

Designing A Payroll System

Daniel POP, Ph.D

General Description

- The system consists of a database with all company's employees, and their associated data, such as time cards.
- The system must pay all employees the correct amount, on time, by the method that they specify.
- Also, various deductions must be taken from their pay.

General Description

Specifications / requirements

- Some employees work by the hour. They are paid an hourly rate that is one of the fields in their employee record. They submit daily time cards that record the date and the number of hours worked. If they work more than 8 hours per day, they are paid 1.5 times their normal rate for those extra hours. They are paid every Friday.
- Some employees are paid a flat salary. They are paid on the last working day of the month. Their monthly salary is one of the fields in their employee record.
- Some of the salaried employees are also paid a commission based on their sales. They submit sales receipts that record the date and the amount of the sale. Their commission rate is a field in their employee record. They are paid every other Friday.
- Employees can select their method of payment. They may have their paychecks mailed to the postal address of their choice, have their paychecks held by the paymaster for pickup, or request that their paychecks be directly deposited into the bank account of their choice.
- Some dues will be deducted from employee's pay amount, such as taxes, health contribution, union etc. These charges must be deducted from the appropriate employee's next pay amount. They can be flat rates or percentages applied to gross pay amount.
- The payroll application will run once each working day and pay the appropriate employees on that day. The system will be told what date the employees are to be paid to, so it will generate payments for records from the last time the employee was paid up to the specified date.

Exercise

- What:
 - Design the system (classes and their relationships) using learned patterns and UML diagrams
- How:
 - Pair in teams of 2-3 members
 - 3 sessions of 15 minutes each
 - Each session is followed by 5 minutes wrap-up and discussions
 - After each session, the design is completely erased and a new one is started from scratch

Start!

15:00