Kartik Chillakanti
CS 201

CUSTOMER AGENT

Data

```
WaiterAgent w;
HostAgent host;


enum AgentState {DoingNothing, WaitingInRestaurant, BeingSeated, OrderingFood,
WaitingForFood, Eating, DoneEating, Leaving, WaitingForCheck,
DoingAbsolutelyNothing};
enum AgentEvent {none, gotHungry, followWaiter, seated, order, foodReceived,
foodUnavailable, doneEating, doneLeaving, checkArrived, punish, decidedToWait,
leftEarly};

String choice;
String name;
Timer timer;
int hungerLevel;
Menu myMenu;
private boolean reorder = false;
private double money;
public boolean oweMoney = false;
private double chanceOfStaying = .75;
public List<String> availableOptions = new ArrayList<String>();
Check check;
```

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Scheduler

```
if (state == AgentState.DoingNothing && event == AgentEvent.gotHungry ){
	state = AgentState.WaitingInRestaurant;
	GoToRestaurant();
}

if (state == AgentState.DoingAbsolutelyNothing && event == AgentEvent.gotHungry
){
	state = AgentState.WaitingInRestaurant;
	GoToRestaurant();
}

if (state == AgentState.WaitingInRestaurant && event == AgentEvent.gotHungry) {
	if(Math.random() <= chanceOfStaying)
	{
		event = AgentEvent.decidedToWait;
	}
	else
	{
		state = AgentState.DoingNothing;
		event = AgentEvent.leftEarly;
		LeaveTableWithoutEating();
	}
}

if (state == AgentState.WaitingInRestaurant && event == AgentEvent.followWaiter
){
	state = AgentState.BeingSeated;
	SitDown();
}

if (state == AgentState.BeingSeated && event == AgentEvent.seated){
	state = AgentState.OrderingFood;
	CallWaiter();
}

if (state == AgentState.OrderingFood && event == AgentEvent.order){
	state = AgentState.WaitingForFood;
	OrderFood();
}

if (state == AgentState.WaitingForFood) {
```

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```
        if (event == AgentEvent.foodReceived){
                state = AgentState.Eating;
                EatFood();
        }
        if (event == AgentEvent.foodUnavailable) {
                state = AgentState.OrderingFood;
                event = AgentEvent.order;
        }
}


if (state == AgentState.Eating && event == AgentEvent.doneEating){
        askForCheck();
        state = AgentState.WaitingForCheck;
}

if ((state == AgentState.WaitingForCheck) && (event == AgentEvent.checkArrived))
{
        payCheckAndLeave();
        state = AgentState.DoingNothing;
}

if ((state == AgentState.DoingNothing) && (event == AgentEvent.punish)) {
        stealMoney();
        state = AgentState.DoingAbsolutelyNothing;
}
```

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Messages

```
gotHungry(){
        event = AgentEvent.gotHungry;
}

msgFollowMe(menu){
        DoGoToSeat();  // animation
        event = AgentEvent.followWaiter;
}

msgWhatWouldYouLike(){
        event = AgentEvent.order;
}


msgHereIsYourFood()
{
        event = AgentEvent.foodReceived;
}

public void msgPunish() {
        event = AgentEvent.punish;
        oweMoney = true;
}

public void msgHereIsCheck(Check c) {
        print("Received bill from Waiter");
        check = c;
        event = AgentEvent.checkArrived;
        stateChanged();
}

public void msgFoodUnavailable() {
        print ("Received msgFoodUnavailable");
        event = AgentEvent.foodUnavailable;
        availableOptions.remove(choice);
        reorder = true;
        stateChanged();
}
```

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Actions

```
GoToRestaurant() {
        host.msgIWantFood(this);
}


SitDown() {
        customerGui.DoGoToSeat(); // animation
}


CallWaiter() {
        waiter.msgImReadyToOrder();
}

OrderFood() {
        myMenu.menyItems[randomGenerator.nextInt(4)];
        waiter.msgHereIsMyChoice(choice, this);
}

EatFood() {
        timer.start(); // use a Timer Task to simulate eating
}

private void askForCheck() {
        waiter.msgDoneEating(this);
}

private void payCheckAndLeave() {

        if (check.price > money) {
                cashier.msgPayingCheck(check, money-check.price);
        }
        else {
                cashier.msgPayingCheck(check, check.price);
        }
        oweMoney = false;
        LeaveTable();
}
```

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```
LeaveTable() {
        customerGui.FinishFood();  // animation
        waiter.msgDoneEatingAndLeaving();
        customerGui.DoExitRestaurant();
}
```