Object Oriented Design

Karsten Droste
Object Oriented Design

1. Find the Subjects (Objects)
2. Find the Verbs
   Find the Relations
# Object Oriented Programming

**Fast Track**

<table>
<thead>
<tr>
<th>class</th>
</tr>
</thead>
<tbody>
<tr>
<td>instance</td>
</tr>
<tr>
<td>message</td>
</tr>
<tr>
<td>method</td>
</tr>
<tr>
<td>polymorphism</td>
</tr>
</tbody>
</table>
Class and Instance

Student

- Mary
  - name: Mary
  - matrNo: 9433

- Paul
  - name: Paul
  - matrNo: 4975

- Peter
  - name: Peter
  - matrNo: 0394
Methods and Messages

name: Mary
matrNo: 9433

name: Paul
jump
go

name: Peter
jump
go

Paul jump

Peter fly
Empty CRC - Cards

<table>
<thead>
<tr>
<th>Class:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsibility</td>
</tr>
</tbody>
</table>


## CRC

**Class:** Student

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Collaborator</th>
</tr>
</thead>
<tbody>
<tr>
<td>join</td>
<td>Course</td>
</tr>
<tr>
<td>sign</td>
<td>Teacher</td>
</tr>
<tr>
<td>enter</td>
<td>Room</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Collaborator</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------</td>
</tr>
<tr>
<td>add setup</td>
<td>People</td>
</tr>
</tbody>
</table>
Class Diagram: Inheritance

People
  • enter

Teacher
  • cleanBoard

is a

Student

GuestTutor

ETHTutor
Class Diagram: Aggregation

Room
- setup
- addPerson
- id

has
one 1

Teacher
- enter
- cleanBoard

has
many

Student
- learn
- drawOnTable
- semester
hands on

1. Choose Application Target
   • Trainstation
   • Street Junction
   • Elevator
   • Shopping Mall

2. Provide 4-10 CRC Cards

3. Provide Class Diagrams