Accessibility Audit: *Cuphead*

Description

Cuphead is a 2D side-scrolling game that's often described as a "shoot 'em up" (also known as "shmup") or "run 'n' gun" game. In most stages, one or two co-operative players confront "boss" characters. Bosses are more powerful than the player characters, Cuphead and Mugman. Each boss confrontation is a protracted fight that consists of multiple phases. Bosses might assume different forms for each phase. The game has a handful of platforming (Run 'N' Gun) stages. In these stages, players move to an end-point and encounter enemies along the way.

Cuphead was independently developed and first released in 2017. It's best known for its visual style, inspired by 1930s cartoons, as well as its high difficulty and frenetic pace.

Accessibility Issues

The following list consists of accessibility issues based on the Game Accessibility Guidelines (Game Accessibility Guidelines, n.d.).

1. Health-points are limited and fixed

1.1. Violated guideline(s):

1. General (Basic): Offer a wide choice of difficulty levels
2. General (Intermediate): Allow difficulty level to be altered during gameplay, either through settings or adaptive difficulty

1.2 Context

As mentioned, most stages in *Cuphead* are boss fights. These stages don't have checkpoints, so players lose progress whenever their characters die. Players start every stage with three health-points (HP), or lives, but they can't recover any lost HP. They can get permanent perks (Charms) that provide one or two more HP, though. Also, co-op players can parry the ghosts of their fallen partners to revive them. Players choose between the Simple and Regular difficulty levels before starting mandatory stages. The Simple difficulty often removes some phases within boss fights. However, players must complete all stages at the Regular difficulty level before they can play the final two stages.

1.3. Impact

Even with perks and revivals, the baseline difficulty tests players' endurance and patience. This testing experience is amplified for those who have impairments. They might lose HP simply because they can't perceive and/or handle dangers. Players don't have immediate access to the HP-increasing Charms, either. As mentioned, selecting only the Simple difficulty prevents completion of the story.

1.4. Evidence

> One of the reasons I gave up on *Cuphead* was because I simply couldn't see everything going on, to me it's like I'm dying to invisible obstacles. I recorded a video to try and prove this one time when I was arguing on here as to why *Cuphead* needs [an] easy mode that adds lives and does NOT cut content. (White Wolf Kiba, 2020)

2. Continuous shooting can't be made automatic

2.1. Violated guideline(s):

1. Motor (Intermediate): Avoid / provide alternatives to requiring buttons to be held down
2. Motor (Intermediate): Ensure that multiple simultaneous actions (e.g. click/drag or swipe) are not required, and included only as a supplementary / alternative input method

2.2. Context

As with other games in the shmup genre, continuous shooting is a staple action of *Cuphead*. In theory, players can succeed if they only shoot while stationary. In practice, they need to shoot while jumping or moving in some way. The controls are totally customizable. So, players can make shooting and moving more comfortable to perform at the same time. However, the game lacks a toggle option to make shooting an automatic thing. Being able to toggle auto-shooting would be useful in certain situations. An example is when players want to avoid destroying parryable objects.

2.3. Impact

Players can experience muscular fatigue because of continuous shooting, despite using customized controls. This impact can be larger for players who have impaired motor abilities. They might not be able to shoot and move at the same time on a consistent basis. Also, players who are new to the game, or gaming in general, might be unfamiliar with this pair of actions. After the earliest stages, success requires near-continuous shooting and moving.

2.4. Evidence

> It's hard because I'm essentially having to jump and fire at the same time. [...] It's hard to fire and jump at the same time! (Saylor, 2020)

3. Audio cues for Super Meter can be hard to notice

3.1. Violated guideline(s):

1. Hearing (Basic), Vision (Intermediate): Provide separate volume controls or mutes for effects, speech and background / music

3.2. Context

The Super Meter is an important game mechanic: it lets players do special attacks. Players build their Super Meters by doing successful parries and scoring hits. At max capacity, the Super Meter is shown as five playing cards. Each card represents the chance to use an Ex shot, which is a powerful, one-shot variant of the current weapon. Five cards represent the chance to use a Super Art, which is a short-term transformation that can inflict major damage. Besides visual depiction in the HUD, an audio cue (i.e. cash-register sound) plays whenever a new card is available. A different audio cue (i.e. a drum-beat sound) plays whenever five cards are available. Players can adjust the overall volumes for sound effects, music, and the game.

3.3. Impact

Special attacks are optional, but they can be the difference between success and failure. With the default volume settings, players can fail to notice the audio cues for the Super Meter. These audio cues are subtle compared to the many sights and sounds that are present at any given time. Minimizing the music volume doesn't guarantee noticing of these audio cues. They often compete with other sound effects.

3.4. Evidence

These audio cues being unnoticed is evident in recordings of gameplay by new players. These recordings involve players who have visual impairments (Saylor, 2020) or age-related ones (FBE, 2017). They often do not use special attacks that are available.

4. Visual cues for Super Meter can be hard to notice

4.1. Violated guideline(s):

1. Motor (Intermediate), Vision (Intermediate): Allow interfaces to be rearranged
2. Vision (Basic): Use an easily readable default font size
3. Possible hindrance for players who have auditory and/or visual impairments

4.2. Context

The minimalistic HUD consists of the HP display and the Super Meter. These elements are arranged in a horizontal row. The HUD is small and not customizable. It's in the lower-left corner of the screen for solo players and in the lower-right corner for secondary players. Cuphead has a tutorial stage, but it doesn't explicitly highlight and explain the Super Meter.

4.3. Impact

Like its audio cues, the Super Meter's visual cues can be unnoticed. Depending on their display setup, players might overlook the availability of special attacks (i.e., full cards in the Super Meter). This issue can be problematic for players who have visual and/or audio impairments.

4.4. Evidence

This issue is evident in gameplay recordings of players who have sensory/perceptual impairments. These impairments are presumably age-related (FBE, 2017) or clearly vision-related (Saylor, 2020). At various points, they have special attacks that are available, but they remained unused.

5. Parryable objects are distinguished mostly by color

5.1. Violated guideline(s):

1. Vision (Basic): Ensure no essential information is conveyed by a colour alone
2. Motor (Intermediate): Ensure no essential information is conveyed by a colour alone

5.2. Context

Parrying is an important game mechanic. It involves jumping toward parryable objects and pressing the Jump button while nearby. It is sometimes used to reach otherwise-unreachable heights, but parrying is mainly used to build the Super Meter. Though optional, three successful parries are required for the highest end-of-stage grades. Parryable objects have many different forms; most of them are enemies or projectiles.

5.3. Impact

Parryable objects are entirely (or in some cases, partially) pink. They're often grouped with non-parryable objects that otherwise look identical. Players who have colour-vision deficiencies report that identifying these objects is difficult. They mention that they learn through trial-and-error or they avoid parrying altogether.

5.4 Evidence

> I can still play the game and use context and/or guess when something is parryable, but it'll usually involve some trial and error rather than just seeing a colour and knowing "hey that's the parry colour" (.ZH Kane, 2017)

> I'm severely Colorblind (No I don't see in black and white, that's Monochromacy) So determining what objects are parry-able is very difficult. If the other objects are Yellow or some other color on the complete opposite side of the color spectrum, I can easily tell which one is Pink. However when there are Blues and Purples and even light Greys and Reds that's when it gets confusing. I constantly try to parry the wrong colors and take damage. (HolyCrapImAHippo, 2017)

6. Backgrounds can be hard to distinguish from (interactive) foregrounds

6.1. Violated guideline(s):

1. Vision (Basic): Provide high contrast between text/UI and background
2. Vision (Intermediate): Provide an option to turn off / hide background animation

6.2. Context

Cuphead stages have vibrant palettes. They sometimes have background elements that soon appear in the plane where the action happens. Some stages also have minor elements that briefly appear in front of the action. People often describe the game as having a "busy visual style" (Brown, 2017).

6.3. Impact

Players might not see things because backgrounds and foregrounds have identical saturation. Moreover, the screen often has many and fast-moving threats at once. Players with visual impairments can be overwhelmed and unable to proceed. Such impairments can be color-vision deficiencies, ocular-muscle problems, or limited fields of view.

6.4. Evidence

The following quote has been cited to describe a need for extra HP, but it applies to this issue.

> One of the reasons I gave up on *Cuphead* was because I simply couldn't see everything going on, to me it's like I'm dying to invisible obstacles. I recorded a video to try and prove this one time when I was arguing on here as to why *Cuphead* needs [an] easy mode that adds lives and does NOT cut content. (White Wolf Kiba, 2020)

Other issues (minor)

- Currently-selected option in menus are distinguishable mostly by color
- Game speed not adjustable
- No auto-aim

References

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