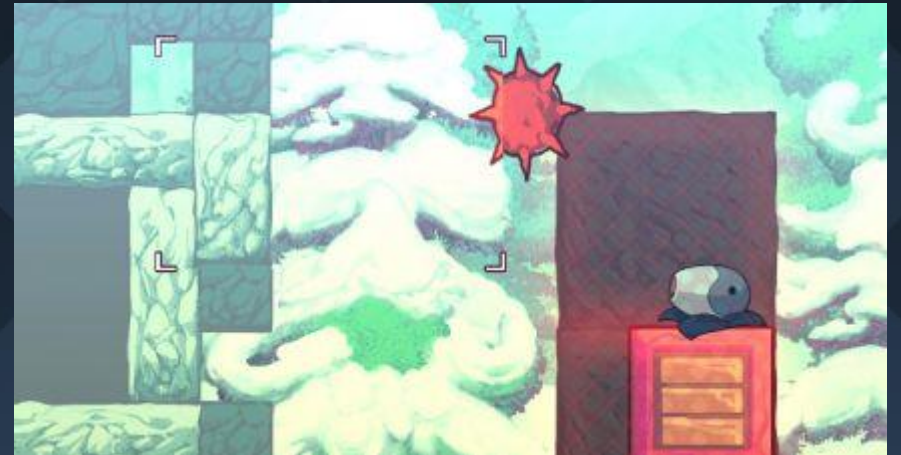


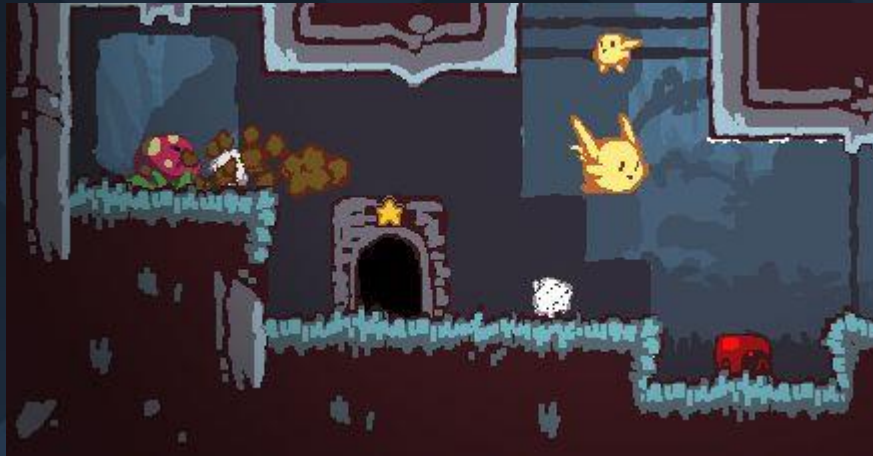


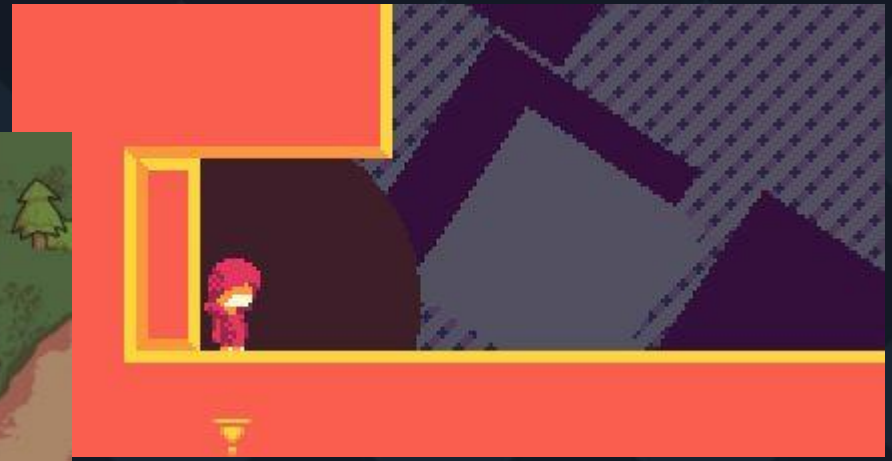
Kyle Pulver

some kinda video game developer person

KFUVLV









OTTER



**EXPLORING
EXPLOSIONS
AND OTHER THOUGHTS**

GOALS

- **Talk about explosions**

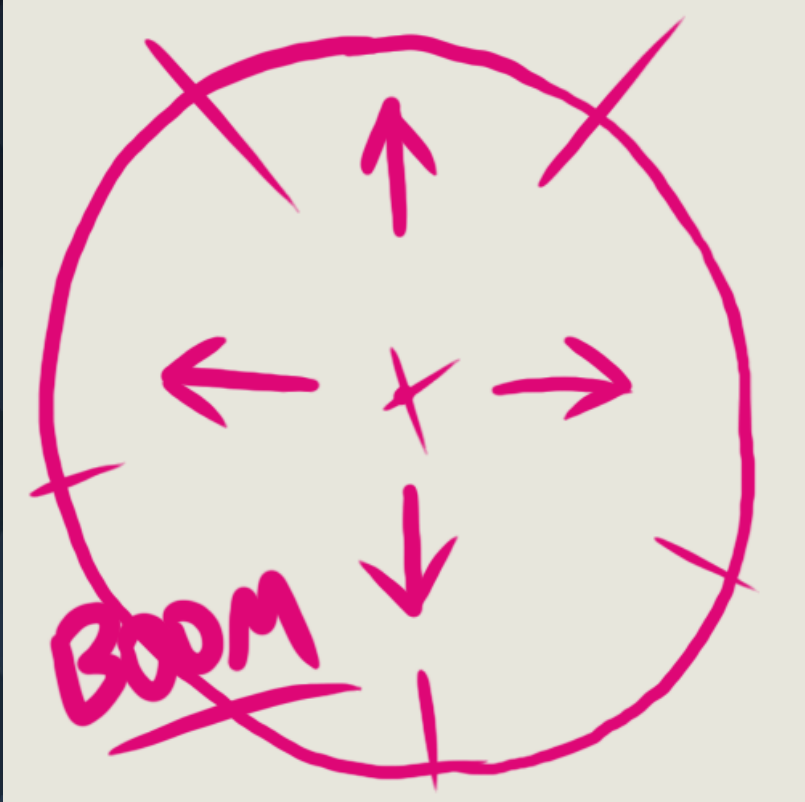
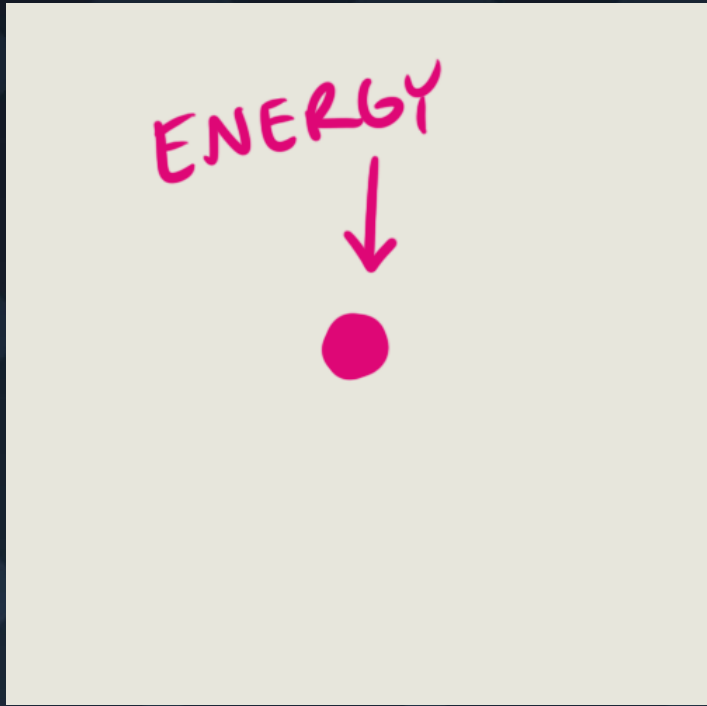
GOALS

- **Talk about explosions**
- **Share my process!**

GOALS

- **Talk about explosions**
- **Share my process!**
- **Add to your own personal bag o tricks**

EXPLOSIONS





SUPER SKY SISTERS

2
HOMING

02:01 .917

2,861

2
HOMING



WHY!

WHY!

- **An effective form of COMMUNICATION!**

WHY!

- **An effective form of COMMUNICATION!**
- **Can make player actions feel SATISFYING!**

SATISFYING?!

COLLECTING SOMETHING



FIRING A WEAPON



POWERING UP



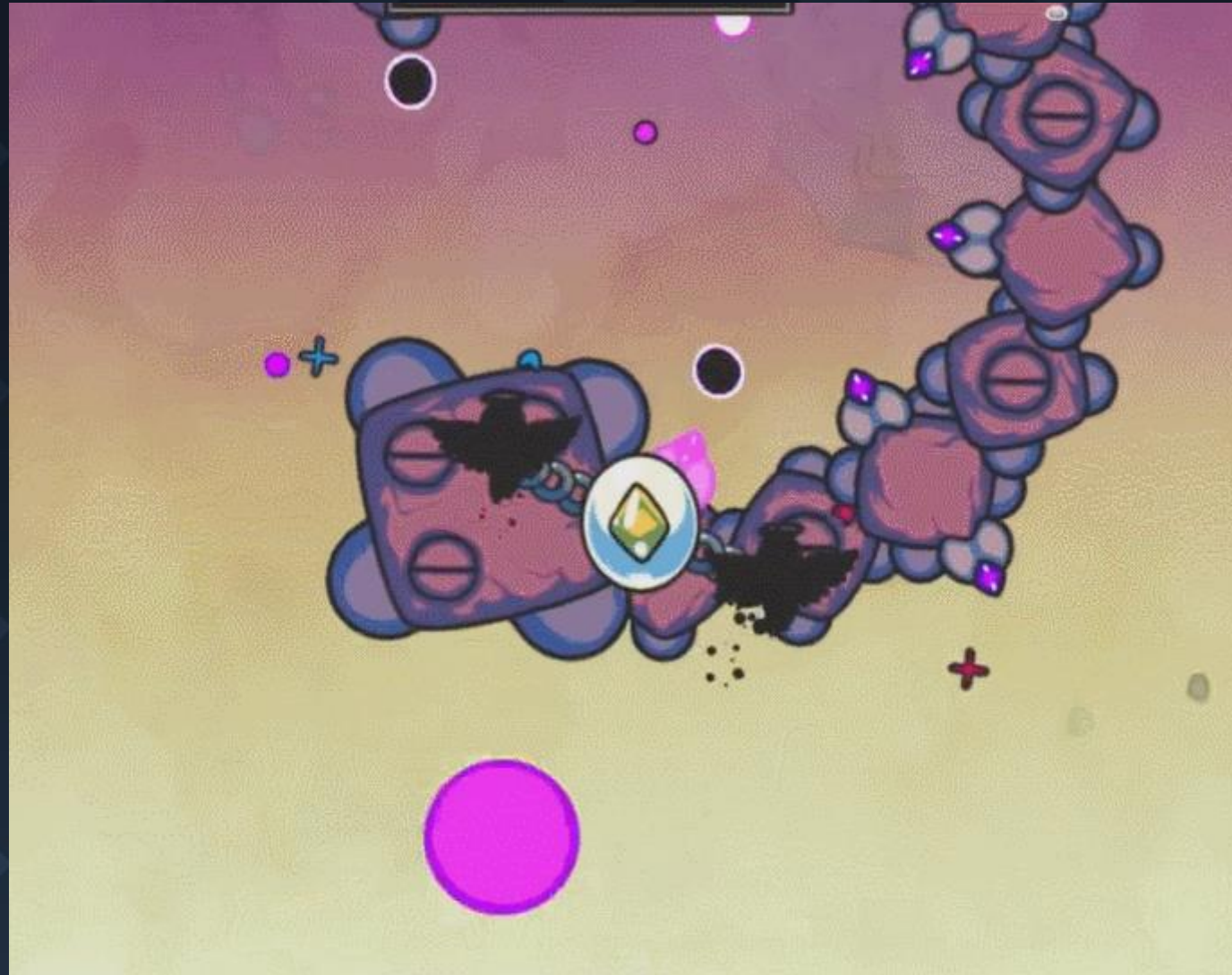
DEFEATING AN ENEMY



CLEARING A LEVEL



TAKING DAMAGE



ENEMY EXPLOSION

- **You defeated an enemy! AWESOME!**

ENEMY EXPLOSION

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- **The explosion is part of the reward**

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- **Visual stimulus for a job well done**

ENEMY EXPLOSION

- **You defeated an enemy! AWESOME!**
- **The explosion is part of the reward**
- **Visual stimulus for a job well done**
- **Cool visual can bolster the sense of accomplishment!!**

**SATISFACTION:
MEETING OR EXCEEDING A
PLAYER'S EXPECTATIONS**

ENEMY EXPLOSION

- **Enemy just vanishing... disappointing**



MORE SATISFYING?! MAYBE!!



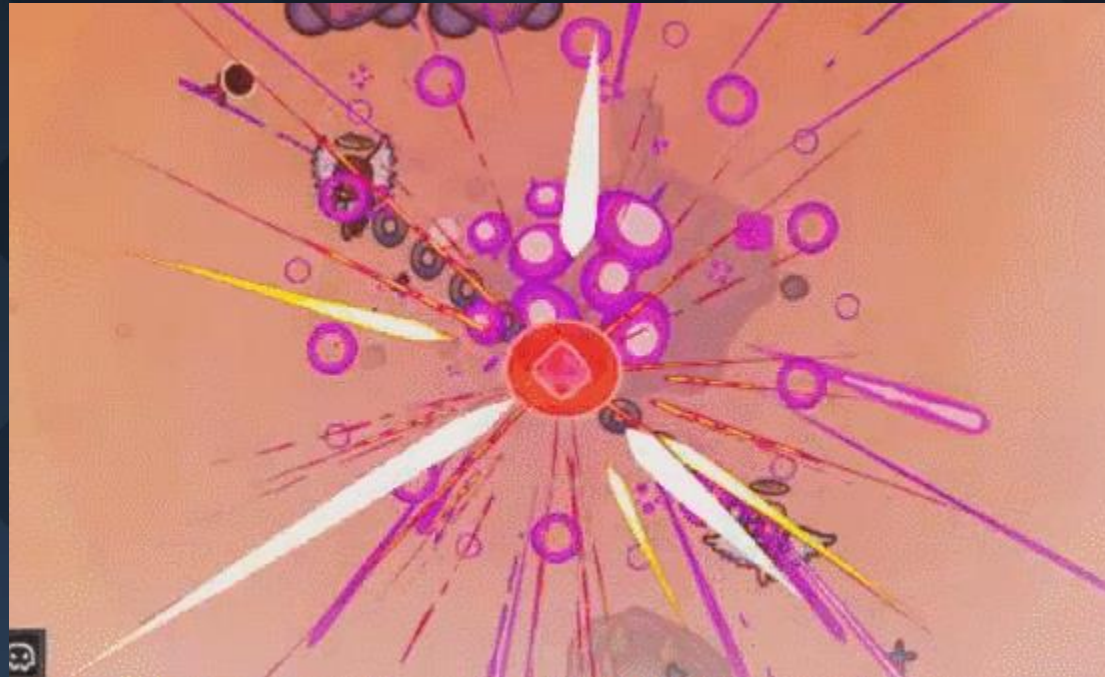
SCALE WITH SIGNIFICANCE

- **Tiny ramming enemies have tiny explosions**
- **High frequency == less significant**



PLAYER DEATH

- **Happens once per playthrough**



BOSS DEATH

- Happens one to three times on average



BOMB EXPLOSION

- Happens 20 to 50 times per playthrough



DEFEATING ENEMY

- Maybe 50 to 100 times per playthrough



TINY RAMMING ENEMIES

- Can happen in clusters, maybe 100+ times



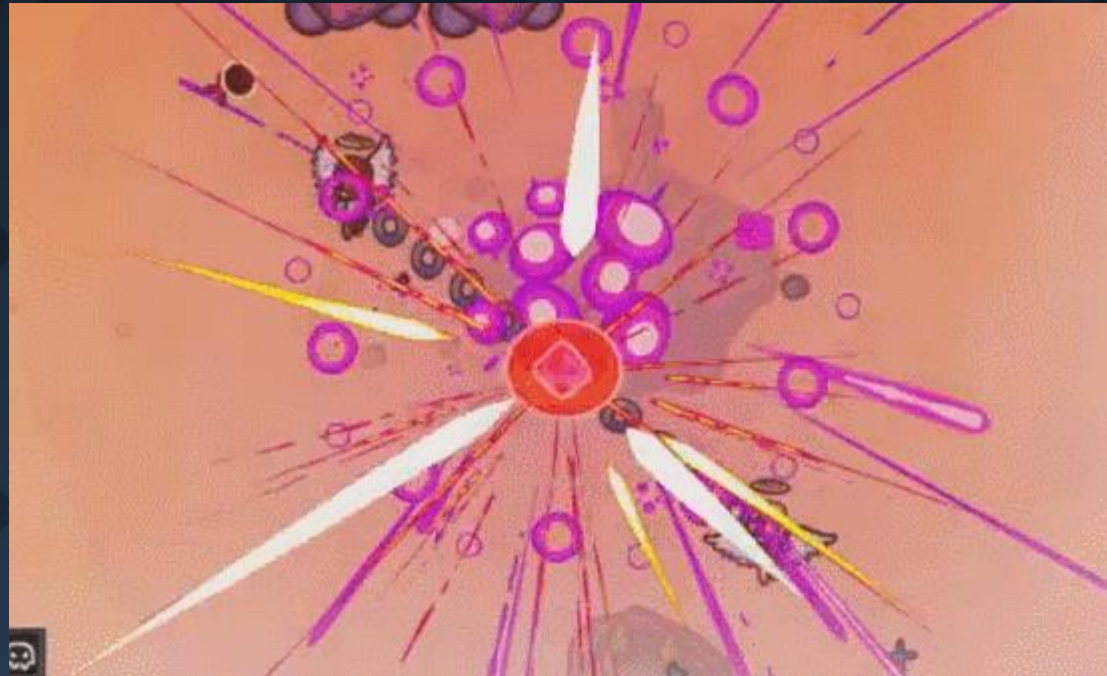
SCALE WITH SIGNIFICANCE

- **Less significant == smaller explosion**



GAME OVER EXPLOSIONS

- Can help with making failure **FUN!**



GAME OVER EXPLOSIONS

- **WARNING**
- **Be careful if your game involves dying a lot!**

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GAME OVER EXPLOSIONS

- **WARNING**
- **Be careful if your game involves dying a lot!**
- **Restart time is a sensitive dial!**
- **Sky Sisters death is significant**
- **Playthroughs can be 5, 10, 15 minutes!**

BOSS EXPLOSIONS

- **Scale with significance**

BOSS EXPLOSIONS

- **Scale with significance**
- **When defeating a major foe, GO CRAZY!**

BOSS EXPLOSIONS

- **Scale with significance**
- **When defeating a major foe, GO CRAZY!**
- **More on this later...**

GIVE YOUR PLAYERS' ACTIONS MORE IMPACT

**MAKE THEM FEEL COOL AS HECK ALL THE TIME IF
POSSIBLE, EVEN SOMETIMES WHEN THEY'RE MESSING UP**

EXPLOSION DISECTION

LETS TAKE A CLOSER LOOK!!

ENEMY EXPLOSION

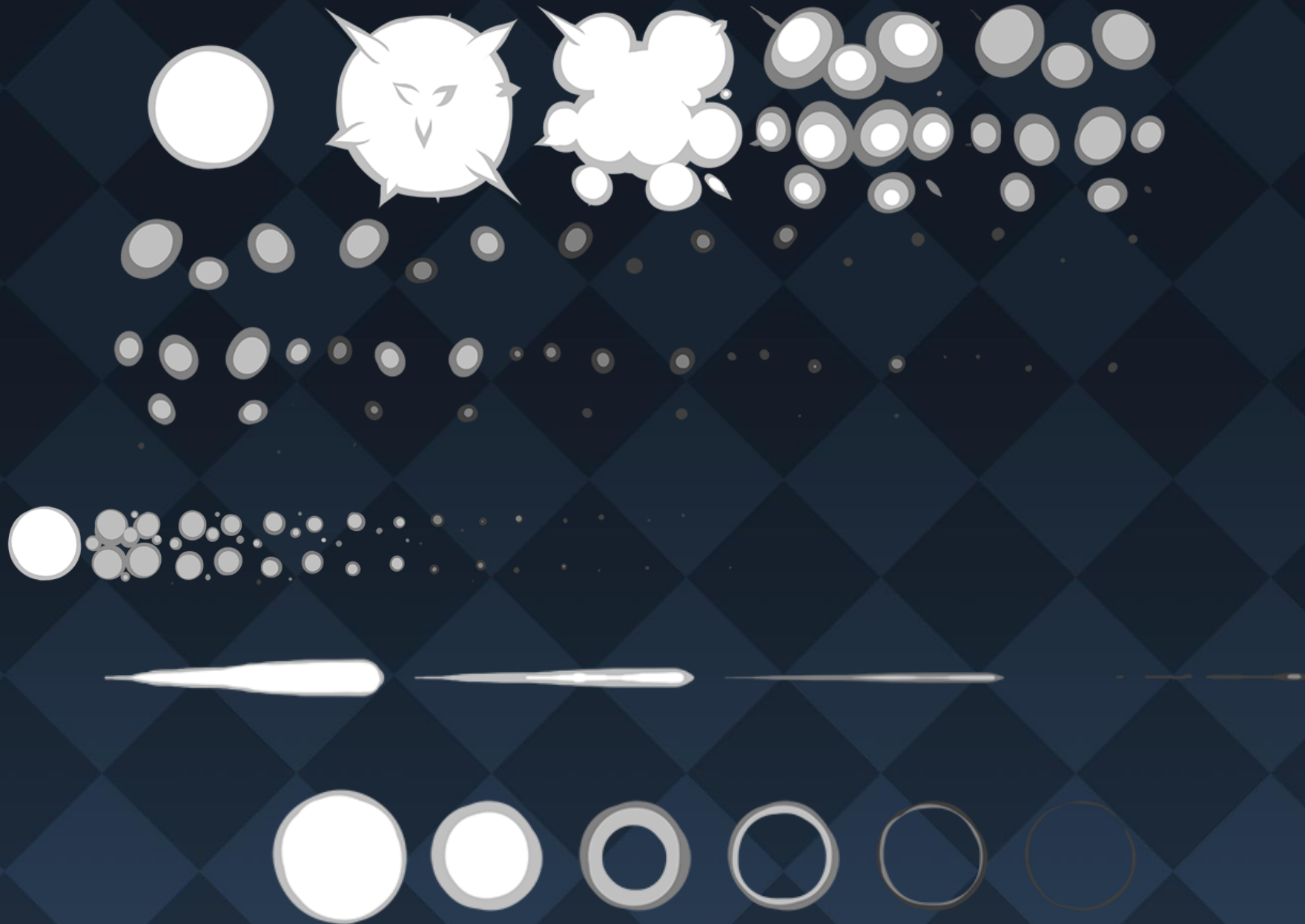
- **Explosions built from smaller assets**

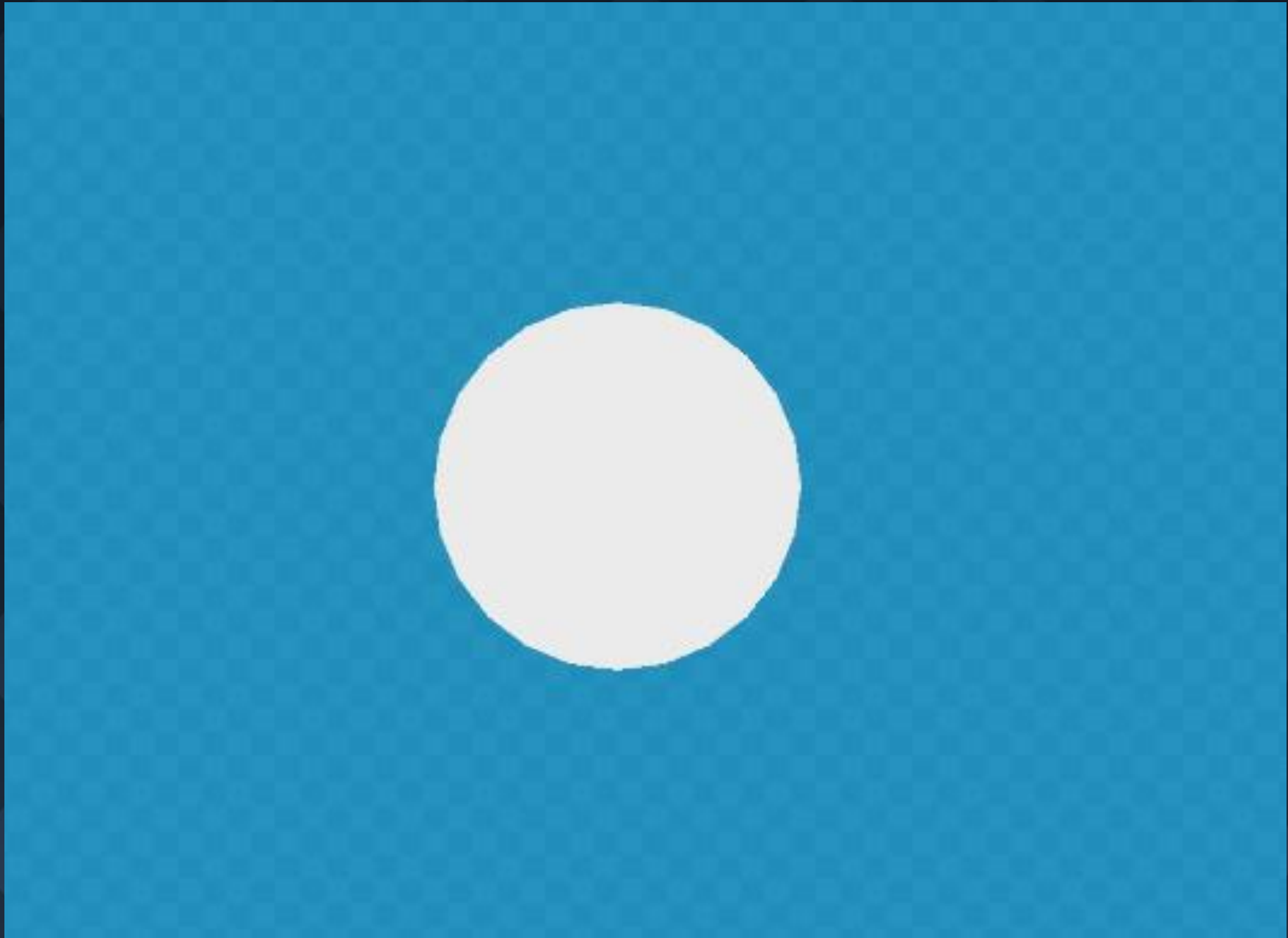
ENEMY EXPLOSION

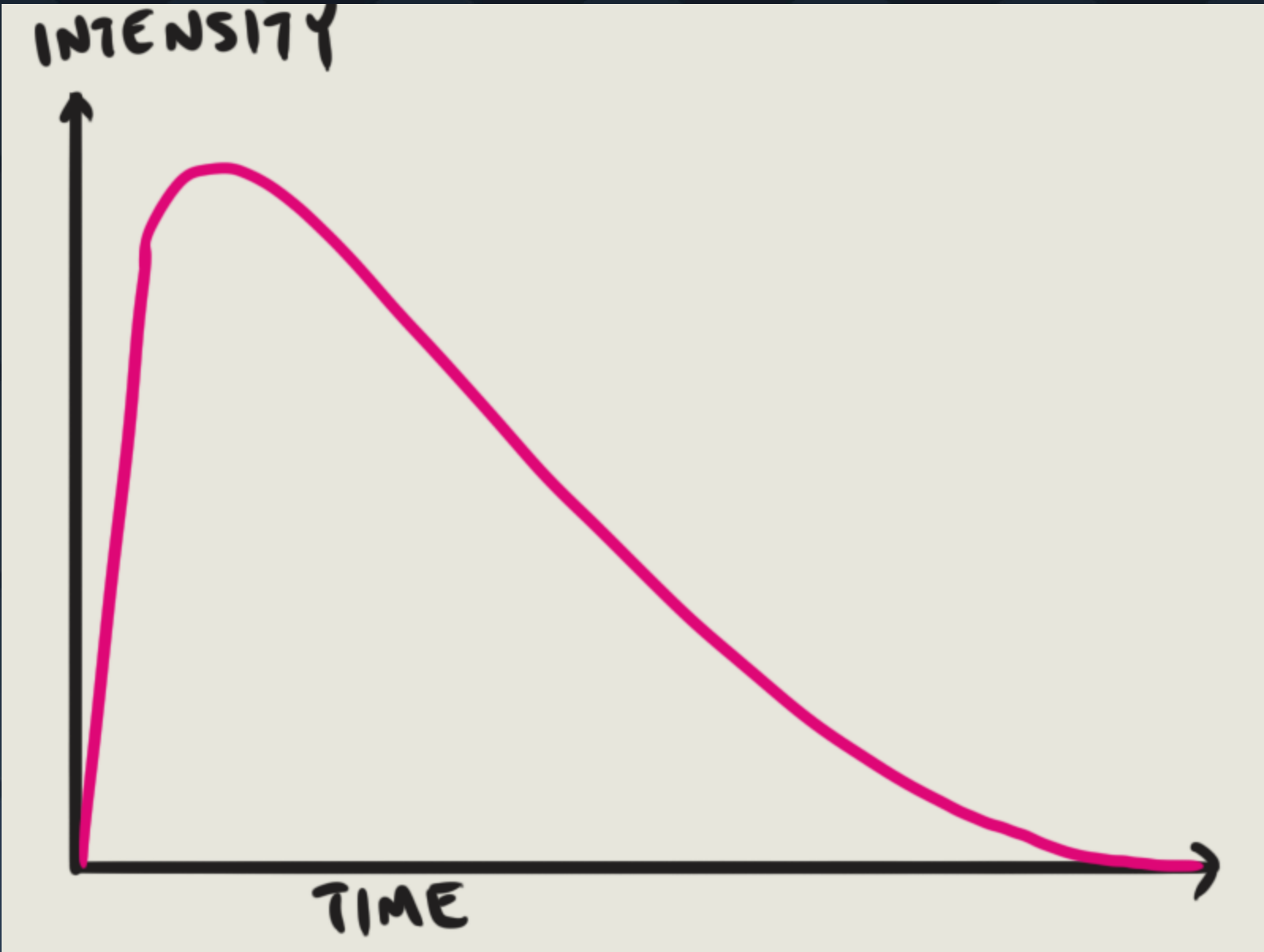
- **Explosions built from smaller assets**
- **Allows for more variance in game**

ENEMY EXPLOSION

- **Explosions built from smaller assets**
- **Allows for more variance in game**
- **And for maximum flexibility**

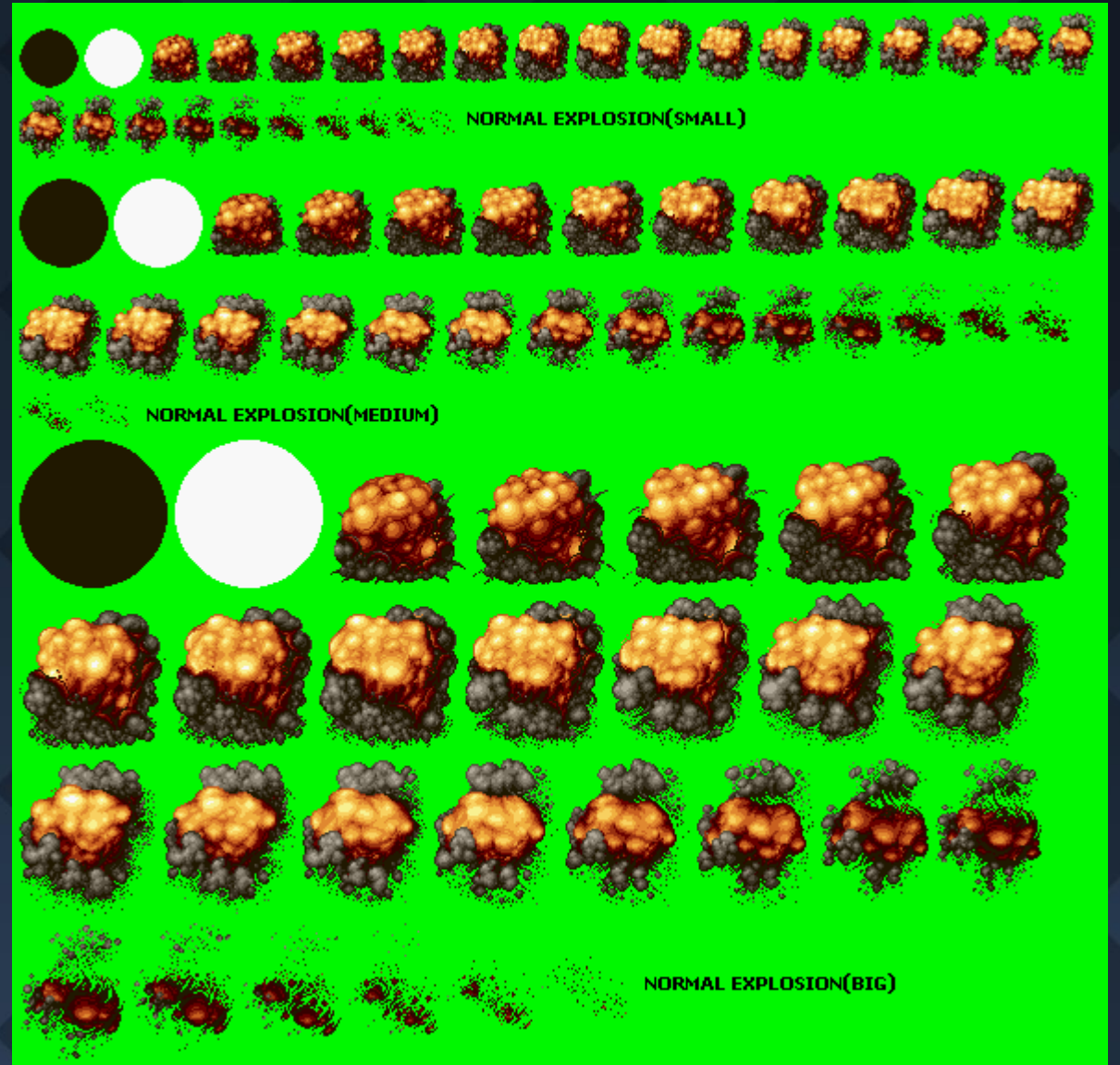






BLACK WHITE FLASH

- Learned from Metal Slug!



BLACK WHITE FLASH

- **Learned from Metal Slug!**
- **Initial spark of energy**

BLACK WHITE FLASH

- **Learned from Metal Slug!**
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- **Black to white makes the white seem BRIGHTER!**

BLACK WHITE FLASH

- **Learned from Metal Slug!**
- **Initial spark of energy**
- **Black to white makes the white seem BRIGHTER!**
- **Only TWO FRAMES!!**

CORE PARTICLE



CORE PARTICLE

- **The center of the explosion**

CORE PARTICLE

- **The center of the explosion**
- **Most frames of animation**

CORE PARTICLE

- **The center of the explosion**
- **Most frames of animation**
- **Highest detail, color range per frame**

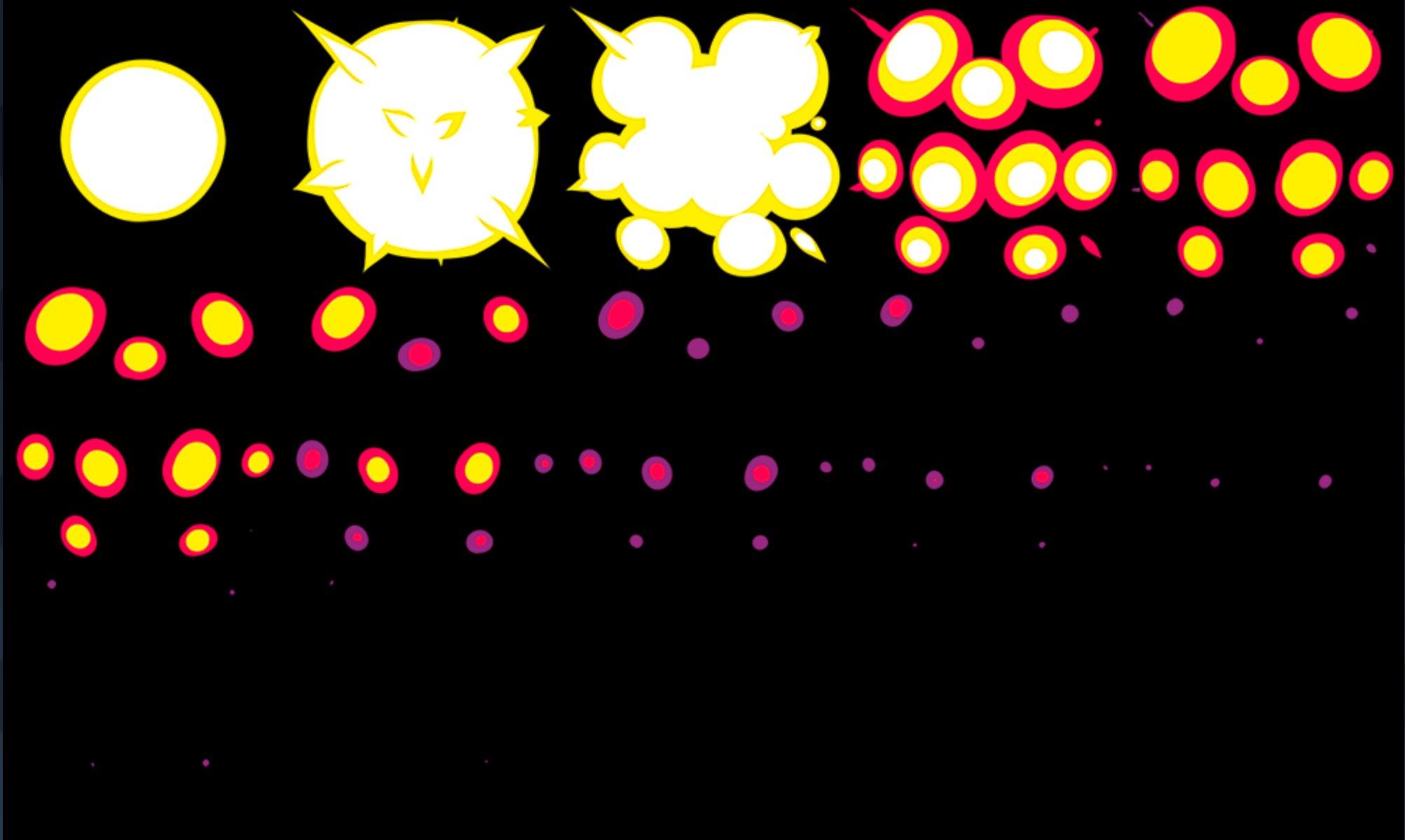
GRAYSCALE?!



TANGENT!!

SIDE QUEST STYLE





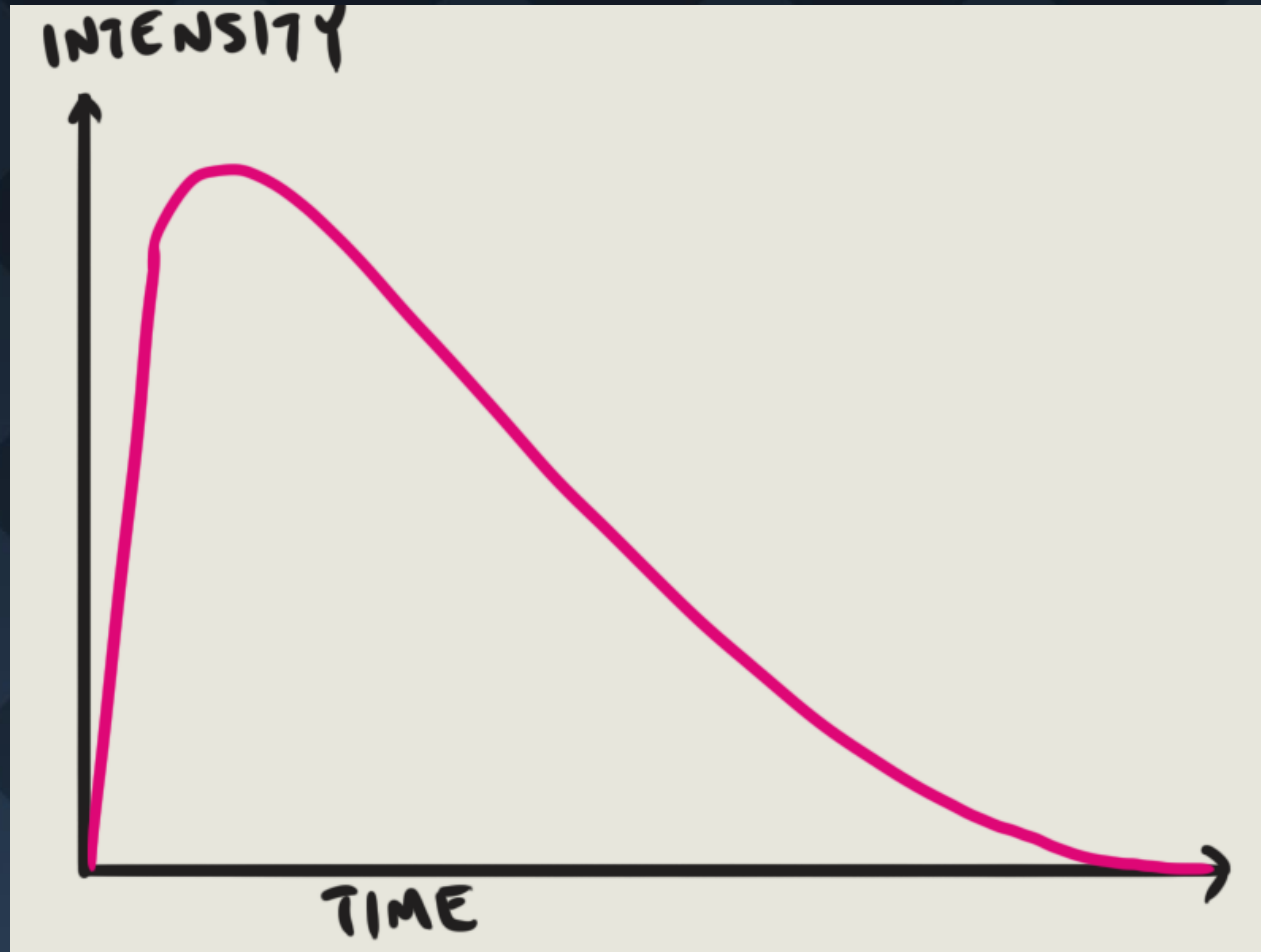




ANYWAY



CORE PARTICLE



OUTER RING PARTICLE



OUTER RING PARTICLE

- **Supplements core explosion**

OUTER RING PARTICLE

- **Supplements core explosion**
- **Emphasizes outward burst of energy**

OUTER RING PARTICLE

- **Supplements core explosion**
- **Emphasizes outward burst of energy**
- **Evenly distributed around center**

OUTER RING PARTICLE

- **Supplements core explosion**
- **Emphasizes outward burst of energy**
- **Evenly distributed around center**
- **Slightly randomized lifespan**

CHAOS VS CONTROL

- **Even distribution feels more controlled**
- **Totally up to your style and goals**
- **More controlled seemed to work better**



OUTER RING PARTICLE

- **Way simpler animation!**

OUTER RING PARTICLE

- **Way simpler animation!**
- **Less frames**

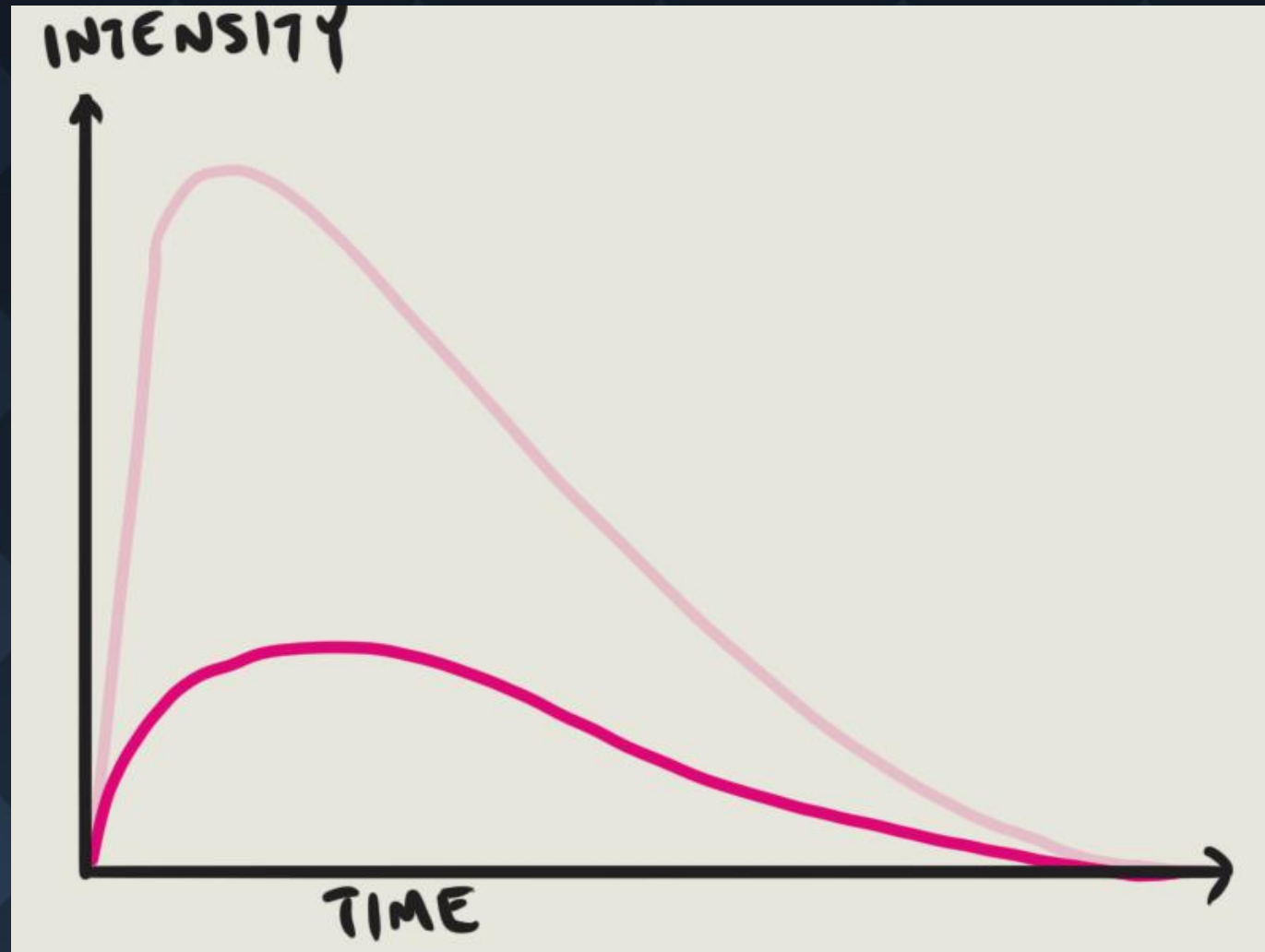
OUTER RING PARTICLE

- **Way simpler animation!**
- **Less frames**
- **Smaller**

OUTER RING PARTICLE

- **Way simpler animation!**
- **Less frames**
- **Smaller**
- **Narrower color range**

OUTER RING PARTICLE



OUTER RING PART 2



OUTER RING PART 2

- **Even smaller version of the outer ring**

OUTER RING PART 2

- **Even smaller version of the outer ring**
- **Compliments the larger outer ring**

OUTER RING PART 2

- **Even smaller version of the outer ring**
- **Compliments the larger outer ring**
- **Fills the gaps, adds more volume to explosion**

OUTER RING PART 2

- **Even smaller version of the outer ring**
- **Compliments the larger outer ring**
- **Fills the gaps, adds more volume to explosion**
- **Spaced evenly between outer ring sprites**

OUTER RING PART 2



DEBRIS POP



DEBRIS POP

- **Tiny, scattered explosions**

DEBRIS POP

- **Tiny, scattered explosions**
- **Randomized position**
- **Randomized start up**

DEBRIS POP

- **Tiny, scattered explosions**
- **Randomized position**
- **Randomized start up**
- **Kinda like sprinkles!**
- **Very CHAOTIC**

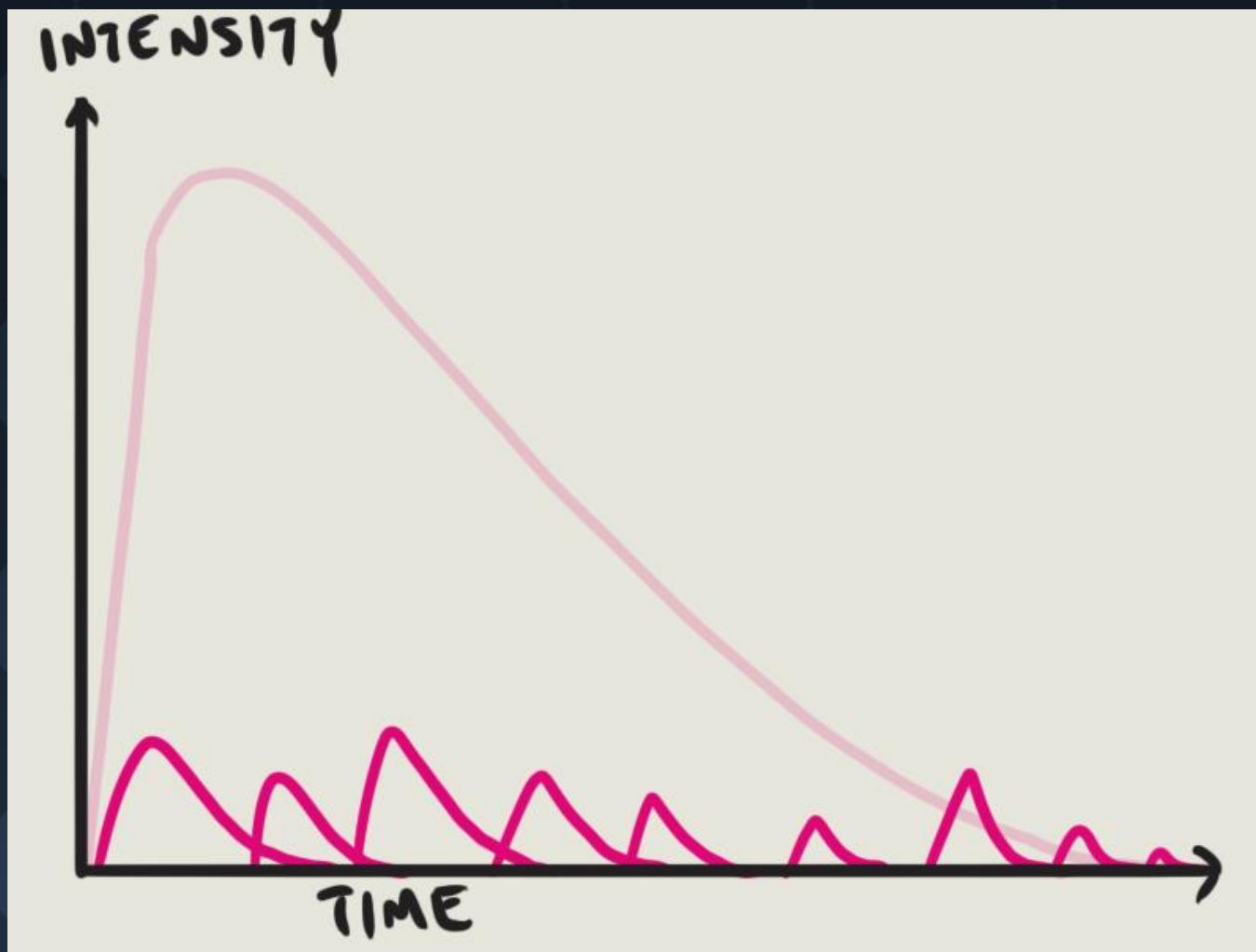
DEBRIS POP

- **Tiny, scattered explosions**
- **Randomized position**
- **Randomized start up**
- **Kinda like sprinkles!**
- **Very CHAOTIC**
- **Gives the impression of ejected debris**
- **Can add more volume!**

DEBRIS POP

- **Tiny, scattered explosions**
- **Randomized position**
- **Randomized start up**
- **Kinda like sprinkles!**
- **Very CHAOTIC**
- **Gives the impression of ejected debris**
- **Can add more volume!**
- **(Inspired by fireworks)**

DEBRIS POP



ACTION BEAMS



ACTION BEAMS

- **Placed at a distance, away from center**
- **Adds further INTENSITY!!**

ACTION BEAMS

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- **Completely random angles**

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ACTION BEAMS

- **Placed at a distance, away from center**
- **Adds further INTENSITY!!**
- **Slightly varied lifespan**
- **Completely random angles**
- **Draws attention along the path of energy**
- **Inspired by other visual mediums**

ACTION BEAMS

- **Can look better in stills!**

ACTION BEAMS

- **Can look better in stills!**
- **Screenshots are super important!**

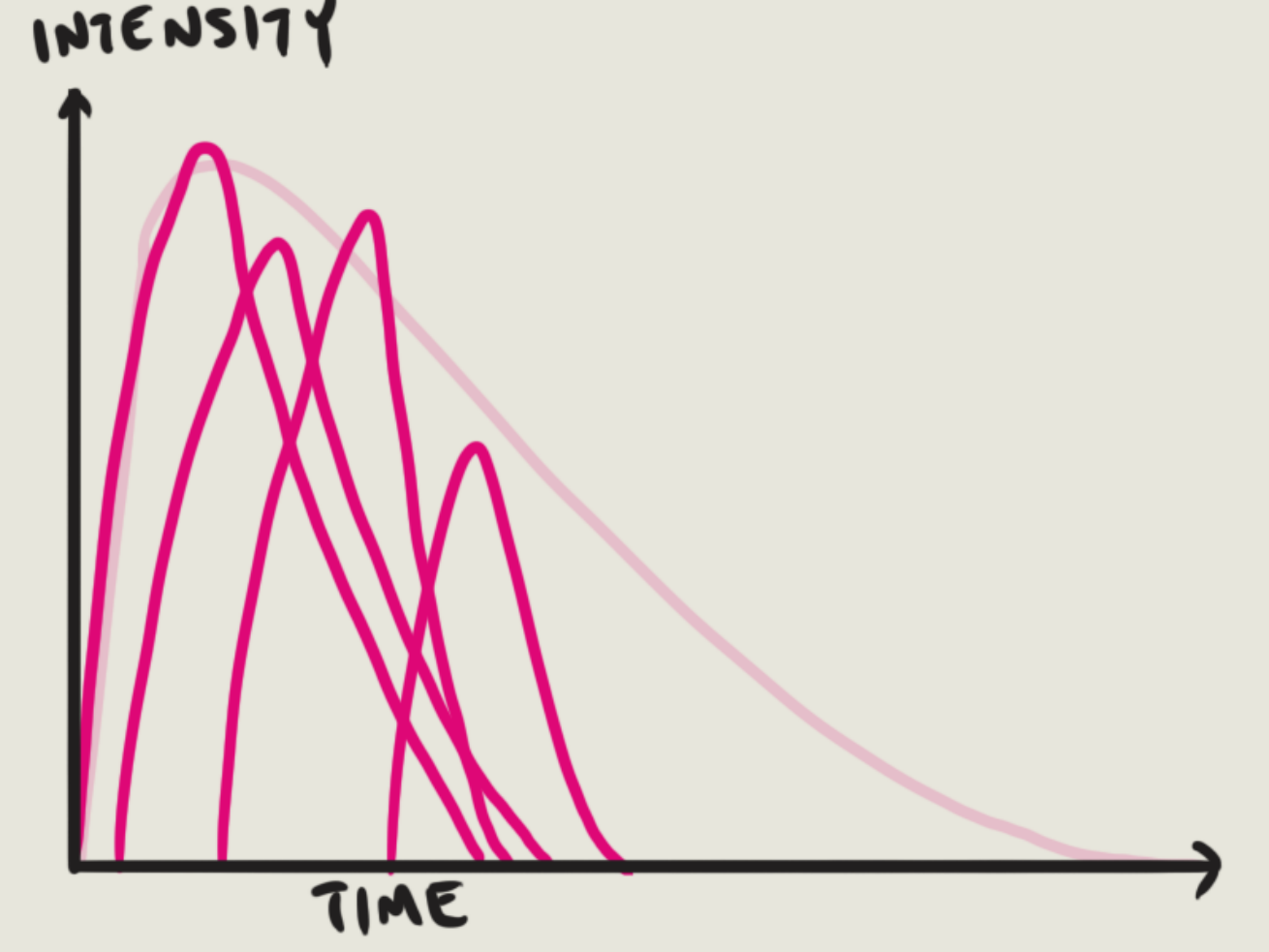
ACTION BEAMS

- **Can look better in stills!**
- **Screenshots are super important!**
- **Can the viewer follow along?**

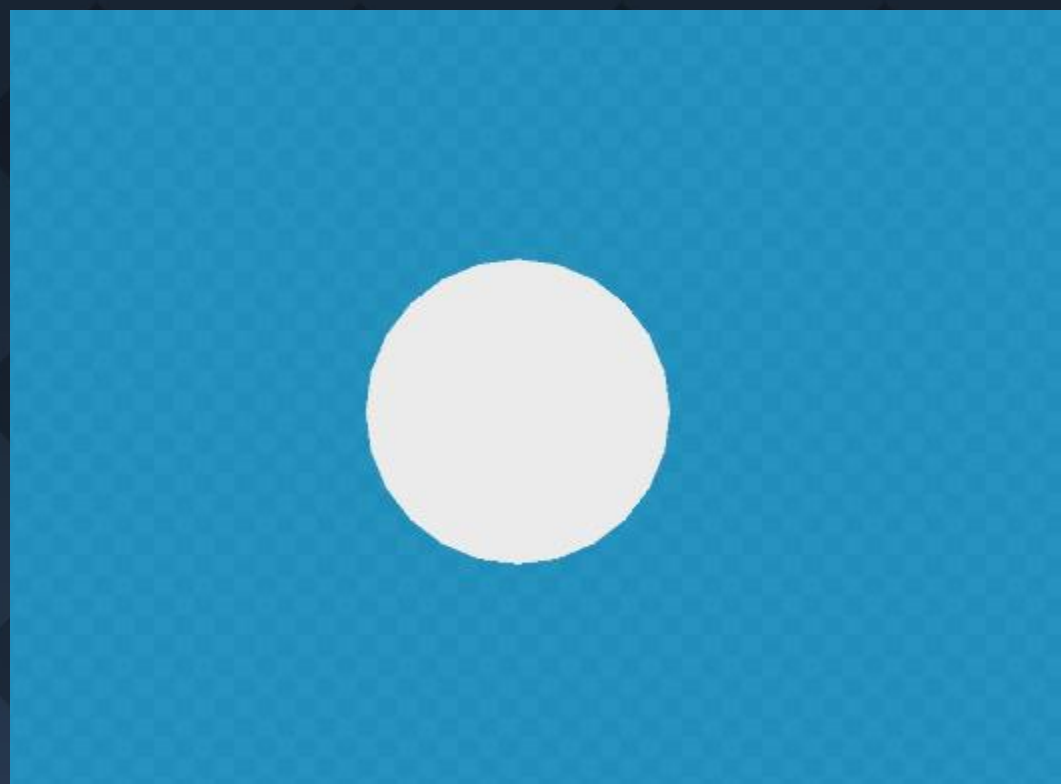
ACTION BEAMS

- **Can look better in stills!**
- **Screenshots are super important!**
- **Can the viewer follow along?**
- **Might be super tough to pull off**

ACTION BEAMS



THE MORE SUBTLE STUFF



SHOCKWAVES



SHOCKWAVES

- **Multiple shockwaves expand from center**

SHOCKWAVES

- **Multiple shockwaves expand from center**
- **Colored using the gradient map palette**

SHOCKWAVES

- **Multiple shockwaves expand from center**
- **Colored using the gradient map palette**
- **Further emphasizes release of energy**

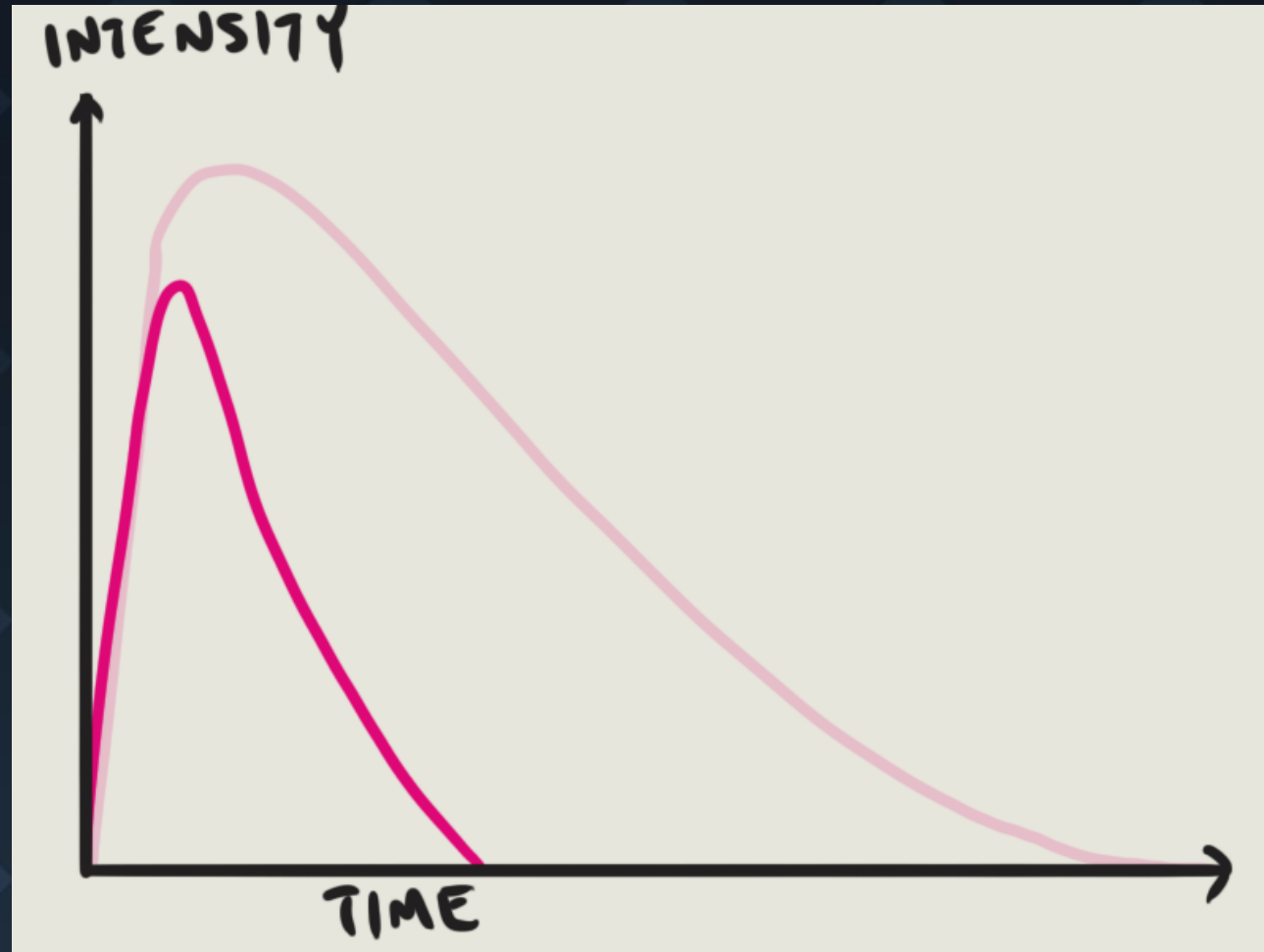
SHOCKWAVES

- **Multiple shockwaves expand from center**
- **Colored using the gradient map palette**
- **Further emphasizes release of energy**
- **Very short lifespan!**

SHOCKWAVES

- **Multiple shockwaves expand from center**
- **Colored using the gradient map palette**
- **Further emphasizes release of energy**
- **Very short lifespan!**
- **Inspired by air shockwaves from explosions**

SHOCKWAVES



UNDERGLOW



UNDERGLOW

- **Colored by gradient map palette**

UNDERGLOW

- **Colored by gradient map palette**
- **Placed underneath particles**

UNDERGLOW

- **Colored by gradient map palette**
- **Placed underneath particles**
- **Fades slowly over time**

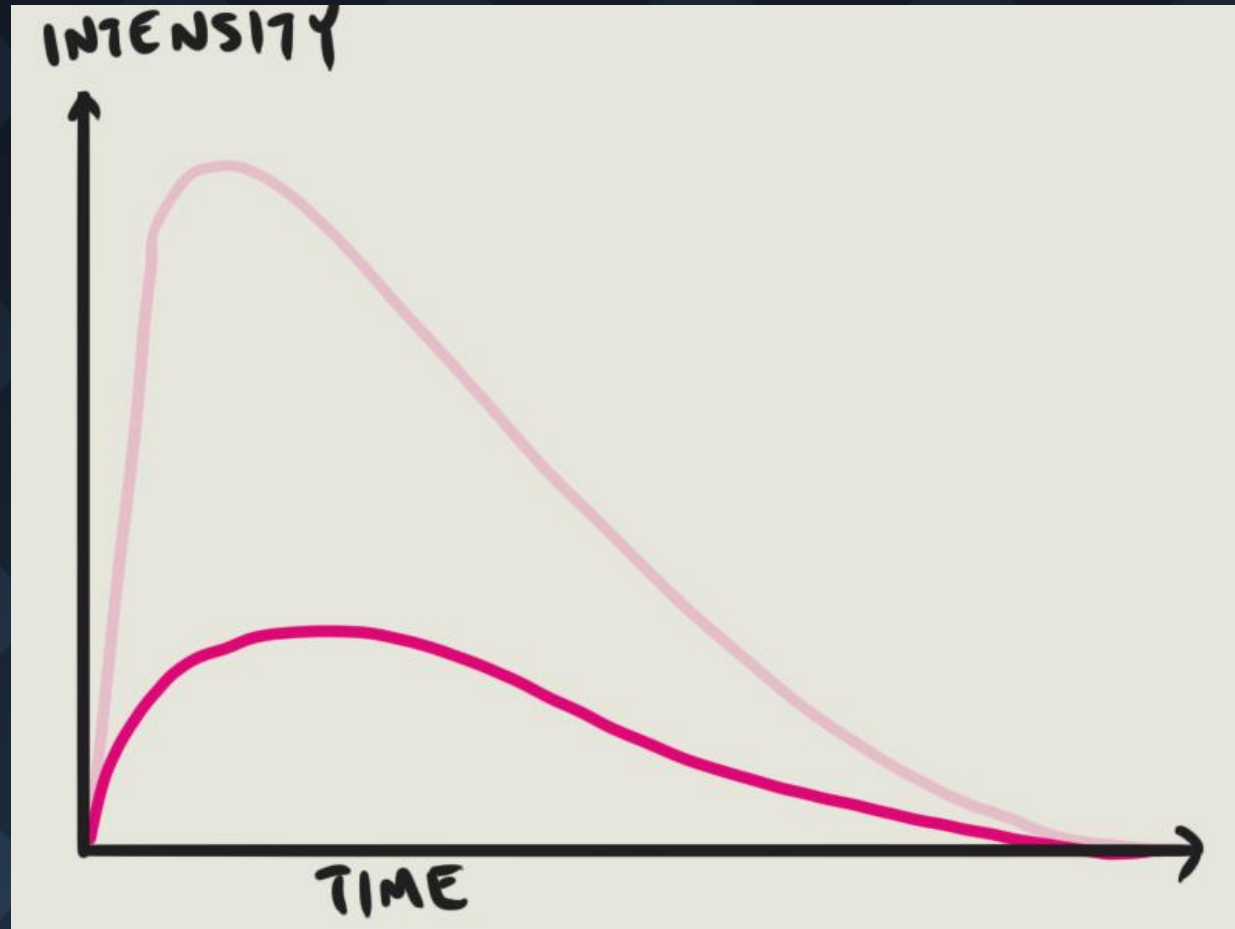
UNDERGLOW

- **Colored by gradient map palette**
- **Placed underneath particles**
- **Fades slowly over time**
- **Brings some “HEAT” to the exploding area**

UNDERGLOW

- **Colored by gradient map palette**
- **Placed underneath particles**
- **Fades slowly over time**
- **Brings some “HEAT” to the exploding area**
- **Gives subtle hint of explosion’s core colors on near by sprites**

UNDERGLOW



SCREEN FLASH

- **No sprite, just a rectangle!!**

SCREEN FLASH

- **Subtle additive blend of explosion's color**
- **Fades quickly**
- **Also adds to the HEAT!**

SCREEN FLASH



JUST ONE SECOND!

- **WOW THAT'S A LOT OF WORK FOR JUST ONE SECOND, MAKING GAMES IS TERRIFYING**



BOMB EXPLOSION



BOMB EXPLOSION

- **Larger!!**
- **More core particles**

OUTER RING X



OUTER RING X

- **Feels SHARPER than enemy explosion**
- **Shape looks more varied at different angles**
- **More chaotic!**

SMOKE PARTICLES



SMOKE PARTICLES

- **Adds volume!**
- **Lingering memory of the explosion...**
- **More intense explosions, more lasting impression**

BOSS EXPLOSION



BOSS EXPLOSION

- **More “cutscene” like**
- **More anticipation**
- **More BUILD UP!!**
- **CRANK UP THE INTENSITY**

REVERSE SHOCKWAVES

- Energy is being **SUCKED IN**
- Builds up hype **VISUALLY!!**

SCREEN PALETTE SHIFT

- **The ENTIRE SCREEN becomes fire!**
- **The contrast is cranked!**
- **Pushes intensity to the MAX!**

SMALL EXPLOSIONS

- **Increase in frequency over time**
- **Also builds hype visually!**

HUGE EXPLOSION!

- **Everything finally comes together!**
- **The hype levels are maximum!**
- **Bomb explosion + Enemy explosion**
- **Also add a LOT of debris!!**

MISC STUFF

SOME NON-ART RELATED THINGS TO ADD BEFORE THIS IS OVER!!

CAMERA SHAKE

- **SUPER IMPORTANT**
- **VERY IMPORTANT**
- **Types:**
 - **Random: Chaos!**
 - **Sinusoidal: Control**
 - **Single axis, both axes?!**
- **Should be QUICK!**
- **Shockwave hitting the viewer**

HIT FREEZE

- **ALSO VERY IMPORTANT**
- **Freeze gameplay, emphasize effects**
- **Sky Sisters hit freeze:**
 - **Enemy explodes from player's actions**
 - **The orb, or players take damage**
- **Can add a lot of WEIGHT**
- **Seems to be missing from a lot of games!!**
- **Make sure effects are NOT FROZEN**
- **Fighting games**

SOUND

- **Bfxr is okay**
- **LabChirp is cool**
- **Audacity for edits**
- **I just try bassy, noisy sounds**

DONEZO

- **Use explosions for communication**
- **Use them to reward**
- **Make your game look really cool!**
- **People like GRAPHICS!**
- **Era of streaming is well under way**

ok bye



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