

Team Ideation Document

Tinkers - Level 6

THE BOSS FIGHT: THE REAPER

SUBTEAM 1

Name	Role
Anish Gupta	Scrum Master
James Blazek	Scrummer
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SUBTEAM 2

Name	Role
Samarth Hande	Assistant Scrum Master
Krish Kelageri	Scrummer
Pranay Kamath	Scrummer

[Class Ideation Doc](#)

[Class Ideation Spreadsheet](#)

(<https://tinyurl.com/gamifyquest>)

[OpenCS Game Engine Notes](#)

Objective: Find and beat the final boss.

Description:

- Name: **The Reaper**
- The giant-sized, undead skeleton lord who is engulfed in constant flame, with complete control over the creatures and undead spirits that the player encounters throughout the game.

Characteristics

- Undead, powerful undead king
- Large: around ~5x larger than the player
- Eternal purple flame surrounds its figure
- Carries a large scythe, which is its main attack method



Boss fight sequence

Stage 1 (Full Health):

- Depending on the distance to the player, it will either do melee attacks or throw its scythe at the player, which boomerangs back
- [Scythe Throwing Path Calculator](#) for scythe, given boss's and player's (x, y) pos

Stage 2 (2/3 Health):

- Still maintains attack mechanisms from before
- Now, additionally shoots fireballs/arrows
 - ◆ We can have a class called **Projectile**, and just reuse game mechanics from arrows to fireballs. Only

difference is that fireballs do more damage, but this can easily be added with inheritance stuff.

- ◆ We can also reuse the Projectile class for arrows shot by the player

Stage 3 (1/3 HP):

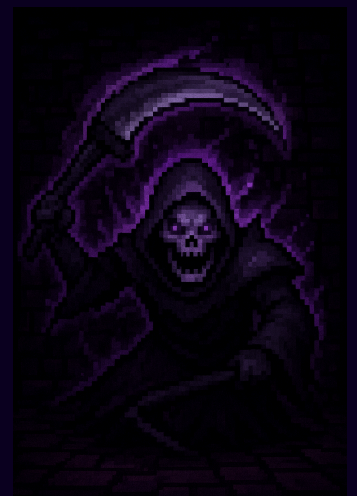
- Becomes enraged: attacks are more powerful and more frequent
- ~~Introduces a Dash attack, where he can dash towards the player.~~ Moves faster, increase movement speed

Stage 4 (Death):

- The boss is engulfed by his aura of purple flame, and when the flames subside, there is a glowing key in its place.
- Cutscene to end of game?
 - ◆ Create an animated cutscene (like in Adventure Island) to celebrate the player's victory

If the player dies at any time during the game, they maintain their items and can respawn- but the boss will be healed at full health. This level is intentionally hard, as it is the final challenge for the player before the end of the game.

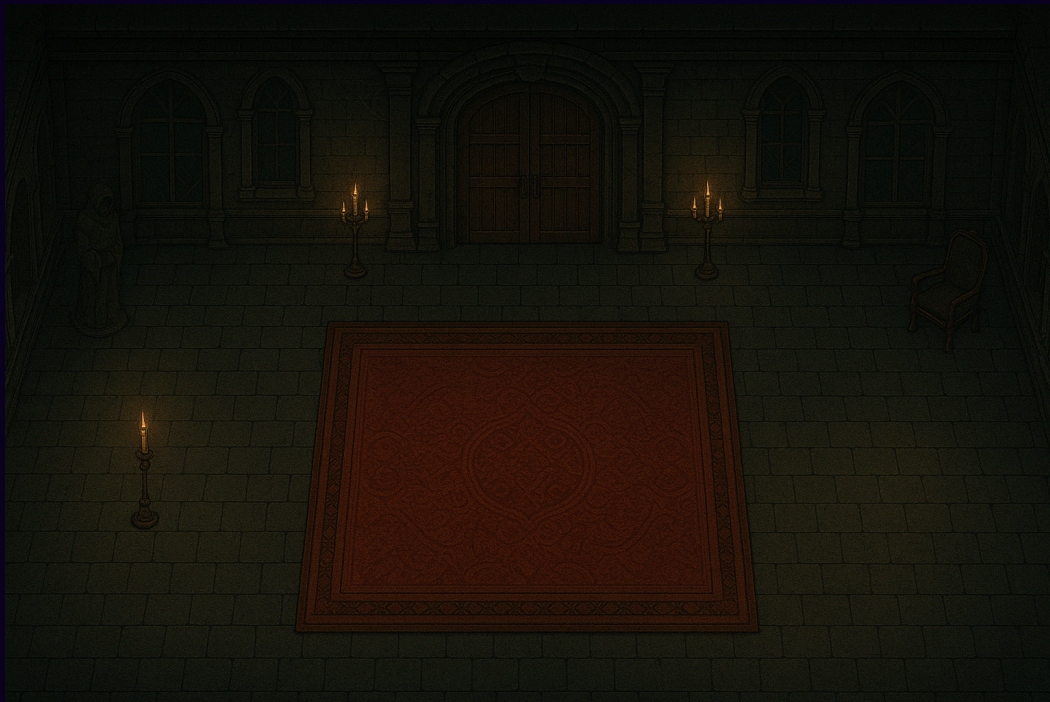
Media Archive





[Skeleton Lord](#) (during the battle)

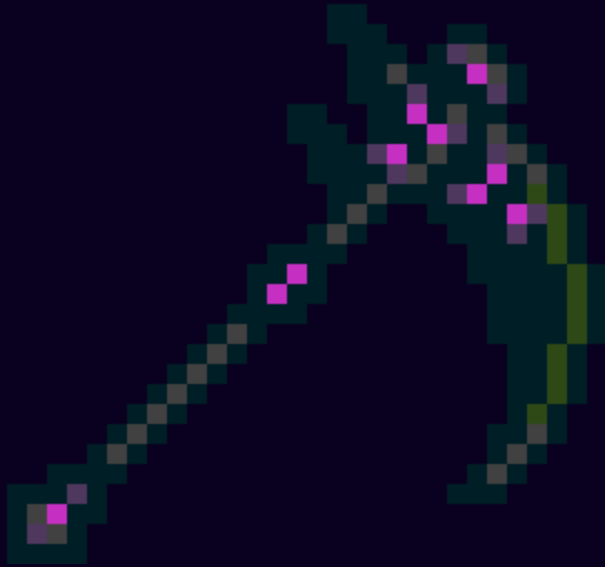
<https://youtu.be/JVsaNbPuvRI?list=RDJVsaNbPuvRI> (faint version of this will play during the intro chamber)



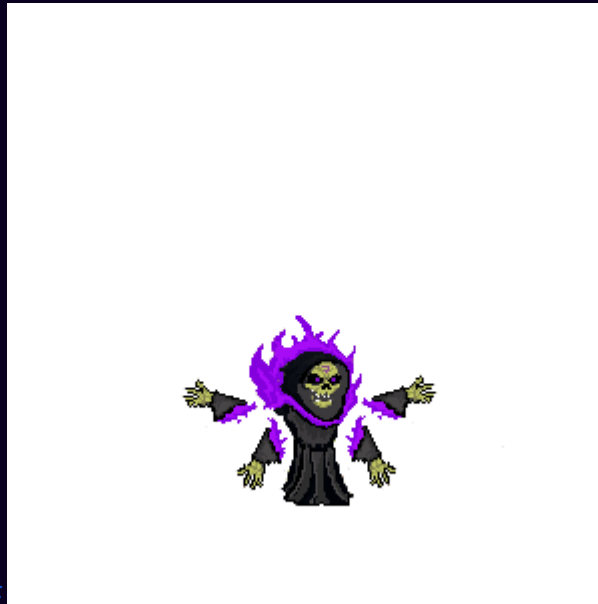
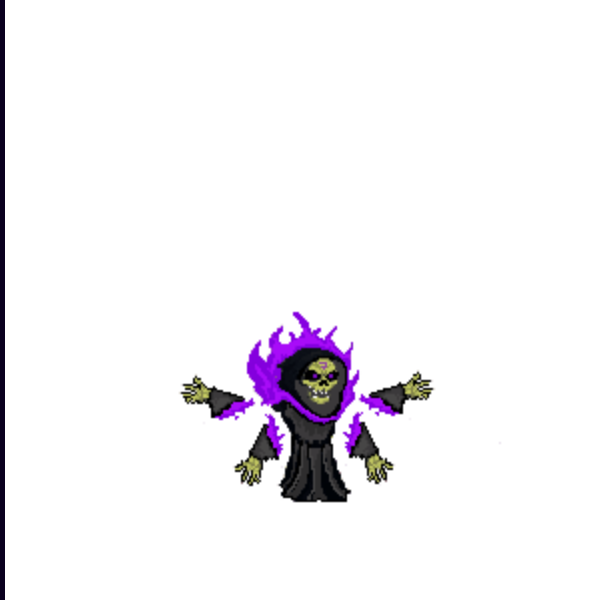


Example scythe Vihaan Budhraj





<https://www.pixo>



[ilart.com/draw#](https://www.pixilart.com/draw#)

<https://www.pixilart.com/photo/reaper-8fc526823b254ab>

https://compsciteam.github.io/gamify_pages/gamify/mansion6

Lve share 10/27

<https://prod.liveshare.vsengsaas.visualstudio.com/join?C5E145B2E706ACE229556C17434600F65674>

Test Pages Link:



Guys here is the link with our changes:

<https://compsciteam.github.io/testpages/gamify/mansion6>

And the changes PRd to Mr. Mortenson

<https://pages.opencodingsociety.com/gamify/mansion6>

PERSONAL BLOG 👍

(DO THIS IN YOUR PERSONAL REPO, I.E. PORTFOLIO REPO)

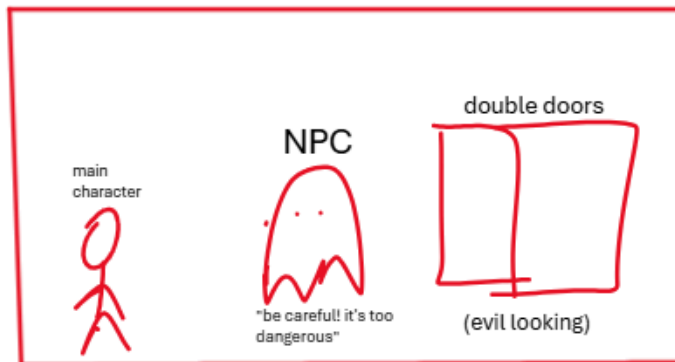
1. How to start machines (tools)
2. Lessons in your blog for JavaScript teaching
3. Retrospective reflection type thing on the mansion project
 - A. What code you did
 - B. The kinds of lessons you learned
 - C. Something exciting you want to share
 - D. Analytics

Mort likes ze numbers 🔥

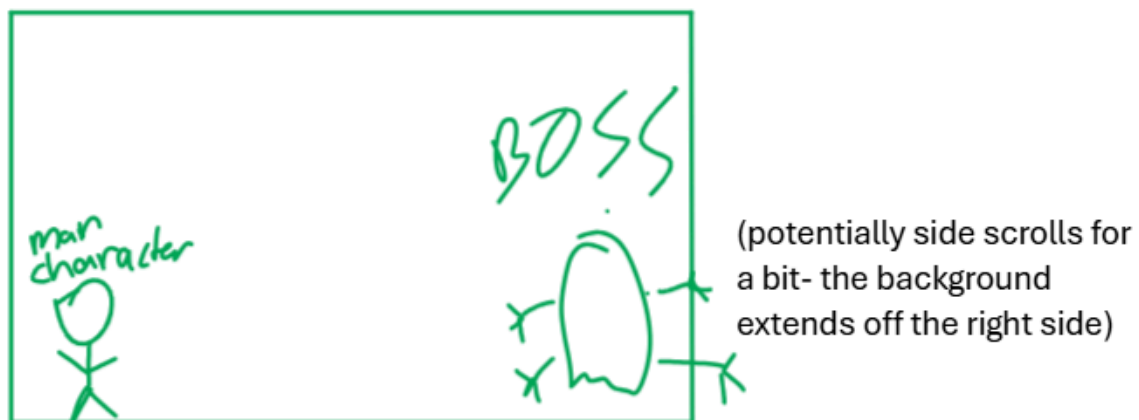
Storyboard

1	Intro screen: player walks into a room with a pair of doors in the center. Locked if they haven't gone to the other areas yet. They can enter the room, and there is an NPC in the room warning of sounds they heard from beyond the doors.
2	Upon entering the room: cutscene of The Reaper appearing (stereotypical evil villain dialogue)
3	After cutscene finishes: screen showing controls (WASD/arrow keys for movement, Z for attack, X for special attack)
4	Go to boss fight room - health bars appear, you are on the left, boss is on the right
5	Boss attacks (full health)
6	Attacks change at 2/3 health
7	Attacks change to 1/3 health
8	Once boss reaches 0 health: goes up in purple flame, screen filled with white. White screen fades out and the boss is gone
9	Cutscene of leaving the mansion, credits, end

1. BOSS-EXTERIOR ROOM



2. MAIN BOSS FIGHT



3. FINISHING CUTSCENE?

Boss Exterior Room - Zombie guard NPCs?? Do nothing, builds suspense



Classic Gothic / Undead Names

- Lord Mortivane
 - The Bone Reaper
 - King Ossivor
 - Mortis Aethernal
 - The Hollow Monarch
 - Skeletal Warden of the Abyss
 - Baron Vilemarrow
-



Demonic / Infernal Names

- Azrakar the Soulflayer
 - Vornath the Blight Scythe
 - Zarkhul, Keeper of the Purple Flame
 - Kael'Morath, the Eternal Hunger
 - Thalgrin the Unbound
 - Infirmort the Devourer
-



Mythic / Arcane Names

- Erevos, Hand of the End
- The Undying Reaper
- Xylar the Bone Prophet

- Morvathar, Wraith of Oblivion
- Necrosol the Void Harvester
- Vael'Torin, Herald of Ruin



Short & Striking Titles

- Grimspine
- Deathbrand
- Marrowlord
- Soulrend
- The Pale Scythe
- Ashbone

Final decided name: The Reaper

game engine notes

In pages:

- `assets/js/adventuregame`
- `navigation/adventuregame`

When you reference an asset on your *localhost* and *deployed actions*, they are in DIFFERENT locations

^^ This is why you need to use `{{site.baseurl}}`

Game Engine Notes:  Game Engine Notes

Key Directories

`/assets/js/adventureGame/____.js`

- `GameLevel____.js`, like `GameLevel6_Boss.js`
- Actual code for the game
- Also contains the game engine

`/navigation/adventureGame/____.md`

- Example: `/navigation/adventureGame/squares.md`
- This is the one file that combines all the other .js file
 - Make a canvas
 - Import game levels like

```
import GameLevelSquares from  
"{{site.baseurl}}/assets/js/adventureGame/GameLevelSquares.j  
s
```

Example

Using the *basic* game as an example

`/assets/js/adventureGame/GameEngine/Game.js` is the game launcher

/assets/js/adventureGame/GameLevelBasic.js is

```
// To build GameLevels, each contains GameObjects from below imports
import GameEnvBackground from './GameEngine/GameEnvBackground.js';
import Player from './GameEngine/Player.js';
import NPC from './GameEngine/Npc.js';
import GameController from './GameEngine/GameControl.js';
import GameLevelStarWars from './GameLevelStarWars.js';

class GameLevelBasic {
  constructor(gameEnv) {
    let width = gameEnv.innerWidth;
    let height = gameEnv.innerHeight;
    let path = gameEnv.path;

    // Background data
    const image_src_desert = path + "/images/gamify/desert.png"; // be
sure to include the path
    const image_data_desert = {
      name: 'desert',
      greeting: "Welcome to the desert! It is hot and dry here, but
there are many adventures to be had!",
      src: image_src_desert,
      pixels: {height: 580, width: 1038}
    };

    // Player data for Chillguy
    const sprite_src_chillguy = path + "/images/gamify/chillguy.png"; //
be sure to include the path
    const CHILLGUY_SCALE_FACTOR = 5;
    const sprite_data_chillguy = {
      id: 'Chill Guy',
      greeting: "Hi I am Chill Guy, the desert wanderer. I am looking
for wisdom and adventure!",
      src: sprite_src_chillguy,
      SCALE_FACTOR: CHILLGUY_SCALE_FACTOR,
      STEP_FACTOR: 1000,
      ANIMATION_RATE: 50,
      INIT_POSITION: { x: 0, y: height - (height/CHILLGUY_SCALE_FACTOR)
    },

    pixels: {height: 384, width: 512},
    orientation: {rows: 3, columns: 4 },
```



```

    ],
    reaction: function() {
        // Use dialogue system instead of alert
        if (this.dialogueSystem) {
            this.showReactionDialogue();
        } else {
            console.log(sprite_greet_r2d2);
        }
    },
    interact: function() {
        // KEEP ORIGINAL GAME-IN-GAME FUNCTIONALITY
        // Set a primary game reference from the game environment
        let primaryGame = gameEnv.gameControl;
        let levelArray = [GameLevelStarWars];
        let gameInGame = new GameControl(gameEnv.game, levelArray);
        primaryGame.pause();

        // Start the new game
        gameInGame.start();

        // Setup return to main game after mini-game ends
        gameInGame.gameOver = function() {
            primaryGame.resume();
        };
    }
};

// List of objects definitions for this level
this.classes = [
    { class: GameEnvBackground, data: image_data_desert },
    { class: Player, data: sprite_data_chillguy },
    { class: Npc, data: sprite_data_r2d2 },
];
}

export default GameLevelBasic;

```

Example of /navigation/adventureGame/basic.md

```

---
layout: opencs
title: Adventure Game
permalink: /gamify/basic
---

<div id="gameContainer">
  <div id="promptDropDown" class="promptDropDown" style="z-index:
9999"></div>
  <canvas id='gameCanvas'></canvas>
</div>

<script type="module">
  // Adventure Game assets locations
  import Game from
"{{site.baseurl}}/assets/js/adventureGame/GameEngine/Game.js";
  import GameLevelBasic from
"{{site.baseurl}}/assets/js/adventureGame/GameLevelBasic.js";
  import GameLevelBasicWater from
"{{site.baseurl}}/assets/js/adventureGame/GameLevelBasicWater.js";
  import { pythonURI, javaURI, fetchOptions } from
'{{site.baseurl}}/assets/js/api/config.js';

  // Web Server Environment data
  const environment = {
    path:"{{site.baseurl}}",
    pythonURI: pythonURI,
    javaURI: javaURI,
    fetchOptions: fetchOptions,
    gameContainer: document.getElementById("gameContainer"),
    gameCanvas: document.getElementById("gameCanvas"),
    gameLevelClasses: [GameLevelBasic, GameLevelBasicWater]

  }

  // Launch Adventure Game
  Game.main(environment);
</script>

```





```

class Projectile {
    static gravityConstant = 2;

    constructor(damage, sprite, x, y, owner, velocityX=0, velocityY=0, isGravityAffected=false){
        this.damage = damage;
        this.sprite = sprite;
        this.velocityX = velocityX;
        this.velocityY = velocityY;
        this.isGravityAffected = isGravityAffected;
        this.xPos = x;
        this.yPos = y;
        this.isDestroyed = false;

        /*
        we will reuse this for the player's AND boss's projectiles.
        the owner attribute lets us decide who created the projectile obj
        and so prevents collisions with your own arrows
        */
        this.owner = owner;
    }

    checkCollision(){
        // check collision with player
        if (this.owner = "player"){
            /*
            if (COLLIDED WITH BOSS){
                // handle boss health deduction
                return true;
            }
            */
        } else {
            /*
            if (COLLIDED WITH PLAYER){
                // handle player health deduction
                return true;
            }
            */
        }

        /*
        if (GONE OFFSCREEN){
            return true;
        }
        */
    }

    updateMovement(){
        this.velocityX *= .99; // make it slow down slightly

        // if its an arrow, it will be gravity affected.
        // fireballs fly in a straight line
        if (this.isGravityAffected){
            this.velocityY += Projectile.gravityConstant;
        }
    }
}

```

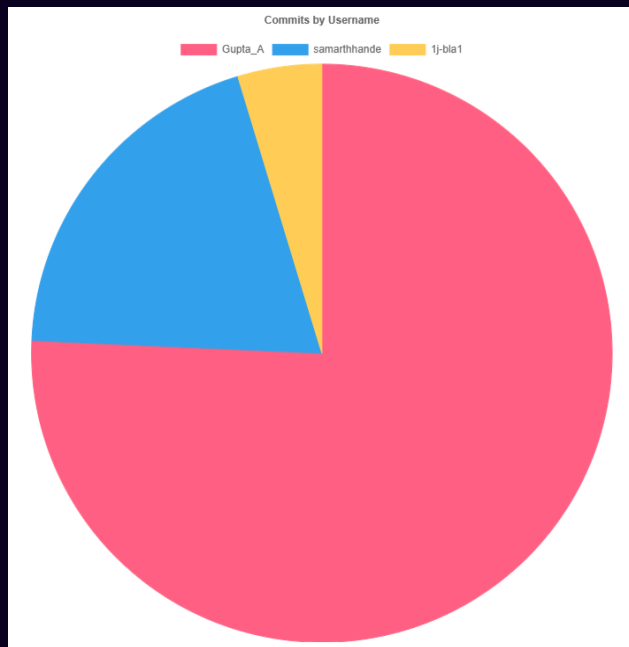
Every time the boss shoots a projectile, create an object:

```
let bossProjectiles = [];  
  
// Then whenever we want to add a projectile  
bossProjectiles.push(new Projectile(INFORMATION HERE))
```

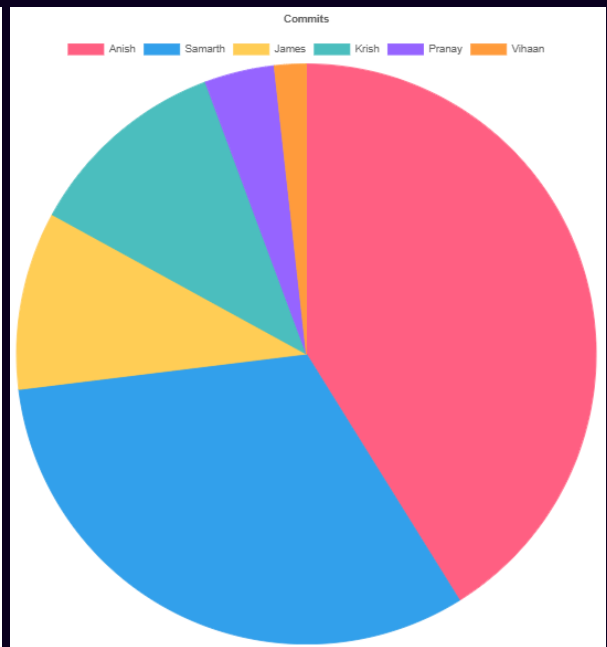
Add this to the game loop to update projectiles!!

```
bossProjectiles.forEach(projectileObj => {  
  projectileObj.updateMovement();  
  const didCollide = projectileObj.checkCollision();  
  if (didCollide) {  
    projectileObj.isDestroyed = true;  
  }  
});  
  
// then remove the destroyed ones, garbage collection  
// cleans it up  
bossProjectiles = bossProjectiles.filter(p => !p.isDestroyed);
```


10/27/2025



10/31/2025



/assets/js/mansionGame

