```
Agent                    Role

  | Extends                      has-a
  v
Person  <·····················

RestaurantRole

  HostRole    <───┐
                  │
  WaiterRole  <───┤
                  │
  CustomerRole <──┤
                  │
  WaiterRole  <───┤
                  │
  CookRole    <───┘
```

Data

```
int id;
enum HouseType;
int address;
enum addressType;
Job job;
int curBuilding;
int destination;
enum VehicleType;

Gui gui;
Semaphore animation;

List<Role> roles;
int hungerLevel;
double money;

Inventory inventory;
enum Moraility {good, crook}
enum PersonState {walking, inside, sleeping, idle}

Inventory inventory;
```

Scheduler

```
//Role pick and execute and action.
if there exists an active Role r in roles
    then boolean ret = r.pickandExectueAnAction()


Otherwise
if PersonState is sleeping
    then goToSleep();

// What to do as a person.
    // If low on money then go to bank.
    // If hungry then go to restaurant.
    // Depending on time of day, go to work or go
home.

if destination is not -1
    then goTo(destination);

return ret;
```

Messages

```
void msgCreateRole(Role r){
    if there does not exists r in roles
        then roles.add(r);
}

void msgSleep(){
    sleeping = true;
}

void msgEnterBuilding(Building b){
    destination = b.id;
}

void msgEnteredBuilding(Building b){
    curBuilding = b.id;
}
```

Utility

```
void goTo(Building b)
{
    b.msgEnterBuilding(this);
    //call gui animation
}

void stateChanged();

void acquire(){
    animation.acquire();
}
void release(){
    animation.release();
}

void goToSleep(){
    destination = house.id;
}
```

Super Class Role

Data

```
Person myPerson;

boolean active;
```

Scheduler

```
abstract pickAndExecuteAction;
```

Messages

```
void stateChanged(){
    myPerson.stateChanged();
}
```

msgEnterBuilding(int buildingID)

msgEnterBuilding(Person p)

```
+-----------+        +-----------+        +-----------+
|           |        |           |        |           |
|    GUI    |        |  Person   |        | Building  |
|           |        |           |        |           |
+-----------+        +-----------+        +-----------+
```

msgEnteredBuilding(int buildingID)