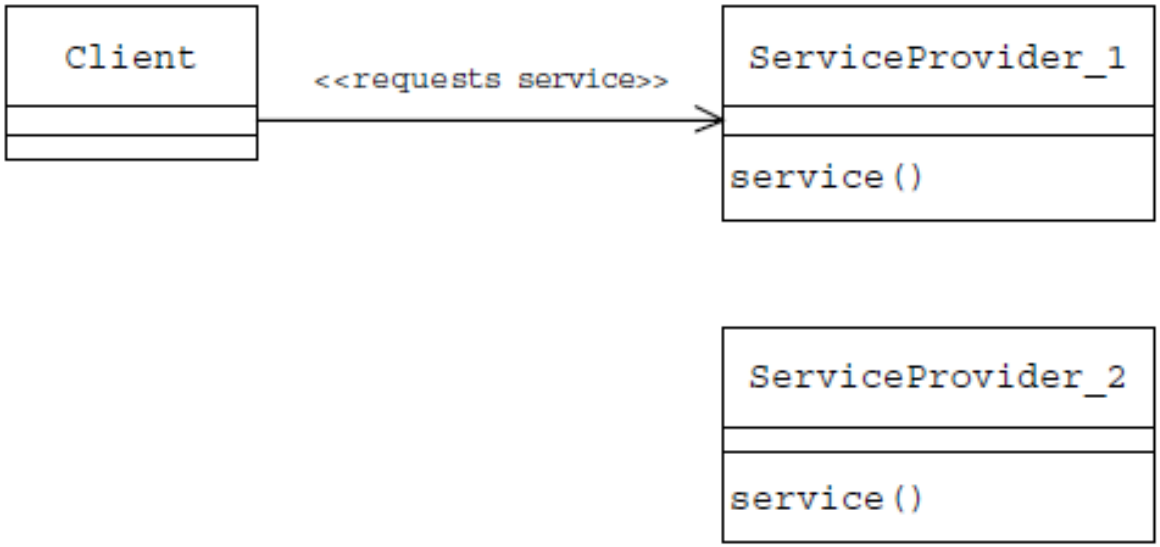
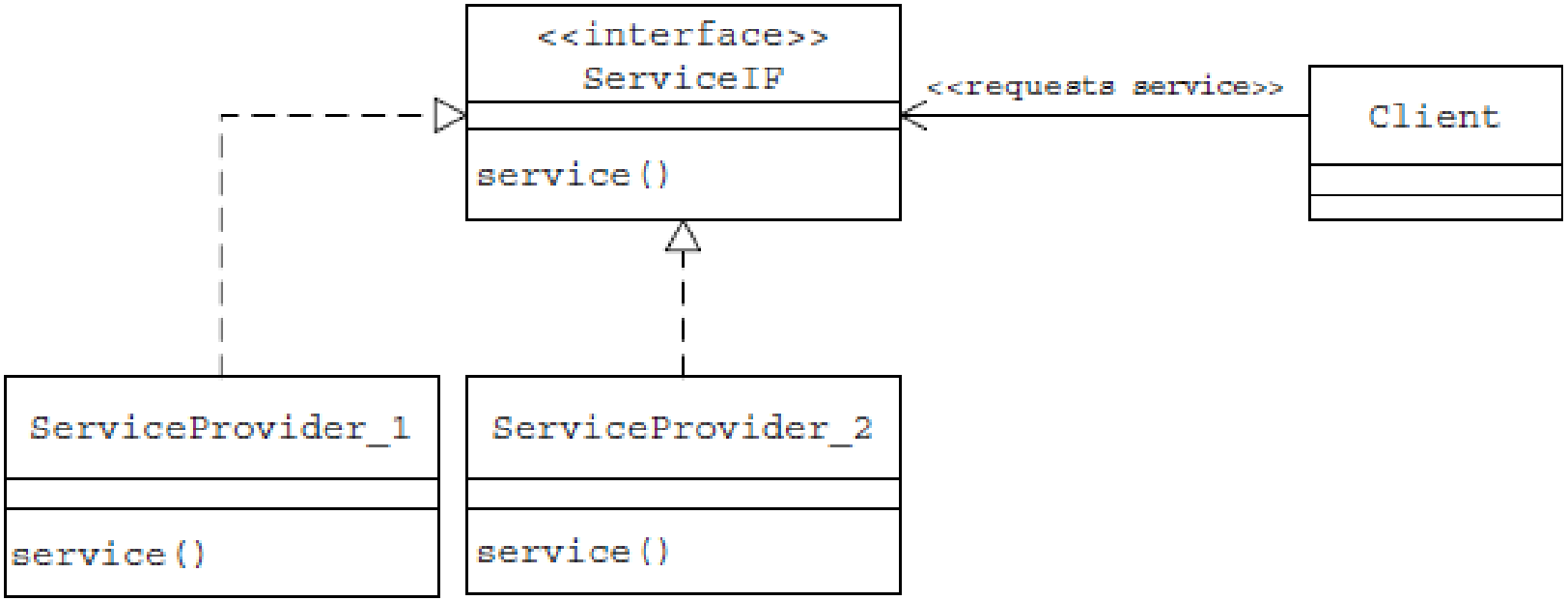
# Late Binding

Mohsen Afsharchi

# Client Server Interaction



# Common Interface with Different Service Providers



# An Example

**Table 3.1 Different Categories of Designations**

| *Designations* | *Category* |
|---|---|
| Programmer, Designer and Consultant | Category-A |
| Sales Rep, Sales Manager, Account Rep | Category-B |
| ... | ... |
| C-Level Executives | Category-n |
| ... | ... |

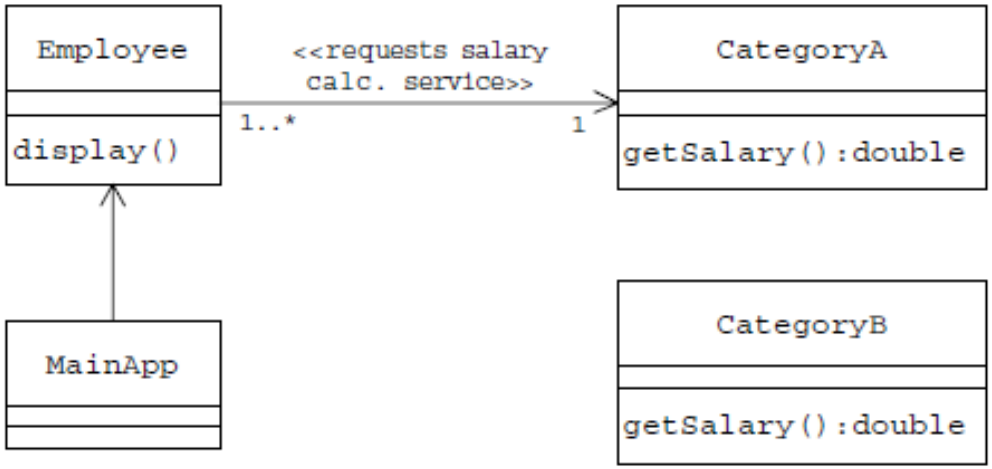
# Example 2

```
public class CategoryA {
   double baseSalary;
   double OT;
   public CategoryA(double base, double overTime) {
     baseSalary = base;
     OT = overTime;
   }
   public double getSalary() {
     return (baseSalary + OT);
   }
}
```

```
public class Employee {
  CategoryA salaryCalculator;
  String name;
  public Employee(String s, CategoryA c) {
    name = s;
    salaryCalculator = c;
  }
  public void display() {
    System.out.println("Name=" + name);
    System.out.println("salary= " +
                       salaryCalculator.getSalary());
  }
}
```

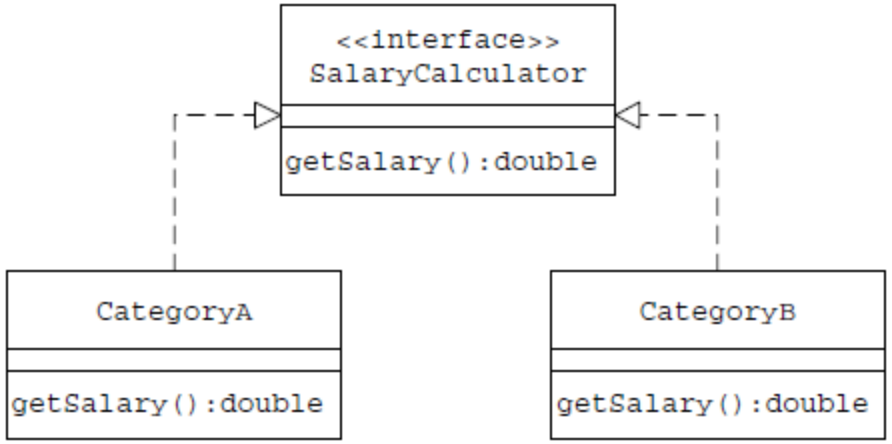
```
public class MainApp {
  public static void main(String [] args) {
    CategoryA c = new CategoryA(10000, 200);
    Employee e = new Employee ("Jennifer,"c);
    e.display();
  }
}
```

# Example...Continued




```
public class CategoryB {
  double salesAmt;
  double baseSalary;
  final static double commission = 0.02;
  public CategoryB(double sa, double base) {
    baseSalary = base;
    salesAmt = sa;
  }
  public double getSalary() {
    return (baseSalary + (commission * salesAmt));
  }
}
```

# Salary Calculation Service Provider Class




```
public interface SalaryCalculator {
   public double getSalary();
}
```

# Different Implementations

```
public class CategoryA implements SalaryCalculator {
   double baseSalary;
   double OT;
  public CategoryA(double base, double overTime) {
     baseSalary = base;
     OT = overTime;
  }
  public double getSalary() {
     return (baseSalary + OT);
  }
}
public class CategoryB implements SalaryCalculator {
  double salesAmt;
  double baseSalary;
  final static double commission = 0.02;
  public CategoryB(double sa, double base) {
     baseSalary = base;
     salesAmt = sa;
  }
  public double getSalary() {
     return (baseSalary + (commission * salesAmt));
  }
}
```

# Late Binding

```
public class Employee {
   SalaryCalculator empType;
   String name;

  public Employee(String s, SalaryCalculator c) {
     name = s;
     empType = c;
  }
  public void display() {
     System.out.println("Name=" + name);
     System.out.println("salary= " + empType.getSalary());
  }
}
```

```
public class MainApp {
   public static void main(String [] args) {
      SalaryCalculator c = new CategoryA(10000, 200);
      Employee e = new Employee ("Jennifer",c);
      e.display();
      c = new CategoryB(20000, 800);
      e = new Employee ("Shania",c);
      e.display();
   }
}
```