



**SUNWAY**

INT'L BUSINESS SCHOOL



Programme Name: **BCS HONS**

Course Code: **CSC 2201**

Course Name: **Human Computer Interaction**

**Internal Examination**

Date of Submission: **1/20/2021**

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Semester: **Third Semester**

Intake: **September 2019**

**1. Give proper reasoning.**

**a) What is HCI and its goals?**

Answer: HCI (human-computer interaction) is the study of how people interact with computers and to what extent computers are or are not developed for successful interaction with human beings. Goal of HCI A basic goal of HCI is to improve the interactions between users and computers by making computers more usable and receptive to the user's needs.

**b) Identify five HCI issues in your daily life?**

Answer: Five HCI issues in your daily life are given below:

Small pocket on pant.

Power button of laptop.

Using glasses while wearing masks.

Double lock system.

Unwanted button on remote controller.

**c) What do you understand by interface? Give 2 examples with reasoning.**

Answer: an interface is a shared boundary across which two or more separate components of a computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans, and combinations of these.

- **Natural language user interfaces**

Today we use virtual assistants such as Siri or Cortana to "Google the next exit" while we're driving or to tell our wrists to "call home."

- **The Web browser**

The web browser is the interface for the user to use internet.

**d) Explain the different types of characteristics involved in creating an interface?**

Answer: the different types of characteristics involved in creating an interface are:

- **Clear**
- **Familiar**
- **Responsive**
- **Attractive**
- **Efficient**

**Clear:** Clarity is the most important element of user interface design. Indeed, the whole purpose of user interface design is to enable people to interact with your system by communicating meaning and function. If people can't figure out how your application works or where to go on your website they'll get confused and frustrated.

## **2. Design and process**

### **A. Using waterfall model design a software task frame. (everyone task should be different, task refer to any specific project)**

#### **Requirement Collection Phase**

The first stage of the waterfall model is requirement collection, where a business analyst will collect all the information and business need of the customer in the form of requirement documents.

The documents should be clear and easy to understand, and all requirements are properly listed.

With the help of SRS (Software Requirement Specification), CRS (Customer Requirement Specification) and BRS (Business Requirement Specification), the SRS document is created. The SRS document contains everything that should be designed and developed.

#### **Characteristics of a functional requirement**

In-Detail & Proper flow

Easy to understand (Simple language)

Measurable (It should be in Numbers) or Countable.

#### **Feasibility Study Phase: –**

The Second Stage of the waterfall model is a feasibility study. It is based on the requirements, where a set of high-level people like (Business Analyst, Human Resource, Architecture) analyze whether the project is Doable or not Doable.

An organization needs to have the following aspects to develop the project:

Economic:-Can organization complete the application within given the budget or not?

Legal:-Can organization handles this project as cyber law and other regulatory compliances.

Operation feasibility:-Can organization creates the operations which are expected by the customer?

Technical:-Need to check whether the current computer system can support the software

Schedule: – The project can be completed within the given schedule or not.

### **Designing Phase: –**

In the third stage of the waterfall Model, once the feasibility study is done, move to the design phase, it defines the architecture of the project. The designing phase specifies the essential tools required for the project such as programming language like Java, .NET, PHP; database like Oracle, MySQL, and a combination of hardware and the software.

After that designers prepare a blueprint of an application which is divided into two parts –

HLD (High-Level Design):-In high-level design, the designer will focus on models (flow charts, flow diagrams, decision tables, decision trees, data dictionary).

LLD (Low-Level Design):-In low-level design, the designer will focus on components (User interface).

### **Coding Phase: –**

The fourth stage of the waterfall model is coding. After the complication of requirement and designing phase, the next phase is to develop a software system.

The developer starts writing code according to their programming knowledge and using the particular program language like- java, python, C++, C#, etc.

The Front-end developers develop easy and attractive GUI, and necessary interfaces to interact with back-end operations and back-end developers do back-end coding according to the required operations.

### **Testing Phase: –**

Once the developer completes the coding Phase, the application is handed over to the test engineers where they start checking the functionality of an application according to the customer need or requirement.

During the testing process, a test engineer may encounter some bugs or defects in the software which are not working as per the customer requirements. If the testing team finds any bug then they send a bug to the development team with proper explanation.

After that developer needs to check whether the bug is valid or not. If the bug is valid then the developer will fix it and replace it with the new one, then it needs to be retested by the tester to check whether the bug is fixed or not.

### **Installation Phase: –**

In the installation phase of the waterfall model, the process will continue until the application is bug-free/ stable/ and works according to customer needs.

After that, the stable application is installed into the customer's environment for customer use.

After receiving the product, the customer will do one round of testing for their satisfaction. While using a product if the customer faces any defect, it will be informed to the development team of that particular software to solve the issue. When all the bugs are resolved, the software is finally deployed to the end-user.

### **Maintenance Phase: –**

The last and long-lasting phase of the waterfall model is the maintenance phase. This process will continue until the application comes to an end. When a customer starts using the software, then they may have some issues which need to be in-detail tested & fixed.

Maintenance phase also includes changes in software and hardware to maintain its operational effectiveness and improve its performance. The process of taking care of product time to time is called maintenance.

## **B. Define in terms of software design**

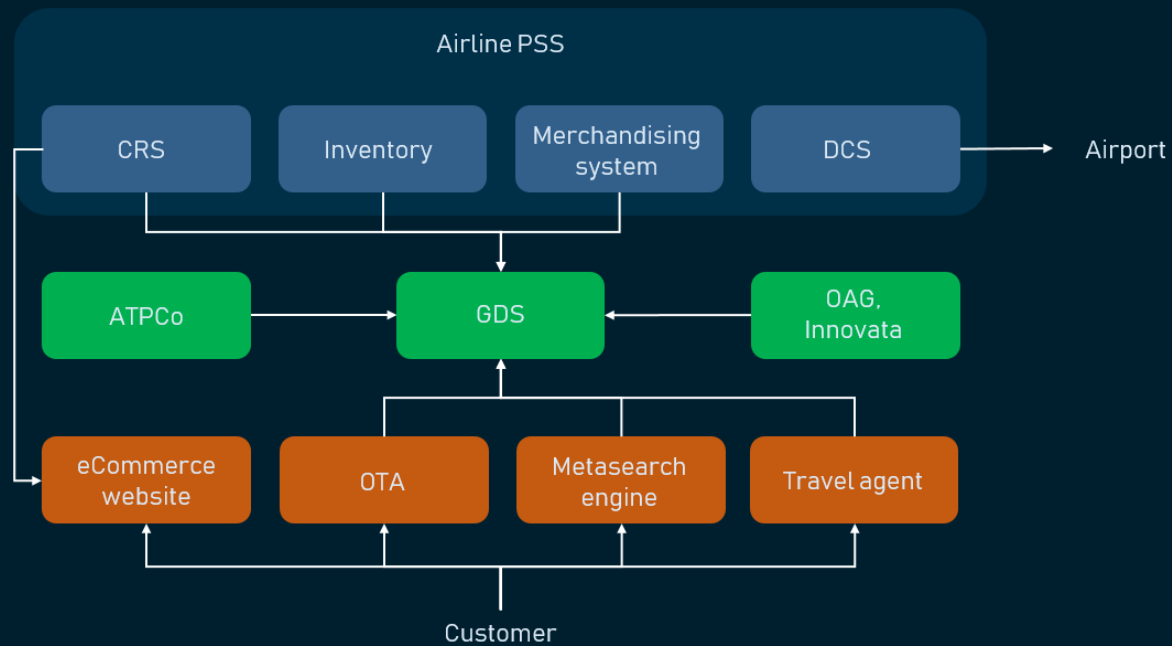
- **Participatory design:** Participatory design is a relatively new approach to designing products. It successfully involves the stakeholders, designers, researchers, and end-users in the design process to help ensure that the end product meets the needs of its intended user base

- **Project planning:** Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment. Project planning can be done manually or by the use of project management software.
  - **Secluding resources:** Secluding Resources are the type of resource which is seclude or keep (someone) away from other people while designing the software. it is a resource which is kept away from other people.
3. **Design an interface model for a airline website. Need to present and draw all task and scenario, sub scenario with proper analysis. A proper strategy need to be present for end solution.**

Answer:

Requirements analysis paves the way for high-level design, generation of test cases for verification, and supports early architecture reviews. As a result of such analysis, analysts and architects gain a deeper and thorough understanding of the system to be engineered. A popular method of capturing requirements is using a case-based approach . In this method, requirements are defined from the perspective of all actors (users as well as hardware and software) at a hierarchical level. However, these hierarchical use cases can be analysed at different granularity levels by separating these use cases into scenarios thereby providing a deeper understanding of the system being developed.

## AIRLINE DISTRIBUTION SOFTWARE PIPELINE



## TOP PSS SYSTEMS OVERVIEW

	Amadeus Altéa Suite	SabreSonic CSS	Navitaire New Skies	SITA Horizon	Unisys AirCore / TravelSky	Radixx
Targeted clients	Full-service airlines	<ul style="list-style-type: none"> <li>✓ Full-services airlines</li> <li>✓ Large low-cost airlines</li> </ul>	<ul style="list-style-type: none"> <li>✓ Newly launching airlines</li> <li>✓ Budget airlines</li> <li>✓ Ultra-low-cost airlines</li> <li>✓ Hybrid airlines</li> </ul>	<ul style="list-style-type: none"> <li>✓ Full-services airlines</li> <li>✓ Low-cost airlines</li> <li>✓ Growing airlines</li> </ul>	<ul style="list-style-type: none"> <li>✓ Full-services airlines</li> <li>✓ Low-cost airlines</li> <li>✓ Hybrid airlines</li> </ul>	Low-cost airlines
NDC adoption	Dual 4 Level NDC certificate as an aggregator and IT provider  ONE Order certificate	Dual 3 Level NDC certificate as an aggregator and IT provider  ONE Order certificate	3 Level NDC certificate as an IT provider	3 Level NDC certificate as an IT provider expired  Offer to enable NDC via NDC Exchange (3 Level NDC Certificate)	4 Level NDC certificate as an IT provider	No NDC certificates
Core modules	<ul style="list-style-type: none"> <li>✓ Reservation</li> <li>✓ Inventory</li> <li>✓ Departure control</li> <li>✓ Ticketing</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reservation</li> <li>✓ Departure control</li> <li>✓ NDC platform</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reservation</li> <li>✓ Scheduling</li> <li>✓ Fare management</li> <li>✓ Payment engine</li> <li>✓ Check-in solution</li> <li>✓ NDC platform</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reservation</li> <li>✓ Inventory control</li> <li>✓ Scheduling</li> </ul>	<ul style="list-style-type: none"> <li>✓ Reservation</li> <li>✓ Inventory</li> <li>✓ Departure control</li> <li>✓ Ticketing</li> </ul>	<ul style="list-style-type: none"> <li>✓ Omni-channel booking</li> <li>✓ Inventory</li> <li>✓ Ancillary revenue</li> <li>✓ Ticketing</li> </ul>
Optional / configurable modules	<ul style="list-style-type: none"> <li>✓ NDC platform</li> <li>✓ Booking intelligence</li> <li>✓ Revenue management</li> </ul>	<ul style="list-style-type: none"> <li>✓ Inventory / Revenue management</li> <li>✓ Ticketing</li> <li>✓ Pricing / Shopping</li> <li>✓ Reaccommodation</li> <li>✓ Loyalty solution</li> </ul>	<ul style="list-style-type: none"> <li>✓ Revenue management</li> <li>✓ Departure control</li> <li>✓ Loyalty solutions</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pricing</li> <li>✓ Revenue management</li> <li>✓ Departure control</li> <li>✓ BI</li> <li>✓ Merchandising</li> <li>✓ Ticketing</li> </ul>	<ul style="list-style-type: none"> <li>✓ Seat mapping</li> <li>✓ Collaboration platform</li> <li>✓ Order management</li> <li>✓ Reaccommodation</li> </ul>	<ul style="list-style-type: none"> <li>✓ eCommerce platform</li> <li>✓ Departure services</li> <li>✓ Analytics</li> </ul>