**Online Activity No. 8 and 9: Applying the User-Centred System Design Process**

**Objective**

1. Innovate an existing interactive system and computer technology.
2. Perform and apply UCSD.

**Materials**

* Personal computer
* Any software for (Computer aided designs)or programming language

**Background**

Atakan(2006), UCSD is used in the design process. Reasons are evaluated why traditional-technology-focused design processes why it may result in unusable systems-and the consequences of those unusable or useless systems. This leads directly to a consideration of the different methodologies that go to make up a user-centered system design process.

**Procedure**

1. Identify a scope or agenda
2. Format for the document is given below as guide for the designers in the making the output both the document and design.

**Chapter I. Introduction**

**Background of the study**

In many schools and universities, long lines at the canteen during breaks lead to wasted time, missed meals, and frustration among students and staff. The traditional system of ordering food on-site causes delays and inefficiencies. To solve this issue, a Smart Canteen Ordering System is proposed—a digital platform that allows users to browse the menu, place orders, and schedule pick-up times through a mobile **or web application.  
  
Statement of the problem**

The statement of the problems should be in a sentence form like :

Example: ***There is time delay in searching and retrieval of document from various departments.***

There is a time delay and inefficiency in ordering food due to long queues and manual payment systems in the school canteen***.***

**Assumption of the study**

The Smart Canteen Ordering System will allow students and staff to view menus, place orders, and pay in advance. This system will reduce waiting time, improve order accuracy, and allow canteen staff to manage orders more efficiently.

**Significance of the study**

This section shows all the beneficiaries of the proposed study ranked according to the highest position to the lowest. Per beneficiary, you have to justify how the said design can help them in their assigned task or job.

*Example:* (this is a ranking of beneficiaries based from the study Document Management Software of MCM)

1. School Administrators – Can monitor canteen performance and gain data for future improvements.  
2. Canteen Managers – Can track inventory and manage peak times more effectively.  
3. Canteen Staff – Will have a clear order list to reduce confusion and speed up service.  
4. Students – Will save time and avoid long queues.  
5. Faculty – Can pre-order meals between classes, maximizing their break time.

**Chapter II. Research Design**

The group should be able to identify here the steps of the design process model used and it’s corresponding description from the reference book. Aside from it, the researchers should also relate their own experiences and add it into the description of every stage of the design process model.

*User – Centered System Design Process*

This section discusses the design process model used by the group wherein it is composed of the following stages:

1. **Task Analysis**

Provide the hierarchical task analysis of the proposed design based on chosen scope both textual   
and figure.  
  
**Textual Task Breakdown:**

1. User opens app
2. User logs in
3. User browses menu
4. User selects items
5. User schedules pick-up time
6. User confirms and pays
7. Canteen receives order
8. Order is prepared
9. User picks up order at scheduled time
10. **Requirements Gathering**

This section discusses how the group gathered the necessary data needed for the proposal. Some of the common methods are as follows: Explain how each method was utilized by the group and fit according to your own experience while doing data gathering  
  
**Methods Used:**

* **Interview:** Short interviews with 5 students and 2 canteen staff to understand pain points.
* **Survey:** Google Forms sent to 20 students asking about ordering habits and preferences.
* **Observation:** Observed lunchtime queues and order processing times for 3 days.

**Requirements Identified:**

* **User Requirements:** Fast login, easy menu navigation, payment options, order status updates.
* **Functional Requirements:** Menu database, scheduling, payment gateway integration.
* **Data Requirements:** Menu items, user profiles, order history.
* **Environmental Requirements:** Must work on both Android and iOS; supports slow internet.
* **Usability Requirements:** Simple layout, large buttons, clear labels.

**Designer Requirements:**

* Responsive design, scalable architecture, secure payment integration.

1. **Storyboarding and Prototyping**

A storyboard or flow of the entire picture of the interactive system will be shown here.

The prototype of the interactive system -System input and output forms should be presented here and will be described on how it will function when the user will utilize it **(this part will be presented as a user’s manual including the description and functions of the parts of the hardware/technology)  
  
Storyboard Description:**

* Screen 1: Login Page
* Screen 2: Menu Selection
* Screen 3: Cart and Scheduling
* Screen 4: Payment Page
* Screen 5: Order Confirmation

Prototype Functionality (User Manual Summary):

* Login using school email
* Browse and filter menu
* Add items to cart and choose pick-up time
* Pay via GCash or card
* Receive notification when order is ready

1. **Evaluation of prototype**

Use heuristic evaluation with format given below. This is the criteria of how the design will be graded. **(Select the best design among 3 to 5 alternative designs within your team and evaluate)**

Evaluation Criteria (Based on the 10 heuristics of design evaluation)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area of Evaluation** | **5** | **4** | **3** | **2** | **1** |
| 1. **Visibility of System Status**  * - The system design provides appropriate feedback like message prompts in response to user actions. * The message prompts are clear, visible and understandable. |  |  |  |  |  |
|  |  |  |  |  |
| 1. **Match between the system and the real world**   - Used words, phrases and concepts according to users’ language rather than system oriented words and computer jargons. |  |  |  |  |  |
| 1. **User control and freedom**   - The system design provides ways of allowing users to easily “get in” and “get out” if they find themselves in unfamiliar parts of the system. |  |  |  |  |  |
| 1. **Consistency and Standards**  * - The colors, text, labels, buttons and other elements in the design are uniform from start to finish**.**   - Text and icons are not too small or too big.  **-** Menus and other features of the system are arranged and positioned in a consistent way. (For ex. If your website has navigation buttons on the top under the page title on one page, the users will automatically look there for the same features on other pages. |  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 1. **Error Prevention**   - The system design provides an automatic detection of errors and preventing them to occur in the first place.  - Idiot proofing mechanisms are applied |  |  |  |  |  |
|  |  |  |  |  |
| **F. Help users recognize, diagnose and recover from errors**  **-** Error messages and the terms used are recognizable, familiar and understandable for the users. |  |  |  |  |  |
| **G. Recognition rather than recall**  **-** Objects, icons, actions and options are visible for the user.  - Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do. |  |  |  |  |  |
| **H. Flexibility and efficiency of use**  - The system design provides easy to navigate menus.  - the system does not make wasteful time of system resources. |  |  |  |  |  |
| 1. **Aesthetic and minimalist design**   **-**Graphics and animations used are not difficult to look at and does not clutter (mess) up the screen.  - Information provided is relevant and needed for the system design. |  |  |  |  |  |
| 1. **Help and Documentation**   **-**the system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed. |  |  |  |  |  |

**Chapter III. Conclusion and Recommendation**

The Smart Canteen Ordering System addresses the key issue of long queues and inefficient food ordering processes in schools. By involving users in the design process, the system meets real needs and simplifies the ordering experience. Through this project, I learned how important it is to consider the end-user in every step of the development process. The UCSD approach made the solution more practical and effective. I recommend this system be pilot tested in a real school setting for feedback and further improvements.