FKPayrollDesign

Documentation

CONTENT

Sequence Diagrams

1. Add Employee

Driver

Add Employee

addEmployee()

EmployeeList

Inout Name

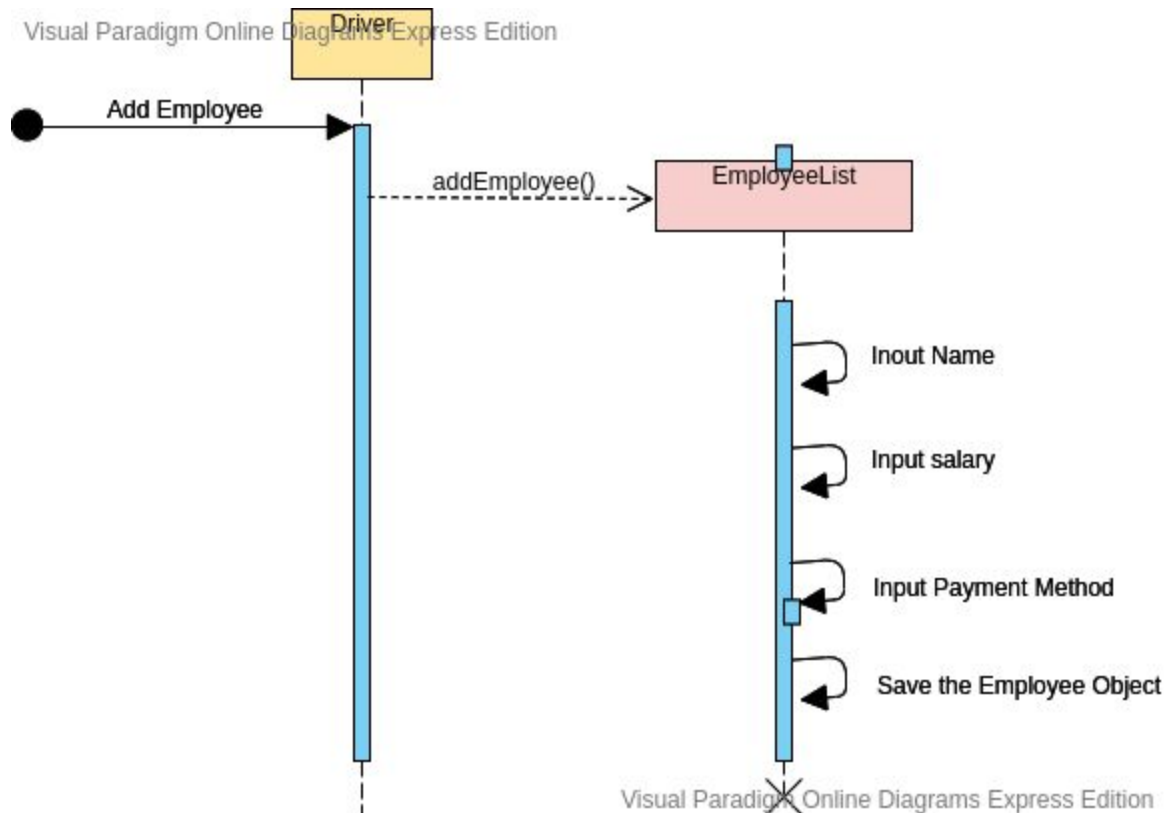Input salary

Input Payment Method

Save the Employee Object

Fig : Adding Employee

When the Add employee is selected from the Driver program, the method addEmployee() from EmployeeList class is called. In the method the user is prompted to add the required details and then a new object of the chosen employee class is created. There are 2 types of Employee class one is permanent and other is on part time/contract based employee. The detailed class descriptions are given in the Class Diagram Section.
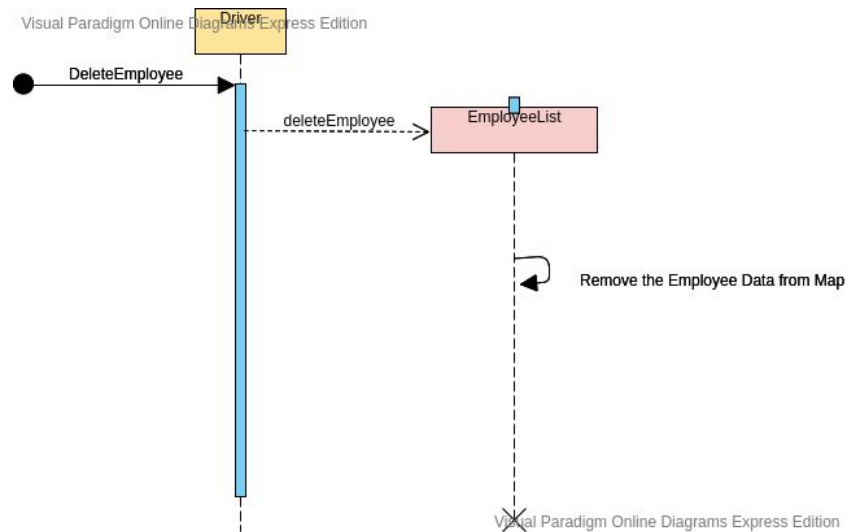
2. Delete Employee

Fig: Delete Employee

Similar pattern of flow like adding Employee. The Driver calls the employeeList method to call the Delete Employee Method. The method checks if the employee exists and deletes all its data. Once deleted the data is deleted from the database as well.
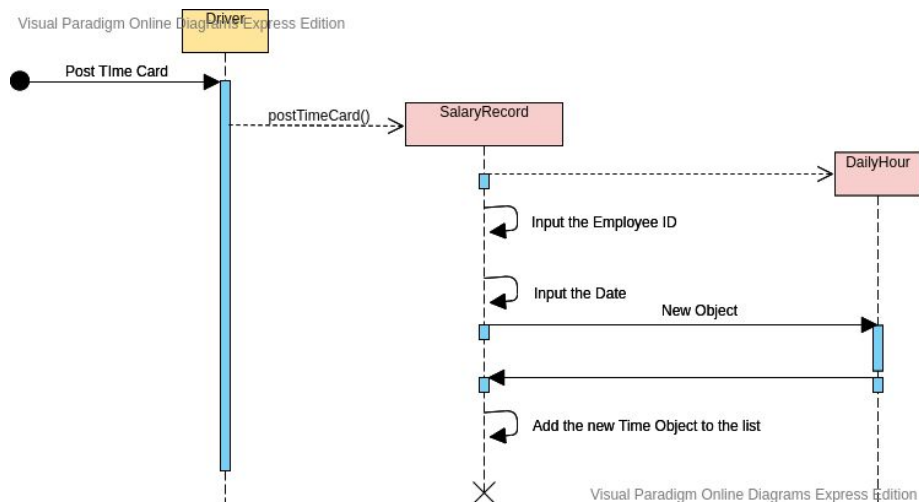
3. Post Time Card

Fig: Add a time card

Class Diagram

Employee
-name : String
-ID   : Integer
+ getters
+ setters()
+setCount(int)
+Employee(String, int)

WeeklyPayroll
+CalculatePay()

HourlyEmployee
-Hourlyrate

FlatEmployee
-MonthlySalary

Sales
-Map

DailyHour
-Map

Union
-Map

EmployeeList
-Map<Integer, HourlyEmployee>
Map<Integer, FlatEmployee>

SalaryRecord
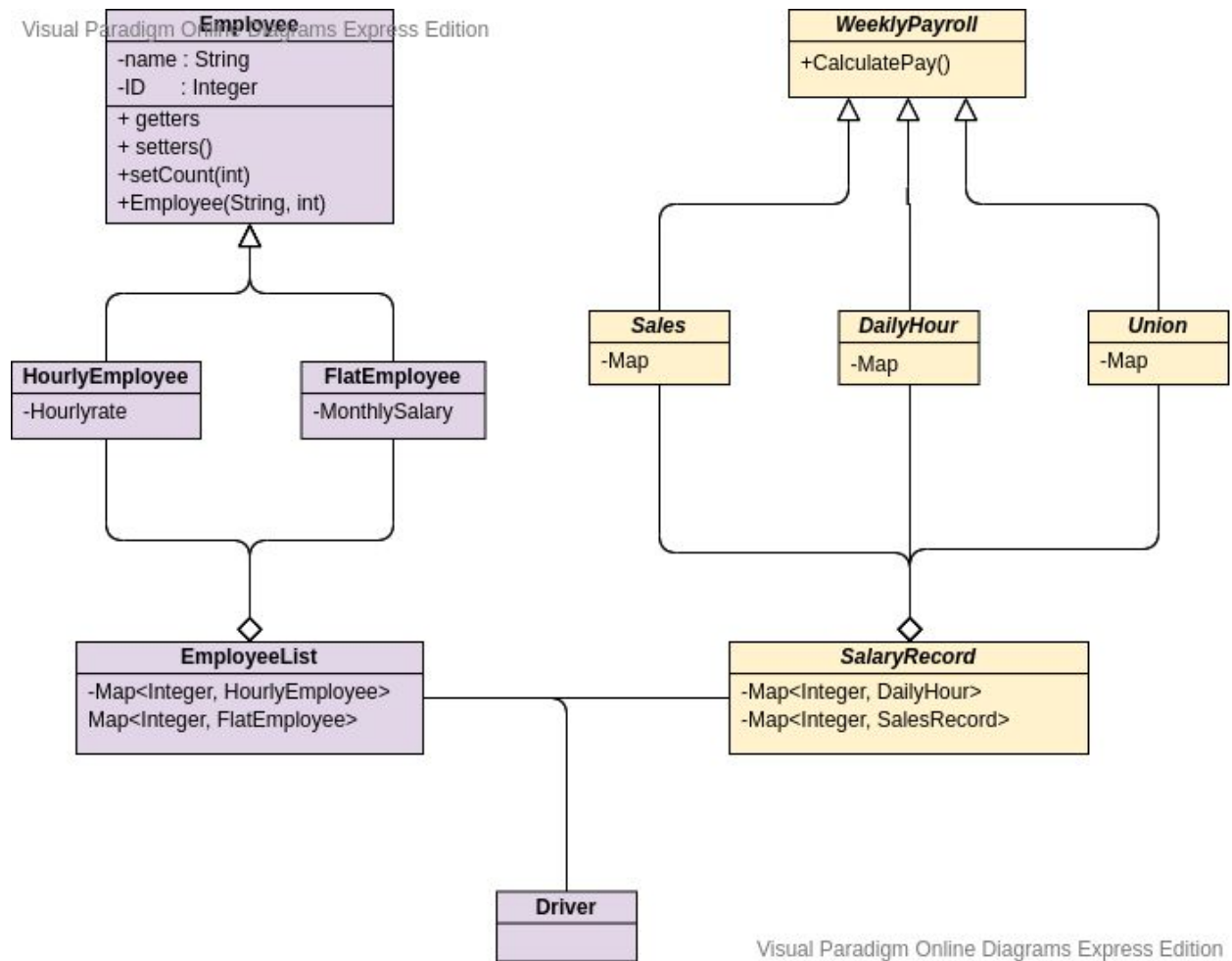-Map<Integer, DailyHour>
-Map<Integer, SalesRecord>

Driver

Fig: Complete Class Diagram of the Entire Mechanism

Assumptions

- While adding an Employee it is not necessary to fill all the details at that time. Fields like Sales Rate Commission and Union Membership details can be filled when applicable.
- Any Employee can be involved in sales and Union Membership. Although it is very easy to constraint a particular feature to only one kind of employees.
- Employees are issued Employee ID when the Employee is added. A prompt to show the ID can be included.
- Initially all the Data in the Employee JSON files are loaded. Next available Employee ID is decided by taking maximum of all the employee IDs.
- Generate Payroll for today would show the invoice of all the employees to be paid.

Design Decision Done

- Employees are of 2 types fixed and Contract/Hourly Paid Employees. This category is the most fundamental in our scenario as we wish to create a PayRoll System.
- A Weekly Payment Interface feature is added. It gives the weekly payment value as the name suggests for any employee.
- Similarly a Monthly Payment Interface is added for payments which follow a monthly cycle for any Employee.
- This can be generalised Annually as well, although we have not added here as it is not required in the present scenario.
- Hourly Salary implements Weekly Payment. It contains only contractual employee payments every week. Every Friday this mechanism gets triggered for payment to the relevant employees.
- Sales Record is the Class used to keep the record of sales for an employee. An employee can have multiple sales value throughout the week but it must have one total figure of sale per day.
- Employee List keeps the map of all the employees. It also saves the data and keeps the record in the harddisk. When the system gets rebooted the employee data is loaded while startup and before the prompt is displayed.
- Salary Record contains all the data about weekly and monthly payment cycles. In this version offline record feature is not available. This keeps record for any payment regarding sales or hourly/Monthly payments or Union charges. This record is not generated for all the employees. The record gets expanded as sales card is added and time card is added. If an employee never makes an time card entry then there will be no invoice shown for them.