Period 3
Ethan Khosh
The Legend of Zelda - Path of the Triforce

This code uses the official Processing Sound library, specifically the SoundFile class. SoundFiles are used as background music, and as sound effects for various in-game events.

Follow Link's adventure to collect all three parts of the legendary Triforce: The Triforce of Wisdom, protected by a mysterious blue specter, the Triforce of Courage, hidden deep in a swampy forest with a dangerous creature lurking below, and defeat the terrible monster Ganon and take the Triforce of Power from him. Use all three pieces to complete the Triforce and save Zelda! But make sure Zelda is real...
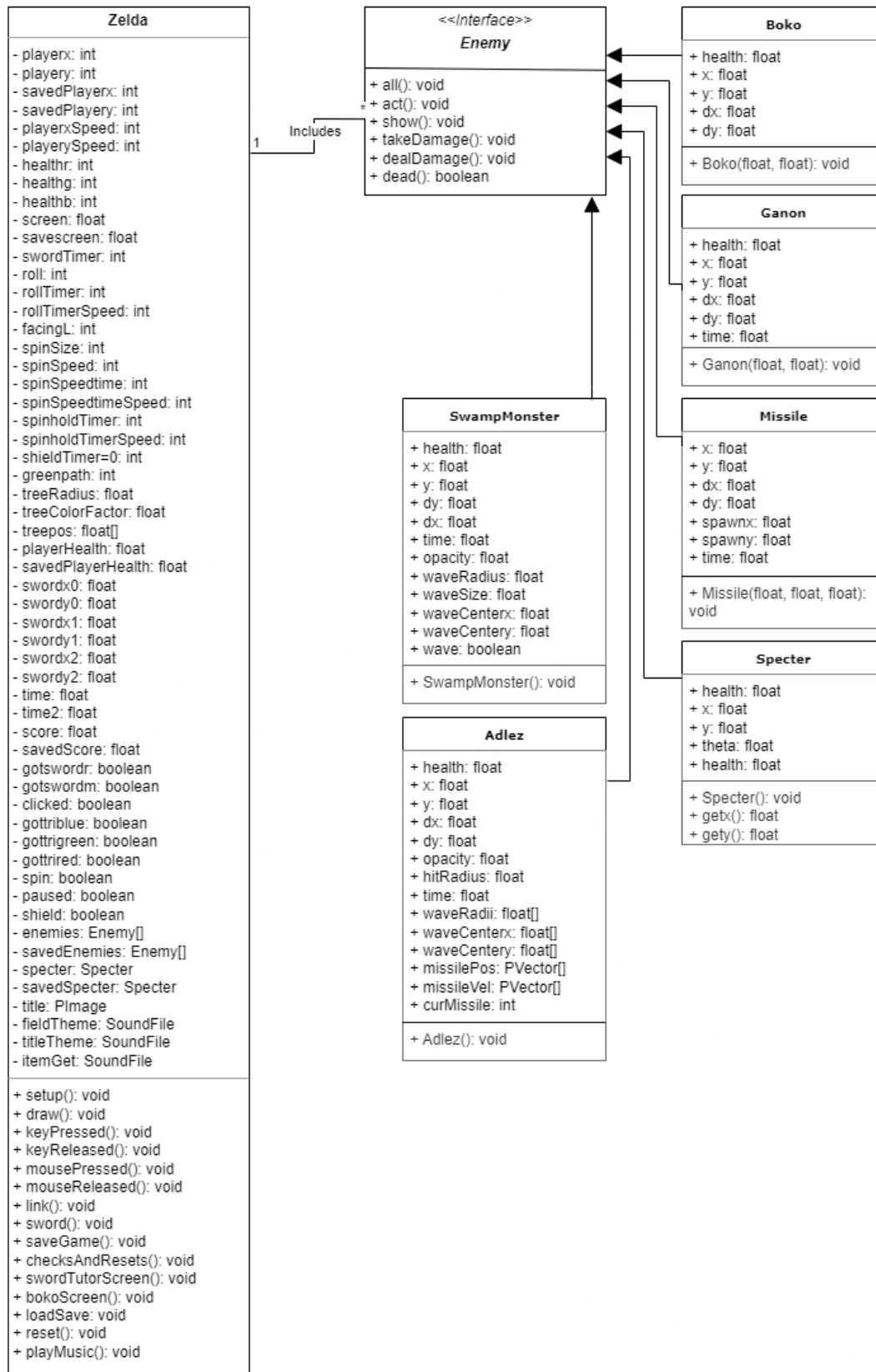
Current Functionalities

- Player system with keyboard movement controls, mouse attack controls (directional sword attacks and a spin attack), and shield and dash options. The player can also upgrade their weapon from the normal sword to the Master Sword. The player's health bar will also change color from green to yellow to red as the player loses health.
- An Enemy class interface that allows easy implementation of battles and enemies. All enemies and bosses are implemented as subclasses of Enemy and interact in-game through an array of Enemies, except the Spectral Eagle, who has its own Specter variable.
- Saving and Pausing the game at any time.
- Game over mechanics, including a score, with the ability for the player to reload to a saved game state.
- Title screen and how to play screen with unique title screen music.
- Multiple overworld screens with overworld music, including:
  - An overworld screen that leads to the Sword Tutor's cave and to the rest of the game.
  - A sword tutor cave where the player gets their first weapon.
  - A path screen with two "boko" simple enemies.
  - An overworld branch screen allowing the player to choose to pursue the Triforce of Wisdom or Courage first. This screen will

unlock the path to the Triforce of Power after the two prior items have been collected.

- On the path to the Triforce of Wisdom: a lake screen in which the player has to survive a barrage of projectiles, and a boss screen where the player must defeat a circling Spectral Eagle who is shooting projectiles. Upon this enemy's defeat, the Triforce of Wisdom will appear and the player will collect it, then return to the branch screen.
- On the path to the Triforce of Courage: a maze screen in the woods that leads to a boss battle, where a Mud Lurker dives into the mud and surfaces underneath the player, unleashing a powerful wave attack. Upon this boss's defeat the Triforce of Courage will appear and the player will collect it, then return to the branch screen.
- Once both the Triforces of Wisdom and Courage are collected, the player may proceed towards the Triforce of Power. First the player fights another group of bokos. They then must fight the boss Ganon, who uses rush/charge attacks, to win the Triforce of Power.
- After beating Ganon, the player is rewarded with Zelda congratulating the player. If the player does not attack, the game ends in victory. If the player attacks Zelda, she reveals her true identity as an evil doppelgänger and attacks the player.
- Evil Zelda (Adlez) combines all the attacks of the previous bosses: Wave attacks, projectiles, rush attacks (with energy blasts) and is by far the most challenging boss in the game.
- If the player defeats Evil Zelda (Adlez), they are rewarded with the real Zelda congratulating them and the game ends in victory.

How to Play

The player, a green circle, is moved by the keys "w", "a", "s", and "d". Using shift in combination with these keys will cause the player to dash. The mouse is used to attack, with one click being a sword stab in the direction the player is facing, and a hold-and-release click being a spin (area) attack. Pressing "q" pauses the game, pressing "f" creates a save-state, the latest of which the game will load upon the player's death, and pressing space activates the player's shield.

Zelda

Zelda

- playerx: int
- playery: int
- savedPlayerx: int
- savedPlayery: int
- playerxSpeed: int
- playerySpeed: int
- healthr: int
- healthg: int
- healthb: int
- screen: float
- savescreen: float
- swordTimer: int
- roll: int
- rollTimer: int
- rollTimerSpeed: int
- facingL: int
- spinSize: int
- spinSpeed: int
- spinSpeedtime: int
- spinSpeedtimeSpeed: int
- spinholdTimer: int
- spinholdTimerSpeed: int
- shieldTimer=0: int
- greenpath: int
- treeRadius: float
- treeColorFactor: float
- treepos: float[]
- playerHealth: float
- savedPlayerHealth: float
- swordx0: float
- swordy0: float
- swordx1: float
- swordy1: float
- swordx2: float
- swordy2: float
- time: float
- time2: float
- score: float
- savedScore: float
- gotswordr: boolean
- gotswordm: boolean
- clicked: boolean
- gottriblue: boolean
- gottrigreen: boolean
- gottrired: boolean
- spin: boolean
- paused: boolean
- shield: boolean
- enemies: Enemy[]
- savedEnemies: Enemy[]
- specter: Specter
- savedSpecter: Specter
- title: PImage
- fieldTheme: SoundFile
- titleTheme: SoundFile
- itemGet: SoundFile

- + setup(): void
- + draw(): void
- + keyPressed(): void
- + keyReleased(): void
- + mousePressed(): void
- + mouseReleased(): void
- + link(): void
- + sword(): void
- + saveGame(): void
- + checksAndResets(): void
- + swordTutorScreen(): void
- + bokoScreen(): void
- + loadSave: void
- + reset(): void
- + playMusic(): void

<<Interface>>
Enemy

- + all(): void
* + act(): void
- + show(): void
- + takeDamage(): void
- + dealDamage(): void
- + dead(): boolean

1   Includes

SwampMonster

- + health: float
- + x: float
- + y: float
- + dy: float
- + dx: float
- + time: float
- + opacity: float
- + waveRadius: float
- + waveSize: float
- + waveCenterx: float
- + waveCentery: float
- + wave: boolean

- + SwampMonster(): void

Adlez

- + health: float
- + x: float
- + y: float
- + dx: float
- + dy: float
- + opacity: float
- + hitRadius: float
- + time: float
- + waveRadii: float[]
- + waveCenterx: float[]
- + waveCentery: float[]
- + missilePos: PVector[]
- + missileVel: PVector[]
- + curMissile: int

- + Adlez(): void

Boko

- + health: float
- + x: float
- + y: float
- + dx: float
- + dy: float

- + Boko(float, float): void

Ganon

- + health: float
- + x: float
- + y: float
- + dx: float
- + dy: float
- + time: float

- + Ganon(float, float): void

Missile

- + x: float
- + y: float
- + dx: float
- + dy: float
- + spawnx: float
- + spawny: float
- + time: float

- + Missile(float, float, float): void

Specter

- + health: float
- + x: float
- + y: float
- + theta: float
- + health: float

- + Specter(): void
- + getx(): float
- + gety(): float

Notes

- I've had this game in the works for a long time (Since middle school!). But over the course of this project, the game has expanded dramatically – the Enemy interface is totally new, graphics are vastly improved, the Mud Lurker and Spectral Eagle are completely new and Adlez has been totally overhauled, sound has been added, the overworld layout has changed, the title and how-to-play screens have been overhauled, save-states have been re-added after breaking when the Enemy interface was added, and many, many, many more fixes and upgrades. This was fun!