Hall Management System

Software Requirements Specification Document

Prepared by:

1) ***Subham Ghosh***

Roll No.: ***11CS10060***

and

2) Sourav Sarkar

Roll No.: ***11CS30037***

Problem No.: ***19***

1. Introduction

1.1. Purpose:

This Software Requirements Specification (SRS) document specifies the requirements for the Hall Management System (AMS) for the college. It contains both the functional and the non-functional requirements.

1.2. Definitions and Acronyms

- SRS – Action Taken Report
- HMC – Hall Management Committee
- ID – Identification Number
- ATR – Action Taken Report

2. Specific Requirements

2.1. Functional Requirements

2.1.1. User class – Student

2.1.1.1. Get Admission

Input:

Student presents a note from the admission unit, along with his/her name, permanent address, contact telephone number and a photograph.

Output:

The student gets the admission letter and the flow is passed to use case 2.1.1.2.

Process:

The HMC verifies the details provided by the student and provides an admission letter to the student.

2.1.1.2. Present Admission Letter and Room Choice

Input:

- Admission Letter is provided by the student.
- The student gives his choice of room (single/double).

Output:

- The student is allotted a hall.
- This student is allotted a room in the hall allotted.

Process:

The HMC checks for availability of rooms in halls preferably according to the student's choice and makes the decision accordingly. If the room is not available according to the students choice, the HMC allots the room according to the vacancies.

2.1.1.3. Pay Dues

Input:

- Room rent payable by the student
- Mess charge payable by the student
- Amenity charge payable by the student

Output:

A receipt is generated confirming that the student has made the payment

Process:

The student approaches the warden to pay his dues. The warden generates a bill for the respective payments to be made by the student. The student pays his bills and the money is deposited in the appropriate account.

2.1.1.4. Register complaint

Input:

Students register complaints against the hall via the website.

Output:

A new complaint id is generated for every complaint lodged by the student.

Process:

- The student logs in to the website with his roll no.
- He lodges the complaint.
- A new complaint id is generated.

2.1.2. User class – HMC

2.1.2.1. Setup Hall

Input:

The name of the hall to be setup

Output:

The flow is directed to the use cases 2.1.2.2 - 2.1.2.6

Process:

The HMC enters the name of the hall he wants to setup and then the aforementioned use cases are invoked.

2.1.2.2. Set new/old status

Input:

Use Case included in 2.1.1.1.

Output:

New/old status of the hall is set.

Process:

The HMC specifies whether the hall is new or old

2.1.2.3. Add room rent

Input:

The room rent is specified.

Output:

The room rents of the hall are updated.

Process:

Use cases 2.1.2.8 and 2.1.2.9 are invoked.

2.1.2.4. Add Mess Manager

Input:

The name of the mess manager of the Hall.

Output:

The name of the mess manager of the Hall is updated.

Process:

The HMC enters the name of the mess manager of the Hall and it is updated accordingly.

2.1.2.5. Add Warden

Input:

The ID of the warden of the hall.

Output:

The warden of the hall is updated.

Process:

The HMC enters the ID of the warden of the hall and it is updated accordingly.

2.1.2.6. Add Single Room

Input:

The number of single rooms to add is specified.

Output:

The specified number of single rooms is added to the hall.

Process:

The HMC enters the number of single rooms of the hall and the same is updated in the records of the Hall.

2.1.2.7. Add Double Room

Input:

The number of double rooms to add is specified.

Output:

The specified number of double rooms is added to the hall.

Process:

The HMC enters the number of double rooms of the hall and the same is updated in the records of the Hall.

2.1.2.8. Add Single Room Rent

Input:

The rent of single rooms to add is specified.

Output:

The rent of the single rooms of the hall is updated.

Process:

The HMC enters the single room rent of the hall and the same is updated in the records of the Hall.

2.1.2.9. Add Double Room Rent

Input:

The rent of double rooms to add is specified.

Output:

The rent of the double rooms of the hall is updated.

Process:

The HMC enters the double room rent of the hall and the same is updated in the records of the Hall.

2.1.2.10. Modify Hall

Input:

The ID of the hall the HMC chooses to update.

Output:

The details of the Hall which the HMC chooses to update is updated.

Process:

The Use cases 2.1.2.2 to 2.1.2.6 are invoked.

2.1.2.11. Add New Warden

Input:

The name of the warden the HMC chooses to add.

Output:

A new warden is added to the database.

Process:

The HMC enters the name of the warden. His ID is generated and the records are updated accordingly.

2.1.2.12. Allot Accommodation

Input:

The admission letter and room preference of the student.

Output:

The new student is allotted a hall and a room.

Process:

The Use cases 2.1.2.14 and 2.1.2.15 are invoked.

2.1.2.13. Issue Letter to the Student

Input:

The student has been allotted a hall and a room in it.

Output:

A letter regarding the room and the hall allotted to the Student is issued to him/her.

Process:

The HMC looks at the preferences entered by the student, searches for availability in the halls and does the allotment accordingly.

2.1.2.14. Update Hall

Input:

- The ID of the Hall which the student has been allotted.
- The ID of the student who has been allotted the hall.
- The type of room which has been allotted.

Output:

The details of the Hall is updated.

Process:

The HMC provides the details as mentioned in the input and the records are updated accordingly.

2.1.2.15. Give Yearly Grant

Input:

The grant estimate provided by the warden of the Hall.

Output:

The yearly grant is added to the account of the Hall.

Process:

The HMC looks at the grant request which has been sent by the warden of the hall and decides the grant which will be provided to the Hall accordingly. The use case 2.1.2.17 is also invoked.

2.1.2.16. Update mess accounts

Input:

The grant provided by the HMC to the hall.

Output:

The details of the mess accounts of the Hall is updated.

Process:

The HMC specifies the amount which shall be granted to the mess account of the hall after reviewing the estimate sent by the warden of the Hall and grants it accordingly following which the mess accounts of the hall are updated.

2.1.2.17. View Complaints

Input:

The ID of the hall of which the complaints are to be viewed.

Output:

The complaints pertaining the hall are displayed.

Process:

The HMC enters the ID of the Hall of which he wants to view the complaints. Use Case 2.1.2.19 may be invoked.

2.1.2.18. Update Hall Repair Accounts

Input:

The ID of the hall the HMC chooses to update.

Output:

The Hall Repair Account of the Hall which the HMC chooses to update is updated.

Process:

The HMC looks at the requests the wardens of the various Halls have sent him, and if that includes a request for grants, he may choose to grant the repair money to the Hall.

2.1.2.19. Activate Payment Link for Students

Output:

The payment link for students is activated so that the students can pay their dues.

2.1.2.20. Add New Mess Manager

Input:

The name of the mess manager.

Output:

A new mess manager with his ID is created.

2.1.3. User Class – Warden

2.1.3.1. Make Yearly Grant Request

Input:

The number of workers the warden feels he will need and other miscellaneous charges.

Output:

The grant request is sent to the HMC for approval.

Process:

The warden generates a rough estimate of the number of workers he wishes to employ in the year and also other miscellaneous charges he might incur. He sends the grant request accordingly. Use cases 2.1.3.2 and 2.1.3.3 are invoked.

2.1.3.2. Enter misc. charges

Input:

The misc. charges the warden feels he might incur.

Output:

The misc. charges are added as a part of the grant request.

Process:

The warden generates a rough estimate of the misc. charges he might incur and enters them.

2.1.3.3. Enter number of workers

Input:

The number of workers the warden feels he might employ.

Output:

The number of workers are added to the grant request.

Process:

The warden enters a rough estimate of the number of workers he feels he might employ and includes it as a part of the grant request.

2.1.3.4. Enter Amenity Charges

Input:

The warden knows about the TV rooms, common rooms and other amenities provided to the students of the hall.

Output:

The amenity charge payable by each student residing in the hall is set.

Process:

The warden enters the amenity charge payable by each student residing in the hall based on his knowledge of the common rooms, games rooms in the hall.

2.1.3.5. View Room Occupancy

Input:

The warden ID of the login user decides the hall whose room occupancy is to be shown.

Output:

The room occupancy of the hall as in the number of vacant rooms, details of the occupants of various rooms are shown.

Process:

The warden logs in with his ID and can choose to view the room occupancy of the Hall at any point of time.

2.1.3.6. Pay Salary

Input:

The warden ID of the login user decides the hall whose room employee salary is to be paid. The input is taken from use case 2.1.3.7.

Output:

The salary amount of all employees is paid from the account of the hall and control is passed to use case 2.1.3.8.

Process:

The warden logs in with his ID and chooses to pay the salary of the employees.

2.1.3.7. Generate Salary List

Input:

The hall ID is decided from use case 2.1.3.6 and accordingly a salary list of all employees of the hall is generated.

Output:

The salary list of all employees of the hall is passed to use case 2.1.3.6.

Process:

The salary is calculated based on the attendances of the workers and accordingly a file is generated.

2.1.3.8. Issue Cheques to Employees

Input:

The warden ID of the login user decides the hall whose room occupancy is to be shown.

Output:

Printed cheques are issued to all the employees of the Hall.

Process:

The input is taken from use case 2.1.3.6 and cheques are issued accordingly.

2.1.3.9. View Complaints

Input:

The warden ID and hence the Hall ID of the login user decides the hall whose complaints are to be shown.

Output:

The complaints posted by the students residing in that Hall are displayed.

Process:

The warden logs in with his ID. He chooses to view the complaints. According to the Hall ID associated with the warden, the complaints are displayed.

2.1.3.10. Post ATR

Input:

The complaint ID of which the warden is posting the action taken report.

Output:

The action taken report of the warden is posted against the respective complaint.

Process:

The warden after he has taken the action against the respective complaint posts the ATR for the same.

2.1.3.11. Forward to HMC

Input:

The complaint ID and the hall ID of the concerned complaint.

Output:

A request is sent to HMC to grant funds to the hall to take action against the compliant.

Process:

The warden logs in with his ID and if he feels that he needs more funds to take action against the complaint he forwards it to the HMC and request him for more funds.

2.1.3.12. Print Account Statement

Input:

The warden ID, hence the associated hall ID.

Output:

The complete account statement of the hall is printed.

Process:

The warden logs in with his ID and chooses to print the account statement of the hall at any point of time.

2.1.3.13. Recruit Worker

Input:

The warden ID, hence the associated hall ID of the hall for which the worker is being recruited.

Output:

A worker is added to the database of the hall.

Process:

The warden logs in with his ID and exercises his option to recruit a worker for the hall.

2.1.3.14. Enter Daily Salary

Input:

The worker ID of the worker whose salary is to be entered.

Output:

The salary of the worker is entered.

Process:

The warden logs in with his ID and enters the daily salary of the worker.

2.1.3.15. Modify Worker Database

Input:

The ID of the worker which just got modified.

Output:

The worker's details are modified in the database.

Process:

The warden logs in with his ID and modifies the details of the worker in the worker database.

2.1.3.16. Fire Worker

Input:

The worker ID of the worker who is to be fired.

Output:

The workers details are removed from the database.

Process:

The warden logs in with his ID and chooses the worker who is to be fired and accordingly use case 2.1.3.15 is invoked.

2.1.4. User Class – Clerk

2.1.4.1. Give Attendance

Input:

The worker ID of the worker who is to be given attendance.

Output:

Attendance record of the worker is modified.

Process:

The clerk logs in and gives attendance to the worker.

2.1.5. User Class – Mess Manager

2.1.5.1. Enter Mess Charge for Student

Input:

- The mess manager ID and hence the hall ID
- The mess charge of the student

Output:

The mess charges for the student are updated.

Process:

The mess manager logs in and enters the mess charge payable by the students of the Hall.

2.1.6. User Class – Printer

2.1.6.1. Print Account Statement

Input:

The Hall ID whose account statement is to be printed.

Output:

Details of all accounts are printed.

Process:

The warden logs in with his ID and enters the option to print the account statement. The accounts of the concerned hall are then printed.

2.1.6.2. Print Cheques

Input:

- The worker ID of the worker whose cheque is to be printed.
- The salary amount payable to him.

Output:

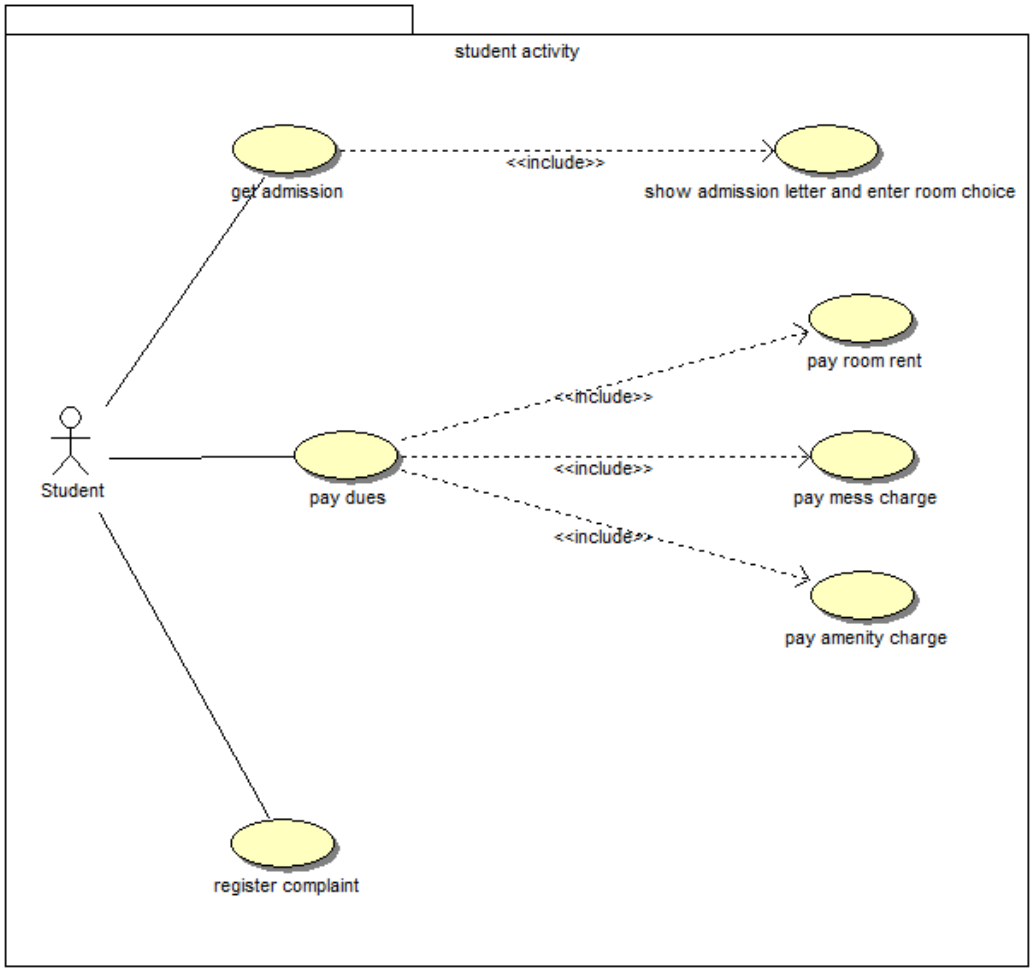
Cheque for the worker is printed.

Process:

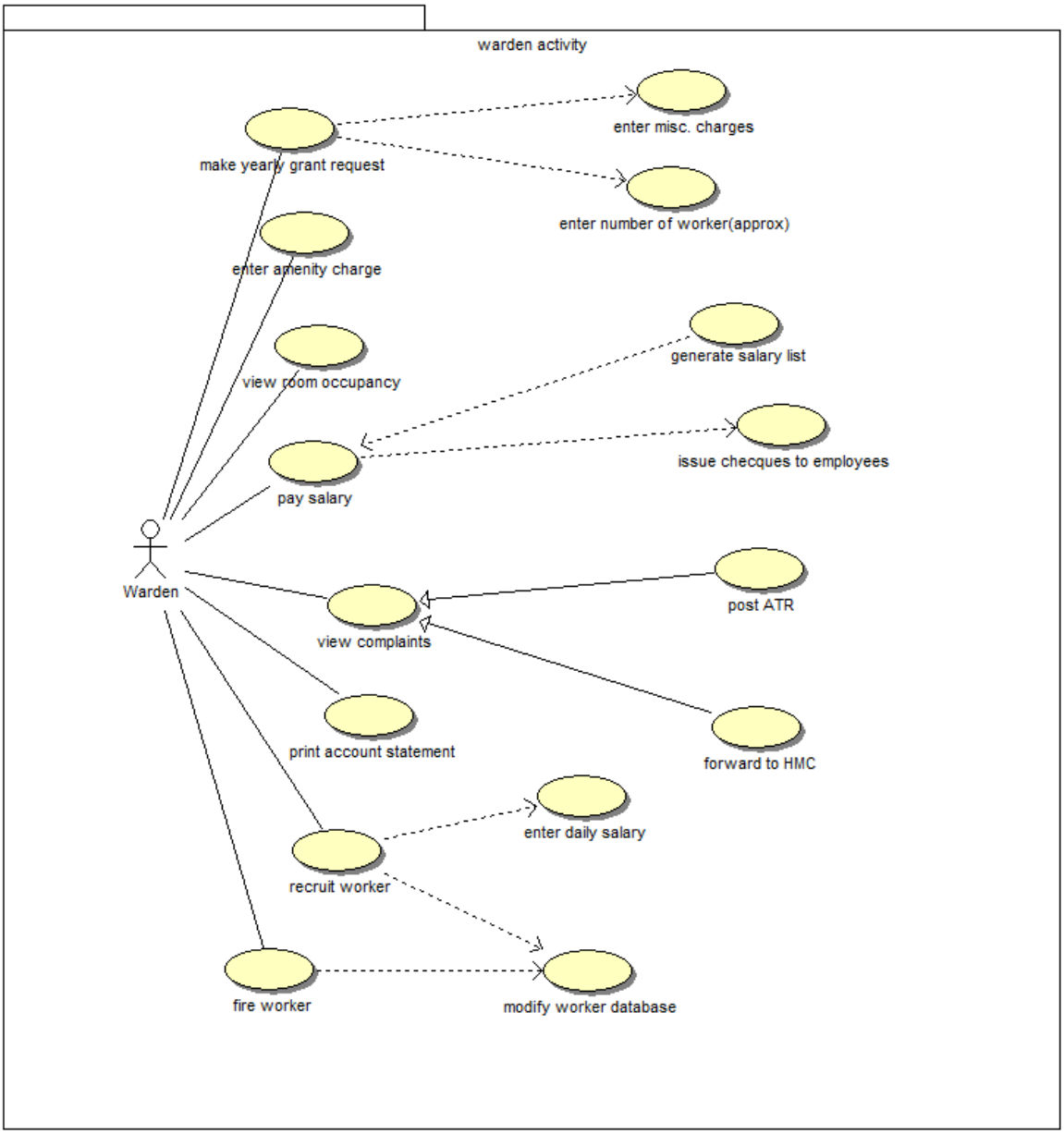
The warden logs in and exercises his option to print cheques for all workers of the Hall and accordingly cheques are printed.

3. Use Case Diagrams

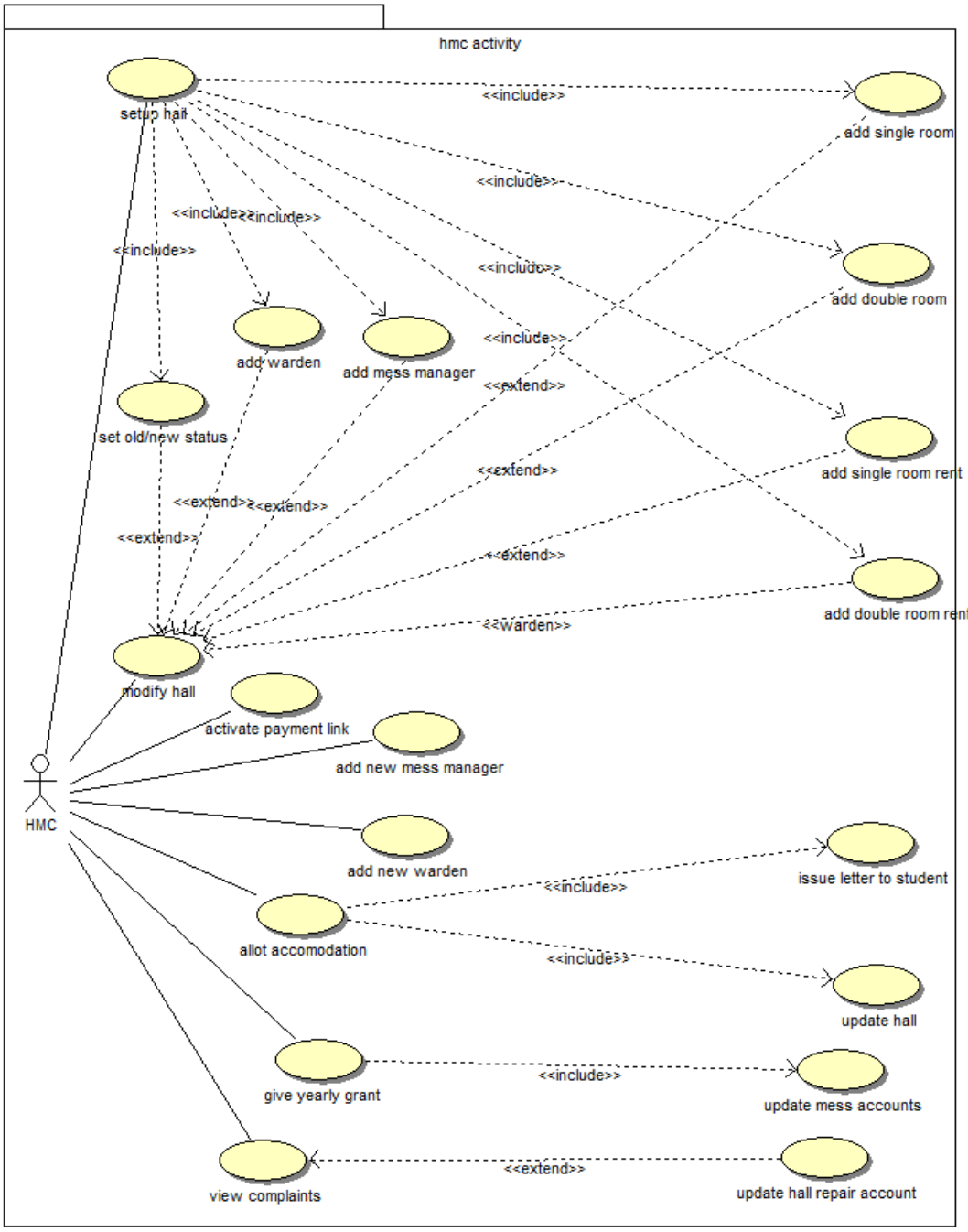
3.1. *User class – student*



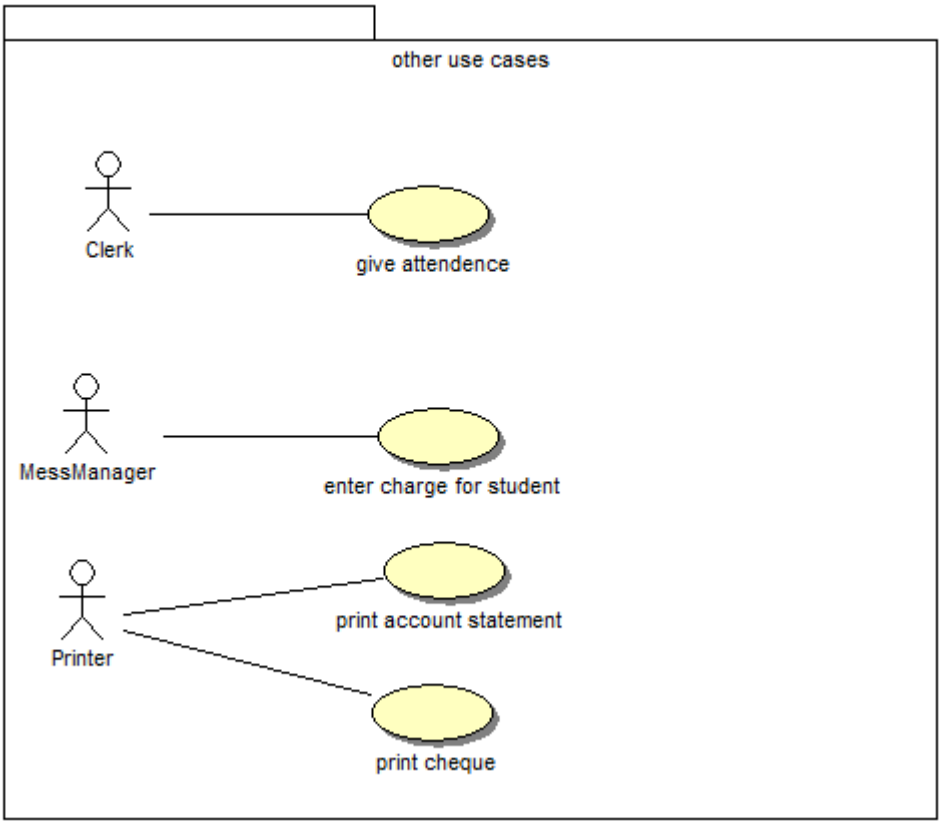
3.2. *User class – warden*



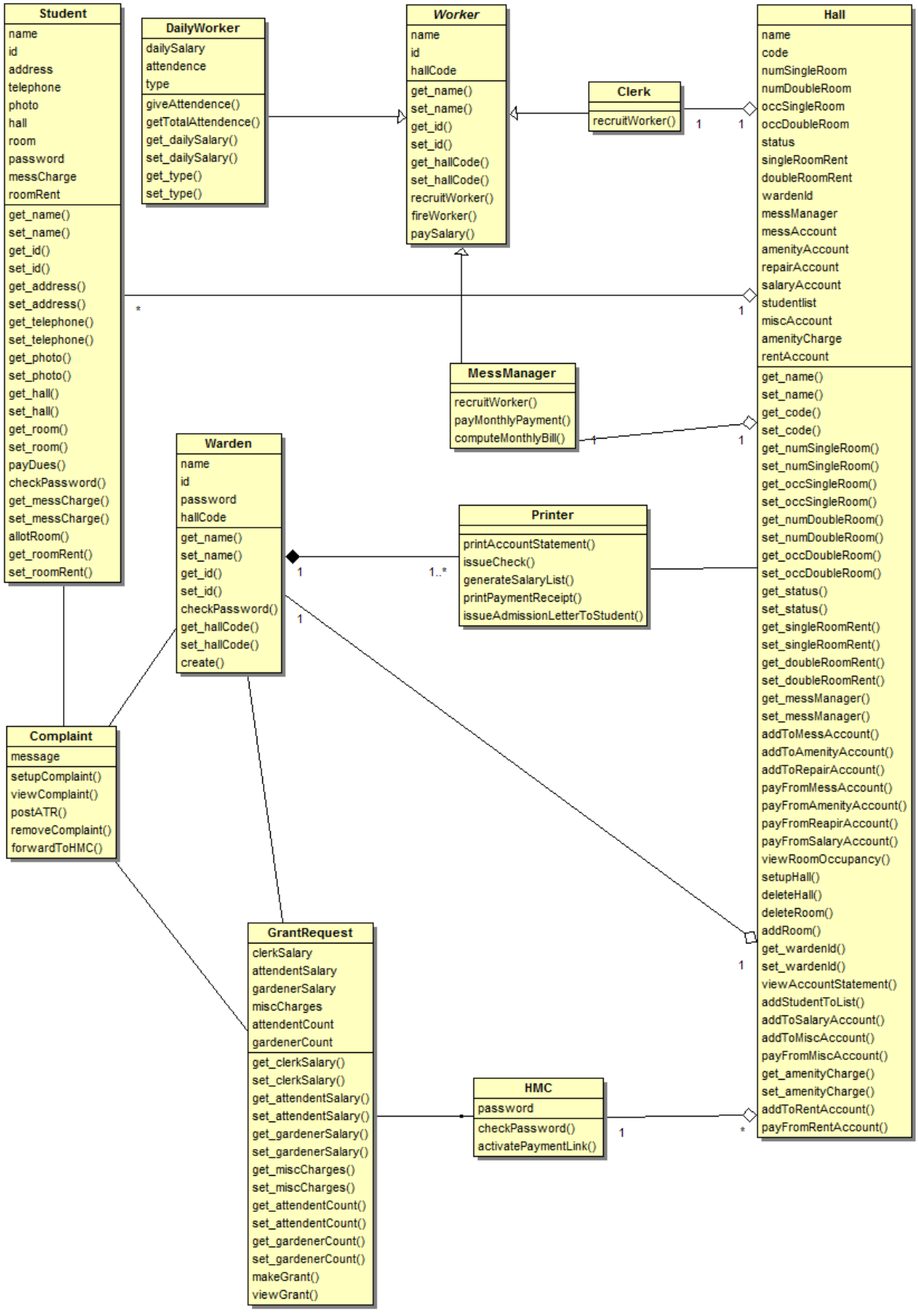
3.3. *User class – HMC*



3.4. *User class – Clerk, Mess Manager and Printer*



4. Class Diagram



Data Dictionary

- Student Dues = Mess Charge + Amenity Charge + Room Rent
- Daily Worker Salary = Attendance * Daily Salary
- Total Salary Payable by Hall = Daily Worker Salary + Clerk Salary
- Grant given by HMC = Total Yearly Salary + Misc. charges