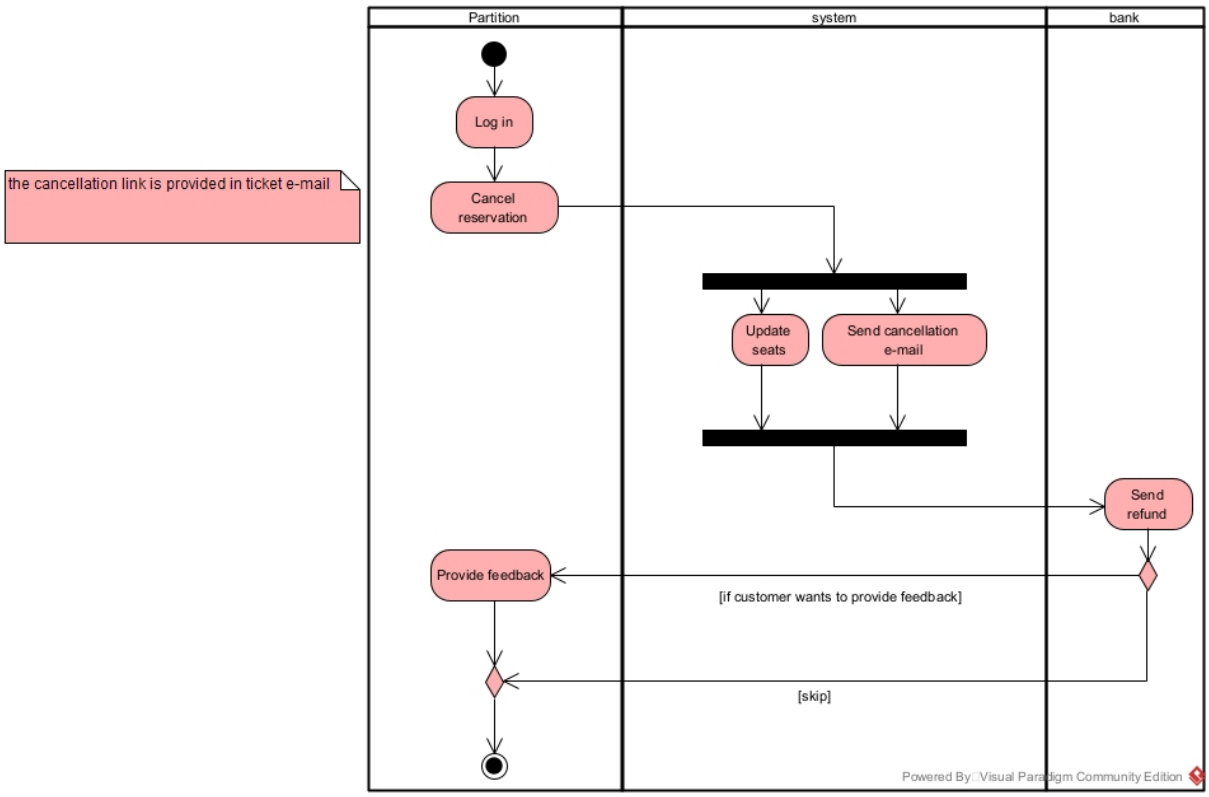
Activity Diagrams

Reservation

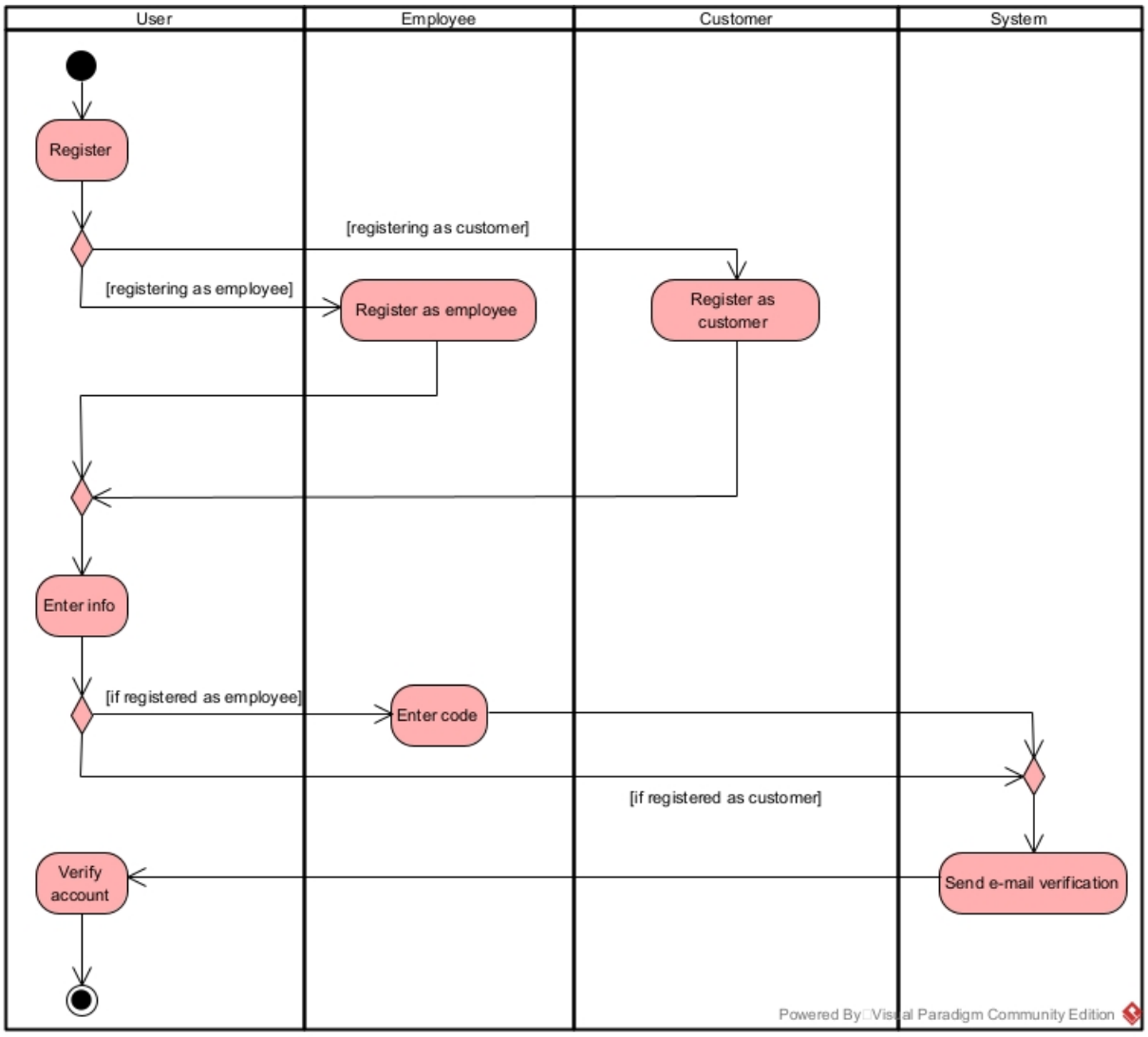


This activity diagram represents the longest procedure in the system, that is all of the options the user has and responsibilities the user does to reserve a seat.

Cancel Reservation



Register


User
Employee
Customer
System
Register
[registering as customer]
[registering as employee]
Register as employee
Register as customer
Enter info
[if registered as employee]
Enter code
[if registered as customer]
Verify account
Send e-mail verification
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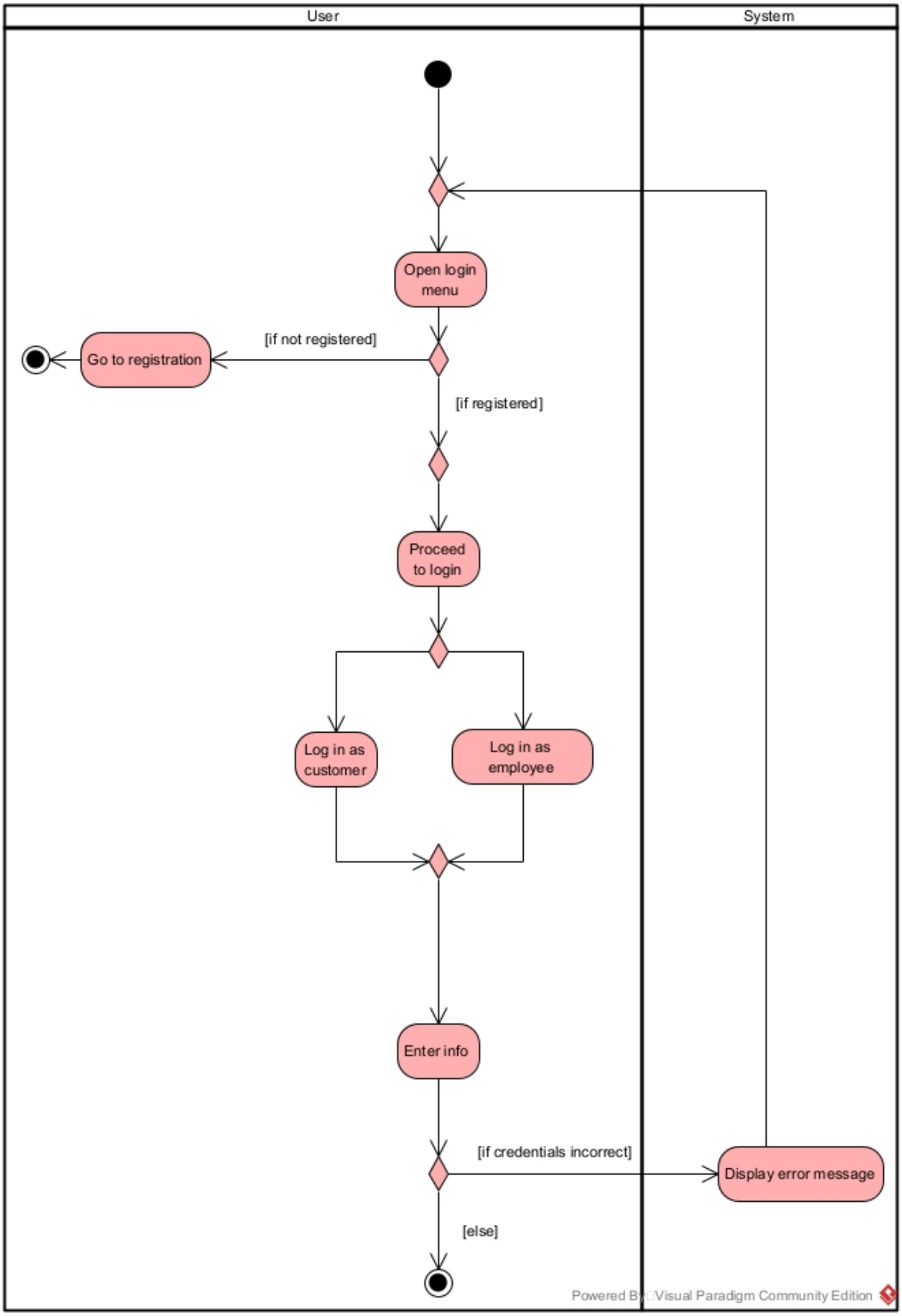
Log In


User
System
Open login menu
[if not registered]
Go to registration
[if registered]
Proceed to login
Log in as customer
Log in as employee
Enter info
[if credentials incorrect]
Display error message
[else]
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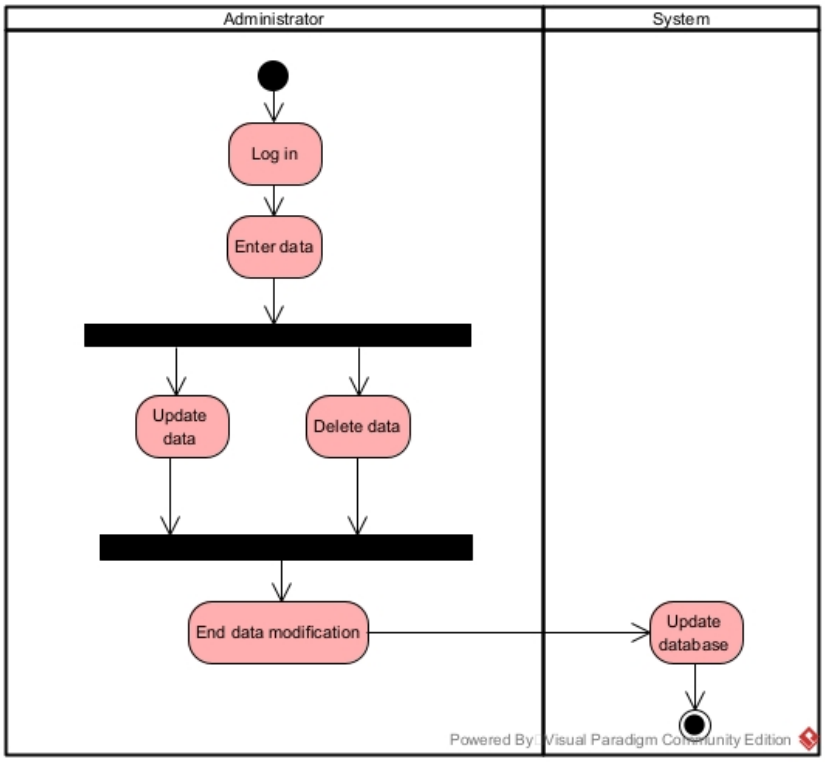
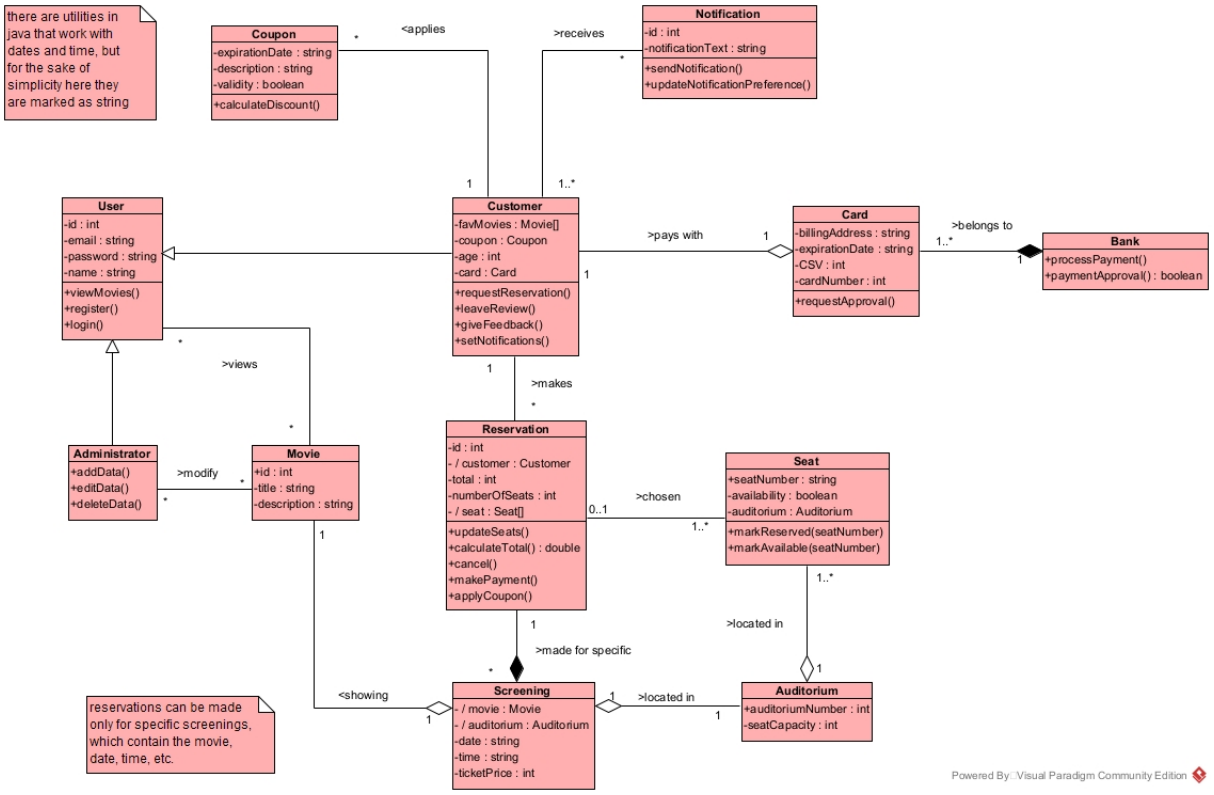
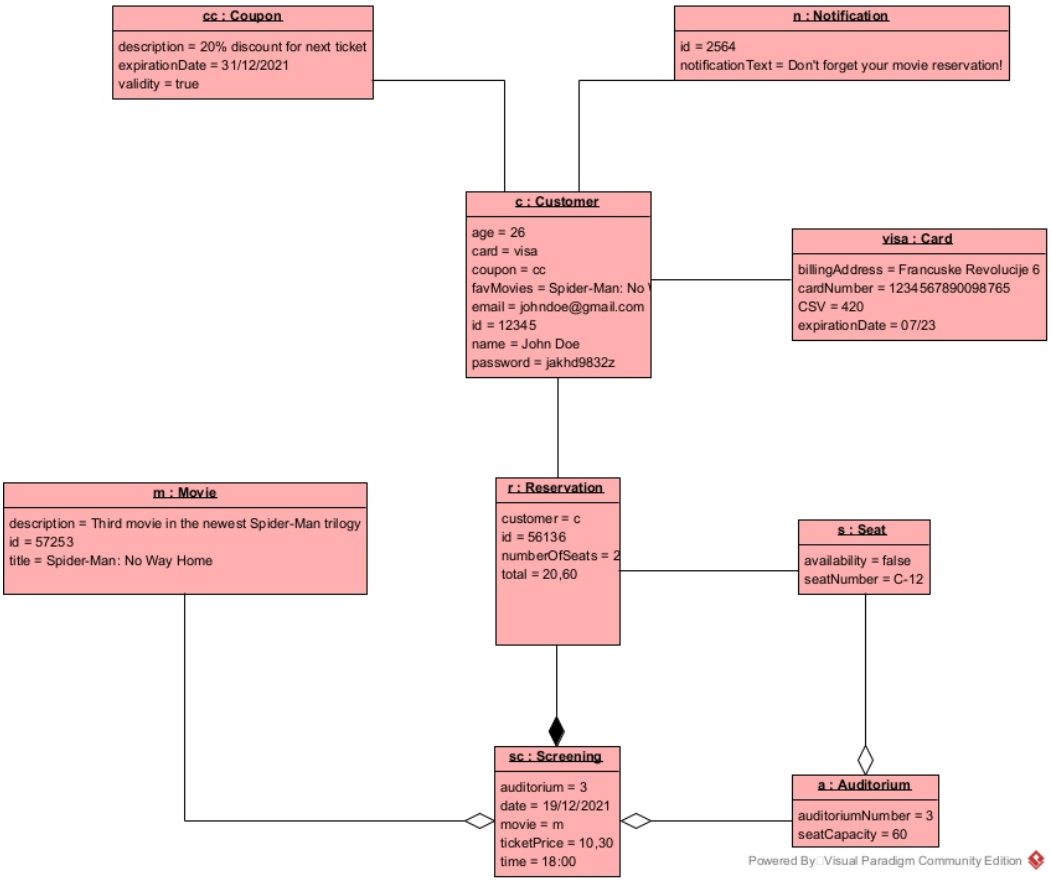
Modify Database



the database is updated only when the admin confirms they have finished modifications

Class Diagram & Object Diagram

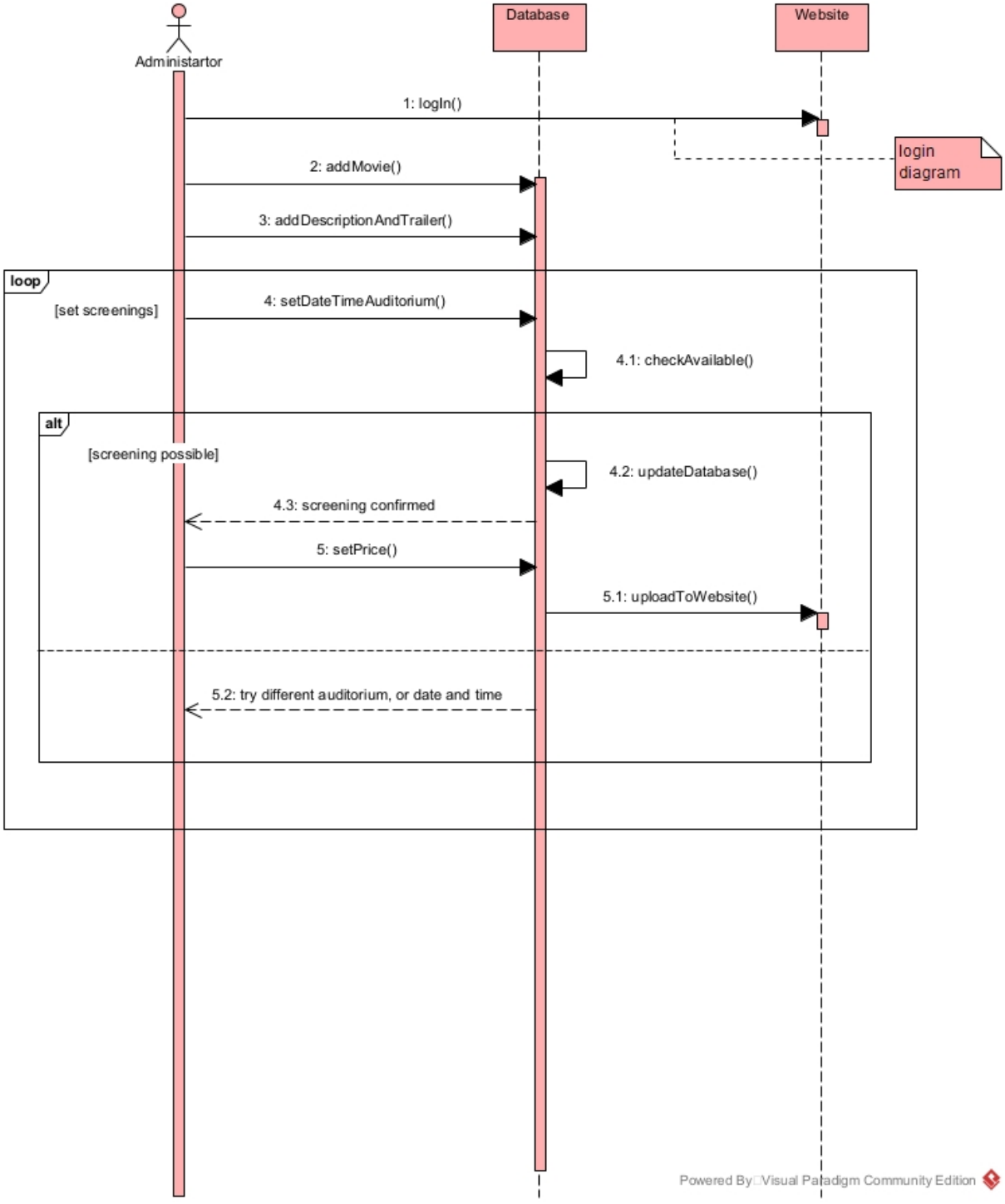




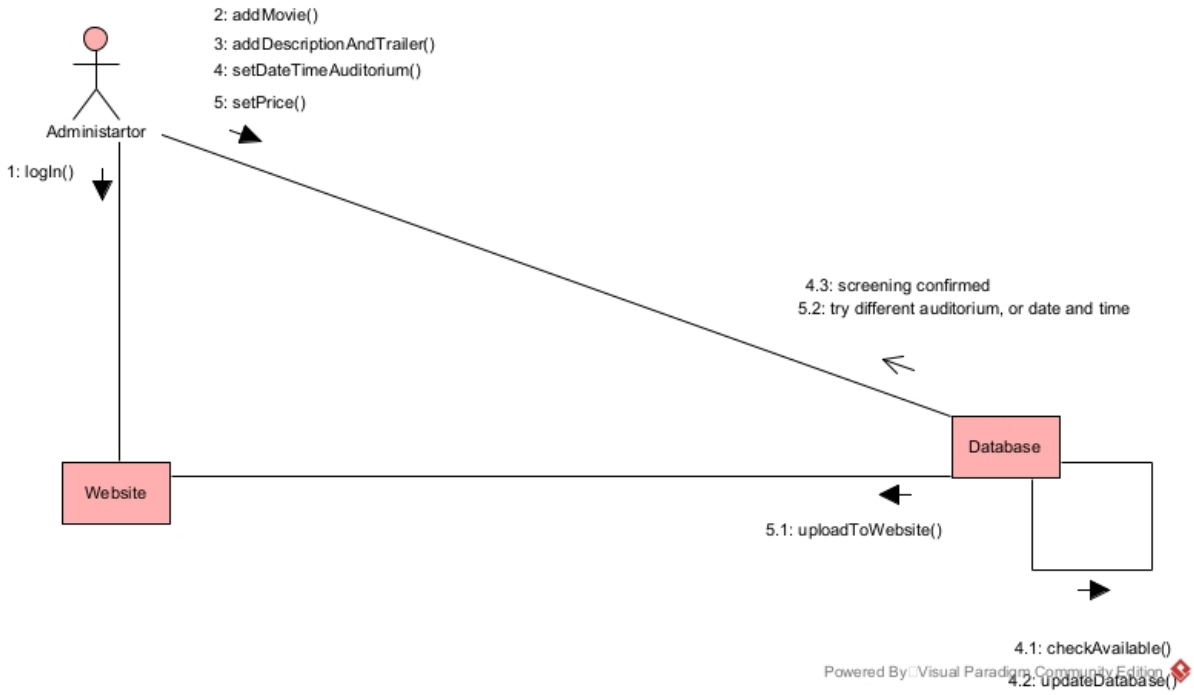
In the class diagram we see the classes needed to build a complete system. On the other hand, the object diagram represents instances of a situation, one where the administrator is not involved, and where the bank is unspecified. Still, classes like Notification and Coupon were implemented in this example.

Sequence Diagrams & Communications Diagrams

Add Movie



At the very beginning this sequence diagram is referring to another sequence diagram, the Log In diagram. It implies that the admin cannot proceed to modify the database unless they are logged in.


2: addMovie()
3: addDescriptionAndTrailer()
4: setDateTimeAuditorium()
5: setPrice()
Administartor
1: logIn()
4.3: screening confirmed
5.2: try different auditorium, or date and time
Database
Website
5.1: uploadToWebsite()
4.1: checkAvailable()
4.2: updateDatabase()
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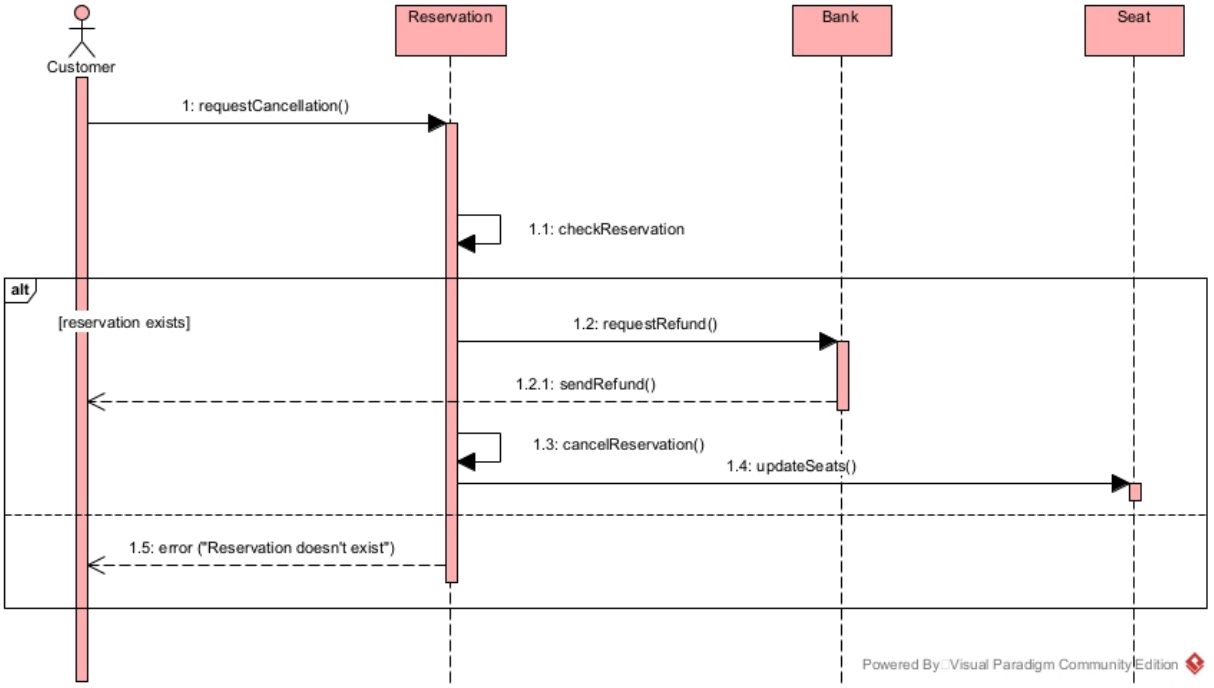
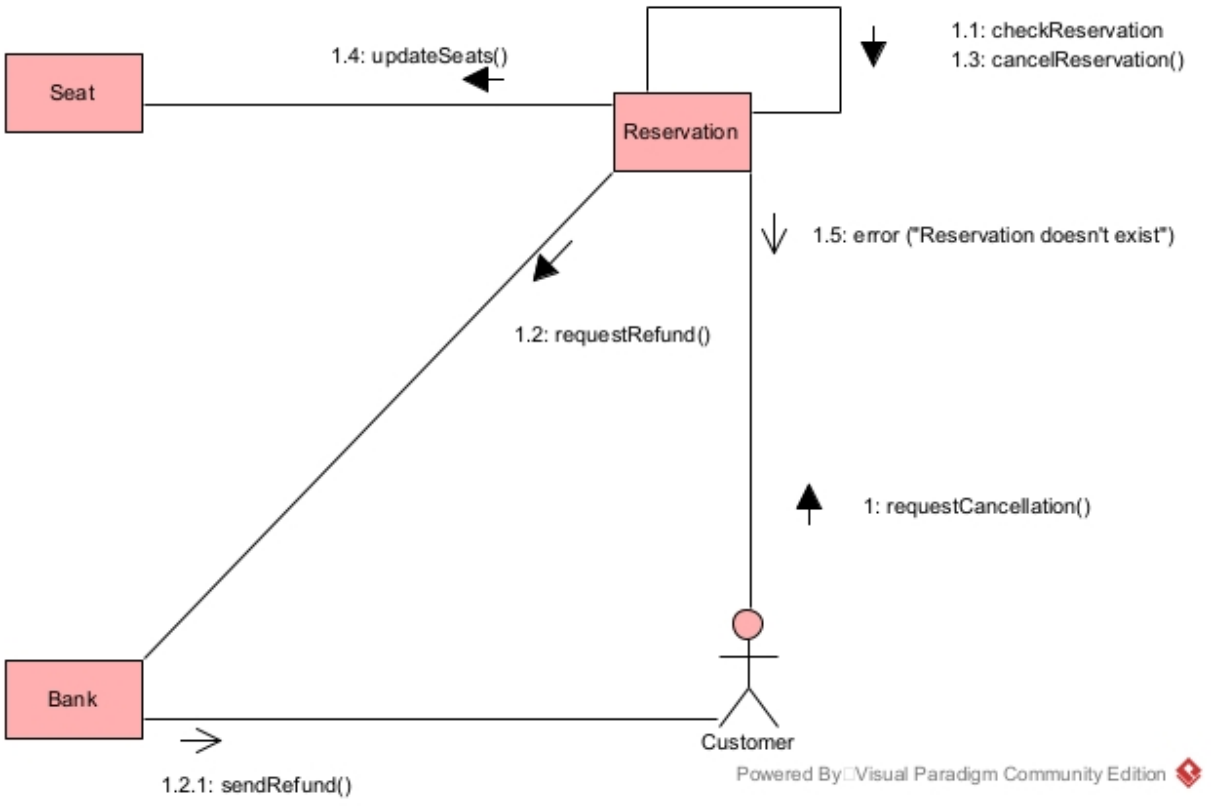
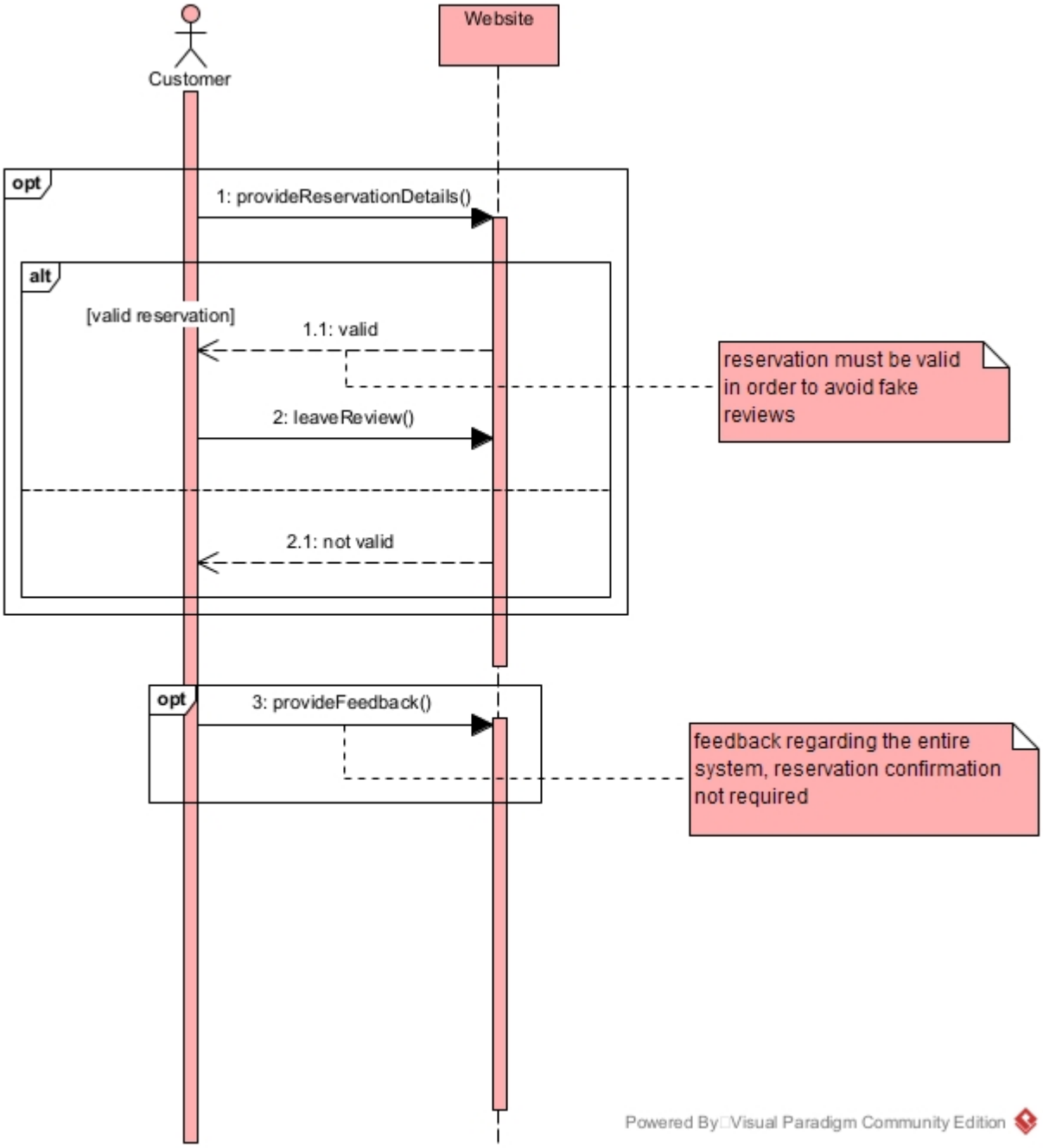
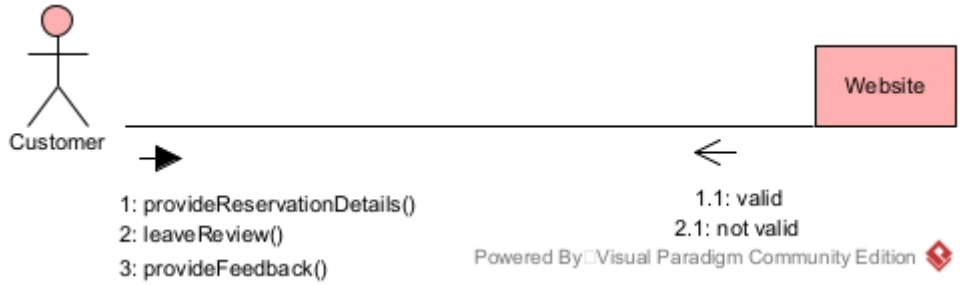
Cancellation





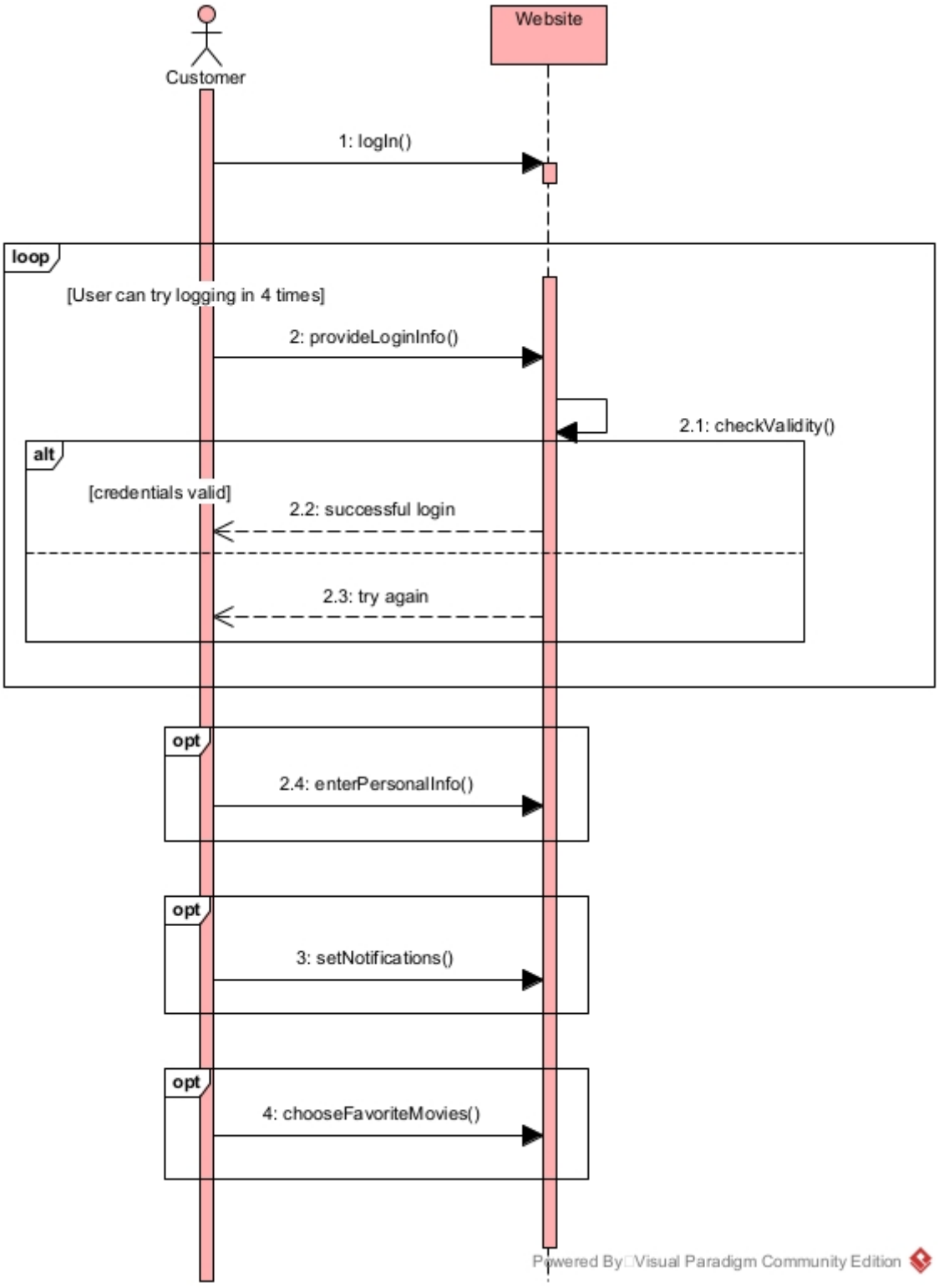
Leave Review/Feedback





In this diagram, every message is optional because the customer does not have to leave a review if they do not want to. In other words, the system would still function and have a purpose if the user were to decide to skip this part.

Log In


Website
Customer
1: logIn()
loop
[User can try logging in 4 times]
2: provideLoginInfo()
2.1: checkValidity()
alt
[credentials valid]
2.2: successful login
2.3: try again
opt
2.4: enterPersonalInfo()
opt
3: setNotifications()
opt
4: chooseFavoriteMovies()
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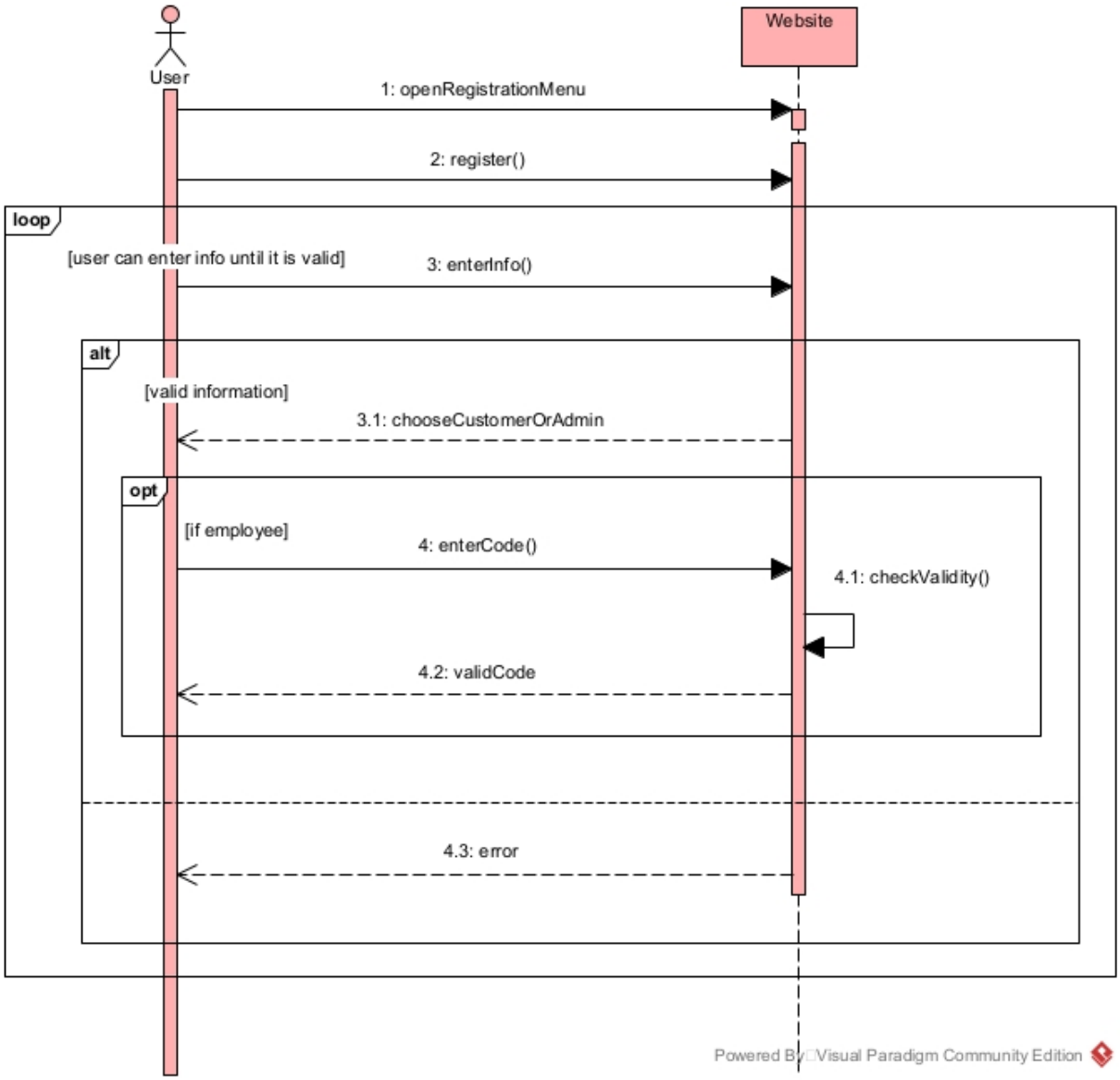
The user is given a few options to personalize their profile once they are logged in.

Register


User
Website
1: openRegistrationMenu
2: register()
loop
[user can enter info until it is valid]
3: enterInfo()
alt
[valid information]
3.1: chooseCustomerOrAdmin
opt
[if employee]
4: enterCode()
4.1: checkValidity()
4.2: validCode
4.3: error
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4.1: checkValidity()
Website
User
3.1: chooseCustomerOrAdmin
4.2: validCode
4.3: error
1: openRegistrationMenu
2: register()
3: enterInfo()
4: enterCode()
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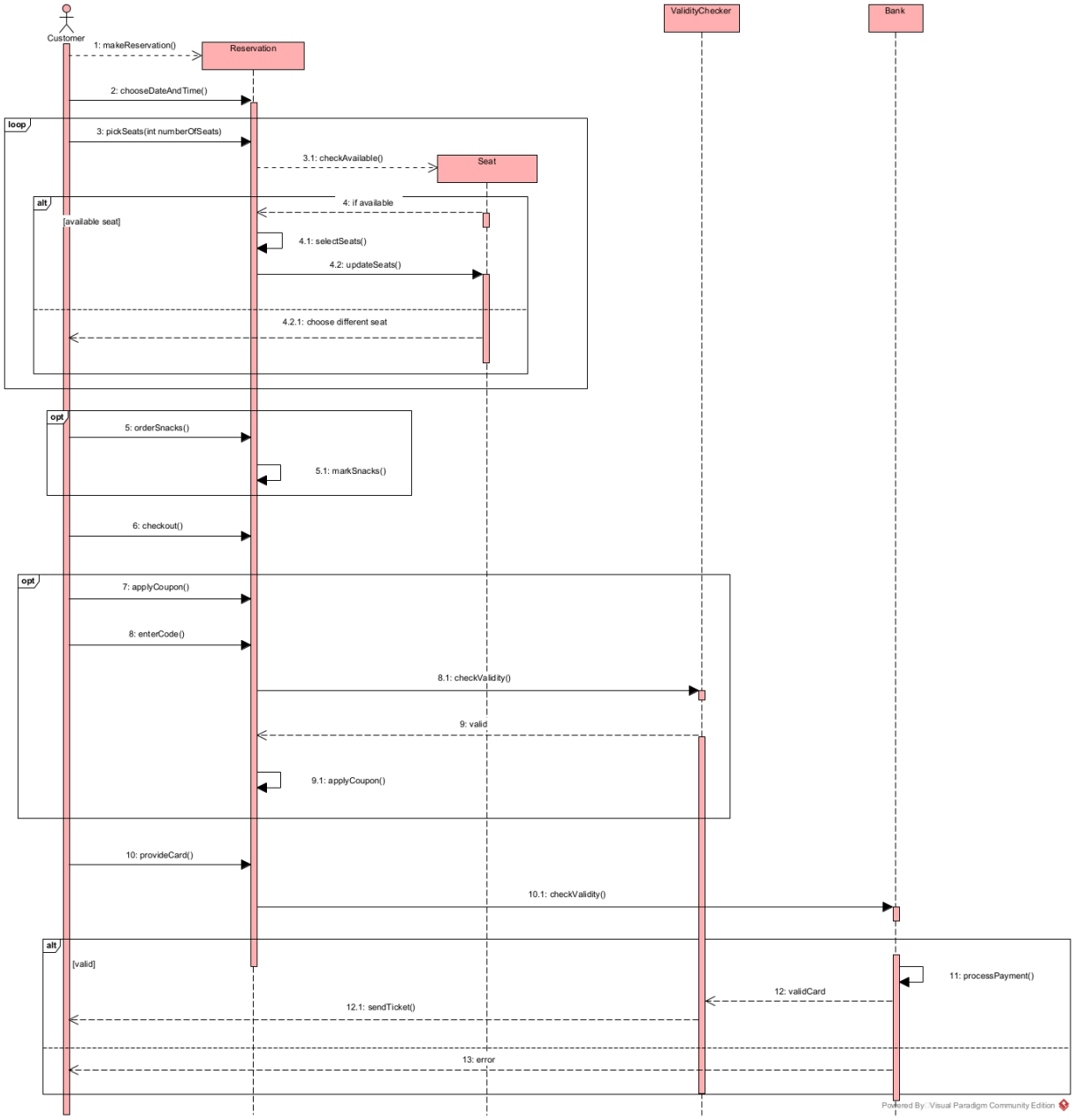
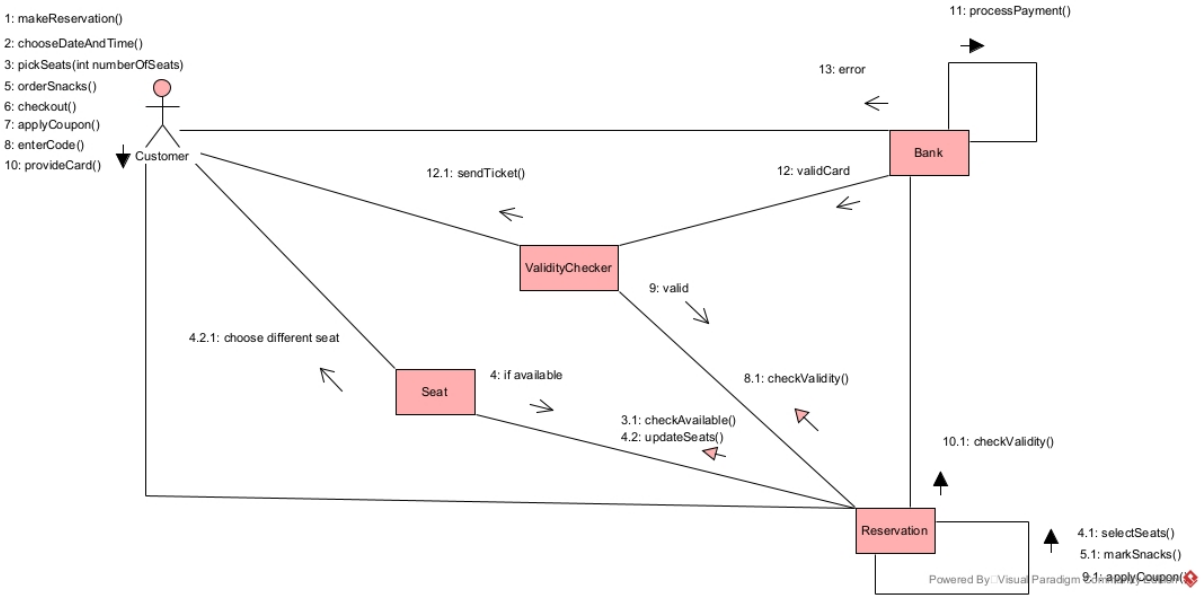
Reservation




1: makeReservation()
2: chooseDateAndTime()
3: pickSeats(int numberOfSeats)
5: orderSnacks()
6: checkout()
7: applyCoupon()
8: enterCode()
10: provideCard()
Customer
11: processPayment()
13: error
Bank
12.1: sendTicket()
12: validCard
ValidityChecker
9: valid
4.2.1: choose different seat
Seat
4: if available
8.1: checkValidity()
3.1: checkAvailable()
4.2: updateSeats()
10.1: checkValidity()
Reservation
4.1: selectSeats()
5.1: markSnacks()
9.1: applyCoupon()
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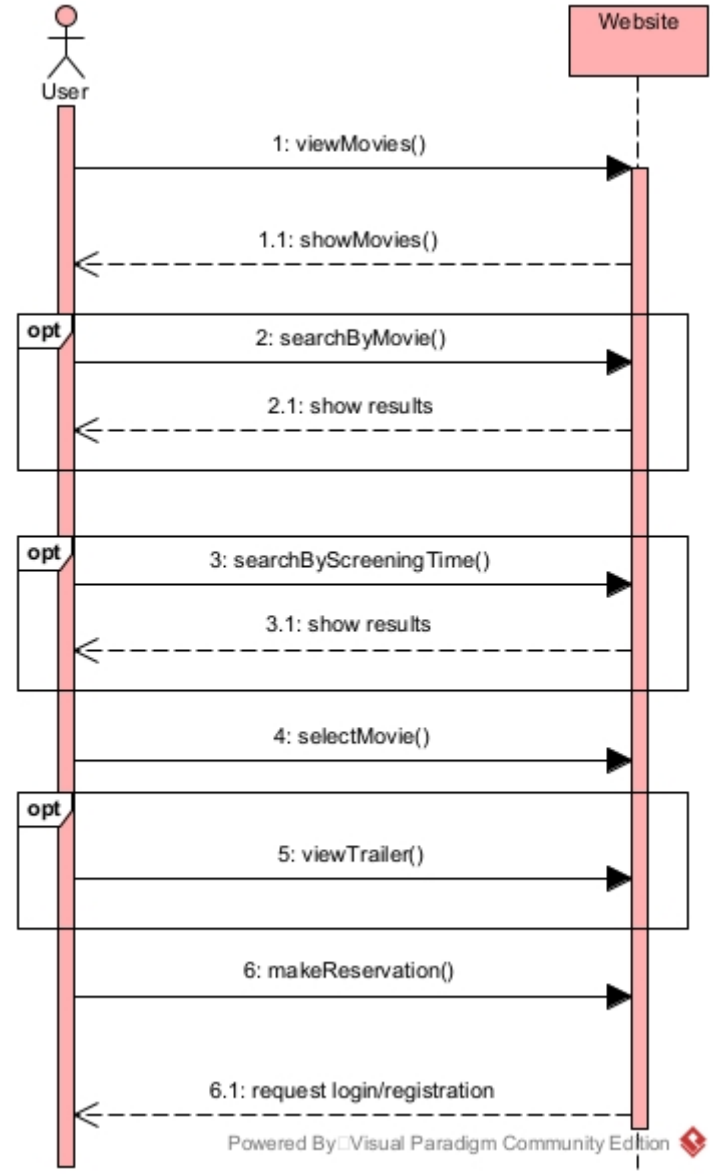
View Movies


User
Website
1: viewMovies()
1.1: showMovies()
opt
2: searchByMovie()
2.1: show results
opt
3: searchByScreeningTime()
3.1: show results
4: selectMovie()
opt
5: viewTrailer()
6: makeReservation()
6.1: request login/registration
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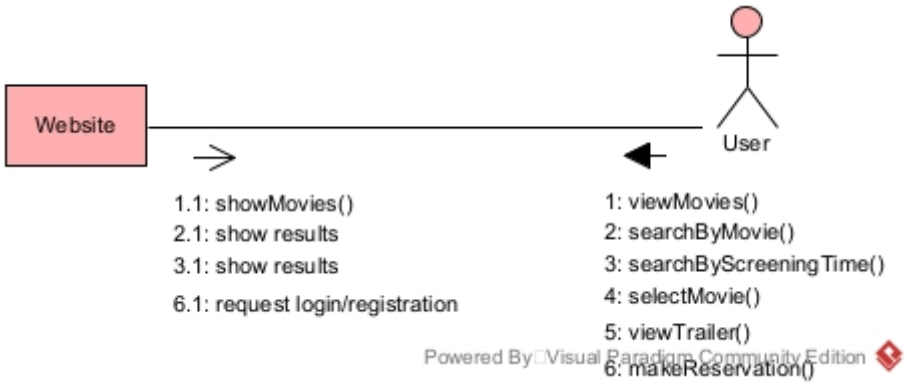
Website
User
1.1: showMovies()
2.1: show results
3.1: show results
6.1: request login/registration
1: viewMovies()
2: searchByMovie()
3: searchByScreeningTime()
4: selectMovie()
5: viewTrailer()
6: makeReservation()
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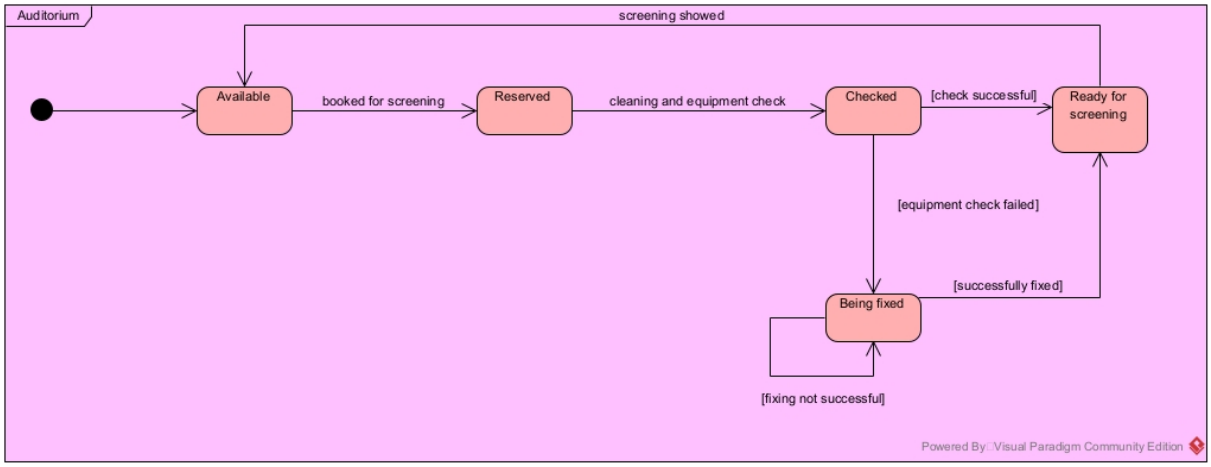
This diagram represents the first interaction a user can perform. By the end of it, it takes the user to either the interaction presented in the Log In diagram, or Register diagram, proceeding afterwards to the reservation depicted in the Reservation diagram.

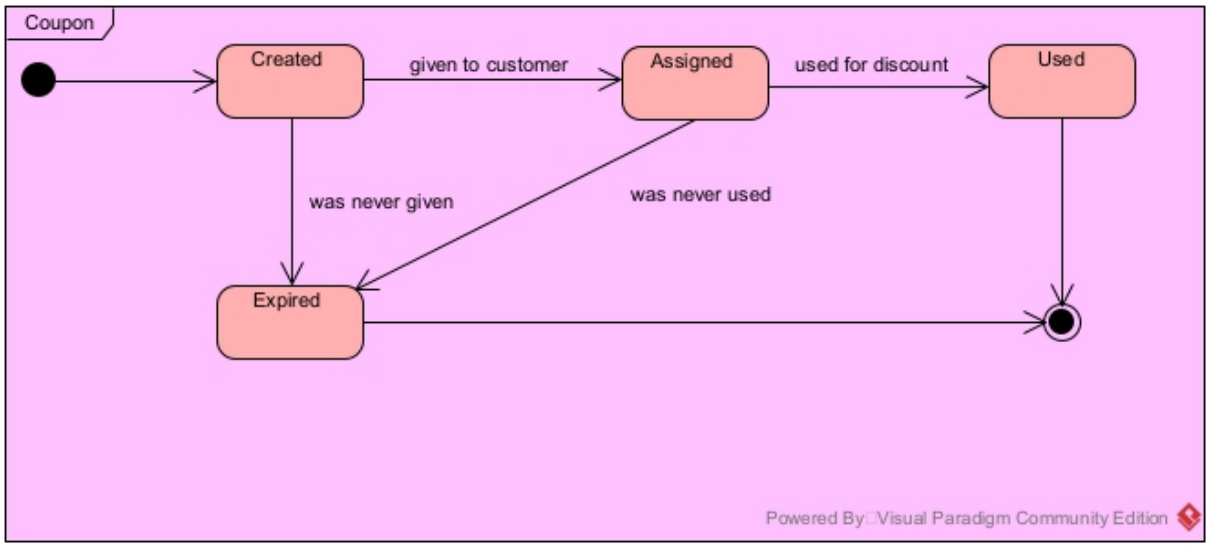
Behavioral State Machines

Auditorium

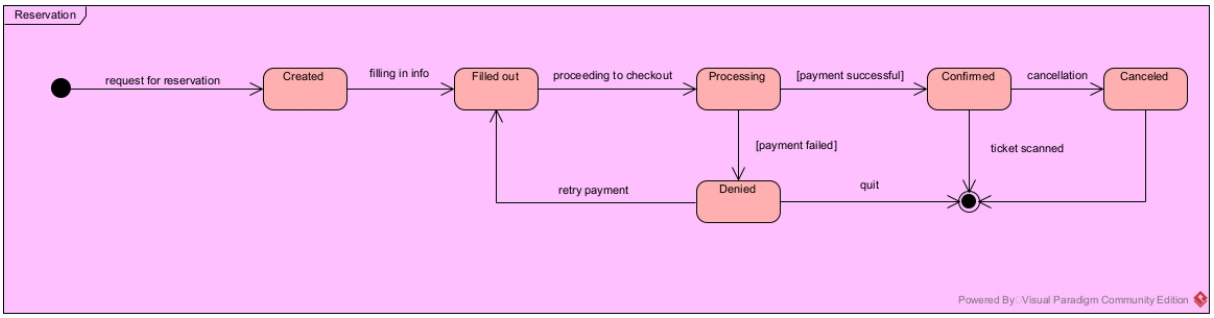


The Auditorium behavioral state machine does not have a final state node because the auditorium always exists, it is always used on different occasions.

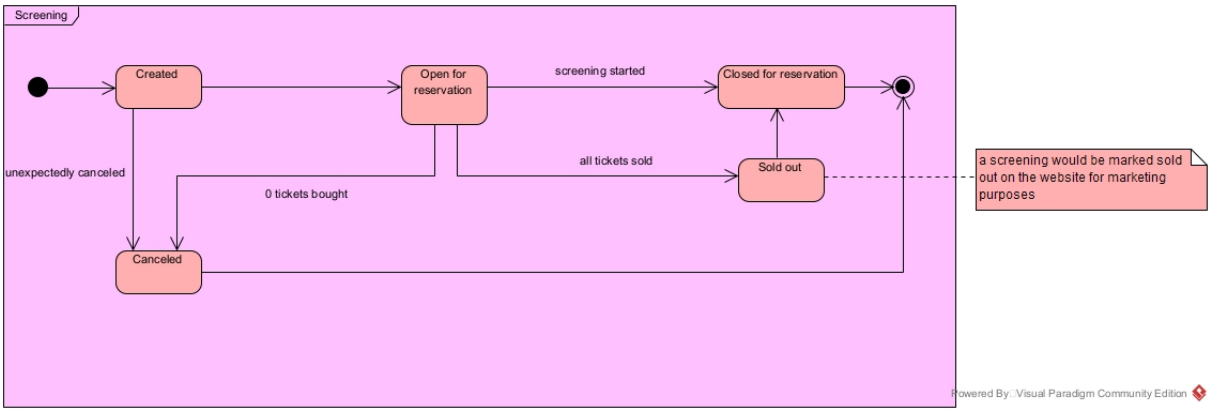
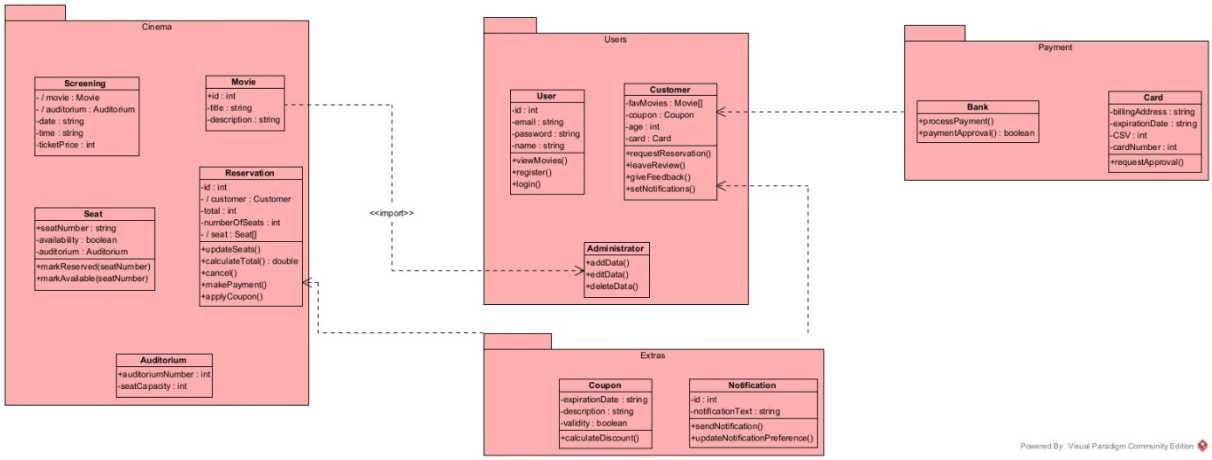
Coupon



Reservation



Screening



Package Diagram