

A Comprehensive Exploration of Ambiguity and its effect on User Experience Design

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Abstract:

Accepting ambiguity regarding the design process requires an effective approach that achieves a balance between creativity and clarity. To effectively manage ambiguity, designers need to develop an in-depth understanding of the cognitive processes, emotional triggers, and interpretive biases of their users. Through embracing ambiguity, designers may create a sense of exploration in their creations, encouraging people to participate in a process of investigation and interpretation. After all, the everyday world itself is inherently ambiguous: most things in it have multiple possible meanings. However, ambiguity can have positive effects if it is used carefully and properly. The research problem lies in confirming that using ambiguous designs can successfully navigate interfaces and create designs that meet the needs of both stakeholders and users. And tries to answer the following question: What is the role of ambiguity in influencing design in general and user experience design in particular and the extent of its impact on design. The research aims to emphasize the importance of ambiguity in the stages of user experience design, identify its advantages, disadvantages and identify how to clarify ambiguity for both stakeholder and the user. The importance of the research becomes clear by achieving the positive impact of strategic ambiguity and its impact on user experience design, studying the concept of ambiguity effect and its relationship to cognitive bias, and concluding its components. The research supposes that: Employing ambiguity in the user experience design helps achieve the positive impact of a distinctive user experience and make it more effective and personalized. Awareness of the concept of ambiguity effect helps reduce the user's cognitive bias and transform the interface to a distinctive design that positively affects the user. The research followed the descriptive approach through the theoretical framework and the analysis of some models to confirm the hypotheses of the research.

Keywords:

Ambiguity, User experience design (UX), Strategic ambiguity, Ambiguity effect, Cognitive bias.

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1. Introduction:

The use of ambiguity to increase persuasion is a current issue that concerns academics and designers. There are few studies that emphasize the ambiguity in evaluating UX design creativity despite recent theoretical advancements.

Ambiguity, occasionally known as strategic ambiguity has been utilized widely to increase persuasion. Current designers often intentionally create ambiguity in their designs, especially for product categories.

The word "user experience" (UX) was originally used by Norman in 1995 in reference to human interface research and applications.

User Experience includes various elements such as the user, the interface's design (its complexity, purpose, usability, and functionality), and the context or environment in which the interaction occurs. (Berni, A., Borgianni, Y. ,2021, p.1628).

The way both words and visuals are expressed in a UX design influences the ambiguity that characterizes advertising messages. Ambiguity includes features like being less explicit, providing more confusing cues, and preferring nonverbal indicators over words. (Kim Woon Han, Choi Hong-Lim, 2015, p.2)

The concept of ambiguity in design is complex and intentionally includes components or features which allow open the possibility of interpretation.

This intentional ambiguity may express itself in several methods, including abstract or symbolic iconography, and curious animations. The objective is to carefully balance providing users just enough guidance to manage a system and allowing space for their own creative interpretation and discovery.

Ambiguity in design is essentially an intentional choice made by designers to include a certain level of ambiguity, to encourage users to interact with the interface beyond its fundamental functions. It is a tool to express brand identity, generating specific emotional reactions, and enhancing a product's overall value and enjoyment. (online: www.iabdi.com)

Literature review:

Ambiguity THEORETICAL BACKGROUND and definition:

After more than 30 years since the ambiguity term's introduction, the study of ambiguity continues to prosper and gaining popularity among academics in an increasing number of subject areas. There is broad consensus that ambiguity is a rather consistent individual difference over a wide range of conceptual and operational meanings. Eventually, a conceptual definition of ambiguity emerged over time, it evolved in various languages and gained prominence in literature, philosophy, and later in design and communication, it can be defined as:

- The term "ambiguity" finds its roots in the Latin word "ambiguitas," which means a state of uncertainty or overlapping meaning and the potential for multiple interpretations of overall product quality (YOUNG-WON HA STEPHEN J. HOCH, 1989, p.355)
- When a phrase has many meanings and is employed in a situation or setting where it can be interpreted in at least two unusual ways, it is considered ambiguous. (Drazen Pechar, 2002, p, 164)
- If a word or sentence can be understood in more than one way, it is ambiguous. The meaning of words, phrases, and sentences that have multiple meanings is referred to as ambiguity. (Fatkhul Huda, 2001, p.22)

A design must produce "at least two different meanings," as well as two contradictory and unconnected meanings, to be considered ambiguous. A design is only ambiguous at that point. Often, the most effective way to convey complicated intuitions in a more understandable format is through visual design. (Drazen Pechar, 2002, p. 164)

The fundamental goal of user experience (UX) design is to satisfy user needs while adjusting to constantly changing design trends and user expectations. This is achieved through the ambiguous interaction of psychology, technology, and creativity to create a smooth and engaging user experience. and so, the researcher defined Ambiguity in UX design as:

Intentional and intended ambiguity or lack of clarity in specific UX design phases or elements. This purposeful addition of ambiguity accomplishes goals and is not the outcome of insufficiency, ambiguity is deliberately incorporated by designers to pique users' interest, encourage thought processes, and improve user experiences in general.

3- Understanding ambiguity in the context of design:

In the field of design, purpose and clarity are essential and Ambiguity is a key part of design. As it draws attention to the uncomfortable area that exists between "what is" and "what could be," ambiguity refers to the capacity to simultaneously hold disparate or conflicting ideas, The relation of ambiguity and design is clarified in many points as follows:

- Accepting ambiguity and uncertainty can push limits, encourage creativity, and bring in fresh viewpoints. (Ben Holliday, 2018)
- Accepting ambiguity can significantly affect how a design turns out. Designers may produce more memorable and captivating experiences by allowing flexibility for imagination.
- Users must consider and understand when they come across ambiguous designs, which can increase their level of engagement and interest.
- Through more interaction, the user and the designer may form a deeper bond that encourages emotional attachment and a sense of loyalty.
- Ambiguity can inspire originality and creativity. By embracing ambiguity, designers allow themselves to be open to fresh ideas and viewpoints.
- Ambiguity may result in the creation of original and unusual concepts that push the bounds of conventional design. (Pedro Canhenha, 2018)

4- Employing ambiguity in user experience design:

User experience design is a dynamic field that constantly evolves to meet the ever-changing needs and expectations of users. In the pursuit of creating seamless and intuitive interfaces, designers often encounter a fascinating challenge. While clarity and simplicity are essential elements of effective UX design, a controlled level of ambiguity can add a layer of complexity that engages users and enhances their overall experience. (Slava Polonski, 2023)

Ambiguity, in the context of UX design, refers to elements of a user interface that are intentionally left open to interpretation. This can manifest in many ways, from flexible navigation paths to ambiguous icons or even subtle animations that invite users to explore. Ambiguity effect in which users are avoiding the unknown and refrain from selection options that are missing information or clarity.

Striking the right balance of ambiguity in UX design is an art that requires a deep understanding of the target audience, the product's purpose, and the overall brand identity. (Gil Bouhnick, 2019)



Fig (1): Options and buttons in the user interface lack sufficient information and clarity. (online: <https://medium.com>)

The careful application of metaphor and symbolism in UX design is one way to embrace ambiguity. Designers can elicit emotional reactions and encourage users to actively interpret and interact with the interface by imbuing design elements with layers of meaning and symbolism. With this

method, the user experience can become a multifaceted story that invites people to co-create meaning and develop a stronger bond with the design. But it is crucial to find a careful balance so that the symbolism stays understandable and enriching rather than confusing or obscuring.



Fig (2): symbols convey complex meanings and facilitate efficient user interaction. (online: <https://medium.com>)

Embracing ambiguity as a source of creativity allows designers to investigate unorthodox approaches, question accepted practices, and push the limits of design paradigms. This strategy promotes a mindset of ongoing improvement and development, enabling designers to use uncertainty as a catalyst for ground-breaking concepts and innovative user experience strategies. Ambiguity can be frustrating, to be sure. But it can also be intriguing, mysterious, and delightful. By impelling people to interpret situations for themselves, it encourages them to start grappling conceptually with designs and their contexts, and thus to establish deeper and more personal relations with the meanings offered by those designs. Ambiguity allows UX designers to engage users with issues without constraining how they respond. In addition, it allows the designer's point of view to be

expressed while enabling users of different social backgrounds to find their own interpretations. (Gaver, William W., et al., 2003)

5- Types of Ambiguity in UX design:

Ambiguity in design can manifest in various forms, strategically incorporated to achieve specific objectives in user experience and communication. Here are eight types of ambiguity in UX design:

A- Visual Ambiguity:

- Description: visual components that lend themselves to different perspectives.
- Example: Graphics, illustrations, or images that are unclear or abstract and let the user understand them for himself.

A distinctive feature of such visualizations (sketches, diagrams, visual metaphors, etc) is their ambiguity or their quality to be open to multiple interpretations. (Martin Eppler, and others, 2008)

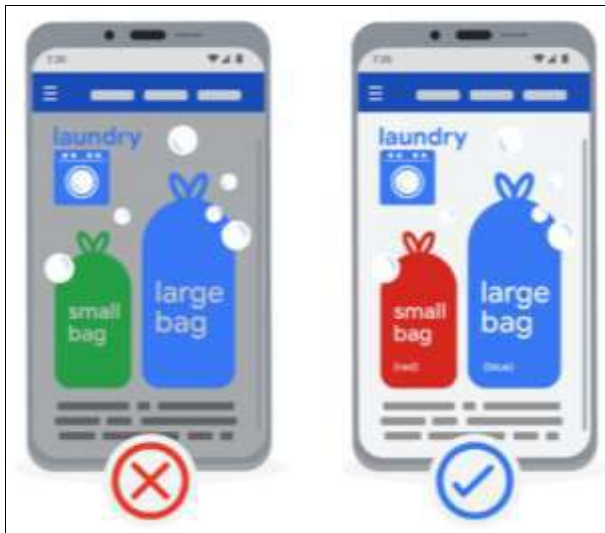


Fig (3): Clarity of images used in the user interface helps reduce ambiguity in the design. (online: <https://medium.com>)

B- Semantic Ambiguity:

- Description: Ambiguity arising from the multiple meanings of words or symbols.
- Example: clever use of dual-meaning symbols or double meanings in branding or communication.

Semantic ambiguity can occur either as a consequence of ambiguity between unrelated meanings or ambiguity between related senses. (Jakke Tamminen, and others, 2006)

C- Navigational Ambiguity:

- Description: Uncertainty in the structure or pathways of navigation within a digital interface.
- Example: Non-linear navigation structures or hidden pathways in websites or apps that encourage exploration.

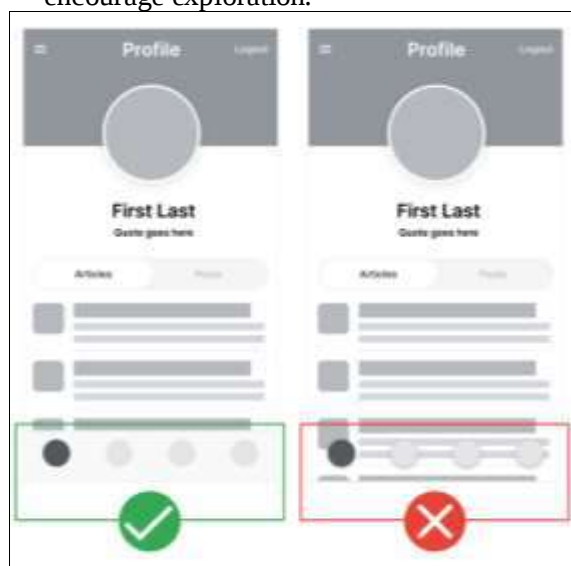


Fig (4): Unclear navigation bars cause ambiguity. (online: <https://medium.com>)

D- Cultural Ambiguity:

- Description: Design elements that are open to interpretation based on diverse cultural backgrounds.
- Example: Symbols or colors that may hold diverse cultural significance, allowing users to interpret them based on their cultural context.

Cultural ambiguity refers to the influence of diverse cultures. A user is culturally ambiguous if he or she has been influenced by diverse cultural groups and/or carries a cultural identity that cannot be clearly assigned to a certain territory. (Emmanuel Blanchard, Stefane M. Kabene, 2010)

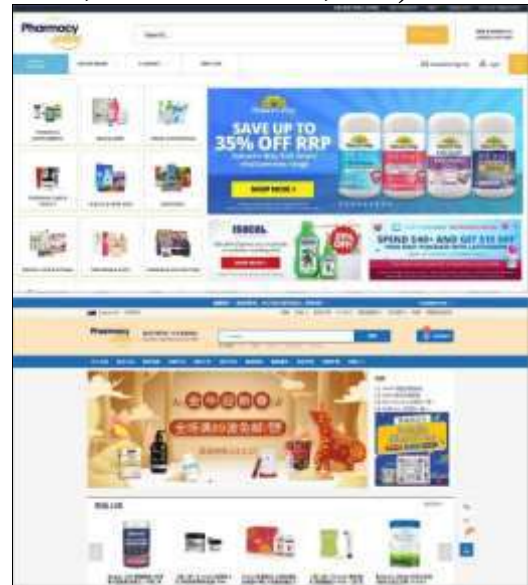


Fig (5): Knowing and considering diverse cultural characteristics in user interface design reduces ambiguity (online: www.nngroup.com)

E- Interactive Ambiguity:

- Description: confusion about the proper way for people to engage with features.
- Example: interfaces that react differently to diverse types of user input, giving users a feeling of exploration and involvement.

F- Narrative Ambiguity:

- Description: Openness or uncertainty in the narrative or storytelling elements of design.
- Example: campaigns or advertisements with narratives that are left open-ended so that recipients can add their own meanings to the gaps.

G- Aesthetic Ambiguity:

- Description: a design's aesthetic features that are interpretable.
- Example: artistic arrangements that purposefully obfuscate the distinctions between various visual components to enable personal interpretation.

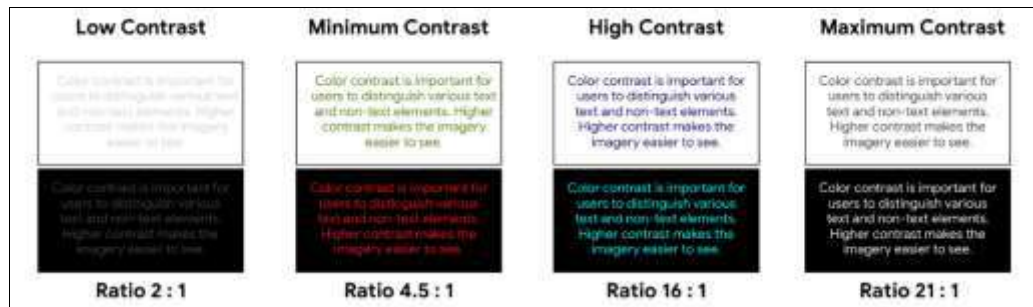


Fig (6): Considering contrast in writing helps interface elements to be easier to read and reduces ambiguity (online: <https://medium.com>)

H- Emotional Ambiguity:

- Description: designs that arouse conflicting or indecisive feelings.
- Example: marketing that intentionally creates feelings of mystery and nostalgia while allowing for a range of emotional reactions.

The emotional ambiguity hypothesis introduced the principle that uncertainty about items' valence determines how emotional content affects memory and other psychological processes.



Fig (6): A design based on nostalgia and arousing emotions in the user. (online: <https://dribbble.com>)

Designers can be empowered to produce more captivating, adaptable, and user-centered experiences that accommodate the many perceptions and contexts of their audience by comprehending and utilizing various kinds of ambiguity. (Brainerd, C. J., 2021)

6- Advantages and disadvantages of ambiguity:

The presence of ambiguity within user experience design exerts a profound influence on how users perceive, interact with, and ultimately, evaluate a digital product or service.

Advantages:

The researcher listed pros of ambiguity as follows:

- When wielded adeptly, ambiguity can kindle a sense of intrigue, prompting users to delve deeper into the interface and uncover hidden layers of meaning.
- Ambiguity can result in a heightened sense of engagement and emotional investment, as users are compelled to actively participate in the interpretation of ambiguous elements.
- Ambiguity can imbue a design with an air of sophistication, inviting users to appreciate its depth and complexity.
- A design rife with intentional ambiguity can imbue a brand with an enigmatic allure, fostering a sense of exclusivity and intrigue,

and ambiguity may also be used to express a brand's personality.

- Adapting to User Context: User context plays a significant role in determining the appropriate level of ambiguity. What works for one audience may not be suitable for another. Designers must consider the cultural background, age group, and technological proficiency of their target users to tailor the level of ambiguity effectively.

Disadvantages:

The effect of ambiguity on the user experience depends on how wisely it is applied and how well it fits the intended functional and emotional goals of the design. Because of this, ambiguity's influence on user experience is felt over the entire range of user-brand interactions, highlighting its importance in the process of making design decisions.

- Ambiguity promotes the feeling of doubt and confusion which affects the bond of trust between the user and the interface.
- Using ambiguity with no guidelines affects brand identity negatively by giving the impression of uncertainty.

Ambiguous designs sometimes are open to interpretation, which can lead to misunderstandings. (online: www.iabdi.com)

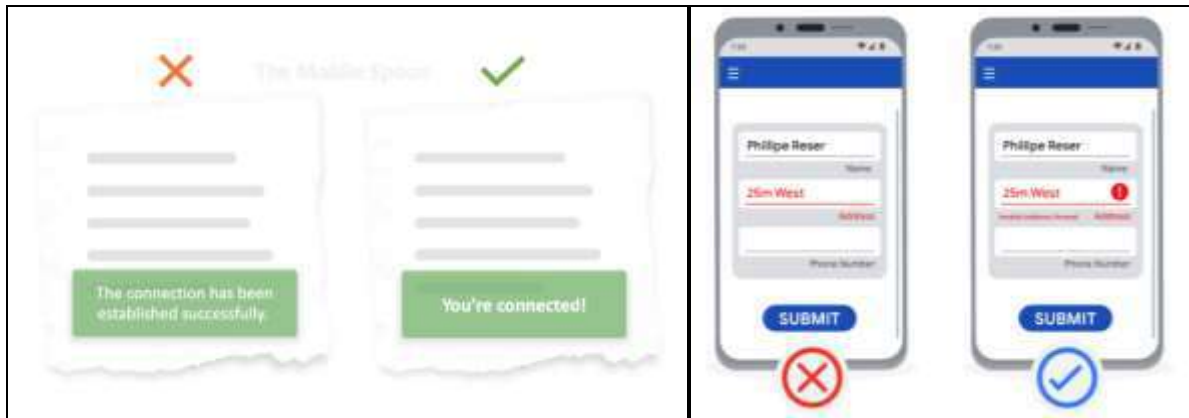


Fig (7): Interfaces contain information that is open to interpretation and is non-specific in the absence of specific guidance for the user while using the application. (online: <https://medium.com>)

7- STRATEGIC AMBIGUITY:

strategic ambiguity takes place when an advertising message the connotation is unclear conveyed to a recipient. This viewpoint is considered by the strategic utilization.

Deliberately “ambiguous messages “are created to stimulate dissimilar interpretations of the same set of” symbols” within and across diverse audiences. Ambiguity is used in lack of knowledge, in error, by chance or purposefully in advertisements. Mainly to misinform, to complicate, to entertain, to

evade truth, to persuade, and to make certain ideas, products and services appear plausible or more plausible than they really are in defiance to the prevailing ideology of clarity and openness in public.

Meanwhile, the complexity of the connotation is a difficulty in meaning utilized in an advertisement channeled to the consumers in the message structure about the brand and its benefits that facilitate apprehending the attention of consumers (Zaki Hasan, and others, 2022)

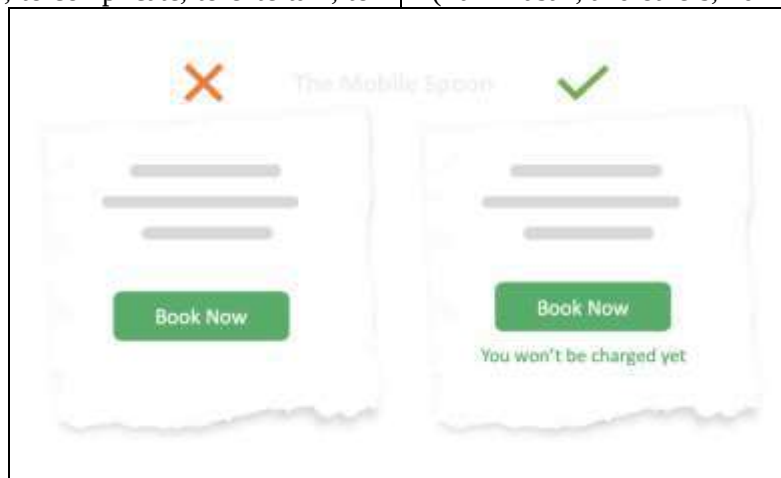


Fig (8): Lack of knowledge and lack of information leads to complexity and ambiguity in meaning. (online: <https://medium.com>)

While the main principle of UX design is clarity, there are several cases where controlled ambiguity can be intentionally employed to enhance user experiences. Here are a few examples of intentional UX design strategies that make use of ambiguity:

- Introducing a little bit of ambiguity to the user experience design stimulates users' interest and encourages participation. The utilization of hidden components, or ambiguous elements stimulates users to engage with the interface.
- Using ambiguity in user experience design can achieve aesthetic and artistic goals. Unclear or

ambiguous images cause disturbed feelings, making the user experience unique and memorable.

- Companies can carefully use ambiguity to create a certain brand personality. This strategy work well for developing a recognizable and memorable brand identity.

Ideally, ambiguity has been consistently used for effectiveness of persuasion, mostly characterized as strategic ambiguity. Invariably, clarity and ambiguity are relational in nature that arises from the “source, message and receiver” influence.

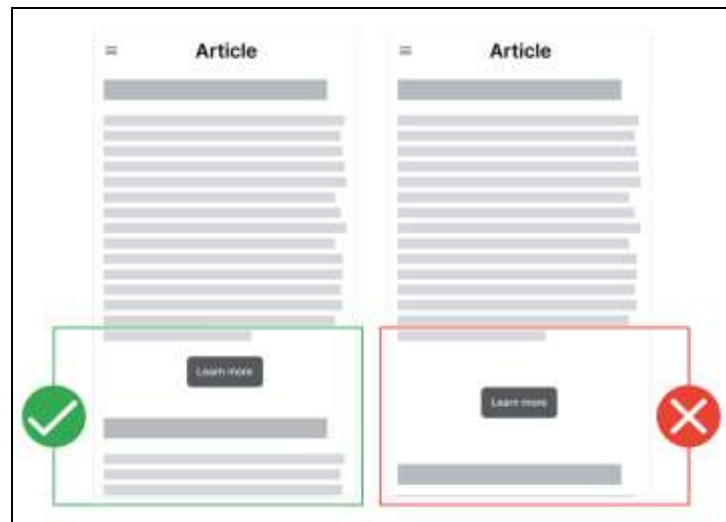


Fig (9): Clear navigation within the application helps the user discover information easily and reduces ambiguity. (online: <https://medium.com>)

8- Ambiguity effect as a cognitive bias:

Cognitive bias affects multiple fields, including design. This bias can affect how decisions are made, problems are solved, and users interact in design, cognitive bias can be defined as:

- The human brain's propensity to adopt shortcuts in order save energy, which limits the capacity for rational thought.
- Adaptation strategies that allow the brain to manage massive amounts of information. Despite the mechanism's great efficiency, decision-making errors result from its limitations.

Understanding and managing the ambiguity effect in the context of UX design is essential for developing user interfaces that improve decision-making and the user experience, so ambiguity effect is defined as:

- The ambiguity effect phenomenon is a cognitive bias that highlights the propensity of human beings to keep clear of options that appear hidden or ambiguous, as users are more likely to choose a decision that has a known conclusion. (online: www.adcocksolutions.com)
- A cognitive bias occurs when people avoid products or services, they consider that are ambiguous or missing information they need to decide because they dislike uncertainty.
- The Ambiguity Effect leads people to select options for which the probability of a favorable outcome is known, over an option for which the probability of a favorable outcome is unknown. (Elizabeth Chey, 2023)

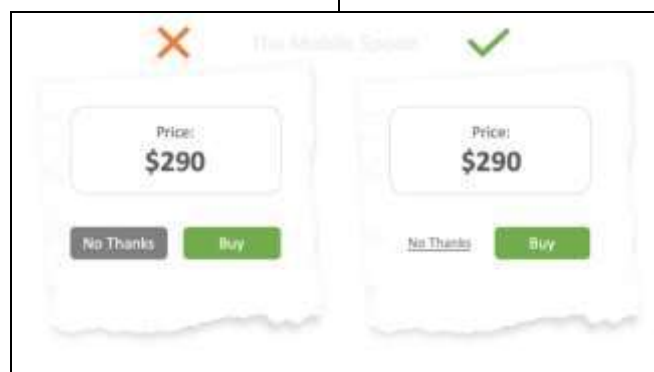


Fig (10): Clarity in the options available to the user reduces ambiguity resulting from cognitive bias and drives decision making. (online: <https://medium.com>)

The ambiguity effect is a kind of framing effect in which a decision may be made to appear either obvious or ambiguous by focusing on or neglecting unknown elements of it. (Online: <https://thedecisionlab.com>.)

The ambiguity effect can be classified as a cognitive bias. Cognitive biases, in general, refers to a person's propensity to make wrong choices based on cognitive traits. Cognitive biases may

occur for a variety of reasons, such as the brain's natural tendency to process information more quickly than it should, even when that processing is sometimes wrong. The ambiguity effect is an element of the class of probability and belief biases, which are frequently analyzed for their impact on experimental research in addition to commercial and economic decision-making. (online: www.wiwi.europa-uni.de)

Understanding consumer psychology and prejudice that exists in the human brain, can help improve User Experience and Customer Satisfaction, which will in turn, inevitably, lead to better Conversion Rates, Loyalty, and improvement in other important business metrics. (Philippos J Richter, 2019)

The psychology of the recipient and user tends toward an aversion to ambiguity and risk. In addition, the fear of deciding and the lack of availability and clarity of enough information, which is linked to the effect of ambiguity, may prevent some users from making appropriate decisions.



Fig (11): Encouraging the user to decide due to fear of risk. (online: <https://medium.com>)

9- Strategies for clarification of ambiguous design:

Effective communication is key when dealing with ambiguity, we can clarify and overcome ambiguous UX design by following a few strategies when dealing with stakeholders and users:



Fig (12): Strategies for clarification of ambiguous design chart.

A- Clarifying ambiguous design for users:

- Asking clarifying questions: Asking questions is one of the simplest and most effective techniques of shedding light on ambiguity. This can assist in recognizing any fears or

doubts as well as better understanding the objectives and needs of stakeholders.

- Use prototypes or mock-ups: Mock-ups and prototyping can be useful instruments for verifying ideas and getting feedback on ambiguous thoughts.
- Conducting user research: A helpful technique of gathering feedback and thoughts on ambiguous designs is user research. By interacting with users, studying their wants and behaviors, and applying this information to enhance and create a sense of the design. (online: www.iabdi.com)
- Prototyping and Testing: Ambiguities in the initial stages of design, such as during prototyping, can lead to misunderstandings and misinterpretations. Designers should invest time in creating clear and comprehensive prototypes, and usability testing should be conducted to identify any ambiguities in user interactions. Iterative testing and refinement can help address these issues.



Fig (13): Prototyping in UX design. (online: www.eleken.co)

- User Interface Design: Ambiguity in the layout and structure of user interfaces can hinder user interaction. Users may struggle to understand the purpose of different elements or how to navigate through the interface. Designers

should focus on creating intuitive and user-friendly interfaces. Consistent design patterns, recognizable icons, and logical navigation paths help reduce ambiguity and improve the overall user experience.



Fig (14): navigating through application interfaces. (online: <https://medium.com>)

B- Clarifying ambiguity design for stakeholders:

- Regular updates: Inform stakeholders of any updates or developments about the design process, so stakeholders can be sure that everyone is informed and that any issues that arise are dealt with immediately.
- Clear expectations: Setting clear expectations and avoiding misconceptions will be considerably easier by being honest about any challenges or uncertainties and by communicating with stakeholders in a way that is open and honest regarding the design's state and development. (online: www.iabdi.com)

To address ambiguity bias in design, it is essential to combine user testing, simple and easy-to-understand interaction with an emphasis on creating user experiences. The usability and effectiveness of designs can be enhanced by designers by proactively recognizing and reducing potential sources of ambiguity. (Adnan, Ahmed, 2021)

Analytical Study:

Through the theoretical study, the researcher conducted an analytical study of a set of models to conclude how to learn how to make sufficient recruitment of ambiguity in user experience design:

First Analytical Model:

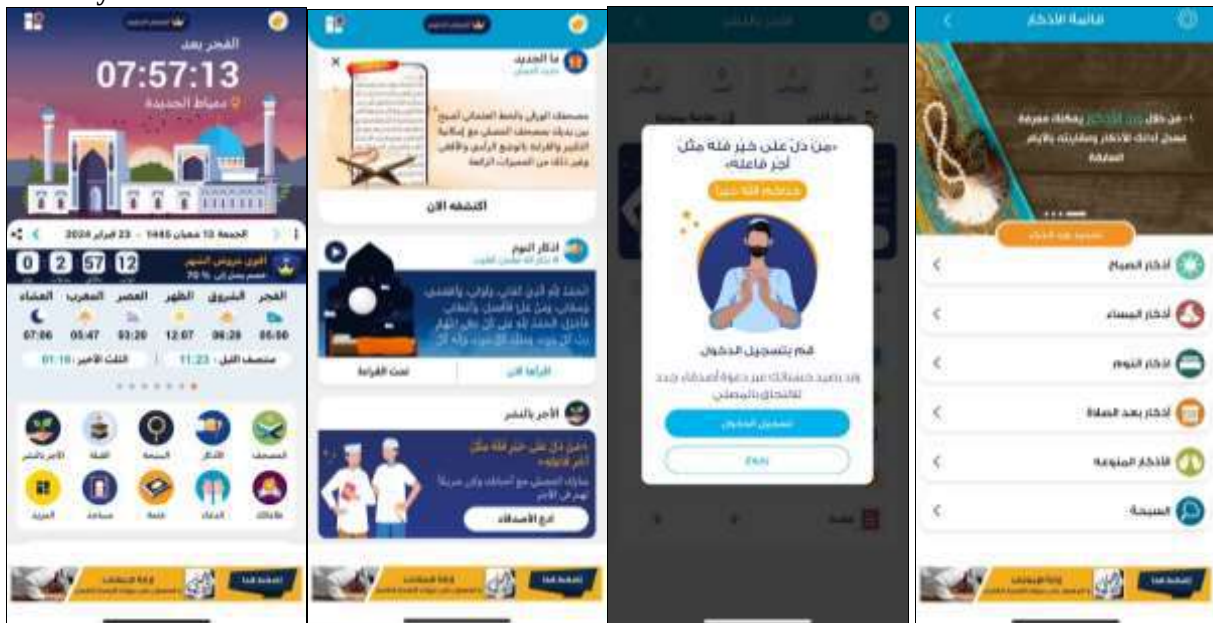


Fig (15): Almosaly application interfaces

Application name	Almosaly application	
Application description	Religious application that helps the user to be reminded of the times of daily prayers and supplications, in addition to the words of the Qur'an, the direction of the Qibla, and many other religious services.	
Employing ambiguity in the user interface	Clarity of idea	The idea is clear and simple and expresses the content of the application despite the many details included.
	Clarity of language	The language is clear, simple, appropriate to the content and does not contain any ambiguity
	navigating	Navigating between user interfaces is easy and simple and does not cause boredom. Although there are many icons, moving between them is clear and does not cause distraction.
	Sufficiency of information	The information included in the design is sufficient to guide the user within the application and is detailed to explain all sections without causing distraction to the user
	symbols	The symbols used within the icons are simple in design, have a direct visual significance in their meanings, and do not cause ambiguity in understanding their meaning
	Open for explanation	Moving within the interface design is specific, and when making certain movements, additional interfaces appear with simple symbols and words to confirm continuity in the right direction to ensure that there is no distraction for the user and that the final goal is reached, for example: Fig (16): interface explain confirming screen within application.
	Visual design	The design in general is integrated, showing the direction and identity of the application, the colors used in the icons, the background, and the spaces between the design parts achieve visual balance. The included images are clear and not distorted, and the design is consistent and achieves its purpose.
	User experience	The researcher thinks that using the application in general is easy and smooth and does not hinder the user from understanding how to use it and achieves its purpose easily and smoothly. Despite the many sections included in the application, it is clear and easy to use.



Second Analytical Model:

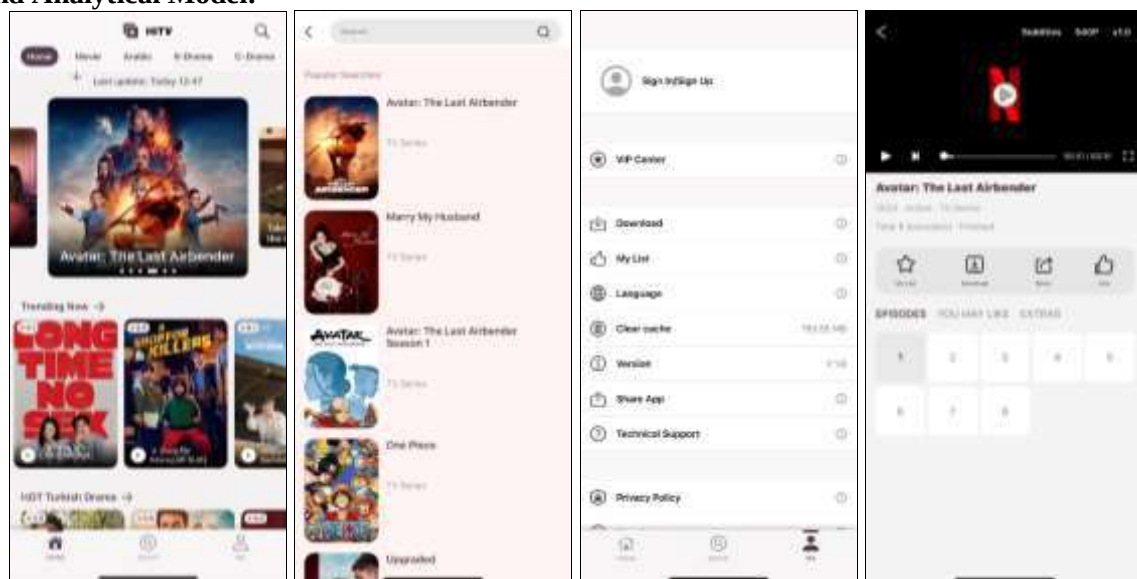
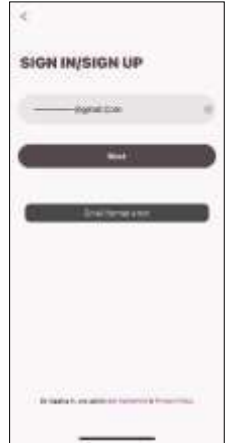


Fig (17): Hi tv application interfaces

Application name	Hi tv application	
Application description	An entertainment application that displays films and series from various countries, divided according to their nationality, such as (Arabic- Korean- Foreign) or by genre (anime- horror- romantic).	
Employing ambiguity in the user interface	Clarity of idea	The idea of the application is clear because it is divided into different specific categories and because it focuses on the important parts and highlights them.
	Clarity of language	The language is clear, does not cause distraction, expresses the content of the application, and is consistent between all application interfaces. With the ability to choose the appropriate language for the user, as it is an application that publishes entertainment materials related to many cultures
	navigating	Navigation between the user interfaces is easy and does not contain ambiguity because it is clearly divided, and navigation is divided between the main menus of the application and between parts of the main menus themselves.
	Sufficiency of information	The information included is sufficient to understand the identity and purpose of the application and helps the user to complete the navigation within the application without any obstacles
	symbols	The application does not contain many symbols, only the basic symbols that are visually recognizable in the data recording interface for the user and do not cause ambiguity in understanding them or understanding their function.
	Open for explanation	The basic transitions of the application are followed by confirmations from the application regarding the completion or incompleteness of the process, which allows the user to verify the correctness of his movement within the application. For example: Fig (18): interface explain confirming screen within application. 
	Multi understand buttons	The application does not contain many buttons or icons in the main interface, which does not cause confusion in movement within the application or leaves room for confusion for the user.
	Visual design	The visual design of the application is consistent, and the designer relied on neutral colors successfully. However, the choice of some color shades within one of the application interfaces was unsuccessful and does not fit with the design. The design relied on many images, all of which are of high quality and were used in a balanced way within the application interfaces.
	User experience	The researcher believes that the application is smooth and easy to use to some extent, despite the substantial number of advertisements that hinder smooth use, but it does not flaw the design and does not cause ambiguity that may harm the user.

Third Analytical Model:



Fig (19): Faisal application interfaces.

Application name	Faisal bank website	
Application description	A website for Faisal Islamic Banking to manage the bank's financial and banking transactions in addition to following up on all banking services.	
Employing ambiguity in the user interface	Clarity of idea	The general idea of the site is clear because it includes all available banking services and is mentioned in detail
	Clarity of language	The language used is not clear and causes confusion in terms of wording and design, since the official language is Arabic. The use of financial terminology in Arabic has led to it being somewhat difficult to understand.
	Navigating	General navigation between the main menus of the site is clear and easy, but if the user makes any choice, it leads to opening a separate page, which causes difficulty in dealing. In addition to the presence of main and side menus, it causes confusion among the contents of the site.
	Sufficiency of information	The information contained on the website does not help the user to complete operations within the application, because it ends with closed commands that do not help the user to complete his tasks.
	Symbols	The symbols used differ in their visual treatment and are not uniform and do not fit with the overall design of the site. Their visual design is inconsistent and does not indicate the contents of the site.
	Open for explanation	Movement within the website menus is not followed by confirmation, but rather ends in files and does not contain confirmation messages that help the user to ensure that his movements or performance of specific tasks are correct, which causes widespread verification and ambiguity.
	Multi understand buttons	The website does not contain many buttons except for the main menus. The main menus are clear and detailed and do not cause distraction or ambiguity.
	Visual design	The images used are not clear and are not related to the content of the website. The colors used are mostly green, but the rest of the colors are uncomfortable for the user's eyes. The spacing between the menus is appropriate, but the size of the fonts used is uneven and inconsistent, which makes navigation within the website uncomfortable.
	User experience	The researcher believes that using the interface is uncomfortable because it contains many unrelated visual elements, which leads to dysfunction and ambiguity for the user.

Conclusion:

In conclusion, ambiguity in user experience design is a powerful tool that can strengthen or weaken the user journey. Designers can make use of ambiguity's ability to evoke emotion, stimulate research, and develop stronger connections with users by realizing its complex nature. To ensure that the design reaches an equitable balance between creativity and clarity, it must be supported by a commitment to reducing confusion and cognitive overload caused by ambiguity.

Embracing ambiguity demands a comprehensive approach that encompasses user empathy, and a deep understanding of the psychological undercurrents that influence user behavior. By embracing ambiguity as a catalyst for innovation, designers can craft user experiences that endure in the minds of users. This journey into the world of ambiguity in user experience design illuminates the path to harnessing its potential to create creative user experiences, ushering in a new era of design that combines creativity with clarity.

In the field of user experience design, embracing ambiguity can be a measured approach toward producing creative and immersive user experiences. Designers can navigate a fine line between clarity and ambiguity and create user-interfaces that capture them by carefully including elements that motivate cognitive engagement, motivate exploration, and communicate brand identity. The key to success is to know your target audience and adjust the amount of ambiguity to fit their needs and preferences.

Results:

- UX ambiguity design has a significant impact on users' attention, users exposed to ambiguity elicited favorable attention to the brand than those unexposed to ambiguous design.
- designers can push the boundaries of ambiguous design principles and find new ways to create engaging user experiences Through actively testing and investigating ambiguity.
- In general, companies can achieve many goals by effectively using strategic ambiguity in design as tools that provoke different responses from differed people to attract and keep their focus on the brand.
- ambiguity designs become clear by using strategies such as performing user research, using prototypes and mock-ups, and asking clarifying questions.
- embracing ambiguity as a source of creativity and innovation, can successfully help users to navigate ambiguous interfaces and help designers to create designs that meet the needs of both stakeholders and users.

- Ambiguity plays a significant role in creating designs that encourage users to go through interfaces. It also has the additional advantage of allowing designers to go beyond their own technological advance's limits.

Recommendation:

- Using ambiguity in a thoughtful and careful manner after getting acquainted with cognitive bias can improve the user experience without affecting usability.
- Further scholarly research can focus on the overall role of ambiguity and the way it may affect purchase decisions
- User testing through UX process is crucial in refining ambiguous design elements by Gathering user feedback to understand how different users interpret and engage with the interface.

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