

## How does ethnographic study work assist in gathering data?

- **Ethnographic Study in Data Gathering:** Ethnographic studies involve researchers immersing themselves in the user's environment to observe how they interact with a system or product naturally. This approach is particularly valuable for understanding context-specific user needs, behaviors, and challenges that might not be visible in a controlled setting.
  - **Example:** In developing mobile applications for field workers, an ethnographic study might involve observing workers on-site to see how environmental factors (like weather, lighting, and noise) impact their app usage.
  - **Benefits:**
    1. **Contextual Insights:** Provides a deep understanding of real-life challenges users face.
    2. **Uncovers Hidden Needs:** Reveals issues and needs users might not articulate in interviews or surveys.
  - **Drawbacks:**
    1. **Time-Consuming:** Ethnographic studies often require extended time in the field.
    2. **Complex Analysis:** The data gathered is typically qualitative and may be complex to analyze.

As part of a new project Digital Pathways are developing an Interactive Kiosk for a Science Museum

to be used by children. The kiosk will provide learning activities and games about wind turbines. Answer the following:

- a) List the possible stakeholders of this system
- b) Explain why a combination of ethnography and prototyping is useful for the requirements elicitation process.
- c) List primary differences between functional requirements and non- functional requirements.

a) Possible Stakeholders of the Interactive Kiosk System

1. **Science Museum Management:** They oversee and fund the project and will ensure the kiosk meets museum goals.
2. **Museum Visitors (Children):** The primary users who will interact with the kiosk.
3. **Museum Educators/Staff:** They may assist children in using the kiosk and provide feedback on its educational effectiveness.
4. **Parents or Guardians:** As supervisors, they ensure their children engage with safe, informative content.
5. **Design and Development Team (Digital Pathways):** Responsible for creating and maintaining the kiosk, incorporating feedback from users and stakeholders.

6. **Content Experts on Wind Turbines:** They ensure the educational material on wind turbines is accurate and engaging.

## **b) Why Ethnography and Prototyping Are Useful in Requirements Elicitation**

Combining ethnography and prototyping in requirements elicitation helps in understanding both the context of use and refining the interface design. Ethnography allows the design team to observe children's behaviors and interactions within the museum environment, which helps identify natural user needs and preferences. Prototyping provides tangible models of the kiosk, enabling iterative testing and feedback collection. This dual approach helps design an interface that is both contextually relevant and user-friendly for children.

## **c) Primary Differences Between Functional and Non-Functional Requirements**

- **Functional Requirements:** These define the specific actions or tasks the kiosk must perform, such as displaying information about wind turbines, running interactive games, and tracking user progress. They focus on "what" the system should do.
- **Non-Functional Requirements:** These refer to the system's overall qualities, like usability, reliability, and performance. For instance, the kiosk should be accessible for young children, fast in loading content, and visually engaging to maintain user interest. Non-functional requirements describe "how" the system should operate or behave.

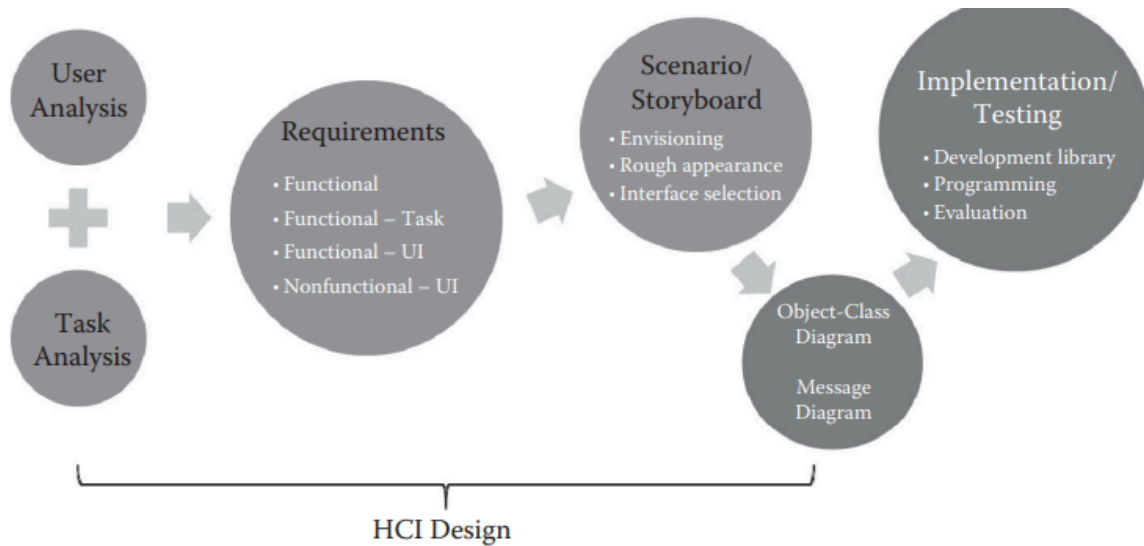
Using both types ensures the kiosk is not only functional but also meets user experience expectations, especially important for children in a museum setting.

## Where to Use Different Menu Styles?

**Table 4.1** Where to Use Different Menu Styles

MENU TYPE	USAGE
Pull down	Top level (main) categorical menu
Pop up	Object specific, context specific
Toolbar	Functional/operational tasks
Tabs	File folder metaphor (categorical menu)
Scroll menu	Long menu (many menu items)
2-D array/Image maps	Identification of items by icons (vs. by long names) or pictures
Buttons/Hyperlinks	Short menu (few choices)
Check boxes/Radio buttons	Multiple choice/exclusive choice
Hot keys	For expert users
Aural menu	Telemarketing and for use by the disabled

## Explain HCI Iterative Design Process?



**Figure 4.1** The overall iterative HCI design process (as a precursor to implementation).