Gebze Technical University
Computer Engineering

CSE 222 - 2018 Spring

HOMEWORK 1 REPORT

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1 INTRODUCTION

1.1 Problem Definition

We are prototyping and implementing a basic Hotel Management system using principles of OOP. Main cause can be simplified to point to rub out dust from our programming skills and combine them with Software Engineering principles we learned on first weeks such as usage of diagrams and more planned structure analysis. For this project I had few problems at first.Who will use the system(Guest and Receptionist),a System level login system and how each class interact with each other. Hotel is one big class with keeping only other room classes in it , that provided some difficulties such as implementing user datas. Number of the rooms was also a design problem for me considering unlike users you cant add rooms to some Hotel built.

1.2 System Requirements

For this project I needed

- System level Login System with 1 Receptionist and any number of Guest can enter with username and password provided/created by them. Guest must able to create new account with this system and login them without problem. Receptionist also must able to login to system and reach it's own methods and calls. System must work with menu system implemented and have able to come back and go forward without hassle.

- Human Class Interface System that classes will able to implement from and continue on altering to their needs. I created Human system so it will have flexibility to add new non System members in to Hotel later on(those wont login to system but have meaningfull job later on). From this interface SystemUser class was required as obvious we will have later on 2 classes will log in to system. This system had to have basic human requirements such as Name,Age,Sex,Nationality etc.. A information printer method also was needed.

-Hotel System that works great with Rooms that created and will be created so far.(In later on our needs may require different type of rooms and Hotel System must work with them without modification). Hotel Systems also required to check if a system user wanted to book/cancel room if they were available.

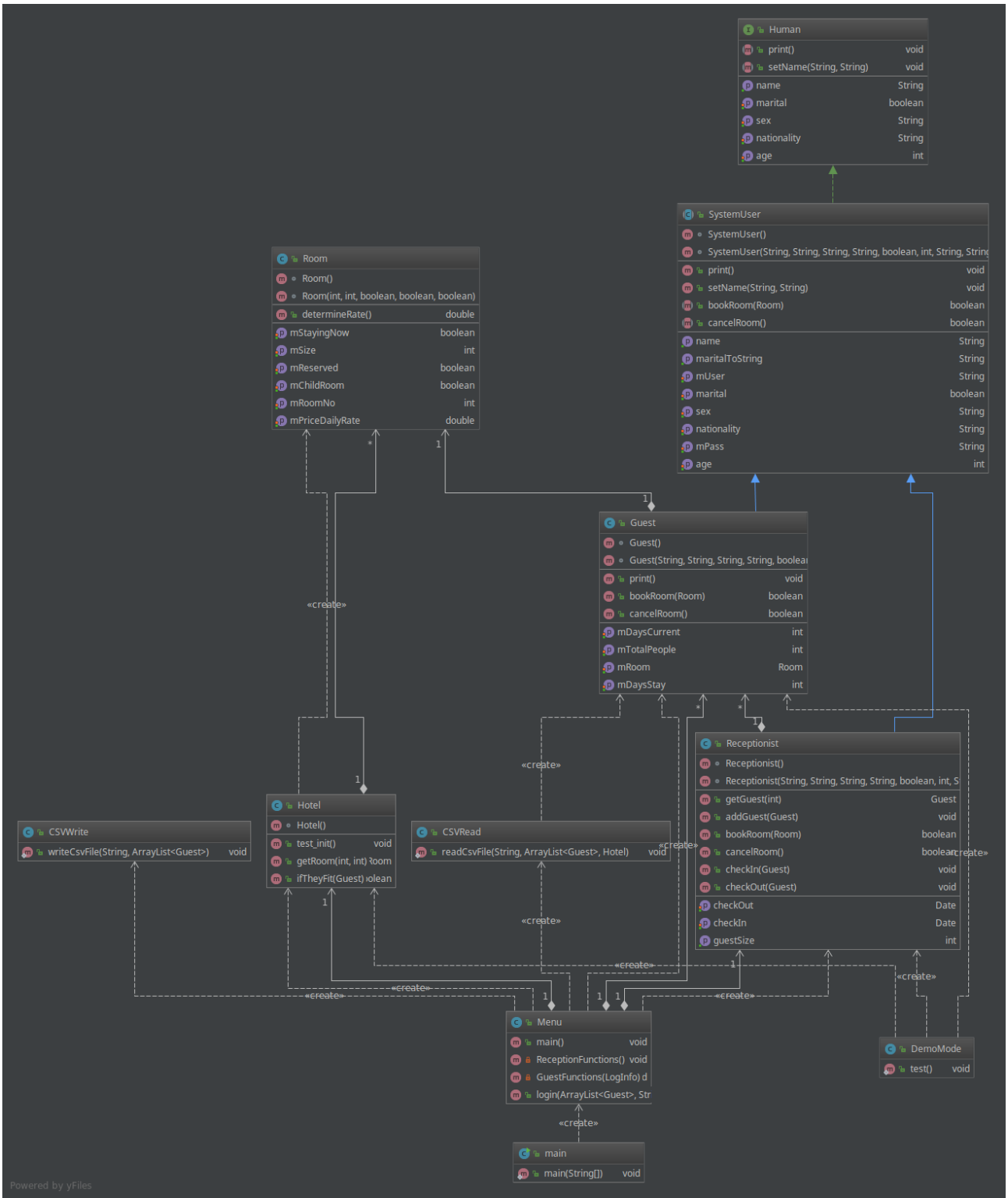
- A menu system users must navigate via terminal needed for testing purposes.

- A CSV Writer and Reader for spesific type of data printed/collected on .CSV required these classes.

Note : Dont delete .csv files because read method requires to read data from them.

- A demo case that works with system and shows system requirements by project to user. It must able to check all needs and have flexibility to test later added features with little to 0 modifications at all.

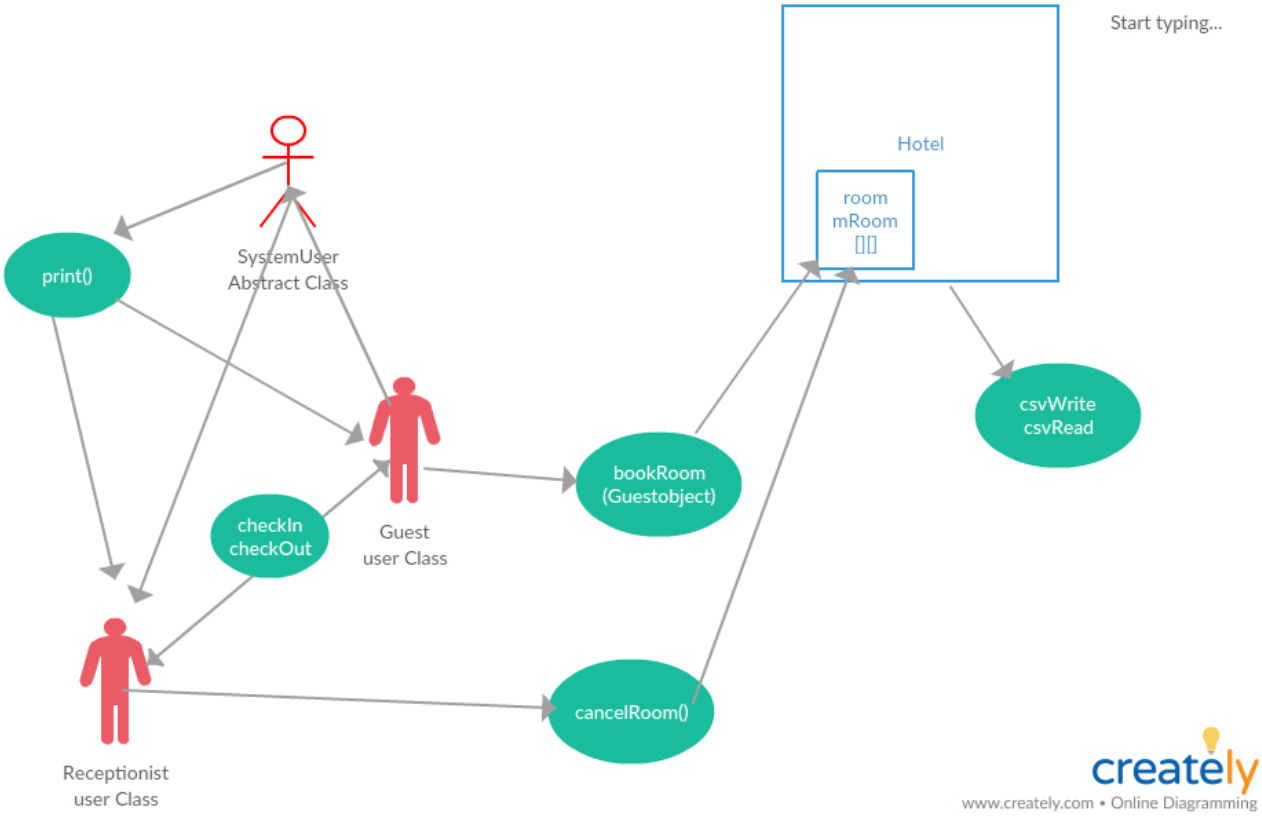
Note : Run demo from main class with selecting 1 option in first menu



2 METHOD

2.1 Class Diagrams

2.2 Use Case Diagrams



2.3 Other Diagrams (optional)

No other diagrams needed for.

2.4 Problem Solution Approach

- A system level user login system created to fit needs in requirements system. Users are creating new users via pressing “2” and entering their Guest info. (Username,Password,Name Surname,Nationality,How Many People he will stay and more). A created login info Class for checking and holding info to main classes(LogInfo).

- A Menu system created for navigation of each system user methods. Guest can able book rooms based on if Hotel has available rooms with their size(user_size must be same as roomsize we needed). Test user can choose to use either test mode provided within project or new hotel login. Users can able to exit system within menu navigation(“3”).

- Human class is created in mind of future flexibility. Developers will able to implement and continue this interface on different needs. SystemUser is Abstract Class implements Human Interface. From this class Guest and Receptionist are created. Guest and Receptionist has BookRoom and CancelRoom methods are abstract methods. SystemUser has print method that is overriden by both Reception and Guest classes,that uses super method to call info of any Systemuser+ spesific class needs.
Connection between Guest and Receptionist comes from CheckIn- Checkout, BookRoom, Cancel Room methods. Guest has their CheckIn CheckOuts hold as Date classes of Java Library. Receptionist able book rooms and cancel rooms for last users added to it’s guest list.

-Receptionist has GuestList which is ArrayList containing guest added to his list. To receptionist able to cancel,book room or do any interaction with Guest , it must be added to it’s list.If Guest added to Receptionist’s list then it may proceed to do work with it. Users are also able book/cancel room on their own.

- CheckIn and CheckOut dates are exclusive to Guest that’s why they are not available in SystemUser abstract class. But they are only editable by Receptionist as project states.

- CSV Writer and Reader implemented to fit system default Date call method. Format is “E MMM dd HH:mm:ss z yyyy” Thu Jan 01 02:00:00 EET 1970 . Simple Date Format object created to ensure their compability and handle exceptions.

-DemoMethod created for TestUser to check project needs in controlled sceneario created by me. It shows a basic simulation of Hotel such as some users come to Hotel and see their size is not fit and show message on screen. Then we proceed to edit Hotel to change some room size to their fit them. Then we added them. Adding process is done randomly to according fitting rooms. Though in first test subject there is only one room to fit so thats it.

- I provided my explanation for lack of cancel Room method in Receptionist provided in project pdf and course asistant tutor fixed problem for all.

-System is fixed 3x5 Floor hotel for design choices and only 1 receptionist in same Hotel. Unlimited amount of Guest(depends on RAM of course) could be added to system with ArrayList collection. All rooms are defaulty created random sizes in under 1-5. To make bigger rooms you need to change modification to system.

3 RESULT

3.1 Test Cases

- User Testing Back and Forward of Menu System and Quiting in the end
- Writing and reading from CSV along with CSV inside screenshooted.
- User Creating New user with its info
- User logging with newly created account to system as Guest
- User booking a room and printing user info to screen with which room he stays etc..
- Receptionist login with default system information username = admin , password = admin
- Receptionist booking rooms on based last users added to his list.

3.2 Running Results