

Assignment 1

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1. Design a course management system (Like Canvas);

- Student:

- Data: Student ID, Name, EmailAddress, loginCredentials, Phone

- Behaviors: login, Search, TakeOnlineCourses, CheckAcademicCalender

- CourseManagementSystem:

- Data: Course

- Behaviors: ProvideOnlineCoursesRecording, GiveAnnouncements

-Course:

- Data: CourseName, Teacher, Schedule

- CourseManagementSystem: Canvas

Sequence of invoking behaviors on objects

Student summer;

CourseManagementSystem Canvas;

summer.login(loginCredentials);

Student search the online courses

Course ApplicationEngineeringAndDevelopment = summer.search(CourseName, Teacher, Schedule);

Student take online courses

Summer.TakeOnlineCourses (ApplicationEngineeringAndDevelopment)

Student CheckAcademicCalender

Summer.checkAcademicCalender(ApplicationEngineeringAndDevelopment)

2. Design a pet adoption platform

- Adopter:

- Data: emailAddress, Name, loginCredentials, Address, Phone, credit card
- Behaviors: login, Adopt, writeReview, requestCancelAdoption, Search,

- Pet Adoption platform:

- Data: Pet
- Behaviors: sendConfirmation, checkout, cancelAdoption

- Pet:

- Data: Name, Breed, Gender, Age

Sequence of invoking behaviors on objects

Adopter summer;

Pet Adoption platform Adoptapet;

summer.login(loginCredentials);

Pet puppy = summer.search(Breed, Gender, Age);

if Adoptapet has pet meet the criteria

summer.adopt(puppy);

Adoptapet.checkout(summer.emailAddress, summer.phone, summer.address, summer.creditCard);

Adoptapet.sendConfirmation (summer.emailAddress);

if summer change her mind

summer.requestCancelAdoption(puppy);

Adoptapet.cancelAdoption(puppy, summer);

if summer satisfied with the adoption

summer.writeReview("*****");

else

```
summer.writeReview("ooooo");
```

```
else puppy noResult
```

3. Design an app to book airline ticket.

- Customer:

- Data: Name, EmailAddress, PassportNumber, LoginCredentials, Phone, CreditCard;
- Behaviors: logIn, Search, Buy, writeReview, requestCancelBook, requestRefund;

- Online air-ticking agency:

- Data: Flight;
- Behaviors: sendReceipt, checkOut, refund, E-mailToCustomer;

- Flight:

- Data: AirlineCompany, Price, Date, DepartureTime, ArrivalTime, Seat;

Sequence of invoking behaviors on objects

```
Customer summer;
```

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Online Air-ticking Agency CheapOair;
```

```
summer.login(loginCredentials);
```

```
Flight MF805 = summer.search(AirlineCompany, Price, Date, DepartureTime, ArrivalTime, Seat);
```

```
if CheapOair hasSeat
```

```
    summer.buy(MF805);
```

```
    CheapOair.checkout(summer.passportNumber, summer.phone, summer.creditCard,  
summer.emailAddress);
```

```
    CheapOair.sendReceipt(summer.emailAddress);
```

```
if summer change her mind
```

```
    summer.requestCancelOrder(MF805);
```

```
    CheapOair.refund(MF805, summer);
```

else course noSeat

4. Design a course registration platform.

-Student:

- Data: Student ID, Name, EmailAddress, loginCredentials, Phone, CreditCard
- Behaviors: logIn, Search, Register, RequestCancelRegister, RequestRefund

-Teacher:

- Teacher: Name, Faculty ID, EmailAddress, Phone

- Course Registration Platform:

- Data: Courses
- Behaviors: CourseRegistration, Refund, E-mailToStudent,

- Courses:

- Data: CourseID, CourseName, Teacher

Sequence of invoking behaviors on objects

Student Summer;

CoursesApplication EngineeringAndDevelopment;

CourseRegistrationPlatform SummerCourseRegistrationPlatform;

summer.login(loginCredentials);

Course ApplicationEngineeringAndDevelopment = summer.search(CourseID, CourseName, Teacher);

if ApplicationEngineeringAndDevelopment has Seat

summer.register(ApplicationEngineeringAndDevelopment);

SummerCourseRegistrationPlatform.courseRegistration (summer.studentID, summer.name, summer.emailAddress, summer.phone, summer.creditCard);

SummerCourseRegistrationPlatform.sendReceipt(summer.emailAddress);

if summer change her mind

summer.RequestCancelRegister (ApplicationEngineeringAndDevelopment,
SummerCourseRegistrationPlatform);

SummerCourseRegistrationPlatform.refund(summer, ApplicationEngineeringAndDevelopment);

else course noSeat

5. Order food in a food delivery app.(Like Uber Eats)

- Customer:

- Data: Name, EmailAddress, LoginCredentials, ShippingAddress, Phone, CreditCard
- Behaviors: logIn, Search, Order, RequestCancelOrder, RequestRefund, WriteReview

- Online food shop:

- Data: Food
- Behaviors: sendReceipt, checkOut, refund, sendToShipper,

- Food:

- Data: Brand, Price, Weight
- Behaviors:

- Delivery Service Company: ups

- Data: Couriers
- Behaviors: allocateCourier, Ship

- Courier:

- Data: Name, Phone
- Behaviors: deliverPackage, contactCustomer

Sequence of invoking behaviors on objects

Customer summer;

OnlineShop Walmart;

DeliveryServiceCompany ups;

summer.login(loginCredentials);

Food cookie = summer.search(brand, price, weight);

if Walmart isInStock

 summer.buy(cookie);

 walmart.checkout(summer.address, summer.phone, summer.creditCard);

 Walmart.sendReceipt(summer.emailAddress);

if summer change her mind

 summer.requestCancelOrder(cookie);

 Walmart.refund(cookie, summer);

else

 Walmart.sendToShipper(cookie, ups);

 ups.ship(cookie);

 Courier ben = ups.allocateCourier;

 ben.contactCustomer(summer);

 ben.deliverPackage(cookie,summer.address);

if summer satisfied with the product

 summer.writeReview("Good");

else

 summer.writeReview("Bad");

 summer.requestRefund(cookie, walmart);

 walmart.refund(summer);

else product outOfStock