

The Application of Designer Intuition in Mobile Game User Interface Design

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ABSTRACT

A well-designed user interface (UI) is fundamental to mobile games, playing a critical role in creating a positive player experience by ensuring effortless navigation, minimising cognitive load, and fostering sustained engagement. This study was conducted by researchers to analyse the crucial role of designer intuition in the creation of mobile game user interfaces (UIs). While user data plays a crucial and foundational role in the early stages of UI design, the creation process often relies on designers' intuitive judgment for key decisions. This study employs thematic analysis of structured interviews with mobile game UI/UX designers to elucidate particular stages in the design process where intuition plays a pivotal role. The results show that while data drives the initial structure, intuition is progressively and decisively used in later stages, particularly to refine aesthetic elements such as colour palettes and layout composition. This study asserts that intuition is a crucial adjunct to data-driven design, necessary for the development of immersive and captivating player experiences.

Keywords: Intuitive Design, Intuition, Mobile Game, User Interface



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1 INTRODUCTION

Today, mobile games have become a popular choice compared to games on personal computers or consoles. Mobile games are designed specifically for smartphones and tablets, allowing users to play them anywhere, anytime, without much worry (Anderson, 2018). Anytime, anywhere mobile gaming is possible thanks to the features of mobile devices, such as touchscreens, internet, and GPS, creating an immersive and interactive experience that transcends the boundaries of conventional gaming environments (Mäyrä, 2015). Furthermore, the integration of these features maximises game quality and encourages strong connectivity and interaction between players (Mena & Bobed, 2015). This technological integration blurs the boundaries between the game world and the real world. This encourages players to explore more deeply and can change the way they perceive their surroundings and interact with others (Frith, 2013).

The user interface (UI) is a crucial part of the overall gaming experience. It is crucial to a successful gaming experience because it is the primary place for players to interact with the game. Intuition plays an important role in complement a visual aesthetics including layout, colour and harmonious hierarchy of visual design (Saiddin & Rani, 2022). A well-designed interface is not only crucial for ease of navigation and interaction, but also for enhancing player engagement and immersion, which directly impacts a game's commercial and critical success (Li, 2023; Yang & Gong, 2021). The principle of intuitive UI design is a crucial factor in ensuring this digital visual space is easy for users to understand and navigate. Intuitive design, in the context of game UI, means creating an interface that players can

easily navigate, understand, and use without needing to learn, allowing them to focus on the core gameplay. The ease of use afforded by intuitive design is made possible by carefully tailoring the interface to user expectations and experiences. Ng et al. (2018) support this by stating that understanding how players' personalities and emotions influence their reactions to game stimuli is crucial to good design. This kind of personalisation can make players feel more emotionally connected to the game, making the interface feel more natural and responsive.

Designers play a crucial role here, as they are the ones who create interactions, in the form of intuitive user interfaces. Their goal is to help users achieve their goals as accurately and efficiently as possible. However, this often relies on a designer's intuition, namely the ability to make design choices based on instinctive understanding and past experience, in addition to purely analytical methods (Rooij et al., 2021). A designer's intuition combines experience, creativity, and a deep understanding of user needs to create a well-functioning UI. This intuition doesn't emerge spontaneously but is developed through a deep understanding of the intended audience and user interactions with digital products, refined over time through continuous practice, observation, and reflection on behavioural patterns (Frich, 2024). When designers think like users, they can see where errors lie. This deep empathy for users enables designers to create interfaces that meet functional needs while satisfying users by reducing cognitive load and making interactions feel effortless.

Intuitive UI design is beneficial, but it needs to be tested against data to ensure it works. User testing and empirical research remain crucial for checking assumptions and ensuring that designers' intuitions align with what users actually do. In this way, intuition often guides the early stages of conceptual design, which is then refined and supported by feedback and concrete evidence. Therefore, this study seeks to evaluate the extent to which intuition improves the effectiveness and efficiency of user interface design for mobile games. The primary research question is to what extent designers' intuition is used to create interfaces in the mobile game design process.

2 LITERATURE REVIEW

2.1 Intuitive Design on User Interface

Intuitive design in user interfaces (UIs) creates effective and user-friendly digital experiences so that users can easily understand and navigate the UI. This allows them to achieve their goals with minimal effort and confusion. One of the foundational principles of intuitive design is the emphasis on user-centred design (UCD). UCD involves understanding users' needs, preferences, and limitations throughout the design process. This approach ensures that users can navigate and interact with the interface instinctively without getting bogged down by confusion or unnecessary complexity. Not only that, the principle of UCD can ensure that interfaces are tailored to user needs and limitations, forming a foundational practice upon which designer intuition is built and refined (Omar & Hassan, 2022).

Intuitive design should aim to minimise cognitive load by presenting information clearly and concisely, allowing users to focus on their tasks without distraction. This is supported by Skulmowski & Xu (2022), who emphasise that excessive cognitive load can hinder usability and learning. This principle also aligns with the idea that users should be able to understand and use an interface without extensive training or prior knowledge. Rapp et al., (2018) highlight that naive users often expect greater intelligence from the tools they use and may not need to think to analyse their data independently. The importance of context in intuitive design is also emphasised by Macaranas et al., (2015), who explore the complexity of designing a controller that meets the subjective preferences of many users. Their research suggests that intuitive design should consider the specific context of users, including their activities and preferences. This suggests that intuitive design should consider different levels of user experience and provide guidance to facilitate users' understanding and interaction with the interface.

Intuitive design promotes a minimalist design style, focusing on the essentials and avoiding user overload such as with too much information or too many choices at once. The advantage of a minimalist

style is that it helps maintain focus and allows users to complete tasks more easily and efficiently. Another important principle in intuitive design is consistency, where elements such as buttons, typography, colours, and interactions behave uniformly across the interface. This predictability fosters trust and reduces the user learning curve, allowing users to apply the same knowledge across different parts of the application or site. Providing timely and relevant feedback is essential for intuitive design because users should receive clear indications of their actions and the system's response. Johnson (2022) emphasises the importance of defining clear requirements and using appropriate evaluation tools to ensure the interface responds intuitively to user input. Feedback will help users understand the consequences of their interactions and strengthen their sense of control.

2.2 Intuition in Design

Intuition in design guides designers in making decisions that feel natural, smooth, and inherently correct. In the world of design, intuition is often relied on by designers in the design process carried out to produce innovative and effective design solutions (Yalcin, 2021). Intuition is a powerful force and is often subconscious, while formal training, experience, and research provide designers with a foundation of knowledge and design principles. Intuition includes instinctive understanding and decision-making processes. Intuition is described as a fleeting feeling that influences decision-making during the creative process. However, intuition is not without challenges. Hegarty et al. (2009) warn that intuition can sometimes hinder performance because designers often have to make quick decisions based on incomplete information. In fact, designers need to critically evaluate their intuition because it is very important to avoid bias that arises from relying only on intuition.

Kannengiesser & Gero (2019) state that there are two systems related to intuition. System One is intuition with a fast and intuitive response while system two is slower and more analytical. Of the two systems, designers often rely on System One when reproducing design systems and System Two to generate new design concepts. Suh & Cho (2018) further explored the relationship between intuition and creativity in design. Their research findings suggest that intuitive individuals often perform better at generating original ideas during the ideation process. However, the effectiveness of intuition can vary depending on the ideation method used. This suggests that while intuition can be a powerful tool in design, it must be complemented with the right methodology to maximise its potential.

Intuition in design is not just about aesthetics; intuition extends to functionality and usability. What makes intuition so valuable in design is its ability to guide decisions in uncertain or ambiguous situations, where there is no clear right or wrong answer. Intuition enables rapid decision-making and iteration, as designers rely on their instincts to move forward without becoming paralyzed by overthinking. This is especially important in fast-paced environments where time and resources are limited. While research and data are essential tools in a designer's toolkit, intuition provides the creative spark that can transform a good design into a truly innovative and engaging one. Intuition connects the emotional and practical aspects of design, helping to create products and experiences that not only feel functional but also meaningful and enjoyable to users.

2.3 Intuition in Design

Designer intuition is a powerful, often subconscious, force that designers possess that allows them to make quick, instinctive decisions that align with users' needs and expectations, without relying solely on data or deep analysis. When designers tap into their intuition, they tap into a deep, internal understanding of how people interact with their environments, both digital and physical. This innate sense helps designers anticipate user needs, creatively solve problems, and innovate in ways that might not be immediately apparent through a data-driven process alone. Intuition fills in the gaps that allow them to navigate complex choices without having to consciously consider every detail.

Intuition doesn't just happen overnight, it develops over time through a combination of experience, observation, and immersion in design principles and user behaviour. Designers build intuition by

learning, working on projects, the successes and failures of their designs, and paying close attention to how users interact with interfaces (Ismail et al., 2021). Sometimes designers can't fully explain the reasons for their design decisions, for example, a designer might instinctively know where to place a close button, identify the most natural and fluid path for users, guide decisions about layout, navigation, etc. Often designers bridge the gap between data-driven insights and human-centred creativity, helping designers solve problems quickly and refine their ideas with a balance of logic and emotion. By trusting their instincts, designers can create intuitive, user-friendly interfaces that feel easy to use. The best designer intuition enables a fluid and adaptive design process, where decisions are made confidently and efficiently, contributing to products that not only function well but also resonate emotionally with their users.

3 RESEARCH METHODOLOGY

This study employs a qualitative research approach to explore the use of intuition in designing a mobile game user interface (UI). The methodology focuses on understanding designers' experiences, decision-making processes, and the role of intuitive thinking during UI design. Data will be collected through structured interviews involving professional mobile game UI/UX designers. Participants will be selected using purposive sampling, targeting individuals with proven experience in designing mobile game interfaces, ensuring that their insights reflect industry practices. Structured interviews will serve as the primary data collection method, allowing participants to share their experiences, design rationale, and how intuition guides their creative decisions.

Thematic analysis will be used to analyse the data, identifying patterns, themes, and recurring insights related to intuition in the design process. Interview transcripts will be coded to extract meaningful information on how intuitive decisions impact usability, aesthetics, and overall user experience. This qualitative methodology provides an in-depth understanding of the role of intuition in mobile game UI design and its influence on creative and functional outcomes.

4 FINDING

This report investigates the analysis of survey data collected to explore the use of intuition in designing a Mobile Game User Interface in the workflow when designers design. The survey's main objectives were to discover the important factors influencing design decisions, the perceived role of intuition, and the extent to which data guides the design process. The data set consists of responses from diverse participants, including students, professionals, UI/UX designers, developers, and researchers. The survey questions covered topics such as preparation steps, decision-making factors, and the integration of intuition with data.

The authors distributed ten questions related to designing a User Interface. From the answers given by the respondents, the following is a comprehensive thematic analysis obtained from the 10 questions given.

1. The first question, "*What things do you prepare when designing an interface?*". The theme identified from this question is:
 - a. User Research: Participants highlighted the importance of understanding user needs through empathy-building exercises, surveys, and references. Respondent responses such as "Searching for references and surveying user needs" emphasised that preparation was focused on the target audience.
 - b. Defining Objectives: Several respondents noted the need to understand the design's purpose and ensure its responsiveness.
 - c. Creative Exploration: Several respondents mentioned that they prioritised ideation and creativity during preparation.

2. The second question, “*Do you rely on data or intuition when designing interfaces?*”. The theme identified from this question is:
 - a. Data-Driven Approach: Respondents' responses, such as “Rely on survey data”, indicate designers' reliance on user data for validation.
 - b. Intuition-Based Approach: Several respondents responded by saying, “Use intuition frequently,” providing insight into designers' emphasis on creativity and subjective judgment.
 - c. Combination of Both: Many respondents' responses reflected a balance of both methods, for example, “Using both, intuition helped drive the initial process.”
3. The third question, “What guides your decisions in the design process?”. The themes identified from this question are:
 - a. User-Centric Focus: Responses emphasised solving user problems and meeting user needs.
 - b. Empirical Evidence: Many cited the use of survey results and analytics to guide decisions.
 - c. Aesthetic and Functional Goals: The respondent equally emphasised Creativity and functionality.
4. The fourth question, “In your opinion, what is the role of intuition in creating an intuitive user interface?”, The theme identified from this question is
 - a. Complement to Data: Intuition complements data in decision-making,
 - b. Context-Dependent Role: Some noted intuition's importance depends on the project phase.
 - c. Creative Advantage: Highlighted as a tool for generating innovative ideas.
5. The fifth question, “How do you balance gut feelings with data or user testing results?”. The theme identified from this question is
 - a. Validation and Testing: Responses frequently mentioned cross-checking intuition with user feedback and data.
 - b. Iterative Refinement: Designers emphasised iterative processes to harmonise intuition and data.
6. The sixth question, “Do you believe that intuition in designing interfaces can be developed over time?”, The theme identified from this question is
 - a. Experience-Driven Growth: Most participants believed intuition grows with experience.
 - b. Innate Ability: A few viewed intuitions as an inherent skill.
 - c. Combination: Responses suggested both innate talent and experience contribute to intuitive development.
7. The seventh question, “When working on a new project, what aspects of UI design do you think are most influenced by your intuition?” the themes identified from this question were:
 - a. Visual Design: Strongly influences layout and colour schemes.
 - b. Interaction Design: Guides user flow and hierarchy.
 - c. Initial Ideation: Plays a crucial role in early concept development.
8. The eighth question, “How do you use intuition when deciding on layout, colour schemes, or interaction elements?” the theme identified from this question is
 - a. Balancing Aesthetics and Functionality: Intuition helps achieve balance.
 - b. User-Centred Design: Ensures designs meet user expectations and ease of use.
9. The ninth question, “In your opinion, what is the role of intuition in creating an intuitive user interface? How do you know that the design process you are using will be successful for users?”, the themes identified from this question are:
 - a. Feedback Validation: User testing validates intuitive decisions.
 - b. Emotional Resonance: Designers rely on intuition to gauge emotional responses.
10. The tenth question, How do you recognise when a design feels ‘right’? Are there any particular signs or feelings that trigger your design intuition?” the themes identified from the questions were
 - a. Harmony and Flow: A design feels right when elements align seamlessly.

- b. User Feedback: Positive user reactions confirm intuitive success.
- c. Emotional Cues: Designers trust gut feelings when a design resonates emotionally.

From the analysis results obtained, a thematic relationship map on figure 1 will illustrate the relationship between the main themes identified in the analysis. Each node represents a theme, while the directed edges illustrate the influence or relationship between the themes.

The thematic relationship map illustrates the interconnected nature of the main themes in the design process. “*User-centred Focus*” emerged as the underlying theme, heavily influenced by “*User Research*” and “*Goal Setting*”. This input ensures that the design is aligned with user needs and expectations. “*Empirical Evidence*” further supports this theme, providing data-based insights that validate decisions and anchor the design process in measurable user behaviour.

“*Creative Exploration*” is important in shaping the early design stage, closely related to “*Initial Ideation*” and “*Visual Design*”. This relationship highlights the role of creativity in crafting a unique and visually appealing user interface. This theme is also closely related to “*Intuition-Based Approach*”, which reflects how instinct and subjective judgment drive innovative ideas in the design process.

The balance between intuition and data is represented by the relationship between “*Combining the Two*” and “*Balancing Intuition and Data*”. This relationship underscores the integration of creative insight with empirical validation, ensuring that design is both innovative and user-centred. Similarly, the “*Data-Driven Approach*” feeds directly into “*Validation and Testing*”, emphasising the importance of verifying design decisions through research and analysis. The iterative nature of design is demonstrated in the relationship between “*Validation and Testing*” and “*Iterative Refinement*”, which highlights the cyclical process of improving design based on feedback. Finally, the themes “*Harmony and Flow*” and “*Feedback Validation*” address the outcomes of the design process. These themes emphasise the importance of achieving emotional resonance and functional effectiveness in design, supported by user feedback. Together, these themes flow into “*Aesthetic and Functional Goals*” and “*User Feedback*”, illustrating how visual appeal and usability are validated through user engagement. This map shows the dynamic interaction of these themes, reflecting the complexity and depth of decision-making in UI/UX design while emphasising the importance of balancing creativity, data, and user needs.

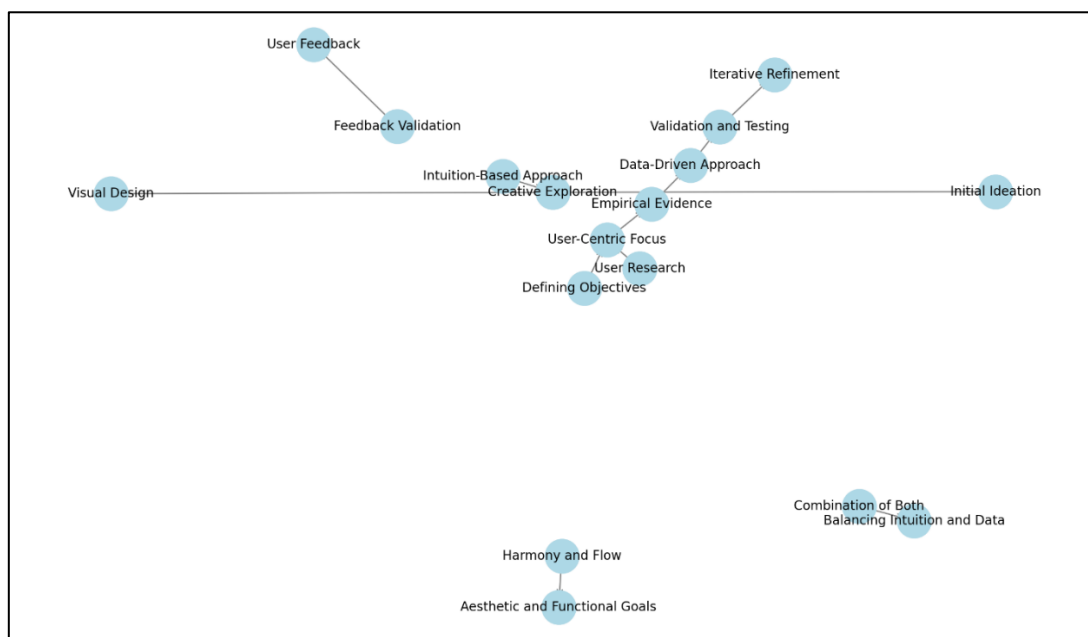


Figure 1 Thematic Relationship Map
(Source: Author, 2026)

5 CONCLUSION

The thematic relationship map and analysis reveal the complex dynamics that occur in the UI/UX design process. At the heart of successful design is User-centred Focus, driven by User Research, Goal Setting, and reinforced by Empirical Evidence. This foundation ensures that designs meet user needs and are grounded in measurable data. Simultaneously, Creative Exploration drives innovation and aesthetic appeal, playing a critical role in initial ideation and visual design. The interplay between the Intuition-Driven Approach and the Data-Driven Approach highlights the need to balance instinct with empirical validation. This balance is further supported by iterative processes such as Validation and Testing and Iterative Refinement, which refine designs to align with functional and emotional user expectations. The themes of Harmony and Flow and Feedback Validation highlight the importance of achieving designs that are both emotionally resonant and practically effective. These results emphasise the dual goals of aesthetic and functional success, validated through user feedback.

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AUTHOR CONTRIBUTIONS

All authors have made substantial intellectual contributions to this work. Auria Farantika Yogananti was primarily responsible for the study's conceptualisation, methodology, analysis, and the original draft preparation. Noor Hasyim contributes in data collection, while Azahar Harun and Nurhikma Mat Yusuf provided critical supervision, validation, and editorial input throughout the research process and during the writing of the manuscript. All authors reviewed and approved the final version of the paper.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

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