CUSTOMER AGENT

Data

```
private String name;
private String order = "Salad";
private int hungerLevel = 5;
Timer timer = new Timer();
private CustomerGui customerGui;
private Menu menu;
private double Wallet;
private double bill=0.00;

// agent correspondents
private HostAgent host;
private WaiterAgent waiter = null;
private CashierAgent cashier;

int select;
int payday=0;

public enum AgentState
{DoingNothing, WaitingInRestaurant, BeingSeated, Seated, Ordered, WaitingForFood,
Eating, DoneEating, WaitingForCheck, Leaving};
private AgentState state = AgentState.DoingNothing;//The start state

public enum AgentEvent
{LeaveEarly, none, gotHungry, followWaiter, seated, beingHelped, beingHelpedAgain,
gotFood, doneEating, GotCheck, doneLeaving};
AgentEvent event = AgentEvent.none;
```

Messages

```
public void gotHungry() {//from animation
        print("I'm hungry");
        if(payday==0) {
                Wallet=Wallet + 12;
                print("Payday! Whoooo!");
        }
        payday++;
        if (payday == 2 )payday=0;
```

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

	public void msgRestaurantFull() {
		Random generator = new Random();
		select = generator.nextInt(2);
		if(select == 1) {
			event = AgentEvent.LeaveEarly;
			stateChanged();
		}
	}

	public void msgHereIsYourBill(Check k) {
		if (k!= null) bill = k.GetBill();
		event = AgentEvent.GotCheck;
		stateChanged();
	}

	public void msgFollowMeToTable(WaiterAgent w, Menu m) {
		this.waiter=w;
		this.menu = m;
		//print("Received msgSitAtTable");
		event = AgentEvent.followWaiter;
		stateChanged();
	}

	public void msgAnimationFinishedGoToSeat() {
		//from animation
		event = AgentEvent.seated;
		stateChanged();
	}

	public void msgAnimationFinishedLeaveRestaurant() {
		//from animation
		event = AgentEvent.doneLeaving;
		stateChanged();
	}

	public void msgHereForNewOrder() {
		event = AgentEvent.beingHelpedAgain;
		stateChanged();
	}
```

```
public void msgHereForOrder() {
        event = AgentEvent.beingHelped;
        stateChanged();
}

public void msgDeliveredFood() {
        event=AgentEvent.gotFood;
        stateChanged();
}
```

Scheduler

1.)
```
if (event == AgentEvent.LeaveEarly) {
        state = AgentState.DoingNothing;
        Leave();
}
```

2.)
```
if (state == AgentState.DoingNothing && event == AgentEvent.gotHungry ){
        state = AgentState.WaitingInRestaurant;
        goToRestaurant();
        return true;
}
```

3.)
```
if (state ==AgentState.WaitingInRestaurant &&event==AgentEvent.followWaiter ){
        state = AgentState.BeingSeated;
        SitDown();
        return true;
}
```

4.)
```
if (state == AgentState.BeingSeated && event == AgentEvent.seated){
        state = AgentState.Seated;
        PickUpAndPeruseMenu();
        return true;
}
```

5.)
```
if (state == AgentState.Seated && event == AgentEvent.beingHelped) {
        //print("In customer?");
        state=AgentState.Ordered;
        OrderFood();
        return true;
}
```

```
6.)     if ((state == AgentState.Ordered || state == AgentState.WaitingForFood) && event
== AgentEvent.beingHelpedAgain) {
            state = AgentState.WaitingForFood;
            OrderNewFood();
            return true;
        }

7.)     if ((state == AgentState.Ordered || state == AgentState.WaitingForFood) && event
== AgentEvent.gotFood) {
            state = AgentState.Eating;
            EatFood();
            return true;
        }

8.)     if (state == AgentState.Eating && event == AgentEvent.doneEating){
            state = AgentState.WaitingForCheck;
            AskForCheck();
            return true;
        }

9.)     if (state == AgentState.WaitingForCheck && event == AgentEvent.GotCheck){
            state = AgentState.Leaving;
            leaveTable();
            return true;
        }

10.)    if (state == AgentState.Leaving && event == AgentEvent.doneLeaving){
            state = AgentState.DoingNothing;
            //no action
            return true;
        }
11.)  return false;
```

Actions

```
    private void Leave() {
        print("I'm leaving");
        if (waiter != null) {
            waiter.msgOutOfHere(this);
        }
        else {
            host.msgIWontWait(this);
```

```
		}
		state=AgentState.DoingNothing;
		customerGui.DoExitRestaurant();
		stateChanged();
}

private void AskForCheck() {
		waiter.msgCheckPlease(this);
}

private void goToRestaurant() {
		Do("Going to restaurant");
		if ( bill != 0.00 && Wallet > bill) {
			Wallet = Wallet - bill;
			bill=0.00;
			cashier.msgPayingMyBill(this);
			print("I have $" + Wallet + " left");
			host.msgIWantFood(this);
		}
		else if (bill != 0.00 && Wallet < bill) {
			print("I owe the restaurant money, guess I have to wait here");
		}
		else {
			host.msgIWantFood(this);
		}
}

private void SitDown() {
		customerGui.DoGoToSeat(1);
}

private void PickUpAndPeruseMenu() {
CustomerAgent temp = this;
		timer.schedule(new TimerTask() {
			Object cookies = 1;
			public void run() {
				//look at menu, call waiter when ready
				CallWaiter();
				stateChanged();
			}
		},
		3000);
}
```

```
public void CallWaiter() {
	waiter.msgReadyToOrder(this);
	print("I am ready to order");
}

private void OrderNewFood() {

	Random generator = new Random();
	if ( Wallet>= 9 || Wallet<6){
		if (select == 0) {
			select ++;
		}
		else select--;

		if (select == 0) {
			order = menu.ChooseChicken();
		}
		else if (select == 1) {
			order = menu.ChoosePizza();
		}
		else if (select == 2) {
			order = menu.ChooseChicken();
		}
		else {
			order = menu.ChooseSteak();
		}
		print("I want " + order);
		waiter.msgOrderFood(this, this.getOrder());
		stateChanged();
	}

	else if (Wallet>=6 && Wallet<9) {
		print("I can't afford anything");
		this.Leave();
	}
}

private void OrderFood() {
	Random generator = new Random();

	if ( Wallet>= 6){
		if (Wallet>=16) {
```

```
                select = generator.nextInt(4);
        }
        else if (Wallet>=11) {
                select = generator.nextInt(3);
        }
        else if (Wallet>=9) {
                select = generator.nextInt(2);
        }
        else if (Wallet>=6) {
                select = 0;
        }

        if (select == 0) {
                order = menu.ChooseChicken();
        }
        else if (select == 1) {
                order = menu.ChoosePizza();
        }
        else if (select == 2) {
                order = menu.ChooseChicken();
        }
        else {
                order = menu.ChooseSteak();
        }
        print("I want " + order);
        waiter.msgOrderFood(this, this.getOrder());
        stateChanged();
}

else {
        select = generator.nextInt(2);
        if (select == 0) {
                print("I can't afford anything");
                this.Leave();
        }
        else {
                print("I can't afford anything.  Guess I'll dine and dash.");

                select = generator.nextInt(4);

                if (select == 0) {
                        order = menu.ChooseChicken();
                }
```

```
                        else if (select == 1) {
                                order = menu.ChoosePizza();
                        }
                        else if (select == 2) {
                                order = menu.ChooseChicken();
                        }
                        else {
                                order = menu.ChooseSteak();
                        }
                        print("I want " + order);
                        waiter.msgOrderFood(this, this.getOrder());
                        stateChanged();
                }
        }
}

private void EatFood() {
        Do("Eating Food");
        customerGui.EatTime(order);
        timer.schedule(new TimerTask() {
                Object cookie = 1;
                public void run() {
                        //print("Done eating, cookie=" + cookie);
                        print("Done eating");
                        event = AgentEvent.doneEating;
                        //isHungry = false;
                        stateChanged();
                }
        },
        5000);
}

private void leaveTable() {
        Do("Leaving.");
        if (Wallet>=bill) {
                Wallet = Wallet - bill;
                bill = 0.00;
                print("I have $" + Wallet + " left");
                cashier.msgPayingMyBill(this);
        }
        waiter.msgLeavingTable(this);
        customerGui.DoExitRestaurant();
}
```