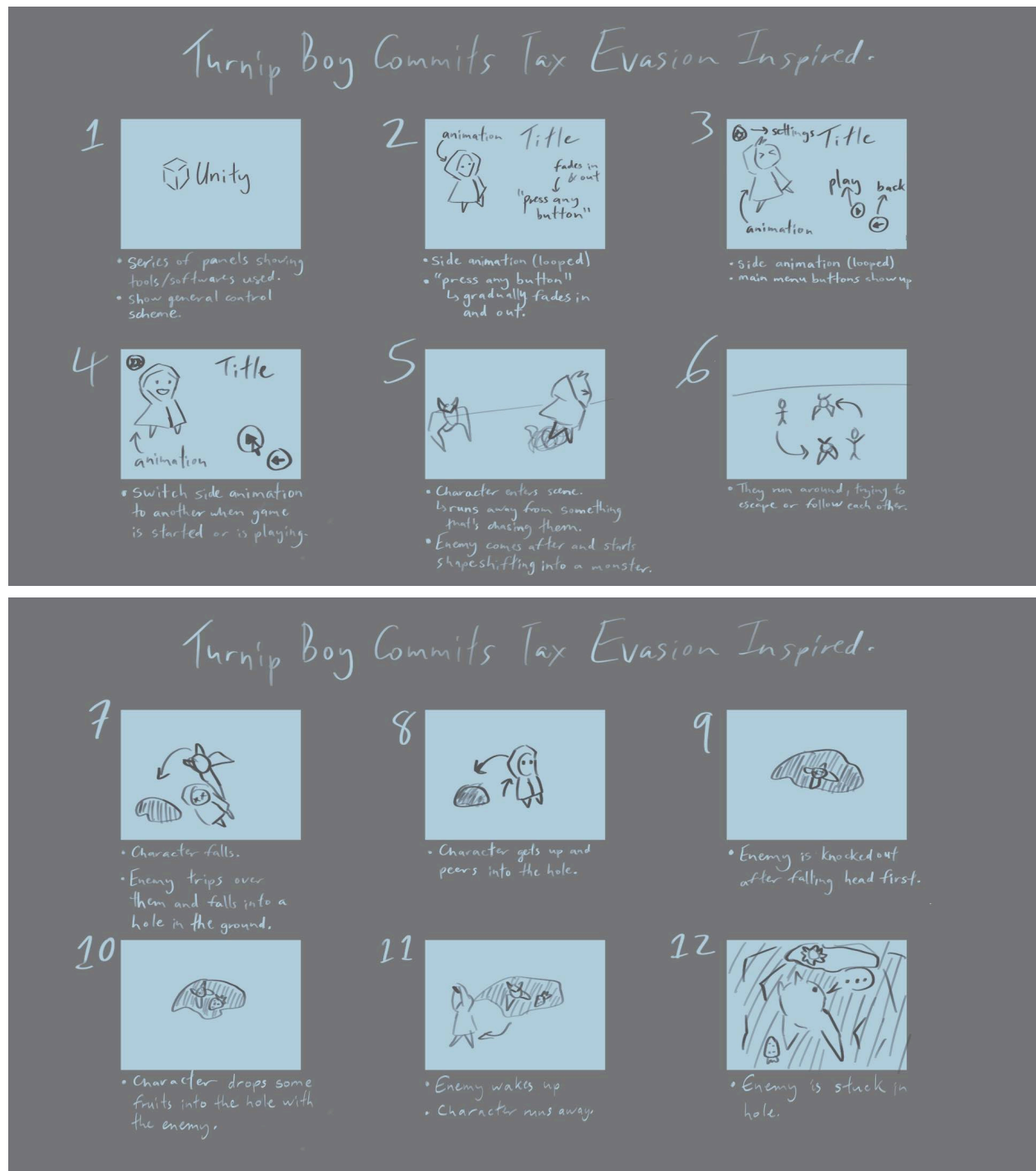


Github Link: [sunee-v/Stage1 \(github.com\)](https://github.com/sunee-v/Stage1)

Storyboard:

For this story board, I wanted to go for a lighthearted animation about a person being chased around what seems to be a monster. It is meant to be funny, so abrupt movements may be used here.



## Critical Analysis Framework:

### Reference Initial Impressions

- For each of your references
- Document your initial perceptions.
- Which animation intricacies caught your attention?
  - The seemingly oddly adorable animations of Untitled Goose Game were always something I enjoyed looking at. Initially, I found them amusing and ridiculously adorable. It seems that it has not changed since then as the small details and interactive elements made the world seem fun to be in.
  - Hollow Knight has a darker and more mysterious atmosphere compared to the rest. I found it intriguing how the movement and animations felt and looked different. The game felt more heavy than what it looked like. Every animation is based on character structure and form, which I found satisfying to witness.
  - In Another Code Recollection, the art style has a warm and welcoming atmosphere. It seems to be one of those really cute Japanese songs with a really dark meaning behind it. The art and soft animations gave off the impression that it was going to be a lighthearted and sweet experience.
  - Turnip Boy Commits Tax Evasion may be one of the oddest games I have come across thus far. It's cute yet talks about committing crimes in a happy tone. I was amazed with how the pixel art was still so expressive despite the characters not having many parts they could move in animations.
- What works and what doesn't in terms of the animation?
  - For all of them, I felt that they were all unique and worked well in different ways. Their approaches were not stiff and allowed room for things to be warped. They were what made the animations look fun to watch.
  - Personally, I am incredibly biased towards pixel art. I will say that Turnip Boy felt like a nice game, but the animations were the stiffest one out of the bunch due to everything being small pixels. This limited the amount of animations that could be made which I found were expressive but not expressive enough.
  - The rest of the references had the issue where they either looked or felt different from what was expected. It ended up making me feel underwhelmed as it was not what I was expecting.
- Describe the smoothness of the animation?
  - Animations from Another Code and Untitled Goose Game were smooth. The movements seemed to flow well due to the rigs and meticulous attention to detail. They looked great and made sense in their contexts.
  - Hollow Knight and Turnip boy both are 2D games that looked more choppy with their animations. I believe this is how these types of games usually are, however they randomly have abrupt animations that I cannot exactly tell what is happening.
- What makes the animations interesting to you?

- The animations are interesting as they all approached it differently yet ended up looking cool in their own ways. They seemed to work well with the constraints they had and it was interesting to see it all come together.

- Animation Principles

- What animation principles can you identify that are important to the chosen animation and why?

- A lot of attacks, interactions, and movements revolved around arcs; either with camera movement or player movement.
- Anticipation is a given, as players need to know what they pressed or interacted with is going to happen. Players are able to tell when enemies, NPCs, and their in game models are about to do something.
- Timing and exaggeration seemed to go hand in hand. These two were with each other to emphasize important and key aspects of the gameplay, story, or simply to give hints.

### Static vs. Dynamic Components

- Identify and list all dynamic and static elements.

- Categorize them as static (non-moving) or dynamic (animated).

- For Static components:

- All of these had:
  - Game title
  - Menu buttons
  - Panels
  - Colours
  - Scroll bar
  - Buttons and their icons
  - Static environment assets

- What is its use?

- These components are to help create a theme and visual unity with the game players are about to play.
- They help to give players a taste of the game world without playing it at the moment.

- What purpose does it serve?

- It helps let players get a hint of what to expect or what is next.
- It helps to create an aesthetically pleasing main menu.

- For Dynamic components:

- All of these had:
  - Interactable assets
  - Animations
  - shaders

- Describe its animation: is it a simple transformation, morphing, keyframe, etc?
  - UI animations seemed to be subtle for the most part of the games. When characters fall, receive damage, deal damage, or simply just interact with the game world, the HUD may have some changes or animations in response to it. These are usually either shaders and transformations done through scripting.
  - Characters may have their movement keyframed for the most part. Some characters may have some morphing but they were hardly noticeable in the animations. They were also what made them look good.
- Is the component a 2D or 3D asset? Does this factor into its motion?
  - 3D motion in the games seemed smoother and 2D motion seemed more blocky. They both have their own charms and help with stylistic animations one way or another.
- When does it move? What causes it to move? How fast does it move?
  - 3D assets move based on rigs and bone movement. These can be keyframed and moved along timelines easier than 2D assets. This is because 2D animations are usually done frame by frame, but they can be really fast motions and may work better in some instances better than in 3D.
- Document the different states of the component (i.e. on/off, enabled/disabled, highlighted, not-highlighted)
  - For characters:
    - From movement alone, try to determine how many bones (approx) are used in the character? I.e. face/hands/feet, are they simple or complex movements, what indicates more than a single bone or not?
      - For facial expressions and rigs, there may be at least 20 bones to create the 52 shape keys necessary for animation.
      - For the torso alone, there may be around 10 bones for the shoulders, neck, and spine.
      - Hands and feet typically have around 5-10 bones each for normal position and motion.
      - The more detailed the animation motion tends to mean that there are more than one single bone.
  - Analyze limb positioning:
    - How do the character's feet adhere to uneven terrain?
      - They seem to snap to the terrain surface or rotate based on it like how human feet kind of do.
    - Does the character reach out and interact with objects convincingly?
      - yes
- Document the naturalness and fluidity of limb movements and posture adjustments.

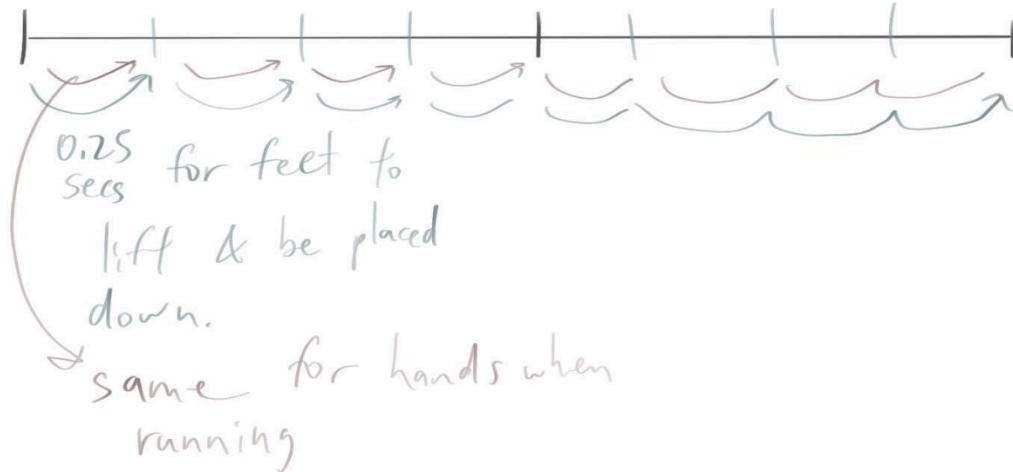
## Animation Timing

- Showcase, explain, and justify your timing charts for your references

For the animation timing charts, I timed the running animations for the reference games and they are as follows:

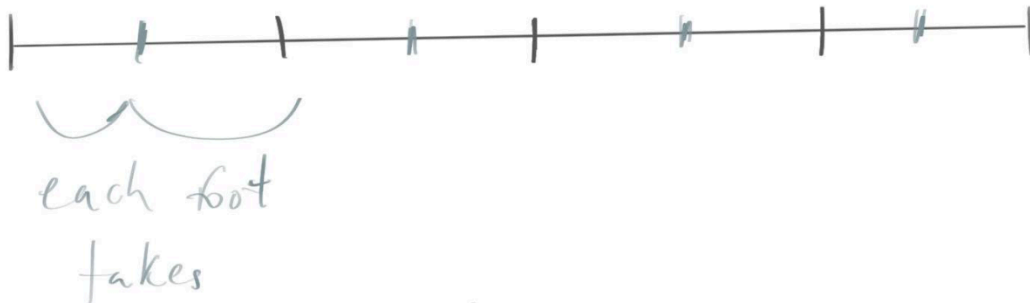
Another Code:

Running. → should be quick as it is running



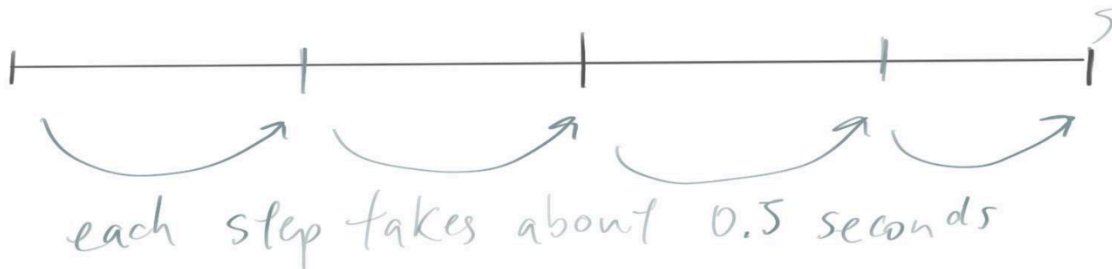
Hollow Knight:

Running:



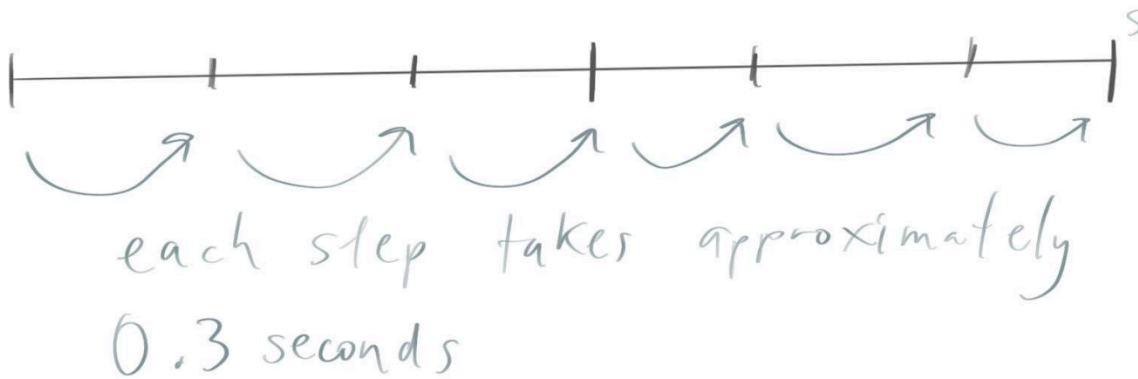
0.25 seconds to move.

Turnip Boy Commits Tax Evasion:  
Running:



Untitled Goose Game

Running:



These running animations timings seem to be different yet also similar. They were all greater than or equal to  $\frac{1}{4}$  of a second or up to  $\frac{1}{2}$  a second based on the art style and genre.

#### Core Animation Concepts

- What animation techniques are utilized? (e.g., steering, LERP, morphing, paths, splines) and what evidence supports your claim?
  - There are many instances of steering and splines working hand in hand. Characters turn to face specific ways and take different paths all the time. Cameras seem to follow a spline or move along one based on them being in the same position most times despite players doing things differently each time.

- What can you infer about the underlying math?
  - There may be set values in the code for the math.

### Usability & Engagement

- How do the animations contribute to the overall experience?
  - Animations breathe life into characters and fictional worlds. It makes the characters and scenes seem more real and engaging altogether.
  - People tend to pay attention to motion and animations are a result of this tendency (it is just what I think).
- Do the animations enhance player engagement, or do they distract?
  - When done correctly, they can enhance player engagement. When overdone or done at wrong occasions, they can be distracting. This is usually my problem with games that require reaction times to be near perfect.

### Technical Considerations

- Observe how the character transitions between different animations.
- Describe the smoothness, speed, and naturalness of these transitions.
- How does the game handle interrupting animations or blending multiple animation sources?
  - They may have animation masks to mask over some parts of the animation while hiding the other part based on player input.
- Are there discernible layers of animations being blended
  - (e.g., a character running and reloading a weapon simultaneously)?
    - This may be an animation mask being put to use.
- Document the transitions with control
  - i.e. when you tell the character to move forward or reverse or change direction, do they abruptly change animations or is there a smooth transition?
  - What are the advantages and disadvantages to the chosen method?
    - For some games they make sense, such as Hollow Knight and Turnip Boy. However it does not make sense for games that are more tied to reality like Another Code Recollection and Untitled Goose Game.
    - The advantages: they can help give a sense of customization/stylization and/or realistic motion
    - The disadvantages: they can also break realistic motion and stylization.