



BTPR2033 Multimedia Design  
Assignment (10%)  
2024A

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This is an individual assignment. It is worth 10% of the overall marks of this course. It is to assess the following learning outcome:

CLO2	Explain the process (plan, design, develop, and test) of an interactive multimedia application (C4, PLO2)
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## **1.0 Introduction**

This report analyzes a game to understand its game mechanics, design elements, usability considerations, and user interface (UI) types, and how these aspects contribute to creating a compelling player experience.

The chosen game for analysis is "Hollow Knight," an action-adventure game renowned for its intricate world design, challenging gameplay, captivating narrative, and visually appealing art style.

## **2.0 Game Mechanics Analysis**

In "Hollow Knight," the core gameplay mechanics are intricately designed to provide players with a challenging yet rewarding experience. The mechanics can be categorized into exploration, combat, and platforming.

### **2.1 Exploration**

Exploration is at the heart of "Hollow Knight." The game features a sprawling, interconnected world filled with mysteries, secrets, and diverse environments. Players are encouraged to chart their own path through Hallownest, uncovering hidden areas and discovering new abilities that open up previously inaccessible areas. This non-linear approach to exploration fosters a sense of curiosity and discovery, as players are constantly rewarded for thorough exploration, (Morris, 2021). The intricate level design ensures that every corner of the map feels purposeful, whether it's a hidden shortcut, a lore-filled cavern, or a challenging platforming section. The exploration mechanic not only immerses players in the richly detailed world but also encourages them to engage with the game's lore and unravel its mysteries.

### **2.2 Combat**

Combat in "Hollow Knight" is a delicate dance of precision and strategy. Players must carefully observe enemy patterns and behaviors, timing their attacks and dodges to overcome adversaries. The game's combat mechanics are deeply satisfying, with tight controls and a diverse array of offensive and defensive options. From basic sword strikes to powerful spells and charms, players have a variety of tools at their disposal to tackle encounters in their own unique way. Each enemy presents its own set of challenges, requiring players to adapt their approach and refine their skills. The challenging nature of combat in "Hollow Knight" fosters a sense of accomplishment as players overcome increasingly difficult foes, making victory all the more rewarding.

## **2.3 Platforming**

Platforming segments in "Hollow Knight" provide a refreshing change of pace from combat encounters while testing the player's dexterity and reflexes. Throughout the game, players must navigate treacherous obstacles, leap across chasms, and avoid deadly traps. The platforming mechanics are precise and responsive, allowing players to perform intricate maneuvers with ease. These segments often require quick thinking and precise timing, adding an element of tension and excitement to the gameplay. Whether it's scaling towering structures or descending into the depths of the earth, platforming challenges in "Hollow Knight" serve to break up the exploration and combat segments while providing a satisfying test of skill.

## **2.4 Conclusion for Game Mechanics Analysis**

Overall, the core gameplay mechanics of exploration, combat, and platforming work in harmony to create a compelling and immersive experience in "Hollow Knight." Each mechanic is finely tuned to provide a balance of challenge and reward, keeping players engaged as they journey through the hauntingly beautiful world of Hallownest. Whether uncovering hidden secrets, engaging in intense combat encounters, or navigating perilous platforming sections, players are sure to find something to love in this meticulously crafted adventure.

## **3.0 Game Design Analysis**

In this game design analysis section will discuss about player experience and core mechanics.

### **3.1 Player Experience**

Hollow Knight invites players into a hauntingly beautiful world teeming with mystery and danger. Its immersive atmosphere, characterized by intricate level design and captivating music, beckons players to explore its depths and uncover its secrets. The intended experience is one of awe-inspiring discovery, where players are compelled to delve deeper into the unknown, propelled by a sense of wonder and intrigue. As they traverse the desolate landscapes, facing daunting challenges and unearthing hidden truths, players are enveloped in an atmosphere of foreboding, yet driven by an insatiable curiosity to unravel the mysteries that lie within.

### **3.2 Core Mechanics**

At the heart of Hollow Knight lies a captivating gameplay loop that seamlessly intertwines exploration, combat, and progression. Players are thrust into a cycle of discovery and mastery,

where each step forward unveils new challenges and rewards. The game's intricate level design encourages thorough exploration, enticing players to unearth every hidden corner and secret passage. As they navigate the treacherous terrain, players engage in intense combat encounters, where skillful maneuvering and precise timing are paramount to survival. With each victorious battle, players amass resources and upgrades, empowering them to overcome even greater challenges and access previously unreachable areas. This progression loop not only provides a sense of accomplishment but also fuels players' desire to push further into the unknown, eager to uncover the next secret and conquer the next foe that awaits.

#### 4.0 Usability Heuristics Analysis

In this usability heuristic analysis, there is five heuristics will be chosen out on ten of them, that is match between system and the real world, visibility of system status, user control and freedom, consistency and standard, and error prevention.

#### 4.1 Match Between System and the Real World



Figure 4. 1 Figure Shows Protagonist's Movements

Hollow Knight excels in reflecting real-world actions through its intuitive controls and interactions. For instance, the protagonist's movements mimic those of a real creature, with responsive controls that feel natural to the player. The sword-fighting mechanics are similarly intuitive, with attacks and parries executed in a manner that mirrors real combat movements. By grounding its gameplay in familiar actions, the game enhances player immersion, allowing them to easily navigate and interact with the world.

## 4.2 Visibility of System Status



*Figure 4. 2 Figure Shows the Health Bar at Left Top Screen*

Vital game information, such as the player's health, soul gauge, and map markers, is prominently displayed on the user interface (UI). The health bar is typically located at the top or bottom of the screen, ensuring it remains visible at all times during gameplay. Additionally, the soul gauge, which indicates the player's ability to cast spells and heal, is prominently displayed near the health bar. Furthermore, map markers clearly indicate points of interest and objectives, ensuring players are always aware of their current goals and progress. This clear presentation of system status enhances player awareness and allows for informed decision-making, ultimately improving the overall player experience.

### 4.3 User Control and Freedom



Figure 4. 3 Figure Shows Controller Settings

Hollow Knight provides players with a high degree of control over their movements, attacks, and exploration. Players can freely navigate the game world, choosing their own paths and exploring at their own pace. Additionally, the combat system offers a wide range of movement and attack options, allowing players to adapt their strategies to different situations and enemy types. This freedom of choice empowers players to play the game in a manner that suits their preferences, whether they prefer a cautious, methodical approach or a more aggressive playstyle. By offering such flexibility, the game encourages players to engage with its mechanics in a way that feels most comfortable and enjoyable to them.

### 4.4 Consistency and Standards



Figure 4. 4 Game UI(1)



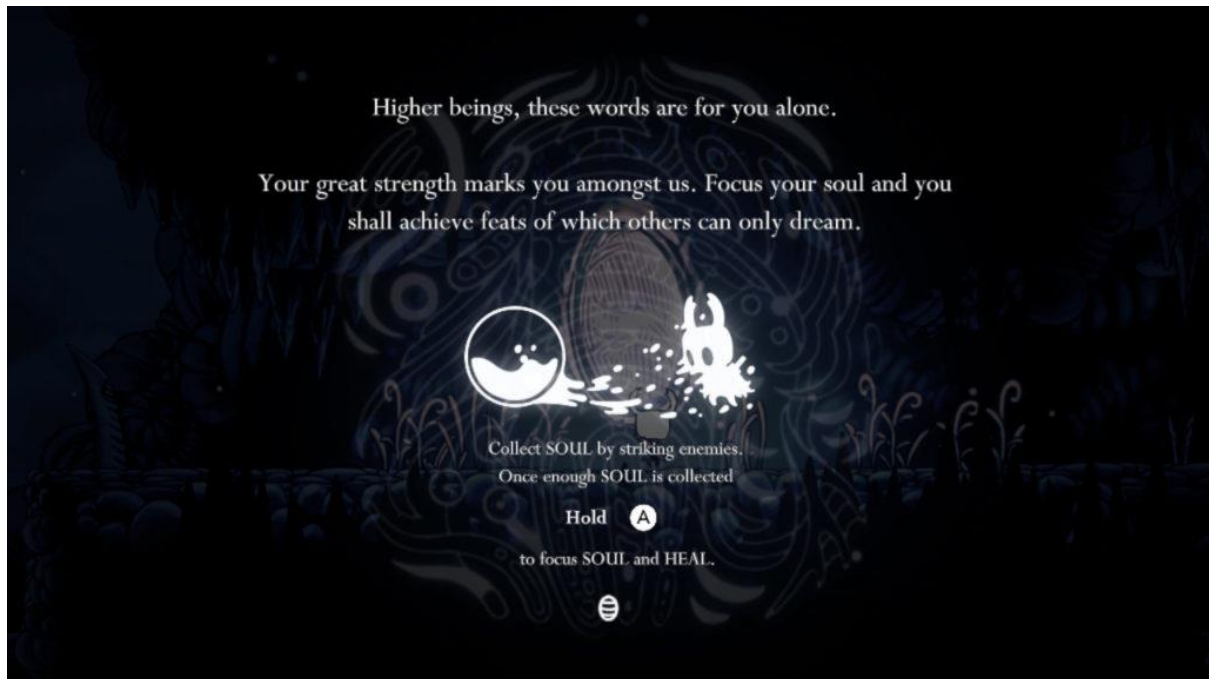
Figure 4. 5 Game UI(2)

Hollow Knight maintains consistency in its UI design, control schemes, and gameplay mechanics, adhering to established gaming conventions, Shown by Figure 4.4 and Figure 4.5. The UI elements, such as health bars and inventory menus, are presented in a clear and consistent manner, making them easy to understand and navigate. Likewise, the control scheme follows standard conventions for platformer games, with intuitive button mappings for



movement, jumping, and attacking. By adhering to these established standards, the game ensures that players can quickly familiarize themselves with its mechanics, reducing the learning curve and allowing for a smoother gameplay experience.

#### 4.5 Error Prevention



*Figure 4. 6 Figure Shows Users' Guide*

The game incorporates various measures to prevent player errors and misunderstandings. For instance, it features tutorial messages that provide guidance on basic mechanics and controls, ensuring that players understand how to interact with the game world effectively. Additionally, contextual hints and feedback mechanisms, such as visual cues and audio cues, alert players to potential dangers or opportunities in the environment. By providing clear guidance and feedback, the game minimizes the risk of critical errors or misunderstandings, allowing players to progress through the game with confidence and minimal frustration.

## 5.0 Game UI Type Analysis

Chapter five will be going to discuss about game UI type analysis. There is diegetic UI, non-diegetic UI, and spatial UI.

### 5.1 Diegetic UI



*Figure 4. 7 Figure Show When the Character be Attacted*

In Hollow Knight, diegetic UI elements are seamlessly integrated into the game world, enhancing immersion. The player's health and soul gauge, vital for survival and combat, are represented by icons within the game environment. For instance, the protagonist's health is symbolized by a mask icon, which visually deteriorates as the player takes damage. Similarly, the soul gauge, representing the player's ability to cast spells and heal, is depicted by a soul vessel icon that fills and depletes accordingly. By incorporating these UI elements directly into the game world, Hollow Knight maintains a sense of cohesion between gameplay and interface, reinforcing the immersive experience for players.



## 5.2 Non-Diegetic UI



Figure 4. 8 Example of Clean and Simple Game Scene in the Hollow Knight

While diegetic UI elements enhance immersion, non-diegetic UI elements in Hollow Knight serve to provide essential information and interactions without disrupting gameplay flow. The map, inventory, ability menu, and dialogue boxes are presented outside the game world, ensuring clarity and accessibility. For example, the map allows players to navigate the vast game world efficiently, marking discovered areas and highlighting points of interest. Similarly, the inventory and ability menu enable players to manage their resources and customize their gameplay experience. By segregating these UI elements from the game world, Hollow Knight ensures that players can access crucial information and perform necessary interactions without detracting from the immersive atmosphere of the game.

### 5.3 Spatial UI



Figure 4. 9 Game Progress Resume

In addition to diegetic and non-diegetic UI elements, Hollow Knight incorporates spatial UI elements that are seamlessly integrated into the game environment. Interactive objects like benches, signposts, and lever mechanisms serve as spatial UI elements, encouraging player interaction and exploration. For example, benches scattered throughout the game world act as save points and resting areas, allowing players to replenish their health and save their progress. Signposts provide contextual information about specific locations or landmarks, aiding players in navigation. Lever mechanisms trigger environmental changes or unlock pathways, adding layers of interactivity to the game world. By incorporating these spatial UI elements, Hollow Knight not only enriches the player's experience but also adds depth to the game world, creating a sense of immersion and agency.

## **6.0 Conclusion**

The analysis of Hollow Knight demonstrates a comprehensive understanding of its game design principles and how they contribute to the overall player experience. Through a careful blend of mechanics, narrative, usability, and UI design, the game achieves a remarkable level of immersion and engagement.

Hollow Knight excels in seamlessly integrating its core gameplay mechanics, such as exploration, combat, platforming, and progression. These elements work in harmony to create a rich and dynamic gaming experience that challenges players while rewarding their curiosity and skill. The game's intricate level design and atmospheric world-building further enhance immersion, drawing players into its dark and mysterious universe.

Moreover, the implementation of usability heuristics, including the match between the system and the real world, visibility of system status, user control and freedom, consistency and standards, and error prevention, ensures that players can navigate the game smoothly and intuitively. Clear and accessible UI elements provide essential information without disrupting gameplay flow, while diegetic and non-diegetic UI elements enhance immersion without sacrificing functionality.

Furthermore, the analysis identifies and examines three distinct UI types present in the game: diegetic, non-diegetic, and spatial. Each UI type serves a specific purpose, whether it's enhancing immersion, providing essential information, or encouraging player interaction with the game world. By effectively integrating these UI types, Hollow Knight enriches the player experience and adds depth to its immersive universe.

In conclusion, Hollow Knight stands as a testament to exemplary game design, where every aspect of the game, from mechanics to narrative to UI, works together to create a compelling and unforgettable gaming experience. Its success lies in its ability to engage players on multiple levels, offering a challenging yet rewarding journey through a beautifully crafted world filled with secrets and mysteries waiting to be uncovered.

## 7.0 References

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