

WSOA3004A: Assignment 2

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Intention

Through this game we wanted to explore the ways in which a player could experience a state of relaxed focus through gameplay. This will be done by using a simple game loop with an uncomplicated click and drag mechanic. Through a repetitive click and drag mechanic, we aim to allow the player to “zone out”, or in other words to have a meditative experience. However, we also aim to create a balance in the game-loop between moments of concentration and relaxation. This is to make sure that, although the experience is relaxing for the player, they do not become bored. In order to further retain the player’s interest throughout the game-loop, we wanted to create a sense of appeal between a player and the cats. This will be done with the intention of creating a sense of attachment so that the player is motivated to interact with the game, even when it is slow at times.

Process

Inspirations

- Cookie clicker: The idea of optimising/upgrading/increasing capacity.
- Service games: The pressure of serving customers. Not usually stressful, but fast paced enough to be engaging. Upgrade production system (in a future iteration).
- Neko Atsume: As an example of a submission game where the player becomes attached to their cats.

The process of development for the first prototype was inspiration driven, opposed to academically reasoned. The decisions made in this first sprint were ones that felt right, exciting, and intuitively made sense to us. Once we had come up with a core concept that we liked, we started creating the game. We used this core concept to test, play and decide what the future of the game would look like. Once we had established a sense of direction, we created the design goals that would help us with decisions that move the game towards the intended path.

Using these design goals, the decisions made in the final sprint were academically reasoned and in line with these goals.

We created *Cat Shelter Simulator* to be a cat shelter management game. The core of the game revolves around taking care of, and interacting with the cute cats. Our first iteration consisted of cats who would enter into the cat shelter and communicate their needs to the player. Thereafter, if the player did not fulfill them in the set time the cats would leave. If the cats' needs were fulfilled they would stay in the game. These needs were communicated to the player using an image in a speech bubble. The player is able to satisfy these needs using a simple click and drag mechanic to drag and drop the cat onto the correct station indicated by the speech bubble. This concept was changed and built upon in several ways detailed below.

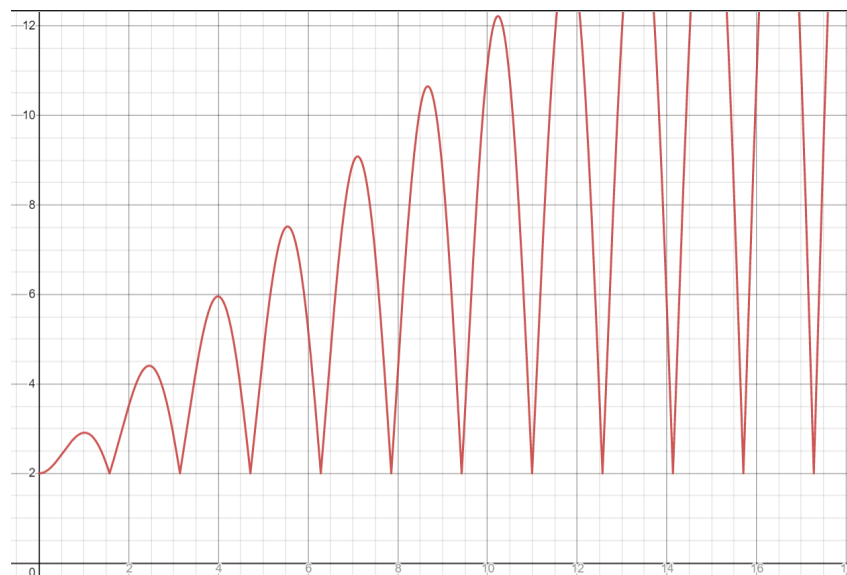
Through the creation of this game, the goals presented to the player within the game were changed. Originally we considered creating a station upgrade system, where the player would be paid money depending on how many cats they had at the end of the day. This money could be spent to improve the capacity of each station. However this did not align well with our design goals, more specifically the goal of creating a sense of appeal between a player and the cats. By making the cats a source of money, this recontextualised the cats so that they would be seen as a source of resources rather than entities the player had to care for. Therefore in the second prototype, in order to refocus on the design goal of creating a connection between the player and cats, the heart system was introduced. This allowed the player to upgrade their friendship with individual cats, thus mechanically representing this sense of connection we wanted to create between the cats and player. As well as the short term goal of meeting the cats' needs, we also added the long term goal of getting each cat adopted, which occurs when the player reaches 5/5 hearts of friendship with the cat. Cats gain a heart when the player satisfies their need by clicking and dragging them to the required station. However, a heart is lost if this need is not met. Cats enter the shelter with one heart. If a cat has zero hearts it will leave and the player will receive a new cat.

In order to support this feeling of connection between player and cats, an idle review system was added. This shows the player comments from individual cats which are positive or negative depending on whether the player has fulfilled the cat's needs. Furthermore, these comments were also influenced by the heart level. These were implemented with the purpose of giving the cats more of a sense of personality. The cats spawn in batches and once the starting number of cats have the maximum number of hearts, the batch is complete. Comments from the cats are also given to the player at the end of the level in order to give

them further feedback on how quickly they met the cats' needs, if they did at all. As larger batches of cats enter your shelter, the number of tasks a player will need to do will increase. This will change the pace of the game, but should never be overwhelming or stressful.

In order to create a good sense of flow in gameplay, the data design was used to adjust the timings of the game. After each batch of cats the game is paused and the player may take the opportunity to read some fun reviews, or can skip to the next day. This allows a moment of stillness between batches.

The spawn data is used to help create a balance between fast and slow batches. The graph below shows the function that determines the number of cats per batch. This function follows a linearly increasing absolute sine function. The x-axis represents the batch number, and the y-axis indicates the number of cats per batch. The trend of the spawn rate is increasing, but the sine nature of the graph allows for fluctuations. This allows for smaller batches to follow larger ones, allowing moments of calm after batches that require more concentration.



Graph showing the number of cats to be spawned per batch

Design Methodology

The general design methodology was broken down into two sprints. The first sprint was aimed at the completion of the prototype and the core of the game. The second sprint was aimed at completing the final build. Both sprints utilised a milestone and task breakdown development process. This allowed the group to understand what needed to be done in order to complete the sprint. The milestones also allowed the group to divide the workload efficiently, as each member was assigned a group of milestones to be completed.

This process worked effectively as it was a good way to understand the tasks and work that needed to be done. Furthermore, it was a good way to divide up work based on how large each task was, as well as split tasks by group members' skill sets.

Playtesting and Feedback

After playtesting our second iteration (Prototype 2), several issues were made evident from the feedback we received. This feedback may be found in Appendix A. Firstly, several playtesters found the pace of the game too slow. This was fixed by reducing the time between the cats' needs as well as reducing the time the cat will wait before leaving. As one of our game design goals was to "create a balance in the game-loop between moments of concentration and relaxation", this change was necessary. A second problem which also contributed to this sense of boredom was that the player was unaware of the goals they had to aim towards. This was ultimately a communication issue which was improved by adding a fraction which shows the player how many cats still need to be adopted until they can reach the next level. In order to better position the player and their role within the gameworld, the How To Play panel was added before the game could be played. This panel stated that the player is running a cat shelter, and they were expected to fulfill the needs of each cat. It was also pointed out by playtesters that the cat animations appeared strange in some instances, especially with the tail of the large cats. This was an important problem which was fixed in order to better create a sense of appeal between a player and the cats, as is our design goal. Similarly, the clipping of the sprites was improved as this was also mentioned by several playtesters.

Feature List and Gameplay Loop

Features (for Prototype 1)

- Randomly generated cats, each with a different appearance
- Random current need choice for each cat
- Random time between needs (between bounds)
- Cute animations and cat artwork

Gameplay Loop

(*)Cats spawn in Batches → cat has a need → player will pick up and move cat to station that fulfils its need → cat satisfied → Once batch complete, go to review menu → click next day button → back to (*)

Design

Data Design

- Cats:
 - Spawn time
 - Next need time interval
 - Leave timer
 - Random need
 - Wander AI:
 - Random point cat moves towards
 - Speed
- Station:
 - How many cats at a station
 - How long to satisfy need
- Threshold time values for star reviews

Communication Design

- Bubble UI to communicate need
- timer/need countdown
- Max cats per station

Level Design

- Rate of cat spawning
- Time between needs
- Time measured in a period of days
 - Decrease spawn time and time between needs

Feedback Loops

- Negative → If a cat leaves fewer cats to worry about, which becomes easier to manage

Milestones

Initial Sprint (Prototype 1):

1. Cat objects that have a random need at a random time interval
2. Stations that can satisfy cats need;
 - a. Water
 - b. Temperature
 - c. Food
 - d. Play
3. Simple artwork for cats and stations
4. Cat objects click and draggable
5. UI and communication;
 - a. Speech bubbles showing what cats want.
 - b. Timers on cats showing how long they will remain at each station
6. Cat spawning system, random interval
7. Cat AI where they will leave if needs not met

Second Sprint (Prototype 2):

1. Create Review System
2. Change Cat Spawner → Batch Spawner
3. Create Heart System
4. Implement Adoption system
5. Change Cat Leaving System to work on Hearts
6. Main Menu
7. Sound Effects

Task Breakdown

Initial Sprint (Prototype 1):

1: Cat objects that have a random need at a random time interval

- Create Cat objects
 - Name -> random or list selection
 - AI walking pattern -> wandering
 - Needs array
- Randomised timer that selects a random need

2: Stations that can satisfy cats need

- Create stations
- Detect cat entre and exit
- Stations to have cat limit

3: Simple artwork for cats and stations

- Create station objects with trigger collider
- Stations to detect cat with appropriate need
- Stations to check amount of cats at station

4: Cat objects click and draggable

- Cats follow cursor on click and drag
- If let go, cats drop

5: UI and communication

- Need shown in speech bubbles
- Timers showing the player how long they have until the cat leaves

6: Cat spawning system, random interval

- Object that spawns cats every random time interval

7: Cat AI where they will leave if needs not met

- If need not met cat wander to door
- If reach door, cat leaves

Second Sprint (Prototype 2):

1: Review System

- Cat reviews/letters at end of batch
- Get current cat names to personalise letters

2: Cat Spawner → Batch Spawner

- Spawner to spawn set number of cats per batch phase
- Spawner used to create balance, large and small batches
 - $\text{Int NumberOfCats} = (a) + |(b)(\text{BatchNo})\sin((c)\text{BatchNo})|$
 - $a = \text{vertical shift} (= 2)$
 - $b = \text{amplitude scaler} (= 1)$
 - $c = \text{compression/expansion scaler} (= 2)$
 - These values give us; 3, 4, 3, 6, 5, 5, 10, 4, 9, 11

3: Heart System

- Cats to have set number of hearts starting with 1
- Add heart UI
- Heart and name UI to show on mouse over
- On need satisfied, increment heart bar
- If need not met, cat heart bar decrement

4: Adoption system

- If heart bar filled, cat can leave to be adopted

5: Change Cat Leaving System

- If heart bar empty cat leaves
- Cat does not leave if need not met
- Get data from cats when leaving (name, did graduate?, graduation time, heart count)

6: Main Menu

- How to Play
- Play

7: Sound Effects

- Create cat sounds:
 - Meows

Reflection

Ultimately we believe that the changes made to prototype 2 as suggested by playtesting were necessary and worked well towards improving the game. However, further playtesting is needed to determine the extent to which our changes improved the game, as we believe more improvements do need to be made. Moreover, there are several proposed changes which we would like to, or would consider, implementing in later iterations. For example, it could be a good idea to introduce an upgrade system to add more actions the player is allowed to perform within the game loop, as was suggested by Playtester 8 in Appendix A. If such a system were introduced, it would have to be carefully balanced so as to align with our design goals and work towards the goal of supporting the player's connection with the cats' rather than simply turning the cats into resource production units. An example of this could be connecting monetary donations to how many hearts each cat had when they were adopted. This would connect the money earned to the player's relationship to the cats and would further facilitate the connection between the player and cats, thus building towards our design goals. Money could be used to refill stations which would empty over time as the cats used them. This would add further actions a player would need to complete within the game.

Another proposed change to add variety to the game is the addition of events. For example, the addition of multiple cats to the scene for a short space of time, which would create more tension for the duration of the event. This would mainly contribute to the design goal of creating a balance in the gamelap between moments of concentration and relaxation, as this particular goal can be seen to be lacking within our current prototype within each individual level. Although it is worth noting that the levels themselves comprise a rising and falling of tension as displayed in the line graph in the documentation above. However this would also have to be examined within the context of our design goal to promote gameplay where the player may reach a state of relaxed focus. If the event was too abrupt and stressful this might break the player's state of relaxed focus, if they have managed to achieve such a state. Another type of event which could be added is the spawning of rarer types of cats if the

player cares for their cats effectively. This would add an element of excitement and chance which would ideally encourage the player to care for their cats more efficiently.

Further changes which could be effective in the future are more varied animations for the cats. Playtesting data shows that players found the cats and their animations to be cute which indicates that we have succeeded in creating a sense of appeal between the player and the cats. However, this could be iterated on further so that the cats appear to have more personality. For example, the cat AI could be developed so that a cat is given a lazy personality, where it sleeps for most of the day and has few needs in comparison to an energetic cat. As humans are more likely to grow attached to or assign a sense of value to things which are unique and interesting, this would ideally encourage the player to grow attached to individual cats beyond their apparent cuteness. Moreover, a more intricate cat AI would add further content to the game for players to be entertained by. This would reduce the boredom some players might feel during the slower more relaxing part of the game loop.

References

Thiennot, J. (2013) *Cookie Clicker*. [Online]. PC. UK: DashNet.

Hit Point Co. Ltd. (2014) *Neko Atsume*. [App]. Android. Kyoto: Hit Point Co. Ltd.

Appendix A - Playtesting Data

Questions:

1. What emotions did you feel when you played this game and why?
2. Did you notice any bugs? What were they?
3. Did you find the cats cute and why?
4. Did the game loop feel boring at any point?

Playtester 1:

1. I was very amused - for many reasons. The cats themselves are adorable... when they are not doing some.. unholy sprite clipping xD and the mechanics are simple, and hence quite chilled to play around with.
2. If a cat was already on its desired mat, it wont register that and will have to be dragged off the mat, and then back on the mat. Also the other bugs would be the art clipping. There was even one case where a cat had no face at all. I assume this was because of rendering issues.
3. They were very adorable - this was enhanced by their cute features, little x butt holes and cute meows. The little comments from there was a nice touch.
4. Somewhat - only because there is a bit of a wait time between each round of cat-neediness. This can be influenced by changing the idle time between each round of cat-neediness.

Playtester 2:

1. Responsible and happy
2. The two mentioned earlier
3. Yeah cute! The personalities and distinct colouring was great! Loved the sound effects too
4. Yes nearer the end, also bc the game got stuck xD

Playtester 3:

1. Calmness and cuteness because the cats, the level and the sounds the cats make are cute
2. I felt sometimes when placing and putting the cats on the different mats, they got stuck at some points
3. Yes, very cute because the art style was cute and the animations were a nice touch
4. Not really but I think knowing how many days I need to look after the cats help me know how long im going to play for/how long the objective is.

Playtester 4:

1. I felt calmed, and enjoying the cuteness of the cats
 2. The tail of the fat cats was weird, sure you noticed that though. No other bugs really, just some clipping with the door and each other
 3. Yes the cats were cute, having two sides and different sizes just give good variety. Very cute graphics really sell the cats
 4. The game felt a bit slow, and sped up felt like it took away from the calm aspect, so think the speed needs balancing. The first level just felt way too long for the little amount of challenge it provides, once the larger amount of cats is added it feels better overall
- I like your game overall, im a sucker for cats, and they really do look really cute. Just think some balancing of time is needed but the core idea is super nice and relaxing. Gives me neko atsume vibes

Playtester 5:

1. What emotions did you feel when you played this game and why?

Happiness because I like cats and found the cat art style funny

2. Did you notice any bugs? What were they?

Yes.

I can stop the level from ending by picking up the cats - this also broke the level progression once. Try having a reset method to reset the cat away from being clicked and making the cats not clickable when the level has ended.

The cats sometimes perform their own tasks.

I sometimes can not perform the task because the cat is already in the trigger. I have to drag the cat out and back in to the carpet thing - maybe changing it away from on trigger enter to checking through a list of objects inside the collider instead.

3. Did you find the cats cute and why?

Yes. The style was adorable.... why they have butt holes though.... XD

4. Did the game loop feel boring at any point?

I broke it a bit too much and it got a little boring with so few things to do

Playtester 6:

1. Relaxed

2. No bugs
3. Since the assets are still a bit rough. kinda cute
4. After the first few times, yes.

Playtester 7:

1. I felt very relaxed - the gameplay loop is easy to understand so at no point did I ever feel pressured or stressed.
2. Not sure if it counts as a bug but after my second day, the first cat left and immediately the review popped up rather than after all the other cats had left as well - then three more cats showed up before the others had left too so I don't know if it thought I had gone to the next day.
3. Very cute - it was cool noticing all the tiny little details that made each one unique like how one would stick its tongue out or stuff like that. Also the noises they made were cute.
4. Yes, after a while you get very used to the gameplay loop and I feel as if the red timer before a cat's needs ran out may be a little bit too long - if you were to shorten it a little bit, it might up the pressure to meet their needs quicker which could prevent the loop from getting boring quickly.

Playtester 8:

1. The game is very cute but unfortunately the primary emotions I felt were of boredom and confusion. The end goal of the game is unclear and the mechanics (Mechanic) is not engaging enough to keep me interested.
2. After a few rounds of cats spawning and leaving the cats just stopped spawning at all. Cats kept annoyingly chatting to me even after they had left for many rounds.
3. Yes, I love the look of the cats, especially when you lift them up and see their little paws flail about. The cutesie style was nailed.
4. Yes, the unchanging game loop of dragging cats to wherever they want to be gets old after the first round. It might be more interesting if there were other aspects to the game you had to accomplish whilst dealing with the cats. Say negotiating with customers or managing an inventory of cat toys bought with currency earned from taking good care of the cats.