**Unit 4: Usable Security Design**

Welcome to Week 4. This week’s seminar will focus on planning a usable security design project. Attention will be given to evaluating approaches and identifying the best or a combination of methods to ensure a suitable method is adopted to address the problem. This will involve you applying the knowledge from Unit 3 to carry out a task based on a case study.

**In this unit we shall:**

* Explore the various techniques to consider when planning a usable design solution.
* Discuss the strengths and weakness of the techniques and their application contexts.
* Apply the contextual design approach to a case study.

**On completion of this unit, you will be able to:**

* Effectively plan a usable security design solution.
* Appraise critically the techniques and their applications to the design process.
* Develop the ability to evaluate a usable design solution.

This week seminar builds on the knowledge gained in Unit 3 by discussing the usable design process and evaluating the various techniques and methods available to be applied when designing usable security. The discussion will be based on a case study for students to effectively apply the knowledge acquired so far.

**Reflection:**

The term "usability" refers to the degree to which a given product or design may be used by a given user to successfully and happily complete a given task. Easy navigation and a positive user experience are sometimes mistaken for usability. When designing for the user experience (UX), usability is an important consideration.

For a design to be user-friendly, it must have features that work effectively in a variety of situations. This means you need to ensure that your design is functional for its intended audience. These components should be included:

1. **Efficiency:** It helps people carry out their tasks correctly.
2. **Effectiveness:** Customers can complete projects rapidly utilizing the simplest procedure.
3. Thirdly, it stimulates interest since people enjoy using it and find that it is well-suited to the field or subject matter to which it pertains.
4. **Error Tolerance**: It allows for a wide variety of user input and only displays an error in truly incorrect circumstances. You can do this by researching the frequency, nature, and severity of user mistakes and how quickly and easily they can be fixed (Komninos, 2019).
5. Fifthly, it's simple to learn and use, so even first-time visitors may quickly start achieving their goals.

Contextual Design is an organized, well-defined user-centered design process that includes steps like gathering in-the-field user data, analyzing, and synthesizing that data, applying it to the design of new products and services, and testing and refining those prototypes with real people. There is a well-defined method for contextual design that considers interpersonal concerns and uses established protocols to help a team choose amongst design options based on the facts. When everyone on a team knows their place, everyone works more effectively (Holtzblatt, 2010).

**Advantages of Contextual inquiry**

1. **Thorough fact-finding and documentation:** In contrast to many other qualitative methodologies, contextual inquiry yields in-depth knowledge.
2. **User centered:** As the participants steer contextual inquiry, it can go in whatever direction the user desires and adapt to their needs.
3. **Authenticity:** Since the subject is at ease and can be themselves, the data collected is reliable.
4. **Real Insights:** As contextual inquiry is conducted in the participant's natural setting; the resulting insights are very relevant to both the participants and the tasks at hand.

**Disadvantages of Contextual inquiry**

1. **Time and resource consuming:** Contextual inquiry can be lengthy since it requires time to interview each participant individually. Once again, the members have more say over the pacing, and it is up to them to decide how long to keep the meeting going.
2. **Data interpretation:** To gain a more complete and precise understanding of the results, it is necessary to supplement this method with data gathered from other techniques, and then to analyze the results.
3. **Client Knowledge:** Being a novel research strategy, contextual inquiry necessitates a thorough explanation to clients of what it is and how it would aid in the attainment of their research objectives.
4. **Expectation Management:** In contextual inquiry, setting appropriate expectations with the client and participants is of utmost importance.
5. **Unconventional research approach:** Individuals may be hesitant to take the reins and play a more active role in the study process if they lack prior experience with contextual questions (Anon, 2018).

**References:**

Holtzblatt, K. (2010). Contextual Design. [online] The Interaction Design Foundation. Available at: <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/contextual-design>.

Anon (2018). Contextual Inquiry | Think Design. [online] Think Design. Available at: <https://think.design/user-design-research/contextual-inquiry/>.

Komninos, A. (2019). *An Introduction to Usability*. [online] The Interaction Design Foundation. Available at: https://www.interaction-design.org/literature/article/an-introduction-to-usability.