Problem 1: Design a course registration platform

Objects and behaviors:

Internet Service:

Data: URL
Behaviors: navigateToPortal

Student Portal:

Data:
Behaviors: navigateToCourseRegistration

Student:

Data: Student Id, password
Behaviors: Login

Course Registration

Data: Terms,Program Name, Course Name, Course ID, College Name

Behaviors: searchCourses, viewRegisteredCourses,

Course Catalog

Data: List of Terms, Course Name, Course ID,
Behaviors: selectTerm, viewCourseDetails, registerCourses

Course

Data: Course Name, Course ID, Faculty, Class Time, Classroom No
Behaviours

Registered Courses

Data: Term
Behaviors: viewCourseSchedule, dropCourse

Sequence of invoking behaviors on objects

Student Priyanka

if the Internet. IsAvailable
        navigateToPortal -> URL: Home page displayed
        Priyanka.login->Student Id,Password: Login Succesful
        Priyanka. navigateToCourseRegistration: Course Registration section

If the Term. IsAvailable
    Priyanka.selectTerm->List of Terms: Registration Options

If Priyanka.searchCourses IsTrue

    Priyanka.viewCourseDetails->Program name,Course name,Course Id,College Name:Course Catalog

If Priyanka.registerCourses IsTrue
    Priyanka.addCourse->Course ID:Registration Succesful

 Priyanka.viewRegisteredCourses->Term: List of Registered Courses
Priyanka. viewCourseSchedule->Term: Schedule of Courses

2. Order food in a food delivery app. (like Uber Eats)

Objects and behaviors:

Internet Service:

Data: Name,phoneNumber
Behaviors: LogintoApp

 App:

Data: List of Restaurants, NearbyRestaurants, List of Cuisines,Location
Behaviors: Browse

User:

Data: Name, Phone, User ID, userLocation, Address
Behaviors: selectRestaurants, Reviews, Cancel, Call Restaurant,placeOrder

Restaurant:

Data: Restaurant name, Menu, Address
Behaviors: BrowseMenu

Order:

Data: Order No, amount, User ID, Restaurant ID, OrderTracker
Behaviour: viewOrder, modifyOrder, cancelOrder

OrderTracker:

Data: PrepStartTime, PrepEndTime, Appx delivery time
Behavior:TrackOrder

Payment:

Data: Name, BankName,Card
Behavior: proceedTopayment, authorizedTransaction

Delivery Person:

Data: Name, Phone, Order Id
Behavior: Boolean showAvailable(),assignorder(),searchAvailablePerson(),
contactUser(),deliverFood()

Sequence of invoking behaviors on objects

User Mohit
Restaurant chipotle
App Grubhub

if the Internet. isAvailable
Mohit. LogintoApp->name:connected

If locationIsOn

    Mohit.Browse->NearbyRestaurants: Restaurant selected
Else
    Mohit. Browse-> List of Restaurants: Restaurant selected
    Mohit.BrowseMenu->Menu: Food selected
    Mohit.placeOrder->Food selected:Order Placed
    Mohit. proceedTopayment->Card details: Transaction Successful

Loop

If DeliveryPerson.showAvailable() is True
    DeliveryPerson.assignorder()->OrderID: order can be tracked
    Mohit.TrackOrder()->OrderID:PrepStartTime,PrepEndTime,Appx delivery
    Time
    DeliveryPerson. deliverFood()->address: food delivered.

Else
    DeliveryPerson. searchAvailablePerson()

End

3. Design a platform for buying tickets of local events.

Objects and behaviors:

Internet Service:

Data: Name,phoneNumber
Behaviors: connectToWebsite

Website:

Data: URL, ListOfEvents
Behaviors:

User:

Data: user ID, Name
Behavior: Search, BookEvent, Cancel Event

Event Description:

Data: Event Location, Category, Ticket Price, Meals
Behavior:

Payment:

Data: Name, BankName, Card
Behavior: makePayment

Sequence of invoking behaviors on objects

Website EventBrite

If the Internet. isAvailable
EventBrite.login -> userName, password : connected

If Website.is Available
Mohit.search->List of events: event of interest found
Mohit.bookevent->eventid: event booked

Mohit. makePayment->bank: payment made successfully.

4. Buy a Computer from Amazon

Objects and behaviors:

Internet Service:

Data: URL
Behaviors: connectToAmazon

User:

Data: UserId,Password
Behaviors:Login, search, Review, cancel, addToCart

Amazon site:

Data: Categories, Sub-Categories, Product
Behaviors:

Product:

Data: Product Name, Product price, Specifications
Behaviors:

Cart:

Data: item
Behaviour: Checkout, proceedTopayment

Order:

Data: Order Id, Payment, shipping address, billing address, delivery date
Behavior: view order, cancel order, return

Payment:

Data: Name, BankName, Card
Behavior: makePayment

Help Service:

Data: servicePhoneNumber
Behaviors: chatOnLine, Question, Answer

Sequence of invoking behaviors on objects

User Mohit

if the Internet. isAvailable
Amazon.login -> userName, password : connected

if theWebsite. isAvailable
        Mohit.search->Categories: Electronics found
        Mohit.search-> Sub-categories: Computer found
        Mohit.search->product: Dell 5210 found

If product found
        Mohit.addToCart->product: item added successfully

Else
        Product not found

If cart.has item
        Mohit.checkout->item:proceedTopayment
        Mohit.makePayment->bank: order placed succesfully

5. Design an app for booking hotels.

Internet Service:

Data: Name,phoneNumber
Behaviors: LogintoApp

App:

Data: List of Hotels, Places
Behaviors: search

User:

Data: Name, UserID
Behavior: selectHotel, reviews

Hotel:

Data: Rooms, Price, No of Beds, Parking option
Behavior:

Booking:

Data: Booking Id, Check- In date, Check-out date, payment
Behavior: confirm booking, cancel Booking

Payment:

Data: Name, BankName, Card
Behavior: proceedTopayment

Sequence of invoking behaviors on objects

App Trivago

if the Internet. isAvailable
Mohit.loginToApp -> userName, pin: connected

Mohit.Search->Place: Place where hotel is located selected.
Mohit.Search->List of Hotels: choice of Hotel found

If Hotel.is found
Mohit.selectHotel->Hotel,Booking: Hotel is available and selected.

Mohit.ProceedToPayment->payment:payment made successfully.