

## Part 1:

### Menu Video References:

- KH2 Menu
  - <https://youtu.be/tBGQ3mv8WOA?list=PLL389uA0u8t0ewX9C-ip18vA0o5KxRPTw&t=2686>
- FFX Menu
  - <https://youtu.be/-ojnaY9-ggk>
- KH1 Menu
  - [https://youtu.be/SvNu5OVdhiY?list=PLL389uA0u8t3GS-dfoIZqsvObRMV9vDt\\_&t=1652](https://youtu.be/SvNu5OVdhiY?list=PLL389uA0u8t3GS-dfoIZqsvObRMV9vDt_&t=1652)

### Character Video References:

- Sora
  - <https://youtu.be/ejbVR2UJKo4?list=PLq28p77ae5feeTQKr7zBWJnrtWIQPzQ8X&t=245>
  - <https://www.youtube.com/watch?v=cYRYvmg09Og>
- Paladin
  - <https://www.youtube.com/watch?v=eNv8USak-tc>

## Part 2:

### Dynamic Objects:

- Save point
  - Two spheres orbiting around the middle of a save point, while floating up and down in a slow wave motion.
  - The motion is fluid and steady, a bit calming to look at to fit its role as a save point
  - Video Reference: <https://youtu.be/8ZyaHpwDOFM?t=1597>
- Fast Travel Sphere
  - Similar to the save point, the ring steadily rotates around the sphere slightly tilted.
  - The sphere itself has a very slight floating ease in & out movement vertically.
  - <https://youtu.be/VCaSocdYnsk>
- Aetheryte
  - Similar to the save sphere, however, it has additional crystals and rings orbiting around the main object at different heights and directions.
  - [https://youtu.be/NfAE\\_qJrIOs](https://youtu.be/NfAE_qJrIOs)

### Characters:

- Paladin Slash Combo

- Starts off with two fast slash attacks with the 2nd being faster than the 1st, then a slight wind-up to emphasize the finishing attack.
- <https://youtu.be/eNv8USak-tc?t=2>
- Sora Basic Upslash Attack
  - A fast upward slash with squish at the start to add anticipation to the attack then stretch during the follow-through to add weight to the slash, as if some momentum carried Sora upwards.
  - <https://youtu.be/ejbVR2UJKo4?list=PLq28p77ae5feeTQKr7zBWJnrtWIQPzQ8X&t=245>
- Sora Run Animation
  - A fast bouncy running animation, Sora squishes at the start of a step and stretches at the end of the step.
  - <https://www.youtube.com/watch?v=cYRYvmg09Og>

#### Narrative:

- The player starts out training on dummies at an adventurer's guild. They are introduced to the basic mechanics specifically how physical attacks work as they've taken the class of knight. After practicing, they're sent on to retrieve an item in another part of town. They can interact with the travel spheres around the town to fast travel to the quest location.

## Critical Analysis Framework:

## Reference Initial Impressions

### Sora

Which animation intricacies caught your attention?

- Sora's animation has plenty of squashing and stretching and overall is very exaggerated. I believe this was due to most of his animations being fast, enabling the animators to change his size and shape to make attacks feel stronger with less risk of the players noticing the changes.

What works and what doesn't in terms of the animation?

- Works:
  - Speed of the animation to cover the changes in the shape

- Doesn't work:
  - Too fast at times to see

Describe the smoothness of the animation?

- Sora's overall movement is smooth, his lack of movement with his limbs made it feel stiff

What makes the animations interesting to you?

- I think the squashing and stretching with every keyframe made it more interesting.

Animation Principles

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

- Main Important principle is squash and stretch as it is the mainly used principle for most of Sora's animation

## Paladin

Which animation intricacies caught your attention?

- Most of the paladin animations use anticipation to show the strength of the incoming attack

What works and what doesn't in terms of the animation?

- Works:
  - Using anticipation, and VFX to enhance a simple animation
- Doesn't work:
  - Too much VFX

Describe the smoothness of the animation?

- It's smoothness varies, like with the first attack. The first two strikes are rough and feel forced while the last arcing attack has a smooth swing

What makes the animations interesting to you?

- The way the length of the hits are made longer to give the hit more impact, similar to Monster Hunter

Animation Principles

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

- Anticipation as without it each attack would've felt too abrupt, and all the hits too weak.

## Aetherite/Save Point/Travel Point

Which animation intricacies caught your attention?

- Most of Square Enix's more important objects use a combination of hovering ease in/out with an additional object orbiting the main one.

What works and what doesn't in terms of the animation?

- Works:
  - They effectively grab the player's attention due to having many moving parts
- Doesn't work:
  - Without the visual effects added on top of the objects, the animations themselves feel simple

Describe the smoothness of the animation?

- Due to a large focus on ease in/out, the animations feel natural and somewhat calming, fitting for their role in helping the player in their respective games.

What makes the animations interesting to you?

- The use of ease in/out to show the player that the object is helpful to the player.

Animation Principles

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

- Ease In/out as it is used to indirectly tell the player of the object's purpose in the game world.

## Static vs Dynamic Components

Static:

- Tree
  - What's its use/what purpose does it serve?
    - As a decoration to the game world, and indicate that the location has nature
- Training Dummy
  - What's its use/what purpose does it serve?
    - As a target for the player to attack during the tutorial

Dynamic

- Aetherite/Travel Point
  - Describe its animation: is it a simple transformation, morphing, keyframe, etc?
    - The main crystal uses ease in and out as it hovers up and down while the crystals and rings rotate around it in linearly
  - Is the component a 2D or 3D asset? Does this factor into its motion?

- It's 3D which allows it to have an additional layer of animation with the crystals and rings orbiting it.
  - Document the different states of the component
    - It does not have different states
- Save point
  - Describe its animation: is it a simple transformation, morphing, keyframe, etc?
    - The two spheres spin around the center of the save point circle, while following a wave going up and down.
  - Is the component a 2D or 3D asset? Does this factor into its motion?
    - It's 3D, it doesn't affect its motion as it could still work in as a 2D asset but instead of seeing the spheres rotate around the middle of the circle it would just be seen as going on another wave motion horizontally.
  - Document the different states of the component
    - It does not have different states

## Characters

- Sora
  - From movement alone, try to determine how many bones (approx) are used in the character?
    - 17 for each arm, 2 for the torso, 2 for each leg, 1 for each feet, 2 for the neck and head. In total about 44.
    - All of them are simple movements as they can only really rotate with each having some limitation on how much they can rotate.
  - Analyze limb positioning:
    - How do the character's feet adhere to uneven terrain?
      - The character doesn't adjust its legs and feet to fit the even terrain and instead has their full body adjust to the ground they're standing on
  - Does the character reach out and interact with objects convincingly?
    - Due to the character having mostly quick animations, his movements and limbs are convincingly correct, however, start seeming stretch or squashed when analysed frame by frame
  - Document the naturalness and fluidity of limb movements and posture adjustments.
    - (In comments in timelines portion)
- Paladin

- From movement alone, try to determine how many bones (approx) are used in the character?
  - 17 for each arm, 2 for the torso, 2 for each leg, 1 for each feet, 2 for the neck and head. In total about 44.
  - All of them are simple movements as they can only really rotate with each having some limitation on how much they can rotate.
- Analyze limb positioning:
  - How do the character's feet adhere to uneven terrain?
    - The character doesn't adjust its legs and feet to fit the even terrain and, unlike Sora, the player character is always standing perfectly vertically even on sloped surfaces where their feet would clip through the floor
  - Does the character reach out and interact with objects convincingly?
    - The player never directly interacts with objects and instead does emotes that indicate the action the character would be taking, for example, when picking locks, the character pats the air in front of them with both hands at the direction of the lock. It's not convincing.
- Document the naturalness and fluidity of limb movements and posture adjustments.
  - (See the comments in the timelines pages)

## Animation Timing

- Showcase, explain, and justify your timing charts for your references
  - (See the comments in the timelines pages)
- What animation techniques are utilized? (e.g., steering, LERP, morphing, paths, splines) and what evidence supports your claim?
  - Mainly LERP, as most of the animations required each bone to transition to its position and rotation, from one key to another.
- What can you infer about the underlying math?
  - Lerp's math involves,  $p_1$ ,  $p_2$ , two points, and,  $t$ , a value on the position in-between two points. The math would be the direction from the original point to the 2nd point multiplied by  $t$ , this indicates how much the position has changed at  $t$ , and then add  $p_1$  to find the final position.

## Usability & Engagement

- How do the animations contribute to the overall experience?

- Without the animations, both actions would feel incomplete as it is the main way a player can tell that an action has happened. It's harder to tell a character is moving without their running animation especially if they're parallel to the camera.
- Do the animations enhance player engagement, or do they distract?
  - They enhance the player engagement, especially with the Paladin's, as the way the attacks switch between fast, and then anticipated and slow is part of the fantasy players want out of the Paladin. A versatile class that can do offence and defence.

## Technical Considerations

- Observe how the character transitions between different animations.
  - In both games, due to their nature as an action RPG or an MMORPG, lack or have very little transitions between animations, Sora needs to be able to do the action as soon as the button is pressed or else combat would feel too unfair especially with the boss fights that have quick split second attacks. Meanwhile, FFXIV has the advantage of having plenty of VFX to cover the lack of transition, and also requires the player to sometimes have multiple actions that have 2.5s animations be cut 0.66s from the start due to off global cooldowns
- Describe the smoothness, speed, and naturalness of these transitions.
  - The transitions are very fast and sometimes instantaneous but lacks any smoothness, or naturalness due to this speed.
- How does the game handle interrupting animations or blending multiple animation sources?
  - Both games cut the previous animation and immediately start the most current one.
- Are there discernible layers of animations being blended
  - Sora is prevented from doing multiple actions at the same time, and will keep doing the animation of an action until a minimum amount of time is reached that another animation can instantaneously interrupt the current one
  - FFXIV doesn't blend their animations and instead shows the most current one, if the most current one is walking then even an attack animation would be replaced with it even if the VFX of the attack is still showing.
- Document the transitions with control
  - In both games, any action is immediately and abruptly changed to the most current one
  - It provides the best feedback for fast moment-to-moment games like these as being animation locked out of moving or doing actions tends to be infuriating to players when fighting bosses with telegraphed but very fast attacks which covers most of the bosses present in these two games.

Assets Used:

KH 1 Sora Model:

<https://sketchfab.com/3d-models/sora-248b1ce343b4437ca7202375fa7adbbf>