

INFO 5100

Assignment1

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Problem1: Order a hotel online before a trip.

Problem2: Design an app for calling taxis

Problem3: Design a job searching and posting platform

Problem4: Order food in a restaurant

Problem5: Design a course registration platform

Problem1: Program to order a hotel online before a trip

Identify Objects and Behaviors

Thing (Obejcts)/ Entity:

Information (Data)/(State):

Services (Behaviors)/Actions

Things:

Internet

Data: Expedia, Ctrip, website1, website2 : group of Websites(collection of websites)

Behavior: searchForHotelOrderWebsites

Comsumer

Data: Name, Address, phoneNumber, PersonalInformation

Behaviors: search, order, reviews, compare, refund, cancel

HotelOrderWebsite

Data: URL, Product[] products, BankAccount

Behaviors: search, sort, display, compare, planceTheOrder, cancelTheOrder, refundTheOrder

Hotel

Data: currentPrice, location, promotionPrice, score, brand

CreditCard

Data: Number, name, company, type, expiry, securityCode

Behavior: pay

CreditCardCompany

Behavior: authorizeTransaction

Sequence of invoking behaviors and Objects:

OrderHotelOnInternet:

Consumer anna,
Internet internet.
HotelOrderWebsite expedia
Hotel abcHotel
CreditCard card
CreditCardCompany visa
OrderingConfirmation response

if Internet.isAvailable

anna.searchInternet -> internet, question: Collection of
HotelOrderWebsite: website
//anna.findDesirableWebsiteInFirstPage -> Collection of Website: website
pageNumber = 1;
Loop
If anna.findNoPages
Break
End
anna.findDesirablewebsiteInPage -> internet, question, pageNumber:

website

expedia = website;
if expedia is not empty
break
else
pageNumber = pageNumber + 1
end

end

expedia = website

if expedia is not empty or expedia!=null

expedia.searchForHotel -> priceRange, location, brand, score,review: Collection
of Hotel

abcHotel = Hotel

anna.orderHotal -> abcHotel, creditCard, address, expedia:

```
orderConfirmation
    response = orderConfirmation
else
    anna.cantOrderHotel
else
    anna.browseInternetAfterAWhileBack
```

Problem2: Design an app for calling taxis

Identify Objects and Behaviors:

Thing (Object)/Entity:

Information (Data)/(State):

Services (Behaviors)/ Actions

Things:

Consumer (who order a taxi):

Data: Name, Address, Phone, PickUpLocation, Destination

Behaviors: order, reviews, cancel, report

TaxiApp(uber):

Data: map, setting, driverInformation, consumerInformation

Behavior: OrderTaxiForConsumer, OfferOrderToDriver

Driver(who drive a taxi):

Data: Name, score, reviews, currentLocation, LicensePlateNumber

Behavior: pickup, cancel, navigate

PayMethod:

Data: CreditCard, Paypal, Alipay

PaymentCompany:

Behavior: authorizeTransaction

Sequence of invoking behaviors on Objects:

OrderATaxiFromApp:

Consumer anna

App uber

Driver peter

PaymentMethod paypal

OrderConfirmation response

If app.isAvaliable

Anna.orderInApp -> app, question: Collection of Apps

// ann.findDesirableDriverInUber -> app uber

appUber =1;

Loop

If anna.findNoDriver

Break

End

Anna.findDesirableDriver -> app, questions, driverinformation:

Driver

Peter = driver;

If driver isAvaliable

Break

Else

Driver = driver.next

End

End

Anna.ordertaxi -> driverpeter, paypal, pickuplocation, uber

OrderConfirmation

Resonse = orderConfirmation

Else

Anna.cantOrderTaxi

Else

Anna.searchInAppAWhileBack

Problem3: Design a job searching and posting platform

Identify Objects and Behaviors:

Thing (Object)/ Entity:

Information (Data)/(State):

Services (Behaviors)/ Actions

Things:

Candidate :

Data: Name, Phone, CurrentJobTitle, ExpectedJob, ExpectedSalary

Behaviors: post, search, mockInterview, saved

JobPlatform:

Data: Collection of Employer, Collection of JobHunters

Behaviors: searchJobForJobHunters, postJobForEmployer

Employer:

Data: CompanyName, JobName, OfferSalary, Scale

Behaviors: post, receive, sendInformation, search

Sequence of invoking behaviors on Objects:

SearchJobOnJobPlatform:

Candidate anna

JobPlatform FindJobs

Employer amazon

If JobPlatform.isAvailable

Anna.searchInPlatform -> Platform, question: collection of employer

Anna.findDesirableJobsInPlatform -> collection of job

JobNumber = 1;

Loop

If anna.findNojobs

Break

End

Anna.findDesirableJob -> JobPlatform, question, jobNumber:

JobPlatformForCandidate

Data analyst = jobtitle:

If data analyst is available

Break

Else

jobNumber = jobNumber+1

end

EmpolyerSearchCandidateOnJobPlatform

Employer amaon

JobPlatform FindJobs

Candidate anna

If anna.isAvailable

Amazon.searchInPlatfor -> platform, question: collection of candiates

amazon.findDesirableCandidatesInPlatform -> collection of candidates

CandidateNumber = 1;

Loop

If amazon.findCandidates

Break

End

Amazon.findDesirableCandidates -> JobPlatform, question,

CandidateNumber:

JobPlatformForEmployer

anna =candidate:

If candidate is available

Break

Else

candidateNumber = candidateNumber+1

end

Problem4: Order food in a restaurant

Identify Objects and Behaviors:

Thing (Object) / Entity:

Information (Data)/(State):

Services (Behaviors)/(Action)

Things:

Customers:

Data: Name, orderList, TableNumber

Behaviors: order, pay, report

Restaurant waiter:

Data: Name, address, Phone,tips

Behaviors: PlaceOrder

Restaurant:

Data: Name, Address, Phone, color,

Behaviors: price, hold

Menu:

Data: food, price

Food:

Data: price, name

Behaviors: beingOrdered

CreditCard:

Data: Number, name, company, expiry, securitycode

Behavior:

CreditCard Company:

Behavior: authorizeTransaction

Sequence of invoking behaviors on Objects:

OrderAFoodInResturant:

Custmer anna
Restaurant restaurant
Waiter peter
Menue menue
CredictCard card
CredictCard Company visa
OrderConfirmations response

If restaurant.isAvailable

Anna.findAlnrestaurant -> restaurant, question: collection of restaurant

Anna.findDesirableFoodInFirstPageMenue -> collection of restaurant

MenuePage = 1;

Loop

If anna.findNoPages

Break

End

Anna.finddesirableFoodInApage -> food, MenuePage:

Menue

A = menue;

If menue is not empty

Break

Else

MenueNumber = MenueNumber +1

End

OrderConfirmation

Response = orderConfirmation

Else

Anna.cantOrderFood

Else

Anna.browseMenueAfterAWhileBack

Problem5: Design a course registration platform

Identify Objects and Behaviors:

Thing (Object)/ Entity:

Information (Data)/(State):

Services (Behaviors)/ Actions

Things:

Students :

Data: Name, Phone, Grade,

Behaviors: search, register, drop

CourseRegistrationPlatform:

Data: Collection of Courses

Behaviors: searchCourseForStudents, postCoursesForSchool

Professor:

Data: CourseName, ProfessorName, CourseTime

Behaviors: post

Sequence of invoking behaviors on Objects:

SearchCourseOnCourseRegistrationPlatform:

Student anna

CourseRegistrationPlatform FindCourse

Professor Adam

If CourseRegistrationPlatform.isAvailable

Anna.findDesirableJobsInPlatform -> collection of course

CourseNumber = 1;

Loop

If anna.findNocourses

Break

End

Anna.findDesirablecourse-> CoursePlatform, question, courseNumber:

ProfessorPostCourseOn CourseRegistrationPlatform

Professor adam

JobPlatform FindJobs

Student anna

If adam.isAvailable

adam.postCoursesInPlatform -> collection of courses

CourseNumber = 1;

Loop

If Adam.postCourses

Break

End

CourseRegistrationPlatform ForStudents

Java =coursename:

If Java is available

Break

Else

CourseNumber = CourseNumber+1

end