

Theory Workshop1

Student Name	Student Number
1.Jabulani Mavodze	MVDJAB001
2.Lungile Magubane	MGBLUN004
3.Savanna Alexander	ALXSAV001
4.Takura Nyamupachitu	NYMTAK006

Team :22

Tutor:

QUESTION 1

Secure - The system should be secure against unauthorised access , as the hotel has many departments, each staff member should have login credentials that will give them access to their department data, and these departments should be accessed by authorised people only, to avoid the manipulation of data by outsiders, and the data theft .This will ensure that good businesses processes are followed and business information is protected.

Reliable – the system should be validated, free from errors , complete and tested thoroughly to avoid software or hardware failure. A system that has low risks of software or hardware failure saves costs because there won't be new costs added to fix the software. Therefore the costs will be reduced and services levels will be improved.

Efficient- the system should perform functionality according to specifications effectively both in terms of time and resources. The implementation of the system in the hotel group is 3 years and that is a long time to do research , find resources ,solution ,risks that would take place and to test it functionality.

Usable- the system should be satisfying and productive , the duration of the project is enough to build a system that will show positive returns of the IT investment and to standardise processes across the group.

QUESTION 2

To: Phumla Kamnandi Hotels, Project Manager

Date: August 11, 2021

Subject: Computing architecture for online reservation system.

The Architecture of a system is the fundamental organisation of a system, its components and their relationships to each other. In this memo, we shall discuss the best client-server computing architecture for the online reservation.

The types of software architecture are:

- **Two-tier architecture** which is divided into two parts:
 - Client Tier
 - DatabaseThe client system handles both Presentation and Application layers and the Server system handles the Database layer.
- **Multi-tier architecture** is a client–server architecture in which presentation, application processing and data management functions are separated.

The software architecture best suited for Phumla Kamnandi Hotels will be the Multi-tier architecture, because it offers:

- **High Performance** – Due to workloads being split up into different servers.
- **Faster development**- Because each tier can be developed simultaneously by different teams.
- High degree of **flexibility** in deployment platform.
- **Security**- Improved security by separating data from code
- Easy to **maintain** and modification will not affect other modules.
- Improve **Data Integrity**.
- **Scalability** – Any tier can be scaled independently of the others.

The only drawback of the multi-tier architecture will be the increase in complexity of software and the effort put.

The different components of the architecture we will be using are:

- **The presentation tier**- the user interface and communication layer of the application. Its main purpose is to display information to and collect information from the user.
- **Application tier**- also known as the logic tier. In this tier, information collected in the presentation tier is processed.
- **The data tier**- is where the information processed by the application is stored and managed. This can be a relational database management system. (mySQL)

Incase of any concerns please let us know,

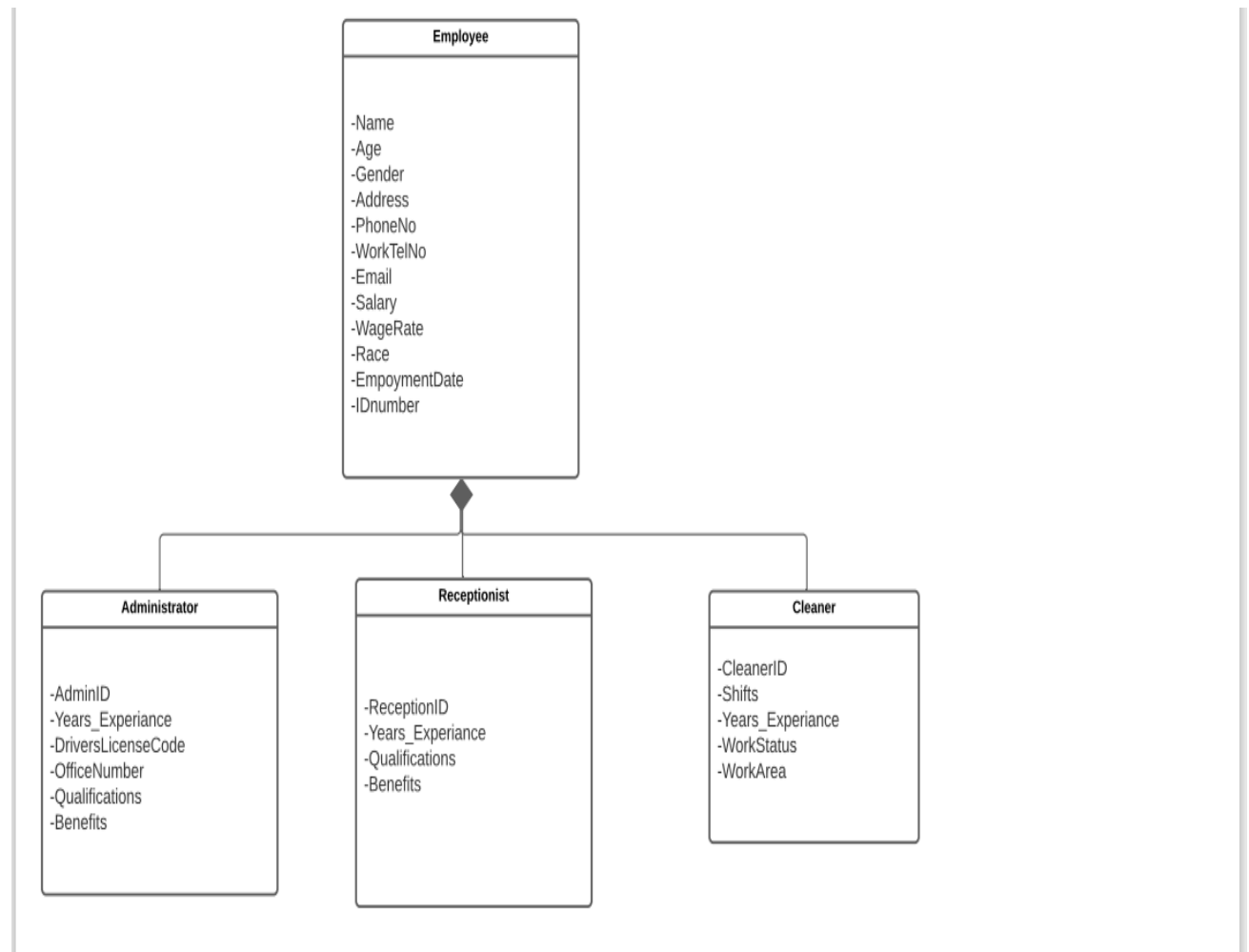
Thank you,

QUESTION3

1. Encapsulation is the process in which you would like to hide information and protect data from being directly accessed by an outside class.
2. Specialization is where characteristics from a superclass is split into two or more subclasses.
3. Generalization is where characteristics from two or more classes are combined into another generalized superclass.
4. Inheritance is when one subclass gets the attributes and methods from another superclass.

5. The class model is an example of specialisation as the superclass employee is split into three more specific subclasses such as administrator, receptionist and cleaner, therefore it is specialisation.

6.



7 and 8

