

CGT 390 Player-centered Approaches to Designing Games

Report 1 : Research and analysis on Moonlighter

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Background:

Moonlighter is an action RPG game released in 2018. The game attempts to blend dungeon-crawling with tycoon through its primary gameplay features: the dungeons and the store. These features are broken into two gameplay loops that intersect with each other. This intersection requires some activity in one gameplay loop to progress in the other gameplay loop.

The dungeon is the primary focus of the game. With 5 different variants, the dungeon serves as the driving factor for completing the game. The player is tasked with navigating, fighting, and looting the rooms that comprise the dungeon. The player is able to escape the dungeon at any time by using a pendant and paying 200 gold. The items acquired from dungeon runs are then used for the store.

The store acts as a complementary feature to the dungeon. The items acquired from dungeon runs are then sold in this gameplay feature to raise gold. Gold is essential for progressing since it gives the player the ability to unlock new stores, weapons, and armor, as well as funding escapes with the pendant. Although items have an inherent value in the game, the player is unknown of the price initially. As a result, the store contains a gameplay mechanic where a player can read the expressions of characters to gauge the price of items. The player also has access to an item index. The index contains all the items sorted from highest to lowest value with few separations of price ranges. The index also contains the values that correspond with the expressions shown by customers.

Objective:

The focus of this study is to evaluate whether a player will properly interact with both gameplay loops of the game and to analyze the depth at which they understand the gameplay mechanics inherent of the game.

Structure:

The instructions given to the player was to start a new game and complete 2 days in-game. The player was also asked to speak aloud their thoughts when playing the game. There was to be no additional instructions nor advice was provided to the player unless it was necessary.

Three questions were formed to gather data about the objective. These questions are:

- **What are the controls to move/attack?**
- **What influenced your choice to price certain items? How do you discover the best price to sell an item?**
- **Are there interactable objects in the dungeon? What are they?**

Data would be collected when it corresponded to any of the questions or was significant in any way. Significant data would be experiences that heavily affect a player or gameplay.

Results:

Player 1:

Player 1 was a user who has experience with Moonlighter and a substantial amount of experience in pc gaming. Player 1 was able to recall inputs to move, basic attack, and dodge-roll but did not mention the inputs to charge/alternative attack.

Player 1's approach to pricing items initially started with no influence aside from the art of the item. Items that displayed generic items such as twigs were considered low value. Player 1 recognized the expressions of customers as indicators of whether the price was good or not. After discovering the index, the influence of pricing items came to the item's position in the index relative to other known prices.

Player 1 recognized that the dungeon consisted of several interactable objects. The objects that were identified were books/scrolls for story dialogue, bags, chests, and a healing spring. Player 1 did not acknowledge the skeleton and pots as interactable objects.

Notable data gathered from player 1 is listed below:

- Difficulty with the main menu since the prompt said to press any button, but did not react to every button.
- Visual explanation for the pendant was unclear which led to Player 1 getting stuck in the dungeon without recognizing why he was unable to leave.
- Player avoided the shop on day 1 and went to the dungeon rather than interacting with the store gameplay.

Player 2:

Player 2 was a user who has no experience with Moonlighter and a little amount of experience in pc gaming. Player 2 was able to recall the inputs to basic attack and charge/alternative attack but did not mention the inputs for movement and dodge-rolling.

Player 2's approach to pricing items initially was to compare them to other games he has previously played and real life value equivalence. An example provided was that an iron bar would be significantly more expensive than a stick. Player 2 then implemented a strategy to sell items one at a time and slowly adjust the price according to customer reaction.

Player 2 recognized that the dungeon consisted of several interactable objects. The objects that were identified were chests, scrolls/books, sacks, and skeletons. Player 2 did not mention the healing spring and pots as interactable objects.

Notable data gathered from player 2 is listed below:

- Player 2 had some difficulty with the intro menu, but quickly realized the controls
- Controls for index defaulted to keys that weren't accessible on hardware, forcing the player to miss instruction dialogue to adjust settings.
- The explanation for the pendant was not clear and caused the player to be stuck in the dungeon upon further runs.
- Player 2 adjusted prices in the game through single digits rather than in varying increments.
- Player 2 returned to the dungeon after placing items in the shop instead of sleeping to progress.
- Player 2 wanted to drop items from inventory, but there was no option to do such action.
- Player 2 stated that figuring out the market system was a waste of time.
- Missed the key bind to use healing potions.

Player 3:

Player 3 was a user who had no experience with Moonlighter and some experience in PC gaming. Player 3 was able to recall the inputs to move, basic attack, and charge/alternate attack but did not mention the dodge-roll input.

Player 3's approach to pricing was basing it on the art and name of the items. An example provided was a golem core sounding more interesting than a stick, therefore it would be more expensive. Where the item was obtained is also factored into the price of an item such as a boss item would be more valuable than other items. Afterwards, player 3's pricing strategy became slowly adjusting the price and finding the best price through experimentation.

Player 3 recognized that the dungeon consisted of several interactable objects. The objects that were identified were chests and pots. Player 3 did not mention the skeleton, sacks, scrolls/books, and healing spring as interactable objects.

Notable data gathered from player 3 is listed below:

- Player 3 found the menu confusing to control and had difficulty in figuring out controls
- Player 3 used the keybind settings to find the controls of the game rather than follow the tutorial.
- Player 3 ended up with not enough health items to fight the boss safely.
- Player 3 did not know the pendant required gold to escape.

Player 4:

Player 4 was a user who had no experience with Moonlighter and some experience in PC gaming. Player 4 was able to recall the inputs to move, basic attack, charge/alternate attack, and dodge-roll.

Player 4's approach to pricing items was to make the initial values of items as high as possible. The art of items influenced the price of items. An example was a red gem that appeared valuable, so it was priced higher. Afterwards, player 4 consulted the index to gauge the price of as well as the expressions of customers.

Player 4 recognized that the dungeon consisted of several interactable objects. The objects that were identified were chests, but also mentioned enemies and slime splatter. Player 4 did not mention the skeleton, sacks, scrolls/books, and healing spring as interactable objects.

Notable data gathered from player 4 is listed below:

- Difficulty with main menu, tried to use mouse first and then the buttons space/enter to no avail
- Player 4 did not initially recognize the tutorial banners with controls.
- Player 4 kept accessing the index thinking that it was collecting items.
- The pendant explanation was confusing and player 4 did not understand it.
- Player 4 tried to use a pendant to escape, but did not recognize they were missing 200 gold. This caused player 4 to become too frustrated with the game. As a result, researchers explained the mechanic so that player 4 can continue.

Player 5:

Player 5 was a user who has no experience with Moonlighter and great experience in PC gaming. Player 5 was able to recall the inputs to move, basic attack, charge/alternate attack, and dodge-roll.

Player 5's approach to pricing items was based on their uniqueness. Items such as the golem core were deemed more valuable. Afterwards, player 5 set the price of valuable items to 100 and adjusted them according to the customer's expressions.

Player 5 recognized that the dungeon consisted of several interactable objects. The objects that were identified were chests, vases, scrolls/books, healing spring, and skeleton. Player 5 did not mention the sack.

Possible faults in the study:

A possible fault in the study that could be improved is the structure of the sentences asked. The third question (Are there interactable objects in the dungeon? What are they?) was

phrased in a way that was vague and confused participants for what was being asked for exactly. Some participants thought I was asking for objects that can be interacted with J only while other participants included environmental hazards in their answer.

Another possible fault in the study would reside in the instructions. A problem that occurred were players avoiding the market gameplay loop and focusing mostly on the dungeon. Although this is significant data and a fault within the game, the study wasn't focused on this behavior and resulted in tests lasting longer than initially intended.

Lastly, another possible fault in the study was the method used in collecting data. The data was mainly collected via notes, but a recording of the play session would have resulted in better data collection and analysis. The lack of a recording led to all the information being at risk of a bias.

Conclusion:

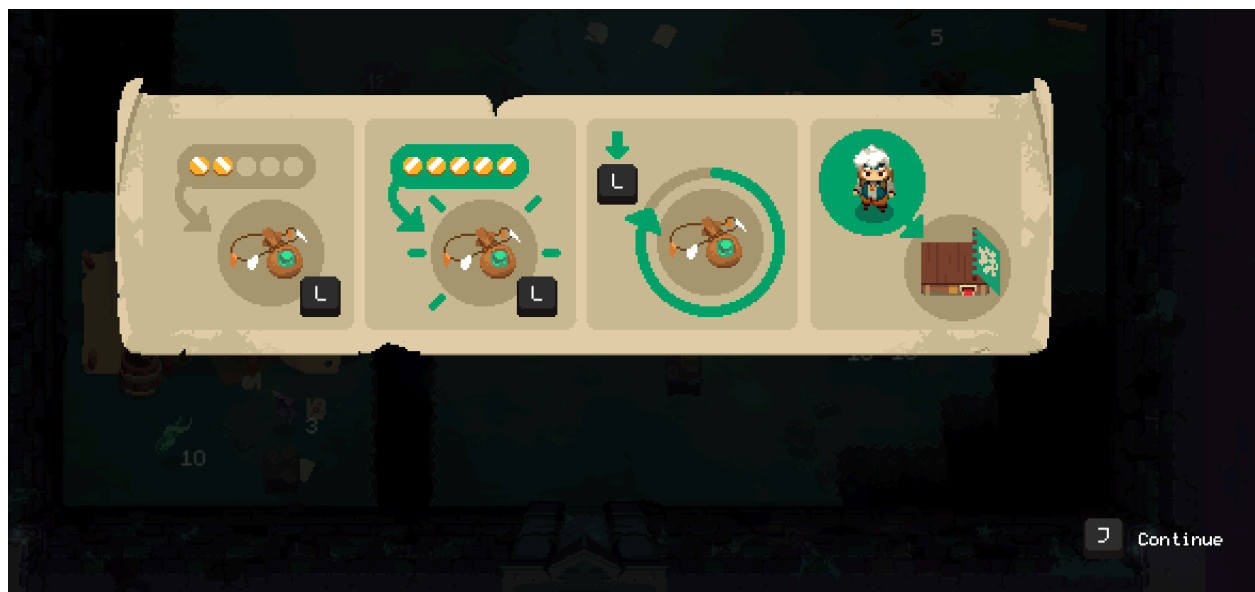
This study showed that players were able to understand the gameplay mechanics of the game, but there was variation with how those players interacted with the gameplay loops. The ability to go into the dungeon without any restriction caused some players to avoid the store for a significant portion of the game. Movement and combat were intuitive for the game, and most players were able to recall the controls for each action.

The pricing portion of the store gameplay loop showed several insights. The first insight was that there are several approaches that a player has in interacting with this gameplay loop. Another insight was that the index has no proper explanation for its use which caused some players to avoid using it when assessing initial prices of items.

Additional interesting discoveries revolved around the main menu and the pendant. For the main menu, most of the players had difficulty navigating the menu. The text prompt of pressing any button can be misleading, and the lack of navigation controls leaves the player helpless. This is a significant problem since it can cause a player to become frustrated and quit the game without ever properly playing it.



For the pendant, the greatest problem is its initial explanation. The explanation is provided through a 4 panel image and no external dialogue. As a result, the mechanic of requiring 200 gold to escape is hidden from the player. This becomes problematic since it results in players getting stuck in the dungeon.



From this study, there are several possible changes that can be done to benefit players and make the experience more fluid. One change would be a limit on when a player can go into the dungeon in the beginning, so they become more familiar with both gameplay loops before continuing. Another change would be a better explanation on how the index works or an example

situation where a player can use the index to their advantage. An additional change would be menu navigation controls. A final possible change would be to the explanation of the pendant so that the escape mechanic is clearly conveyed to the player.

All data:

Key:

! : denotes important or interesting data, amount of ! relates to its importance

\$: denotes researcher intervening in the test

Player 1:

- Menu was difficult to interact with. Prompt said to press any button but didn't react to every button
- Controls shown in the corner are helpful in telling the player what is possible in the game
- Faces are clear in whether an item is well priced or unfairly priced
- Money icon shown in prompt for pendant, but confusing for the player
- Game did not make clear c / z buttons for ease of interaction with the inventory
- Player avoided the shop and went to the dungeon day 2, assumed certain items were garbage and not worth selling
- Discovered two different entrances to the dungeon
- Items are clear in where they are to be placed
- Player feels bad for exploring dungeon instead of opening shop since they lack the gold to escape
- After obtaining the mirror to sell objects, player felt relieved
- Player found the Index for items is tedious to navigate
- Frustrating to guess price initially
- Recognized that the index is arranged in value

What are the controls to move/attack?

- Wasd to move j to attack, space to roll

What influenced your choice to price certain items? How do you discover the best price to sell an item?

- Initially no preference, just guessed on complexity on icon. Twigs were considered garbage. With Index, the guess of price relates to items nearby in index.

Are there interactable objects in the dungeon? What are they?

- Books for dialogue, bags, chests, healing spring.

Player 2:

What are the controls to move/attack?

- to move w down (don't remember)
- attack was j, second ability was k

What influenced your choice to price certain items? How do you discover the best price to sell an item?

- I don't know, compared to other games
- Related to real life, iron more expensive than sticks etc.
- Sell items one at a time, slowly adjusting price without affecting market value

Are there interactable objects in the dungeon? What are they?

- yes, chest that unlock after clearing
- scrolls that describe story
- monster with sack from intro
- Skeleton with scroll

Experience: New to PC gaming

- had difficulty with initial menu, but realized controls quickly
- Wasd was quickly realized
- Space realized fast, jump took a try to learn
- J to attack was recognized, z to switch
- Missed e to gain health
- Chest with lock was stuck on, tried K but discovered strong attack
- Keyboard controls took some time to recognize
- J to place goods misguided player from glowing door
- Bouncing icons easily convey importance to mechanics
- No idea what moonlighter is (store)
- !!Controls defaulted to keys that didn't work, left player unable to do anything. Had to change settings which skipped some dialogue accidentally. !Instruction on what to do next
- J to attack and k to block recognized with sword
- Space to jump over gaps to acquire items remembered
- Immediately identified point of interest with skeleton and monster
- Connected lore of Pete to dialogue said by character

- Merchant pouch explanation is confusing, attempts it regardless
- Recognizes its purpose upon use, hasn't recognize it uses 200 gold
- Approaches town board, recognizes he doesn't have enough money to buy anything
- !!Placed item on store table, increased prices using the single digit column
- Recognizes rarity of items by quantity obtained, prices accordingly
- !!After placing items, goes back to dungeon rather than sleeping to progress the day
- !!doesn't store any items previously acquired in chest

Dungeon run

- Recognizes inventory management puzzle pieces, doesn't understand how it fully works
- Recognizes the pricing of items in codex
- Says he is getting more adjusted to the controls
- Assumed new bio room would be boss, explored anyways
- Recognized three hit combo of sword
- !!Tried dropping item, but there was no clear solution to do so. Frustrated to carry sticks instead of interesting items
- Recognizes healing potions after investigating inventory, realizes e to use them
- Recognizes he doesn't have money to escape, assumes the only way to escape is by dying
- Finds chest and uses it as a makeshift fix to clear unwanted items from inventory
- Removed all generic looking items (sticks, leaves, shards)
- !!Finds healing pool, but assumes it's something important so he avoids it
- Dies in dungeon and recognizes he loses items upon exit, wonders if he can get them back
- !!RE-ENTERS DUNGEON without going to shop to sell items
- Recognizes dungeon changes, assumes previous items are gone
- Stood still to use potions
- Recognizes certain items have limited stack amount
- Fight from room left him low on HP
- !Accessed controls mid game trying to find way to get money to escape
- Tried fighting door in attempt to escape
- !purposely died in order to try and escape dungeon
- Finally returned home and slept to progress
- Opened market and partook in the tycoon mini game
- !didn't look through book when initially setting prices on items
- Regretted selling items when customers got gold coins in eyes
- !Keeps missing health potion in inventory
- Using shield to block attacks
- !!Realizes pendant sends player back without confirmation
- !!States that it took a while to figure o it the market system, says he wasted time
- Died to mis-rolling, blamed themselves for death
- Recognizes the index stores info for prices
- !Recognized price can be adjusted by different increments
- !!doesn't recognize index sorts items by price
- !!prices items very low compared to in-game value

Player 3:

What are the controls to move/attack?

- Wasd to move , j for basic attack, k for alternate attack

What influenced your choice to price certain items? How do you discover the best price to sell an item?

- how cool they sounded and where it was obtained : boss items more expensive
- Keep raising prices until they don't buy it, find price through experimentation

Are there interactable objects in the dungeon? What are they?

- Open chests, destroy pots, maybe destroy rocks

Experience: No experience with games, some previous PC experience

- intro menu is confusing to control, difficulty in figuring out controls
- !!recognized wasd to move, went to controls to see the rest of moves: j to attack, k to ability, space to roll, e to potion, z switches weapons
- Grabbed items one at a time at first, then recognized inventory keybinds
- Enemy Rush room : player thought it required to kill all enemies
- Recognizes expression of customer when they purchase something
- Sword : j to swing, k to shield
- Wanted to see how to use pendant through control setting
- Recognized dodge roll over gap to grab items
- Interacted with skeleton, and then the monster's body
- Used the pendant to escape/didn't mention cost
- Investigated shop board, and recognized currency, didn't use q and r to navigate different pages
- Stored vines and sticks in chest, assumed they didn't have much value
- Wanted to check other shops and compare prices for reference
- Assumed teethstones cost a lot, realized items are priced individually
- Realized the ability to adjust price by different increments
- Prices were all set way above ideal price range
- Recognized gold eyes were an indicator that price was too low "liked it too much"
- Recognized angry faces as overpriced items
- Recognized items are stackable
- Assumed glass was not as valuable as other items, priced it lower
- Priced items in tens range
- Foundry ruins/glass were items perceived as lower value
- Bought forge from shop board

- Recognizes materials are required for forge items
- !Asked about if dying causes all inventory items to drop
- Recognized inventory puzzle material, doesn't understand what it means
- Recognized book and interacted with it
- Stepped into healing fountain and recognized healing property
- !!Player didn't have health items for boss fight
- Blocked attack, but assumed it went through him: no clear feedback
- Recognized items can fall into pit
- Used pendant to leave after close encounter, discovered he loses 200 gold each pendant use
- Placed items at high price assuming they have high value
- Set iron bar at 300, got happy face, wanted to increase price to see how willing customers are to buy it
- Started setting prices at 100 counts rather than 10s
- Used one item at a time to discover price reaction and adjusted accordingly, after solid price was found, sold more of the item at once
- Started to sell only high priced items over smaller priced items, wanted to afford helmet
- Assumed fabric was worth less than actual value

Player 4:

What are the controls to move/attack?

- wasd to move j and k to attack, switch weapons with z, space to roll, e to use heal

What influenced your choice to price certain items? How do you discover the best price to sell an item?

- "I'm Typically greedy, so I went for the highest possible price"
- Example, red gem seemed valuable so it was priced higher
- From a high price, lowered price until customer bought it

Are there interactable objects in the dungeon? What are they?

- Chests, enemies, goop splatter

Experience: not a lot of experience, has played minecraft, stardew, don't starve on PC

- Difficulty with main menu, tried mouse first and then space and enter to no avail
- player recognized Wasd to move
- !!!player did not recognize banner with instructions
- Difficulty with roll timing
- !player stayed still and attacked

- tried interacting with chest using buttons available in top right
- !!player did not recognize key inputs at the bottom initially, pressed e and assumed index was collecting items
- recognized z was an easy way to obtain items
- Bouncing icons were easy to identify with market tutorial
- !!Attacked crates in dungeon lobby that broke
- “Don’t like this [dungeon], has gross little bugs”
- Didn’t recognize e is to use health potion
- Avoided items inbetween gap (skeleton room)
- Interacted with skeleton and then monster’s body without trouble
- “I don’t get this” - pendant explanation image
- Interacted with town board easily
- Recognized q and e change town board panels
- Went back to dungeon lobby, but returned to shop in order to store loot
- Confused about pricing
- !!Navigated to index to search for prices, recognized order of items by price, but misread how it was arranged. Assumed bottom was 200 coins instead of 2
- Did not sleep to progress day, and returned to dungeon
- Recognized puzzle items and how they work
- Recognized order of item values within index
- Tried to use pendant to leave, but didn’t have enough money, didn’t recognize price
- Recognized e to heal
- Wanted to leave with pendant, but didn’t realize the cost requirement
- Frustrated with pendant, believed pendant was broken
- Continued in dungeon
- Used chest to remove unnecessary items from inventory
- Notification over pendant caused confusion, believed they were supposed to leave
- \$\$explained how pendant works, player was too frustrated without information “that’s stupid, I didn’t know that”
- Tried to drop item, but was unable to

- Died in dungeon, got frustrated
- Noticed faces when customers looked at items, went to adjust price in response
- Using index, adjust price relative to position in the book
- Recognized golden eyes indicated price was too low
- !! Separated empowering crystal item into 3 separate boxes that had varying prices
- Adjusted the prices on these three items until one sold at a reasonable price
- Ran out of items, so closed shop early
- “Why do I suck at aiming” difficulty using controls

Player 5:

-What are the controls to move/attack?

- wasd to move j and k to attack, space to roll

What influenced your choice to price certain items? How do you discover the best price to sell an item?

- The unique items were more expensive
- Stuff like golem cores sounded very expensive
- Started at 100 and adjusted the price on reaction

Are there interactable objects in the dungeon? What are they?

- There were chests, vases, scrolls/books, healing spring, and a skeleton

Experience: no experience with moonlighter, but lots of experience in PC gaming

- Menu was “impossible to use”, frustrated that it didn’t use conventional menu controls
- recognized the controls in the top right corner
- dodge rolling was similar to dodging mechanics in other games
- realized last dungeon room was an intended death room
- recognized the faces express how good the price is
- !! assumed index was a glossary for item description and was only for story purposes
- player went into dungeon without interacting with npcs
- player recognized and understood inventory puzzle mechanic
- got frustrated with warrior golem, “they have like no openings”
- Interacted with skeleton and then the monster

- placed items he obtained and priced most of them 100
- adjusts the price in accordance to customer's reactions
- sold every item in inventory, even twigs and leaves