Row	The requirements expressed by the user (system analyzer)
1	An operation should handle all incoming requests from clients and forward the requests to the Event Handler. The client uses a web browser to send http requests to the servlet. The servlet handles the request by sending a httpservlet request to the event handler, along with a httpservlet response that can be used to send results back to the corresponding browser.
2	I have a system that has many customers and some objects. These objects may be change and update every day. Each customer has a list of favourite. They interest to be informed of the update favourite objects automatically so that they can have a better purchase.
3	In a Meteorology System, weather situation are displayed in 3 ways: current situation, statistical information and a simple prediction. These data and objects may get updated every second. Weather situation should be updated automatically as soon as the object is updated.
4	There is Gumball machine that has 4 states. When a client selects any of the 4 states, machine behavior is different in each case. 1:the machine receives coin and gives gums. 2:client puts the coin and pulls lever and the machine goes to the sale state. 3: after this stage, the machine is out of service if it has no gum or condition that is not a coin.
5	I have a lot of objects in my system. These objects interact with each other very much. Each object may have relationships with all the others. This large volume of relationships may reduce performance and in some cases it may disturb the job of other objects. I want a pattern that can manage these connections.
6	We want to design a computer game that would defined the agent based on the client's choice and may have different behavior in each state. The design of this object is such that at any moment of the game at either standing, walking, running or shooting states. In each of these conditions based on user selection after the operation to be transferred to the new state.
7	We have a travel agency system. This system consists of people and objects. Some people want to be informed of their new favourite tours. I want a system so that a customer would be automatically notified of his or her favourite tours when these as an object add or change.
8	Suppose we want to assign to the maximum number of children n the instance of a certain (not all children) from class B to objects of certain class (not per class), on demand, as the value of n depends on the type of instance to be demanding. If n> 1 then until reaching the ceiling set for the applicant, a new instance is created with each demand, but after reaching the ceiling, it randomly returns one of the objects made prior to the instance.
9	We want to design a flexible (cms) application. This system has some components such as different kinds of menus and modules etc. With this system, a large number and variety of websites can be designed. Users can apply any different section (menus, modules, etc.) in their app and combine them with each other.
10	Suppose we want to design a wireless network for a specific region. There are different types of algorithms for managing and different ways to monitoring the network. the types of management units may also be increased through with new policies for monitoring and management.
11	An application wants to simulate the behavior of robot . Each robot has several different behaviors: Defensive, Aggressive and normal, independently. A part of this application is about robot reaction while meeting other robots. This means that when a robot faces with other robots, one of the different types of existing algorithms would be selected according to user's choice.

12	We are going to develop a shopping system and its user interface. There are some old classes such as purchase order class which we don't have permission to change and don't have access to its code, for security reasons. Also its interface is not familiar to user and we want to define new capabilities for this system in format of new classes. How can these old classes be applied and matched to the new classes, and how can we implement the interface so that it will be familiar to the users?
13	Design a tutorial to learn how to program a calculator. This calculator executes the four basic actions. The goal of this tutorial is to make it possible to take a set of actions to be executed sequentially by each client requests. The tutorial presents a button for each arithmetic action, and two input fields for the operands. After each click on a button of an action, then the request forward to start again or execute the sequence client request of actions to obtain the result. It is probable that this tutorial evolves in order to make it possible to remove the last action of the list and to take into account the action of modulo
14	There is a system for inventory that has some forms. Some of them are single and some are composition of others forms. For example, perches form, inquiry form and etc, are single form and a commodity demand form is a composition of some singles forms. This system has different clients and each of them could use single and other forms, uniformly.
15	There are various algorithms for sorting an array. These algorithms are selected by the user and their use of algorithms depends on the user's choice. Please suggest a pattern to select one of these policies according to system requirements.
16	Suppose we need to apply a program with a visual interface. It is required to communicate with one or more social networks such as Facebook and Twitter, and extract user account data with get license and according to shared articles perform different process such as: user categories, simulating the behavior of each group of users and predicting their future behavior. However the need to connect the app to social networks gives rise to the restrictions in the future. New versions of social networks are released as the app is gradually expanded. some parts of the program may have to be redesigned for various reasons, such as optimizing their performance. If we want to use new functions and new versions of social networks in our program, should be modified in all changed parts, to adapt to new interfaces.
17	We want a graphics program that can draw many forms (shapes), such as complex shapes drawn using primitive graphic items like line and simple diagrams. Simple components can also be grouped to form larger groups, and they will also dynamically change.
18	Suppose we want to design an operating system that would be executable on batch, interactive and real- time systems. According to the goal of the mentioned systems, these systems may have different ways or algorithms for performing their actions. Also, we want to expand its capability to run on a new type of system, such as timesharing systems.
19	Design a system enabling you to display visual objects on a screen. A visual object can include one or more texts or images. If needed, the system must allow adding a vertical scroll bar, a horizontal scroll bar, an edge and a menu to this object. These additions may be accumulated.
20	We should design part of an Operating System file manager. An Operating System is composed of a primitive folder that may include some text files, binary files, shortcuts to other files and folders, and some other folders. Also, each folder of the primitive folder may be some folders and files. So Operating System file manager composition of layer structure. If the user clicks on the folder or files of the file system and selects copy, the system should copy all the content to the desired location, etc. What is the suitable design for this part of file system manager?

21	Suppose we want to design an operating system executable on batch, interactive and real time systems. The operating system carries out important and various actions including in/out and disk management, memory management and CPU scheduling. This operating system is open source and should have the possibility of adding new actions such as deadlock manageability without changing its elements.
22	We have a system that has some subsystems and they may be connected together. Also there are dependencies between them and these are not independent from each other. How can these dependencies be managed in such a way that the user can easily use them?
23	Please suggest a pattern for designing a library to read input data in the form of a specified number of bytes from a file. In addition, the library should add one or more of the following features and capabilities by client selection: • Read input data in the form of integer instead of byte • Read input data and transform uppercase to lowercase characters. • Read a block and save it to interior buffer so as to read certain bytes from the buffer not directly from a file or array.
24	The JDBC Control is used to provide and standardize the interface to the DBMS, thus increasing the modularity of the connection with the database. How to create JDBC Control?
25	There are large number of servers in a distributed system that communicate with each other and perform jobs cooperatively. Also, this system has many clients who send their requests to it. We need to design a coordinator which could manages these height relationships and forward client requests to the determined server?
26	A pharmacy want to be provided with a certain drug from drug manufactures all throughout the year. This kind of drug is rare. So the pharmacy should have an application in which drugs manufactures have been determined, and be aware of which of these manufacturers would instantiate this instance of the drug.
27	Suppose a beacon in a computer game, monitoring the region's situation. Each beacon may command a number of snipers, fighter aircrafts and other base commander that can directly communicate with the beacon. If region status changes, snipers, fighter aircraft and other base commanders will automatically be aware of the change. The base commander issues an order for the implementation of the decisions to be communicated to the troops under his command.
28	Suppose a watchtower in a computer game, monitoring the region's situation. Each beacon may command number of snipers, fighter aircraft and other base commanders. Factors under the command of a base will change dynamically.
29	Design the communications behavior of a plane approaching an airport When a plane approaches an airport, it must announce to all the other planes which are around that it intends to land, and await their confirmation before carrying out the operation, independently. It is the control tower of the airport which guarantees the regulation of the air traffic, by making sure that there is no trajectory or destination conflict between several planes. Furthermore, to the class diagram, you must also submit a collaboration that describes the landing of a plane amidst in a context of two demands to land and one wanting to take off, explicitly.