

LITHAN

Advanced Programming

Module Project

Module: Web Development Using Platforms

Start Date : 14/11/2022

End Date : 14/11/2022

Submission Date : 12/12/2022

Learner Name :Chathushi Jayarathna

Enrollment ID :

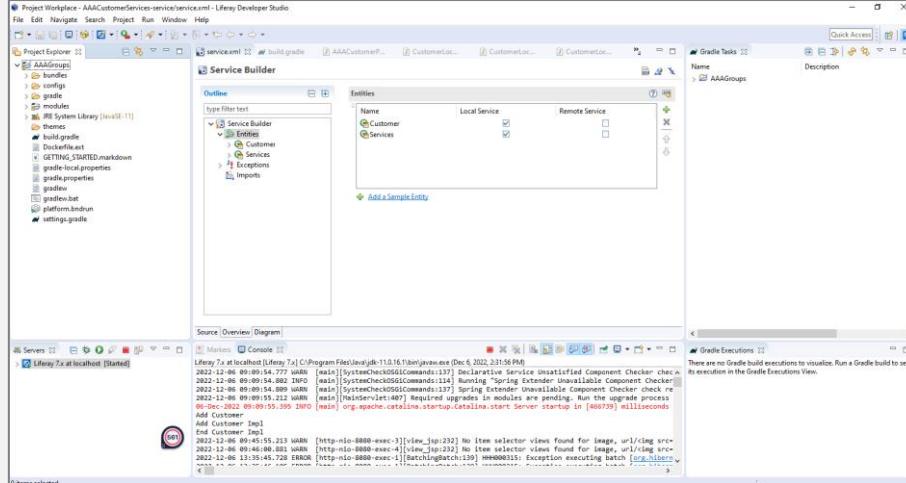
Presentation Date :

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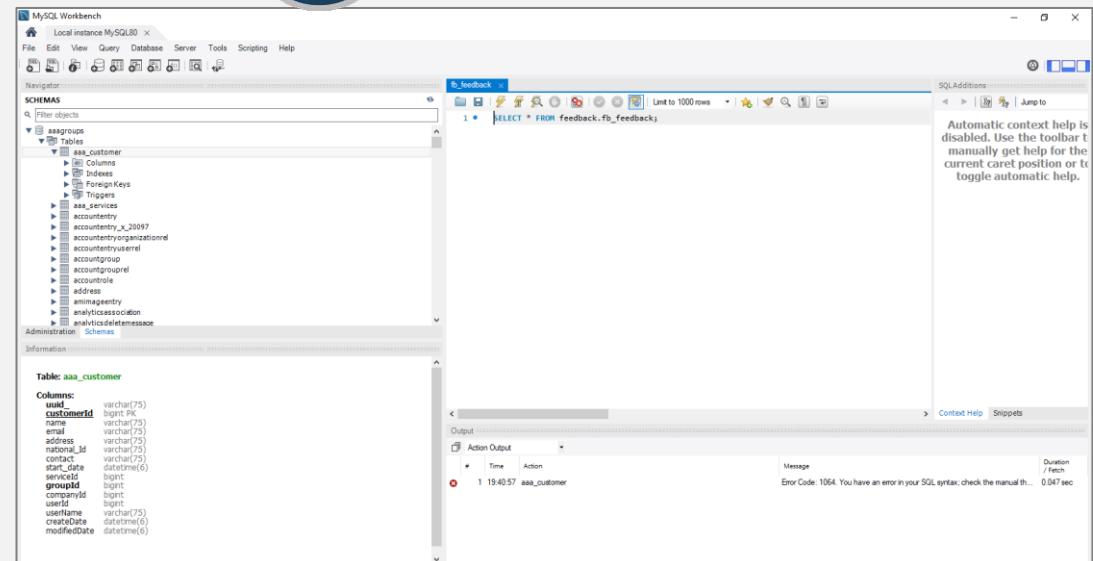
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1. List of software used

□ Developer Studio - Eclipse IDE



MySQL Workbench



1. List of software used



Microsoft Word

BDSE04-WFS-Chathushi Jayarathna-Final Project Report - Word

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1. List of design patterns for the given purpose and correspondence

1.1 Shape of design patterns in the "All Customer" section

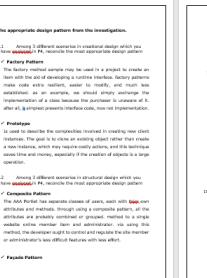
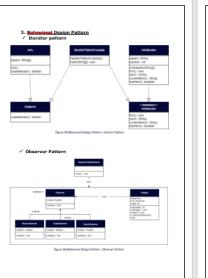
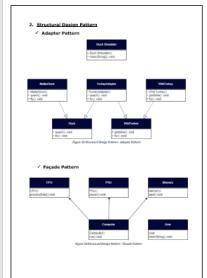
Design patterns offer valuable solutions to common issues. It simplifies the software program. In addition, reading or the development of design patterns can help us to understand how the system works. It is a platform that every developer can use. Design patterns provide a solution to common problems. For example, the Singleton pattern is a class that has only one instance. This pattern is useful for situations where there is a single resource that needs to be shared among many different parts of the application. In this case, the Singleton pattern ensures that there is only one instance of the class and provides a way to access it from anywhere in the code.

1.2 The consequences of design patterns that you have

Using design patterns is a good idea for OOP projects. It brings about cleaner and better code, however, if used excessively, it brings about unnecessary clutter. The developer needs to be aware of required classes for their design implementation.

1.3 How different design patterns can work within a range of different scenarios

- **Creational Design Patterns**
- **Factory Pattern**



The facade pattern is a design pattern that simplifies the operation of an application by combining all of the complexities into a single interface. It is a structural design pattern that provides a simplified interface to a complex subsystem. It is used to make the system more modular and easier to maintain. The facade pattern also simplifies the interaction of consumer items with their suppliers. It is a behavioral design pattern that defines a set of objects that interact with each other. It is used to describe the responsibilities involved in creating new client objects. It is a creational design pattern that creates a new instance, which may require costly actions, and the technique is used to reduce the cost of creation. Additionally, it is used to keep track of the state of the object and its environment.

1.5 How different scenarios in behavioral design, which you have identified, can be solved by using design patterns.

- **Factory Method Design Pattern**
- **Adapter Design Pattern**
- **Template method pattern**
- **Composite pattern**
- **Observer pattern**
- **Facade pattern**
- **Bridge design pattern**

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Font Paragraph Drawing

1. List of software used

LITHAN

Contents LITHAN

1. List of software used LITHAN

1. List of software used LITHAN

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Additionally, referred to as the header of body. Applying the knowledge of design patterns improves the extensibility of the software.

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1.7 Contact Us Page

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1.9 37%

2. OO Paradigm LITHAN

2.00 Paradigm

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3. Class Relationships LITHAN

3. Class Relationships

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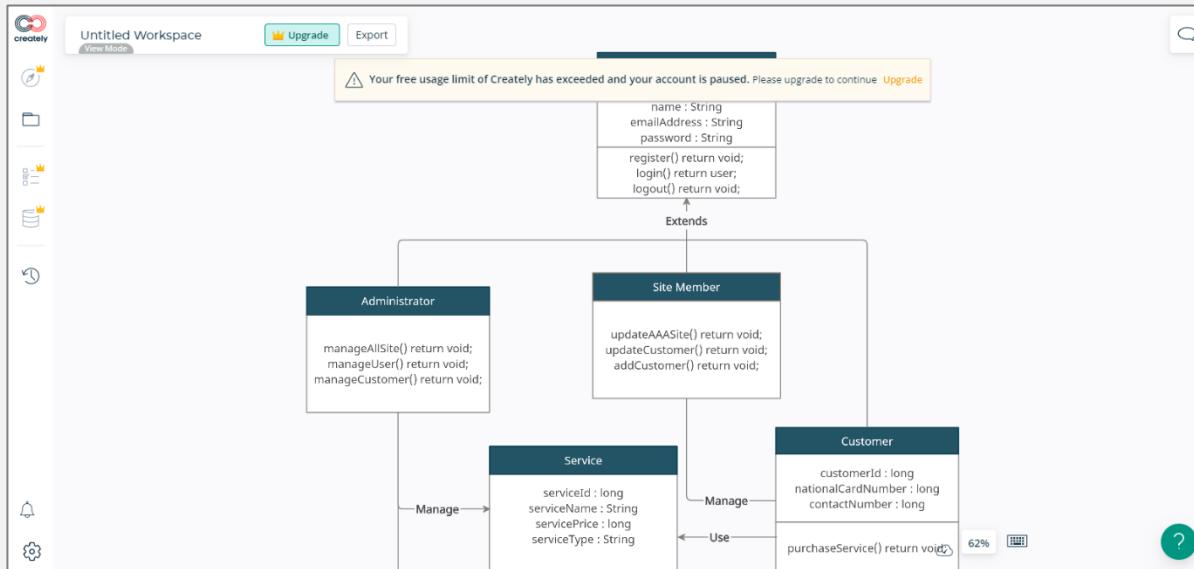
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1. List of software used



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2. OO Paradigm

OOP is a programming paradigm that relies on the concept of classes and objects and Object-oriented programming (OOP) is a computer programming model that puts together a programming plan around data, or objects, instead of capabilities and rationale. An object can be characterized as a data field that has interesting attributes and behaviour.

OOP focuses on developers' desired items to manipulate instead of the rationale expected to manipulate them. This way to deal with writing computer programs is appropriate for programs that are enormous, complex, and effectively refreshed or kept up with. This incorporates programs for manufacturing and design, as well as mobile applications; for instance, OOP can be utilized for manufacturing system simulation software.

Main Structure

- **Classes** are responsible for collecting procedures/functions and variables in one place. Class is a blueprint of an object or template for creating objects. Class represented object that will be created. So naming Class should be appropriate for the object.
- **Objects** are instances of a class created with specifically defined data. Objects can correspond to real-world objects or abstract entity. When a class is defined initially, the description is the only object that is defined.
- **Attributes** are part of a class that is still closely related to that class. Attributes can also be referred to as properties or properties of a class.
- **Method** role describes how an attribute act. The role in question is in the form of behavior that can be described by a method. Additionally, the subroutines contained in an object are called instance methods. Programmers use methods for reusability or keeping functionality encapsulated inside one object at a time.

2. OO Paradigm

❑ Characteristics of Object Oriented Programming Paradigm

1. Encapsulation

(Binding code and data together in a single unit)

Encapsulation is defined as the wrapping up of data under a single unit. It is the mechanism that binds together code and the data it manipulates. Another way to think about encapsulation is, that it is a protective shield that prevents the data from being accessed by the code outside this shield.

```
public class Person {  
    private String name; // private = restricted access.  
  
    // Getter  
    public String getName() {  
        return name;  
    }  
  
    // Setter  
    public void setName(String newName) {  
        this.name = newName;  
    }  
}
```

2. OO Paradigm

□ Characteristics of Object Oriented Programming Paradigm

2. Polymorphism

(One task is performed differently)

Polymorphism is the ability of an object to take on many forms. The most common use of polymorphism in OOP occurs when a parent class reference is used to refer to a child class object.

```
class Animal {  
    public void animalSound () {  
        System.out.println("The  
    }  
}  
class cat extends Animal {  
    public void animalSound() {  
        System.out.println("The cat says: wee wee");  
    }  
}  
    class Dog extends Animal {  
        public void animalSound() {  
            System.out.println("The dog says: bow wow");  
        }  
    }  
}  
class Main {  
    public static void main(String[] args) {  
        Animal myAnimal = new Animal(); // Create a Animal object  
        Animal myCat = new Cat(); // Create a Cat object  
        // Create a Dog object  
        Animal myDog = new Dog();  
        .animalSound();  
        myCat.animalSound();  
        myDog.animalSound();  
    }  
}
```

2. OO Paradigm

□ Characteristics of Object Oriented Programming Paradigm

3. Constructors/ Destructors

Constructors in Java is a terminology been used to construct something in our programs. A constructor in Java is a special method that is used to initialize objects. The constructor is called when an object of a class is created. It can be used to set initial values for object attributes.

The destructor is something opposite to the constructor. The constructor is utilized to instate objects while the destructor is utilized to delete or destroy the item that delivers the asset involved by the object

```
// Create a Main class
public class Main {
    int x; // Create a class attribute
}
// Create a class constructor for the Main class
public Main() {
    x = 5; // Set the initial value for the class attribute x
}
public static void main(String[] args) {
    Main myObj = new Main(); // Create an object of class Main (This will call the
constructor)
    System.out.println (myObj.x); // Print the value of x
}
// Outputs 5
```

2. OO Paradigm

□ Characteristics of Object Oriented Programming Paradigm

4. Abstraction

(Hiding internal details and showing just the functionality to the user)

Abstraction is a process of hiding the implementation details and showing only functionality to the user. Another way, it shows only essential things to the user and hides the internal details.

```
//abstract parent class
Abstract class animal {
//abstract method
    public abstract void sound ( ) ;
}
Public class lion extends animal {
    Public void sound ( ) {
        System.out.println (" roar " );
    }
    public static void main ( String args [ ] ) {
        animal obj = new lion ( );
        obj. sound ();
    }
}
```

2. OO Paradigm

□ Characteristics of Object Oriented Programming Paradigm

5. Interface

(Hiding internal details and showing just the functionality to the user)

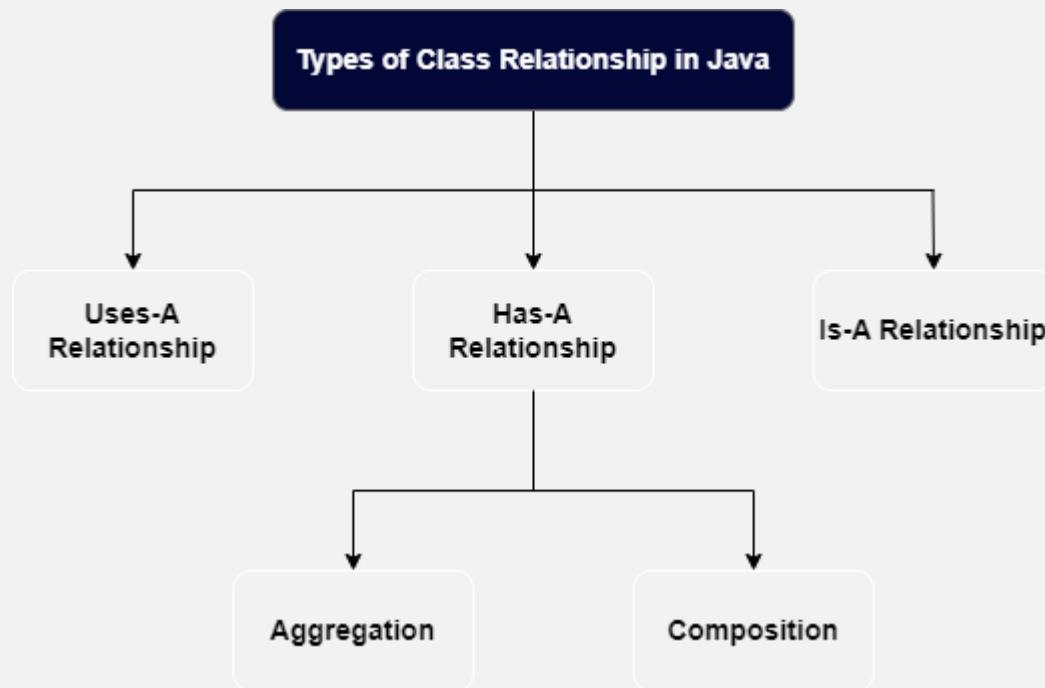
A totally abstract class is what an interface is. It consists of several abstract techniques (methods without a body). In Java, an interface is created with the interface keyword..

```
// Interface
interface Animal {
    public void animalSound(); // interface method (does not have a body)
        public void sleep(); // interface method (does not have a body)
}
// Pig "implements" the Animal interface
class Pig implements Animal {
    public void animalSound() {
// The body of animalSound() is provided here
        System.out.println("The pig says: wee wee");
    }
}
public void sleep() {
// The body of sleep() is provided here
    System.out.println("Zzz");
}
class Main {
    public static void main(String[] args) {
        Pig myPig new Pig(); // Create a Pig object
        myPig.animalSound ();
        myPig.sleep();
```

3. Class Relationships

Class relationship define the special relationship amongst one of a kind types of classes. when we design a prime software or application, we need to discover the relationships amongst lessons. It allows us in some of methods.

As an instance, in utility we've got classes with commonplace methods. Then we will keep attempt by means of re-use the technique from one super class. suppose a few lessons aren't associated with every other we are able to assigned unique programmers to put in force every of them.



3. Class Relationships

□ Types of Relationship

✓ Dependence (Uses-A)

When we create an object of a class inside a method of another class, this relationship is called dependence relationship in Java, or simply Uses-A relationship. In other words, when a method of a class uses an object of another class, it is called dependency in java. It is the most obvious and most general relationship in java.

In UML, a dependency relationship is a relationship in which one element, the consumer, uses or relies upon some other element, the supplier. you may use dependency relationships in class diagrams, component diagrams, deployment diagrams, and use-case diagrams to suggest that exchange to the provider might require a trade to the purchaser

✓ Inheritance (Is-A)

In Java, inheritance reflects the Is-a relationship. It makes a link between a greater general (superclass) and a more specific (subclass) class (called subclass). to put it another way, the Is-A relationship describes the connection between two lessons in which one magnificence extends every other. for example, I stated summary and interface, which each put in force the concept of inheritance with the aid of organising a relationship among the parent and child classes.

✓ Realization

Last is realization, it's miles a relationship among two elements in UML where one element specifies behavior and the other elements implements or execute, in different words, recognize, that behavior. the relationship also regularly referred to as being among a supplier and customer. realization regularly getting used on interface or a set of operation.

3. Class Relationships

□ Types of Relationship

✓ Association (Has-A)

when an object of 1 class is created as a data member inside every other class, it's far referred to as a Has-A relationship. In other phrases, a relationship in which an item of one class has a reference to an item of another class or any other instance of the equal class is referred to as a Has-A relationship in Java.

There following types of relationships under association:

- Unidirectional Association

If an object associates with another object, it is called unidirectional association. It is also called one-way relationship or one-to-one relationship.

- Bidirectional Association

When objects involved in association communicate with each other, it is called bidirectional association. In other words, an object can have associated with multiple objects and vice versa. This shows many-to-many relationship that could also be one-to-many and many-to-one relationship.

3. Class Relationships

□ Types of Relationship

▪ Association (Has-A)

Has-A relationship itself has two branches:

- **Aggregation**

It is an advanced form of unidirectional association which represent an ownership relationship between two class objects. When two aggregated objects have their own life cycle but one of the objects is the owner of Has-A relationship. Having their own relationship means destroying one objects will not affects another object.

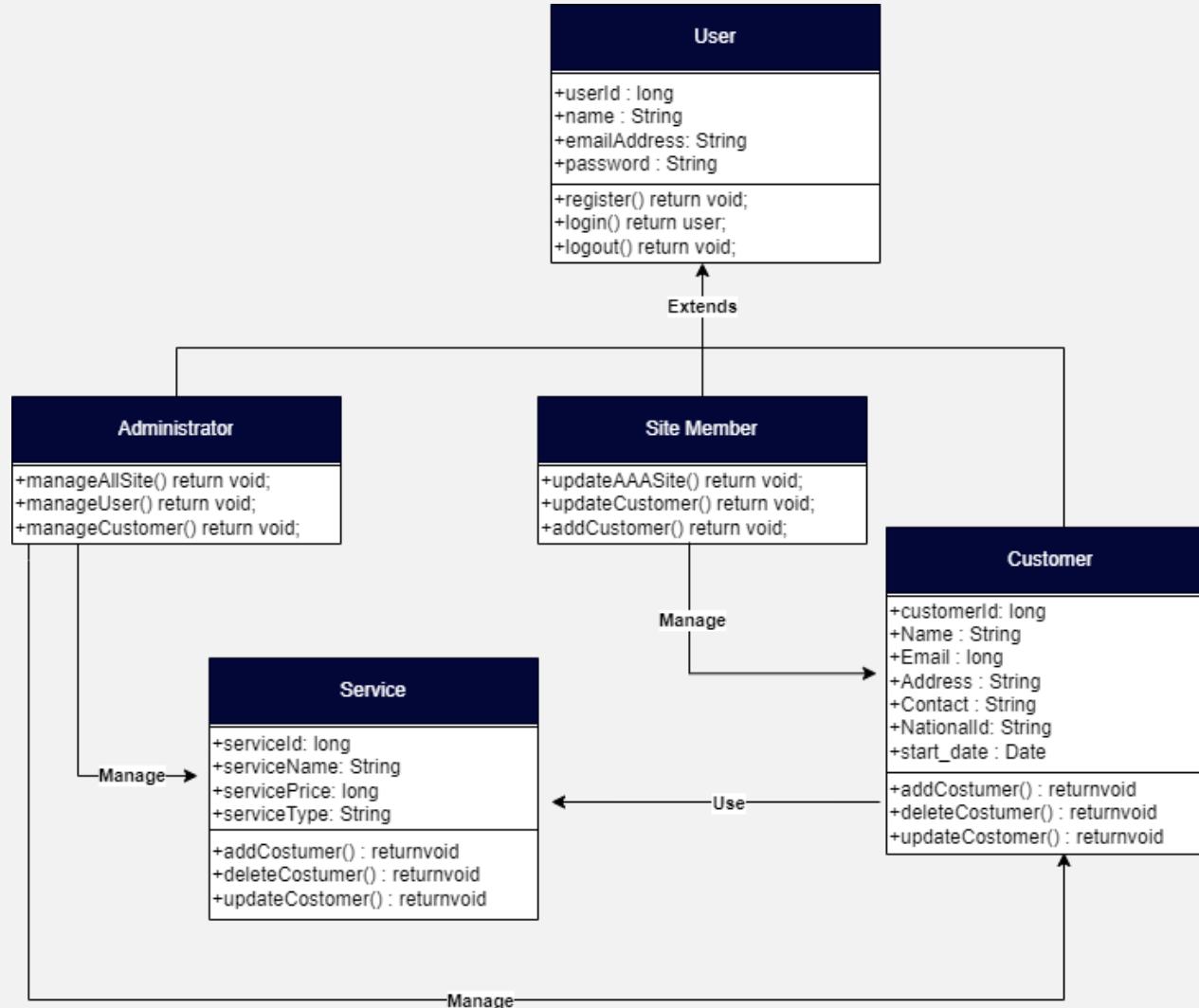
- **Composition**

While composition is the next level of aggregation, it is a more restrictive and strong form of aggregation. Composition differs from aggregation is that composition represent Has-A relationship that contains an object which cannot exist on its own.

In other words, child object does not have its own lifetime. If the parent object is destroyed, the child also got destroyed. Although it seems similar to inheritance, inheritance is defined as Is-A while composition is Has-A.

4. Class Diagram

Class Diagram based on project scenario using UML



4. Class Diagram

□ Class Diagram based on project scenario using UML

Users are divided into 2 as admin and site members. Admin can manage the customer and manage the offerings and a member of the website can manipulate the consumer. The relationship between services and clients is composition, i.e. Composition of clients. Customers exist or are created if someone wishes services. Inheritance is used for admin, website member and user classes as inheritance lets us to put in writing applications that require fewer base and super classes. Inheritance creates a subclass which can use the methods of its superclass without rewriting the code for the ones methods. For customer and services, composition, service, and client are associated with every other. Whenever there may be a customer which means there must be a service. Admin makes use of customer and service association; admin can manage consumer and service.

Class	Attributes	Methods	Explanation
Admin		manageSite() manageAllUser() manageService()	A class named Admin inherits the residences of the user class and the admin can manage the web site in various project record NICF Capstone assignment the usage of Java page 48ways. It has information control skills and internet site access.
Customer	Name Email Address Contact Start_date Service_Name	provideInformation()	A class that gets the attribute from the user. On the grounds that a record of a customer who purchased a service requires more particular records, numerous attributes have been introduced
Site Member		editCustomer() removeCustomer() addCustomer() addContent() editContent()	The web page Member class inherits properties from the user class, a designation that influences both content and information approximately the customer.

5. Developing Triple A portal

Home Page

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Ingress your domain by linking email from @yourwebsite.com. Get secure, reliable Private Email connected to your domain, complete with business tools and calendar from just \$1.00 a year.
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Take the stress out of security with SSL Certificates, PremiumDNS, VPN and more. Plus a range of features — like 2-factor Authentication — included completely free with your account.
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Our company offer you discount for lifetime, your plan and also renewal fee will be exact same. No change price, no hidden fees.

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Our support team works around the clock 365 days and our Helpdesk is always easily available to your help.

Best Pricing in the Industry
Our aim is to give very best rates and feature, unique ideas in the market for any kind of current, or future planes and cost renewals.

Anti-DDoS Protection
We protect your servers around clock 365 days against any type of DDoS attack, regardless of size or duration.

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5. Developing Triple A portal

About Us

The screenshot shows the 'About Us' section of the AAA Group website. At the top, there is a navigation bar with links for Home, About Us, Contact Us, Our Services, and Terms & Conditions. To the right of the navigation is a search bar and a 'Sign In' button. The main content area has a dark blue background with white text and features several 3D isometric illustrations of people interacting with digital interfaces and server racks.

ABOUT US

AAA is the web hosting and cloud partner for small and medium-sized businesses. We are experts in IaaS and offer a portfolio of solutions for the digital space. As the largest hosting company in Europe, we manage more than 8 million customer contracts and host over 12 million domains in our own regional data centers in the US and Europe. We help entrepreneurs taking their first steps online, business owners scaling up, large companies and the partners who help them succeed. Whether building an online presence by securing a domain, building a website, moving back-office processes to the cloud, or orchestrating a container cluster, our comprehensive product range offers a best-in-class app, server or service. Reliability and security are engineered into the core of our products. Our data center network delivers optimal performance and georedundancy. With headquarters in Germany, we rely on a solid mix of state-of-the-art technology, strong privacy policies and airtight data security. Unique to the industry, we offer a dedicated customer service agent to every customer. Your own personal consultant will take the time to get to know you and your business, helping you make the most of your online presence. World-class customer support through a single point of contact is yours at no extra cost. You deserve nothing less than the latest technologies at a great price and in terms that are easy to understand. The best contract is flexible and doesn't require a team of legal experts, so we've tried to make our product offerings and prices as transparent as possible. Helping to make you a success online is our gain — ensuring that you've got time for other more important things is our goal.

OUR HISTORY

AAA was born in 1988, with the main aim of making information technology easy for everyone to understand and use. Committed to delivering powerful, reliable and secure products, AAA engineered its own data center architecture and extensive network, enabling millions of clients to get online, set up their web presence and take advantage of more sophisticated digital services. After initial successes in Europe, AAA launched AAA Inc. in 2003 in Chesterbrook, Pennsylvania. Within a year, AAA had expanded its US-based customer service team and in November 2004 the company ranked among the top ten web hosting providers in the United States. To better serve the market, a large data center of over 40,000 servers was commissioned in Lenexa, Kansas. AAA helped solidify its US market position by completing the takeover of malcom in 2010. Mass-market hosting success, combined with years of experience building server hardware tailored to cloud applications, was complemented by other strategic acquisitions to create a full-fledged hosting leader. AAA cemented its position as a world-class provider of hosting solutions and became the largest domain registrar in Europe. Robust infrastructure portfolio in hand, AAA then integrated cloud-based digitization applications and tools into its offering, enabling businesses of any size to safely and simply harness the benefits of the cloud.

OUR PROMISES

1. An answer to all your questions
Your personal consultant will help you get the best results out of all AAA products and services, and will assist you with any questions or problems you may have. This is an exclusive service we offer completely free of charge.

2. Everything you need to get started online
We provide everything you need to look professional online, and for reliable communication with your customers and business partners.

3. Tools for your online success
Our online marketing and search engine optimization packages, professional communication, local and online visibility, and the know-how to improve your search rankings are all at your disposal.

4. Future-proof server technology
From classic web hosting with WordPress to highly flexible cloud server solutions, AAA provides the technology professional users need, encouraging the successful development of their companies.

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5. Developing Triple A portal

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Support whenever you need it
Less Phone, More Support

We don't want to keep you hanging, waiting for someone to answer the phone. That's why we believe that live chat and other means of internet communication can solve problems more efficiently

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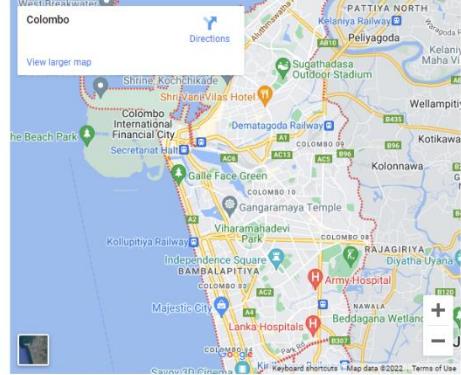
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Reseller Hosting
Reseller hosting allows you to host multiple clients and allow them to manage their own orders independently. Based on Uptime, Minimum price, Support and more.
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Cloud Hosting
Cloud Hosting is best described as a group of servers, which share their CPU, RAM, and space to make one big pool of resources, which is then virtually shared among multiple sites and users.
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VPS Hosting
VPS Hosting puts the power in your hand. Virtual Private Servers, or VPS, give you the cost benefits of shared hosting with the performance and control of Dedicated Hosting.
[Go Somewhere](#)

Dedicated Hosting
A home for your website. Before you write your first post, share your first photo or sell your first product, your website needs to get online. Hosting is your website's connection to the world.
[Go Somewhere](#)

Colocation Server
Each cabinet supports high-density configurations, which means that you never have to settle for a deployment that is not optimal for your business. We allow you to turn-up or turn-down the amount of computing power you buy.
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5. Developing Triple A portal

Domain Name

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DOMAIN NAME
Make a Name for Your Website. Literally.
Your domain helps people find you online and makes a first impression. Find one that represents you perfectly

Search...

Ending with .com is just the beginning.
There are many unique domain options. Here are some of the most popular.



Domain Search Tips – 6 Points To Remember

 Keep It Short While there is no minimum length for domain registration, the best domain names are under three words. Longer website names are harder to read and won't stand out.	 Less Is More Avoid hyphens, numbers, slang, and easily misspelled words in your domains. Complex elements like these will make your website address much harder to reach and remember.	 Include Your Brand Name A great domain for your website or online store should include your brand or the target keywords for your niche. A search result with a keyword in the site name will offer better brand recognition and increase your website's traffic.
 Domain Availability Search You need to perform a domain search to ensure it isn't already registered. Also, it's a good idea to verify if another entity hasn't trademarked it so that you can buy that domain name with confidence.	 Think Locally While many people favor purchasing .com domains, you may want to register a country-specific extension like .co.uk or .de – especially if you target a particular country.	 Act Fast The best website names are quickly taken. Don't miss out on the perfect domain – do a domain name search and register it in minutes.

Discover the Most Popular Domains.

.com Build trust with this best-known domain \$8.88 <input type="button" value="SELECT"/>	.online It's a great alternative to .com. Broad, generic and universal. \$1.79 <input type="button" value="SELECT"/>	.store Perfect for retail businesses of all sizes across the industries \$3.55 <input type="button" value="SELECT"/>	.site Can be used for any online idea. Unique and professional. \$0.77 <input type="button" value="SELECT"/>
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Shared Hosting

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SHARED HOSTING

Building your own website just got easier

With AAA Shared Hosting you get all the features, tools, and guidance you need to build and launch truly impressive WordPress websites

GET STARTED

Bring your website to life.

Shared hosting is the easiest, most economical way to get your website connected to the Internet so you can start building it.



Shared Hosting Features



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Although SSL certificates are now mandatory, we've still got your back. In fact, all Shared Hosting plans come with 50 free PositiveSSL certificates for one year, which are automatically set up.



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Need some help? Our dedicated team of hosting experts is standing by, ready to help via Live Chat. Whether you're just starting out or there's an issue that needs fixing, we're here for all your Shared Hosting needs.



WordPress and cPanel

Need some help? Our dedicated team of hosting experts is standing by, ready to help via Live Chat. Whether you're just starting out or there's an issue that needs fixing, we're here for all your Shared Hosting needs.

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\$2.23/mo Save 75% with coupon	\$2.98/mo Save 71% with coupon	\$4.98/mo Save 69% with coupon	\$10.98/mo Save 51% with coupon
SELECT You pay \$25.88 — renews at \$49.88/year (1 Websites, 20 GB SSD, 30 Domain-Based Mailboxes)	SELECT You pay \$34.88 — renews at \$68.88/year (Multiple Websites, Unmetered SSD, Unlimited Domain-Based Mailboxes, AutoBackup)	SELECT You pay \$58.88 — renews at \$108.88/year (Unlimited Websites, 50 GB SSD, Unlimited Domain-Based Mailboxes, AutoBackup)	SELECT You pay \$58.88 — renews at \$108.88/year (100 GB SSD Storage, Custom Themes, 24/7 Customer Support)

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5. Developing Triple A portal

Reseller Hosting

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RESELLER HOSTING
The quality you need with all the potential to earn
Can't decide? Let us help you choose the right hosting plan.
GET STARTED



Make \$\$\$ as a Reseller
Sell our hosting, earn some cash. Create your own hosting business and run it any which way you like.

Reseller Hosting Features

- All the Essentials**
Manage everything from one single dashboard (cPanel). Quickly set up Content Management Systems (WordPress, Joomla, Magento, etc) using the Softaculous app installer. Create your own private nameservers. Get unlimited bandwidth to withstand heavy traffic. Add unlimited domains/subdomains, and protect your clients with built-in firewalls and anti-virus software.
- WHM Control**
Create and modify your clients' hosting accounts with Web Host Manager (WHM), a handy program that gives you administrative access to the back end of cPanel. So when you create a new account for your client, it's kept separate from yours, allowing you to individually manage as you see fit.
- Account Management Tools**
Whether you want to set up client invoices or brand the existing cPanel logo with a customized one, our full suite of tools helps make the most out of your business. Take advantage of the WHMCS billing platform, white-label marketing tools, the SSL reseller program, and much more.
- State-of-the-Art Technology**
Deliver fast, reliable, and secure hosting to your clients, thanks to our Juniper/CISCO network. Here we run special high-powered reseller servers such as Dell PowerEdge with 56 core Xeon CPUs, 256GB+ RAM, and RAID 6 Pure SSD.

Reseller Hosting Plans

NEBULA	GALAXY EXPERT	UNIVERSE PRO
\$19.8/mo	\$39.8/mo	\$58.8/mo
Save 50% with coupon	Save 50% with coupon	Save 50% with coupon
SELECT Renews at \$19.88/month (60 GB disk space, 600 GB bandwidth, Unlimited websites, Free SSL certificate)	SELECT Renews at \$39.88/month (90 GB disk space, 900 GB bandwidth, Unlimited websites, Free SSL certificate)	SELECT Renews at \$58.88/month (140 GB disk space, 1400 GB bandwidth, Unlimited websites, Free SSL certificate)

5. Developing Triple A portal

Cloud Hosting

AAA Group

Search...  Sign In

Home About Us Contact Us Our Services  Terms & Conditions

CLOUD HOSTING

Unleash the Power of Managed Cloud Hosting

Save time & money with simple and reliable cloud hosting trusted by 80,000+ agencies, developers, and businesses that demand high performance from their websites!

GET STARTED

Discover Possibilities, Not Hosting Worries

Cloudways removes the complexity of cloud hosting and lets you focus on what matters most: your business



Cloud Hosting Features



Safe Environment

Data centers are reinforced with thick concrete walls, 24/7 surveillance, and multiple security layers, making cloud hosting one of the most secure platforms to host your business-critical data.



Automated Backups

No need to separately copy files to new folders. Let automated programs do the work for you. Backups update right when you make changes to original files.



Uptime Guarantee

What good is a service that cannot guarantee quality? Cloud services come with an uptime assurance of three nines (99.9%). With downtime as little as an hour in one year, your website runs like an engine does after lubrication.

Configure. Order. Deploy.

CLOUD STARTUP

\$7.20/mo

Save 25% with coupon

SELECT

*Valid for first 4 invoices only
(RAM 1GB, Processor 1 Core, Storage 25GB, Bandwidth 1TB)

CLOUD PROFESSIONAL

\$14.23/mo

Save 22% with coupon

SELECT

*Valid for first 4 invoices only
(RAM 2GB, Processor 1 Core, Storage 50GB, Bandwidth 2TB)

CLOUD ENTERPRISES

\$27.11/mo

Save 45% with coupon

SELECT

*Valid for first 4 invoices only
(RAM 4GB, Processor 2 Core, Storage 80GB, Bandwidth 4TB)

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5. Developing Triple A portal

VPS Hosting

VPS HOSTING

VPS hosting that puts the power in your hands.

Can't decide? Let us help you choose the right hosting plan.

GET STARTED



Choose the right plan for your big plans.

Whether you're building one high performance site or an army of them, our plans flex to your needs.

VPS Hosting Features

- Completely Customizable**
No matter your level of tech-savviness, your VPS comes customized. Choose your Operating System (Ubuntu, CentOS or Debian), gain root access to your server, and decide if you want a control panel (cPanel) installed
- Powerful VPS Security**
Thanks to our state-of-the-art hardware, software firewalls, and internal security package, your virtual hosting environment remains in safe hands. For further peace of mind, enjoy routine server backups.
- Incredibly Fast**
Pure Solid State Drive (SSD) means you're looking at 20X faster storage over traditional Hard Disk Drives (HDD), which are preferred by VPS competitors. This results in significant improvements to your website's performance, speed and loading times.
- 24/7 Live Support**
If you've got questions, want to discuss your custom VPS options or upgrade your level of server VPS management, we're here for you—round the clock.

Control and flexibility when your business needs it

STANDARD	ENHANCED	ULTIMATE
Get started with your own virtual server \$19.8/mo Save 50% with coupon SELECT You pay \$82.56 — renews at \$82.56/year (1.2 Cores, 30 GB SSD Storage, 2 GB RAM, 1 TB Bandwidth, 1 IP Address, cPanel Accounts - 5, cPanel/WHM)	More storage means more room to play \$29.95/mo Save 52% with coupon SELECT You pay \$154.56 — renews at \$154.56/year (2 Cores, 60 GB SSD Storage, 4 GB RAM, 2 TB Bandwidth, 2 IP Addresses, cPanel Accounts - 30, cPanel/WHM)	The perfect pairing of power and resources \$59.99/mo Save 58% with coupon SELECT You pay \$298.56 — renews at \$298.56/year (4 Cores, 120 GB SSD Storage, 8 GB RAM, 3 TB Bandwidth, 2 IP Addresses, cPanel Accounts - 50, cPanel/WHM)

Powered by Liferay

5. Developing Triple A portal

Dedicated Hosting

AAA Group

Home About Us Contact Us Our Services Terms & Conditions

Search...  Sign In

DEDICATED HOSTING
A dedicated headquarters for your online empire.

Can't decide? Let us help you choose the right hosting plan.

GET STARTED

Choose the plan that matches your needs.

Whichever you choose, with dedicated hosting it's all yours. No sharing, no competition, no limits.



Dedicated Hosting Features

- Free Migration**
Want to transfer your existing server to Namecheap? It's simple and it's free. With zero additional charges to set up or install your Operating System (OS), you won't find hidden costs with us.
- Free SSL Certificates**
Manage your Dedicated Server exactly how you like. With three management options to choose from (User-Responsible, Basic or Complete), you decide how much control you want.
- Airtight Security**
Feel extra secure thanks to a private peering network, which provides you with stable connectivity for any website or application you may be running. Under Complete Server Management, our technicians will routinely monitor to check for any server issues.
- Optimized Network**
Forget costly downtime or slow loading speeds. Your Dedicated Server operates on a separate Cisco network that's connected to Level3, Highwinds, HE, Cogent, and Interga, ready to handle any incoming traffic.

Simply select your preferred type of management during the purchase phase.

STANDARD	ENHANCED	PREMIUM
\$89.90/mo <small>Save 50% with coupon</small>	\$79.99/mo <small>Save 33% with coupon</small>	\$119.9/mo <small>Save 42% with coupon</small>
SELECT Auto renews at regular rate (4 core / 8 thread, Intel Xeon-D CPU, 8 GB RAM, 1 TB HDD, Unmetered bandwidth, Linux or Windows OS)	SELECT Auto renews at regular rate (8 core / 16 thread, Intel Xeon-D CPU, 16 GB RAM, 2 TB HDD / 512 GB SSD, Unmetered bandwidth, Linux or Windows OS)	SELECT Auto renews at regular rate (8 core / 16 thread, Intel Xeon-D CPU, 30 GB RAM, 1 TB SSD, Unmetered bandwidth, Linux or Windows OS)

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5. Developing Triple A portal

Colocation Server Hosting

 AAA Group

Search...  Sign In

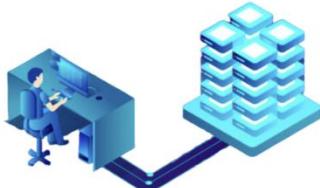
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COLOCATION SERVER HOSTING

Protect, power, and connect your infrastructure, globally

Maximize availability, minimize risk, and reduce costs with IT colocation services in our state-of-the-art facilities. You get reliability, performance, and security, without the risk and overhead of building and maintaining your own data center.

[GET STARTED](#)



Colocation Server Hosting Solutions

Start ordering your rack space in any available data center and have full control over your hardware.

Control and flexibility when your business needs it

10U COLOCATION PLANS

\$399/mo

Save 50% with coupon

[SELECT](#)

(Rack Space: 10U, 17.50" Height, Power: 5 Amps, 120V AC, Bandwidth: 25Mbps, Network: GigE Port, 24/7 Support & Reboots: Yes, Free Setup: Yes)

21U COLOCATION PLANS

\$699/mo

Save 24% with coupon

[SELECT](#)

(Rack Space: 21U, 36.75" Height, Power: 20 Amps, 120V AC, Bandwidth: 50Mbps, Network: Mbps on GigE Port, 24/7 Support & Reboots: Yes, Free Setup)

42U COLOCATION PLANS

\$999/mo

Save 15% with coupon

[SELECT](#)

(Rack Space: 42U, 73.50" Height, Power: 20 Amps, 120V AC, Bandwidth: 1100Mbps, Network: GigE Port, 24/7 Support & Reboots: Yes)

Powered by Liferay

5. Developing Triple A portal

Terms & Conditions

The screenshot shows a website layout for 'AAA Group'. At the top, there is a navigation bar with links for Home, About Us, Contact Us, Our Services, Terms & Conditions, a search bar, and a sign-in link. Below the navigation is a dark blue header section with the title 'AAA HOSTING TERMS & CONDITIONS' in white. The main content area is also dark blue and contains several sections of text in white, including 'Payments', 'Client Terms', 'Termination & Non-Payment', 'Refund Policy', 'Subscriber's Responsibilities', and 'Governing Law & Arbitration'. At the bottom of the page, there is a footer bar with the text 'Powered by Liferay'.

Payments
AAA offers a great range of Services to suit everyone's needs and at prices to suit everyone's pockets. The fees you pay are based on the plan you choose and any add-on products you purchase. All payments are taken, in advance, for the full term of your plan.

Client Terms

1. Web Application Owner agrees to enter a standard 12-month contract term lasting from 7/7/2022 until 12/12/2023.
2. Initial deposit, if any shall be due in advance of any service provided.
3. Service shall begin immediately following such payment or agreement date as agreed between parties.
4. This Agreement is under automatic renewal terms and may only be cancelled with written notice no later than 30 days prior to the end of Term renewal date.
5. Renewal prices are subject to change. Service Provider will provide notice upon such change taking place.
6. In instance of any changes in pricing client signature on said renewal will constitute as agreement of said changes.
7. Renewal fees for the following term will be automatically invoiced to Client's account.
8. Hosting Provider is in agreement to refrain from recompiling, disassembling, decoding, or reverse engineering of any Company program, code or technology belonging to Web Application Owner.
9. Web Application Owner holds current rights to use any applicable trademarks or copyrighted material used in connection with this service while web hosting agreement is in effect.

Termination & Non-Payment
AAA offers hosting plans for a fixed period of time that you select upon purchase (2years). Even though we do not want you to, we know that one day you might want to leave AAA. The instructions to cancel or disable automatic renewal can be found here.

Refund Policy
This section describes AAA 30-Day Money-Back Guarantee. If you purchase an account with a thirty (30) day money-back guarantee and cancel during the first thirty (30) days of your term, you may receive a full refund of all basic hosting fees paid.

Subscriber's Responsibilities
All Subscribers are required to comply with applicable law and have certain obligations with respect to their use of Bluehost Services. For example, you are required to keep a backup of your data, promptly remove any malware from your account, and cooperate with Bluehost and utilize hardware and software that is compatible with the Services.

Governing Law & Arbitration
The governing law and jurisdiction provision as set forth in Section 26(a) shall apply to all Subscribers. For Subscribers who purchased or signed up for Bluehost Services after April 1, 2017, the arbitration clause in Section 26(b) shall also apply. This Agreement is an agreement between AAA Inc. ("us," "we," "AAA," or the "Company") and you ("Subscriber" or "you" and "your"). This Agreement sets forth the general terms and conditions of your use of the products and services made available by AAA and through the AAA website (collectively, the "Services"). By using the Services, you agree to be bound by this Agreement. Please read this Agreement carefully. We may in our sole discretion change or modify this Agreement at any time. We will post a notice of any significant changes to this Agreement on the Bluehost website for at least thirty (30) days after the changes are posted and will indicate at the bottom of this Agreement the date these terms were last revised. Any changes or modifications to this Agreement shall be effective and binding on you as of the date indicated in a notice posted on this page. If no date is specified, your use of the Services after such changes or modifications shall constitute your acceptance of the Agreement as modified. If you do not agree to abide by this Agreement, you are not authorized to use or access the Services and your sole remedy is to cancel your account.

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6. Customer Management Portlet

Manage Service & Customer (Service)

The screenshot displays two views of a customer management portlet within a Liferay Admin Panel.

Top View (Form View):

- Header:** Admin Panel, AAA Group, Search bar, User icon.
- Breadcrumbs:** Home > New Service.
- Form Fields:** service-name, service-description, service-price.
- Buttons:** Save, Cancel.
- Background Image:** A blurred image of a laptop and a smartphone.

Bottom View (Table View):

- Header:** Admin Panel, AAA Group, Search bar, User icon.
- Breadcrumbs:** Home > Our Services > Service.
- Table Headers:** Service, Customer, New Service.
- Table Data:**

Service Name	Service Description	Service Price
Test	Test	1234
- Buttons:** Actions.
- Background Image:** A blurred image of a laptop and a smartphone.

Powered by Liferay

6. Customer Management Portlet

Manage Service & Customer (Customer)

This screenshot shows the 'New Customer' form within the Liferay Admin Panel. The form includes fields for Name, Email, Address, National ID, Contact, Services, and Start Date (set to 12/06/2022). The background features a blurred image of a workspace with a laptop, keyboard, and smartphone.

This screenshot shows a list of customers in the Admin Panel. The table includes columns for Name, Email, Address, National ID, Contact, Service Name, and Date. Two entries are visible: 'test' and 'test1'. A context menu is open over the 'test1' row, showing 'Edit' and 'Delete' options. The background image is similar to the first screenshot, showing a workspace.

Name	Email	Address	National_Id	Contact	Service Name	Date	Actions
test	test@gmail.com	test	123456789012	1234567890	Test	12/06/2022 01:42 PM	Edit
test1	test1@gmail.com	test1	123456789013	1234567897	Test	12/06/2022 01:42 PM	Delete

7. Design Patterns

□ Usage of Design Pattern in Software Development

The usage of design patterns in the Triple A Portlet is critical for maintaining neat and smooth code. even though the portlet has many layers of services and classes, no longer each design pattern might be useful when utilized by the portlet. We have to use this information to determine the best and best design pattern for the portlet. due to the multiple layers of java classes, the portlet has already used the factory pattern. And, due to the fact we don't use any filtering functions in the portlet, the usage of the filter out sample is probably now not the best pattern to adapt into it. specifically given how the portlet implements the method and the fact that there are multiple layers of java classes.

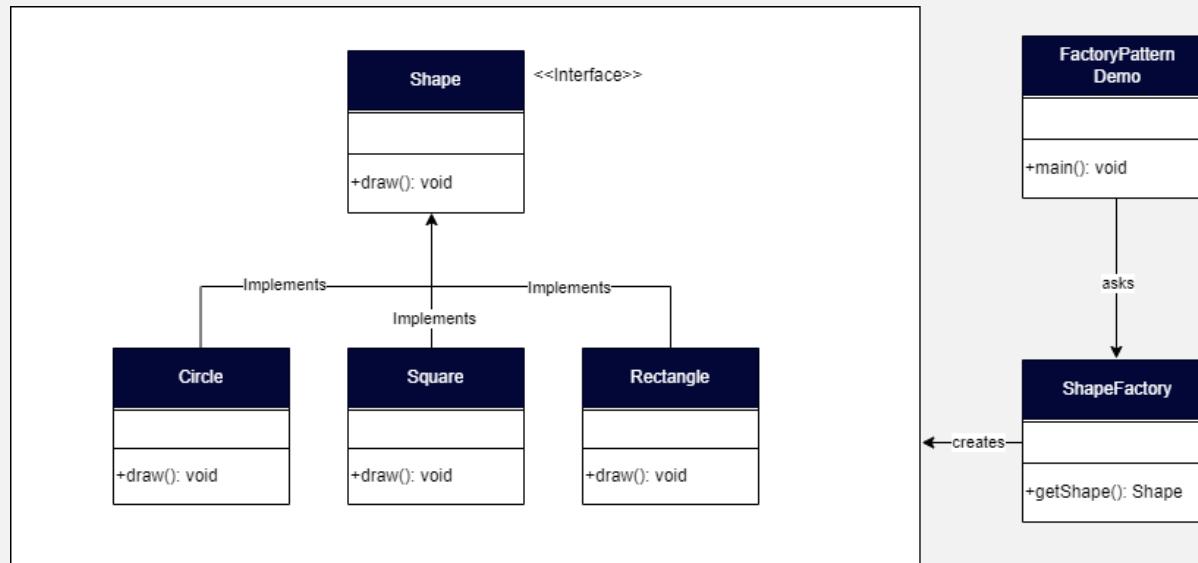
8. Creational Design Patterns

In software engineering, creational design patterns are design patterns that cope with object introduction mechanisms, trying to create objects in a way suitable to the state of affairs. The basic form of item creation could result in design problems or in brought complexity to the design. Creational design patterns are concerned with the manner of making objects. So those design patterns are used while a decision ought to be made at the time of instantiation of a class

Factory Method Pattern	Define an interface or abstract class for developing an object however permit the subclasses to decide which class to instantiate
Abstract Factory Pattern	Define an interface or abstract class for creating families of related objects however without specifying their concrete sub-classes.
Singleton Pattern	Define a class that has the most effective example and presents a worldwide point of access to it
Prototype Pattern	Cloning of a current object as opposed to creating a new one can also be custom designed according to the requirement.
Builder Pattern	Construct a complex object from simple objects the usage of step-by means of-step approach

8. Creational Design Patterns

□ Factory Pattern

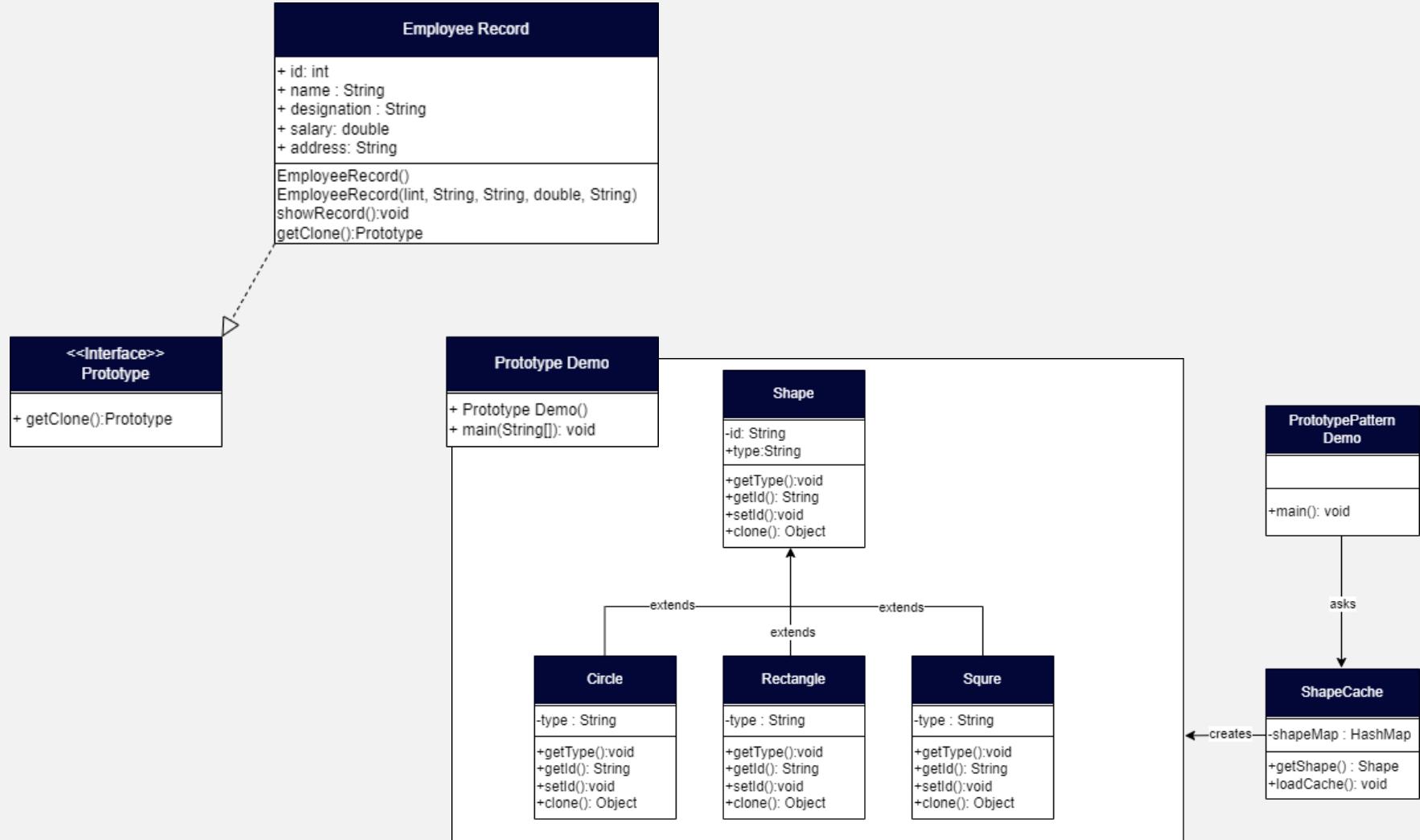


□ Singleton



8. Creational Design Patterns

□ Prototype



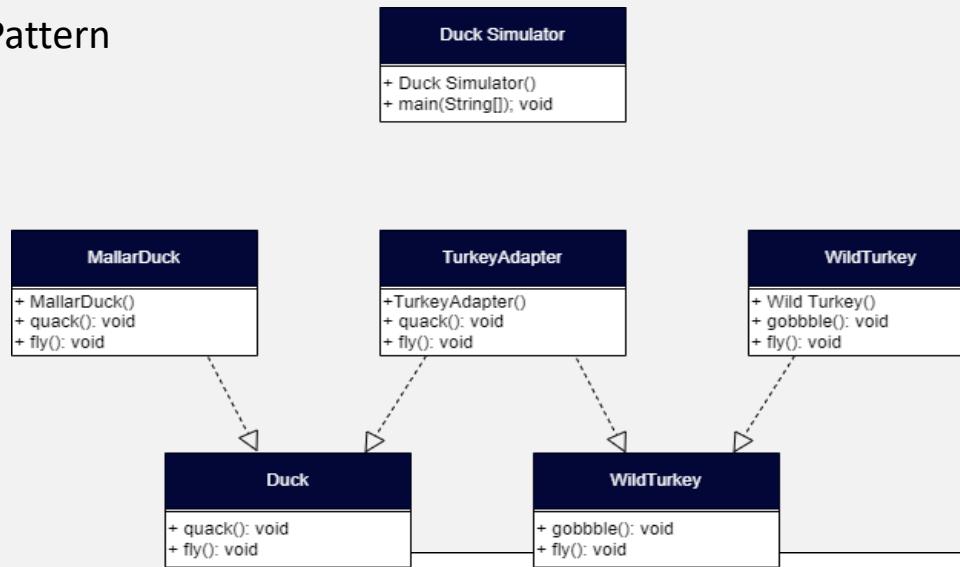
9. Structural Design Patterns

Structural design pattern is a blueprint of the way one of a kind objects and classes are mixed collectively to form a bigger structure for reaching multiple goals altogether. The patterns in structural designs show how specific portions of a system can be combined collectively in an extensible and bendy way

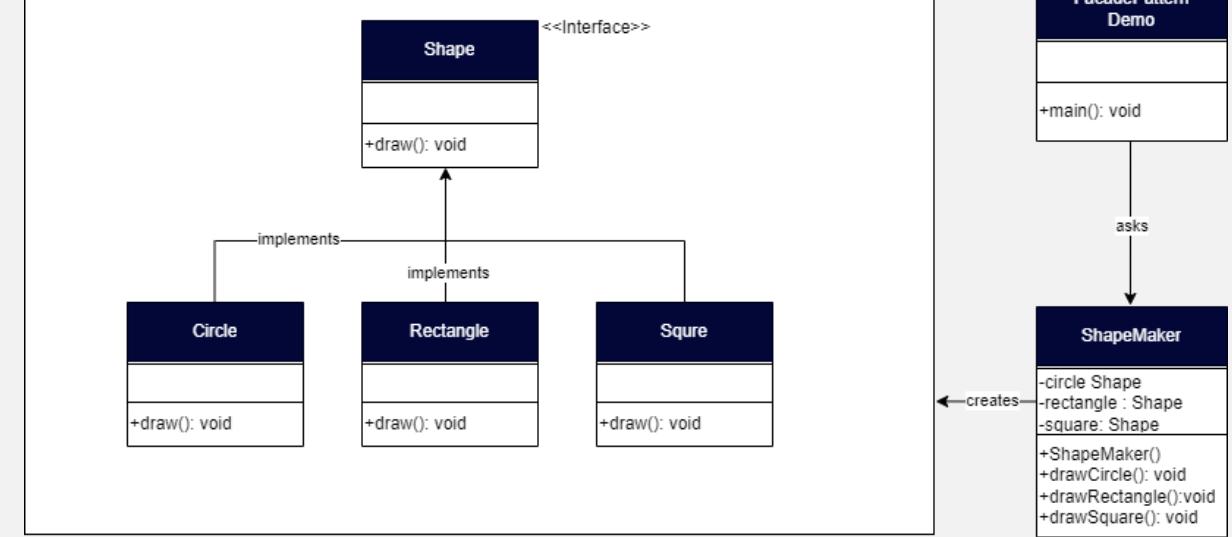
Adapter Pattern	Allows in converting the interface of a class into any other interface depending at the consumer's requirements
Bridge Pattern	To split the implementation element from the abstraction component in order that the abstraction and implementation of a class can range independently
Composite Pattern	The client is able to perform objects which may additionally or won't represent its hierarchy
Decorator Pattern	Can add or remove object functionality without converting the function or external look of the object
Façade Pattern	Offer a simplified interface to a set of interfaces of a subsystem for hiding its complexity of subsystem from the customer
Flyweight Pattern	To reuse comparable forms of existing objects with the aid of storing and developing new objects while similar objects are not observed
Proxy Pattern	Provide a placeholder or a surrogate object to control access to the authentic object

9. Structural Design Patterns

□ Adapter Pattern



□ Façade Pattern



10. Behavioral Design Patterns

Behavioral design patterns are involved with the interaction and duty of objects. In those design patterns, the interplay between the objects ought to be in this sort of manner that they are able to easily communicate to every different and still need to be loosely coupled. This means the implementation and the client ought to be loosely coupled so as to keep away from hard coding and dependencies.

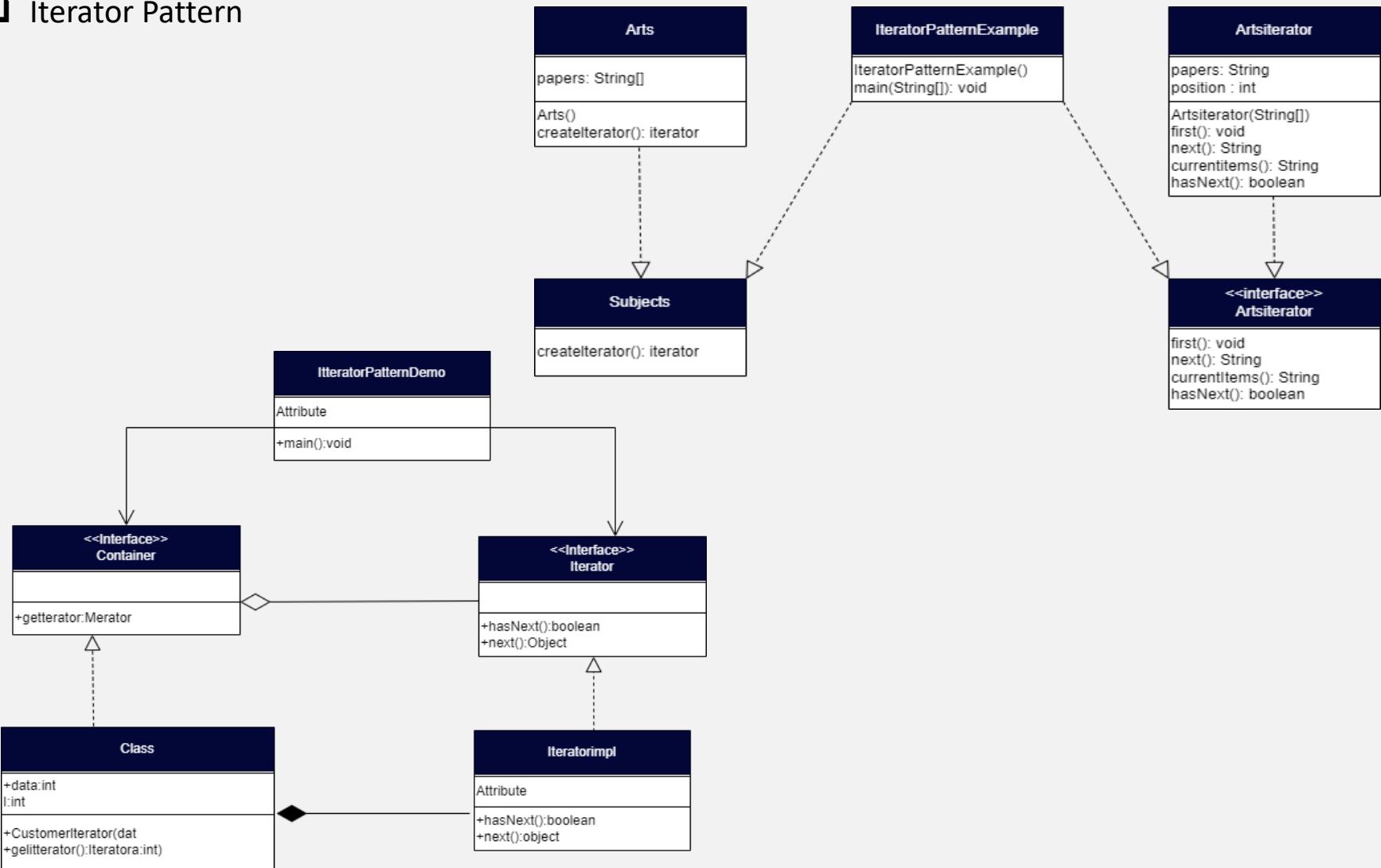
There are 12 types of behavioral design patterns:

- Chain of Responsibility Pattern
- Command Pattern
- Interpreter Pattern
- Iterator Pattern
- Mediator Pattern
- Memento Pattern
- Observer Pattern
- State Pattern
- Strategy Pattern
- Template Pattern
- Visitor Pattern

Null Object

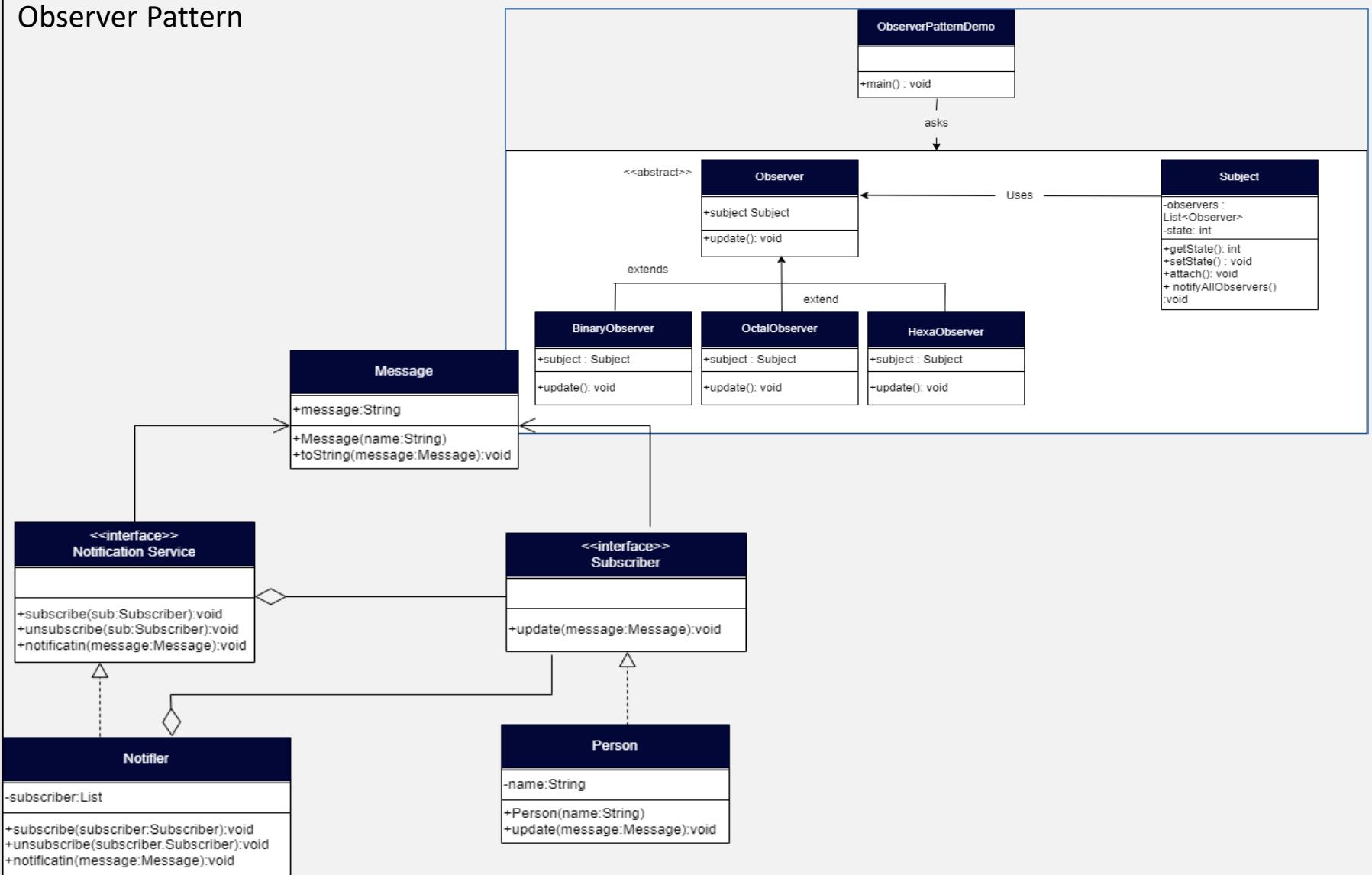
10. Behavioral Design Patterns

❑ Iterator Pattern



10. Behavioral Design Patterns

Observer Pattern



11. Milestone Feedback & Action taken

LITHAN

Project Milestone ID	Milestone Feedback received from Tutor / Learning Facilitator	Action Taken (Yes / No)
1	Change Tomcat Bundle Version	Yes
	Add more details for home Page	Yes
2	Connect Database	Yes
		Yes
3		