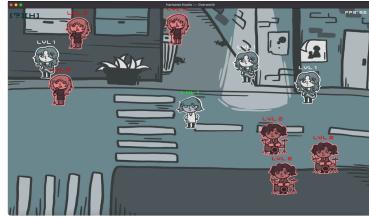


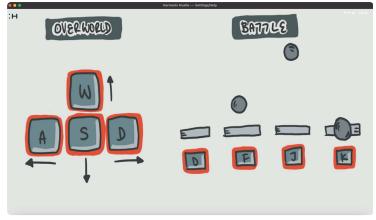
Master Test Plan V2

*Note:

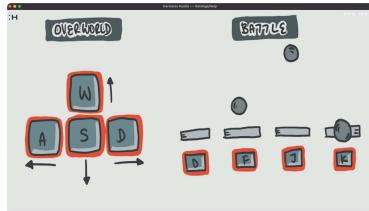
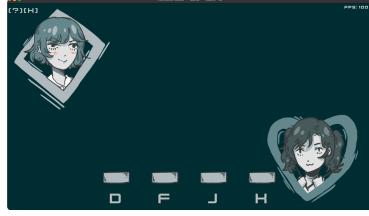
- note 1 = left most, note 2 = second to left, note 3 = second to right, note 4 = right most
- judgement line 1 = for note 1, judgement line 2 = for note 2, judgement line 3 = for note 3, judgement line 4 = for note 4

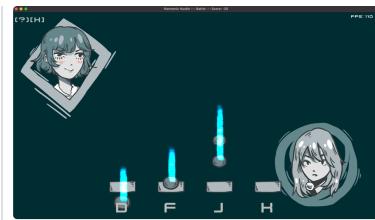
M3 req specific	Feature	Pre-conditions	Step(s)	Expected Outcome
~ Starting a Game ~				
	Scene UI on launch	1. Game has yet to be launched	<ol style="list-style-type: none"> 1. Launch game 2. Check UI of the Start Screen on launch <ol style="list-style-type: none"> a. background asset is rendered b. New Game Button c. Load Button d. Help Button 3. Listen to music 	 <p>3. Overworld music is playing</p>
	Button Hovers	1. Player is in start screen	<ol style="list-style-type: none"> 1. Hover mouse over each of the 3 buttons 	<p>1. On hover, text colour should brighten to "highlight" the button</p> 
	Starting new game	1. Player is in start screen	<ol style="list-style-type: none"> 1. Start a new game <ol style="list-style-type: none"> a. by clicking "New Game" button b. by pressing the SPACE bar 2. Keep pressing SPACE to continue the dialogue until player enters the overworld 3. Check overworld UI for starting a new game <ol style="list-style-type: none"> a. Player is level 1. Level text is green. Spawns in centre of screen b. 3 current level enemies are level 1. Level text is white c. High level enemies are level 2 and 3. There are 3 of each. All are tinted red. Level text above player is also red. 	<p>1. In both cases, player is taken to the introduction cutscene</p>  <p>2-3:</p> 
Reloadability	Loading an auto saved	1. Player is in start screen	<ol style="list-style-type: none"> 1. Start a new game and enter into the overworld 	<p>1. Player enters the intro cutscene, presses space until cutscene ends</p>

	game after winning		<ol style="list-style-type: none"> 2. Enter into battle with enemy 3. WIN battle and see words "Game Saved" on screen 4. Close/Exit game 5. Launch game and click "Load" on start screen 6. Check that Player is now level 2 and enemy sprites spawn appropriately 	<p>and enters the overworld</p> <ol style="list-style-type: none"> 2. Battle starts 3. Battle over pop up shows up with the "Game Saved" words  <ol style="list-style-type: none"> 4. Window no longer renders 5. Player enters the overworld with saved information 6. Player is level 2, only level 2 and 3 enemies spawn 
Reloadability	Loading an auto saved game after losing	1. Player is in start screen	<ol style="list-style-type: none"> 1. Start a new game and enter into the overworld 2. Enter into battle with enemy 3. LOSE battle and see words "Game Saved" on screen 4. Close/Exit game 5. Launch game and click "Load" on start screen 6. Check that Player is still level 1 and enemy sprites spawn appropriately 	<ol style="list-style-type: none"> 1. Player enters the intro cutscene, presses space until cutscene ends and enters the overworld 2. Battle starts 3. Battle over pop up shows up with the "Game Saved" words  <ol style="list-style-type: none"> 4. Window no longer renders 5. Player enters the overworld with saved information 6. Player is level 1, only two level 1 enemies spawn 
Reloadability	Loading a manually saved game	1. Player is in start screen	<ol style="list-style-type: none"> 1. Start a new game and enter into the overworld 2. Manually save by using Ctrl + S 	1. Player is level 1 and all enemies should spawn appropriately (ref tests above if needed)

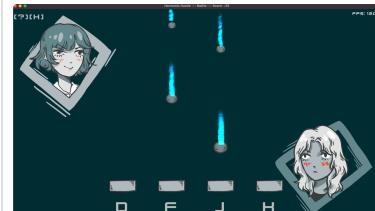
		<p>2. Have a previously saved game where the game was saved after level 1 battle was won</p>	<p>3. Exit game by clicking window "X" button</p> <p>4. Launch game</p> <p>5. Click "Load"</p>	<p>2. Game should be saved (<i>visual feedback for manual save not included for this milestone. but in repo, data/saves/save_0.json should be updated - check that player lvl is 1</i>)</p> <p>3. Game window no longer renders</p> <p>4. Player is in start screen</p> <p>5. Player enters directly into the overworld (no intro cutscene). Player is level 1 and enemies should spawn appropriately</p>
Reloadability	Loading an auto saved game after exiting with ESC	<p>1. Player is in start screen</p> <p>2. Have a previously saved game where the game was saved after level 1 battle was won</p>	<p>1. Start a new game and enter into the overworld</p> <p>2. Exit game by pressing ESC key</p> <p>3. Launch game</p> <p>4. Click "Load"</p>	<p>1. Player is level 1 and all enemies should spawn appropriately (ref tests above if needed)</p> <p>2. Game should be saved (<i>visual feedback for manual save not included for this milestone. but in repo, data/saves/save_0.json should be updated - check that player lvl is 1</i>)</p> <p>a. Game window no longer renders</p> <p>3. Player is in start screen</p> <p>4. Player enters directly into the overworld (no intro cutscene). Player is level 1 and enemies should spawn appropriately</p>
	Entering settings	<p>1. Player is in start screen</p>	<p>1. Enter settings/help (<i>for this milestone, it will only show help but hopefully for m4 will also show settings</i>)</p> <p>a. by clicking the "Help" button in the start menu</p> <p>b. by pressing the H key</p> <p>2. Listen to music</p> <p>3. Exit the Help screen</p> <p>a. by pressing the H key</p> <p>b. by pressing the BACKSPACE key</p>	<p>1. In both cases, player is taken to the Help Screen</p>  <p>2. Music doesn't change or stutter</p> <p>3. In both cases, player is taken back to the start screen</p>
<i>~ Overworld Interaction ~</i>				
	Player movement	<p>1. Player is in the overworld</p>	<p>1. press "W" key on keyboard</p> <p>a. until player sprite reaches top of window</p> <p>2. press "A" key on keyboard</p>	<p>1. Player sprite moves upwards</p> <p>a. Player can't move past window border</p> <p>2. Player sprite moves left</p>

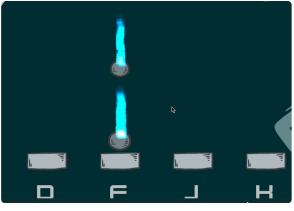
			<p>a. until player sprite reaches left border of window</p> <p>3. press "S" key on keyboard</p> <p>a. until player sprite reaches bottom of window</p> <p>4. press "D" key on keyboard</p> <p>a. until player sprite reaches right border of window</p>	<p>a. Player can't move past window border</p> <p>3. Player sprite moves down</p> <p>a. Player can't move past window border</p> <p>4. Player sprite moves right</p> <p>a. Player can't move past window border</p>
	Enemy pathing for current level enemies	1. Player is in the start screen	<p>1. Enter into the overworld</p> <p>2. Wait ~30s and observe enemy sprites</p> <p>3. Walk towards a current level enemy</p> <p>4. Walk away from current level enemy</p>	<p>1. On launch, all enemy sprites are 'paused' for ~1.5s to let player observe enemy sprite positions</p> <p>2. After initial 'pause' all enemies will move in a randomized direction</p> <p>a. Enemies that hit the borders will bounce off</p> <p>3. Once enemy detects player, enemy will start running away from player</p> <p>4. Once player is no longer detected, enemy will continue in new random direction</p>
	Enemy pathing for higher level enemies	1. Player is in the start screen	<p>1. Enter into the overworld</p> <p>2. Wait ~30s and observe enemy sprites</p> <p>3. Walk towards a higher level enemy</p> <p>4. Walk away from higher level enemy</p>	<p>1. On launch, all enemy sprites are 'paused' for ~1.5s to let player observe enemy sprite positions</p> <p>2. After initial 'pause' all enemies will move in a randomized direction</p> <p>a. Enemies that hit the borders will bounce off</p> <p>3. Once enemy detects player, enemy will start chasing player</p> <p>4. Once player is no longer detected, enemy will continue in new random direction</p>
	Player enters a battle	1. Player is in the overworld and is not level 3	<p>1. Collide with an equal level enemy using WASD</p> <p>2. Listen to music</p>	<p>1. Collision triggers and player enters battle scene</p> <p>2. Background music changes</p> 
	Player hits a higher level enemy	1. Player is in the overworld and is not level 3	<p>1. Collide with higher level enemy using WASD</p>	<p>1. Player is taken to the game over screen</p>

				
	Entering settings/help	1. Player is in the overworld	1. Enter settings by pressing H key 2. Exit settings by pressing H key	<p>1. Player is taken to help screen</p>  <p>2. Player is taken to overworld screen. All enemy sprites are 'paused' for ~1.5s to let player observe enemy sprite positions</p>
<i>~ Level Battle Interaction S ~</i>				
	Battle UI and music	1. Player is in overworld	1. Collide with enemy to trigger battle 2. Listen to music 3. Check battle screen UI	<p>1. Player is taken to battle screen 2. Music changes from overworld to appropriate enemy battle music 3. Check battle portraits in relation to player level. Check judgement lines, and letters DFHK that render below. (reference pictures below as needed)</p> <p> Level 1 battle</p> <p> Level 2 battle</p>

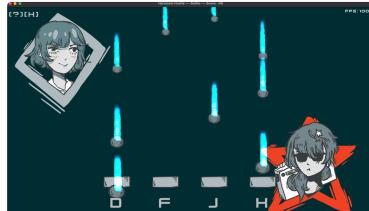


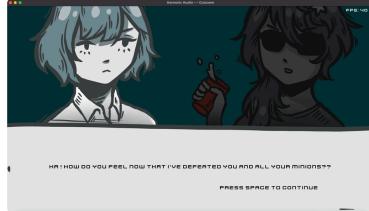
Level 3 battle

	Judgement Lines and key bindings	1. Player is in battle screen	1. Press D key 2. Press F key 3. Press J key 4. Press K key	1. Judgement line 1 changes colour 2. Judgement line 2 changes colour 3. Judgement line 3 changes colour 4. Judgement line 4 changes colour
	Note Movements and Collisions and Scores	1. Player is in battle screen	1. Observe note transformations 2. Let a note fall to the bottom of the screen 3. Repeat for all DFJK keys to test all key interactions: a. Press key when note is above judgement line b. Press key when bottom of note is at top of judgement line c. Press key when note just passes top of judgement line d. Press key when note is at center of judgement line e. Press key when note just passes middle of judgement line f. Press key when top of note just touches bottom of judgement line g. Press key when note is at a DIFFERENT judgement line and let that note fall to the bottom of the screen	1. Note falls down in linear speed from top to bottom of window a. Notes grow larger as they reach bottom of screen 2. Note disappears (past window). "Dropped note" sound effect plays 3. For each current key: a. Correct judgement line flashes red (missed). Total score +0 b. Correct judgement line flashes yellow (alright). Total score +5 c. Correct judgement line flashes green (good). Total score +10 d. Correct judgement line flashes purple (perfect). Total score +15 e. Correct judgement line flashes green (good). Total score +10 f. Correct judgement line flashes yellow (alright). Total score +5 g. ONLY correct judgement line flashes red. Nothing happens in the other lanes. Once note hits bottom of screen, total score -5
Particle System	Particles	1. Player is in battle screen	1. Observe notes as they fall down the screen 2. Press one of DFJK key when note is at correct judgement line	1. Notes will have particles trailing behind them as they fall  2. Once note collides, a small trail of particles float up to indicate collision. a. Falling particles no longer generate once note disappears

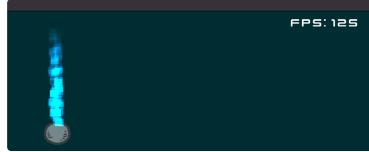
				  <p>right after collision, a few particles will float up before disappearing</p>
	Winning battle	1. Player has started a new game and is currently level 1	1. Take note of player level and current enemies on screen 2. Trigger a battle by colliding with enemy 3. Play battle until end of song. You must win! 4. Check battle over pop up 5. Press SPACE to enter back to overworld	1. Player is level 1. 3 different types of enemy sprites are rendered a. Guitar enemies (lvl 1) are rendered in full colour b. Drum (lvl 2) and mic (lvl 3) enemies are red 2. Player is taken to battle screen 3. Once song ends, battle over pop up displays 4. Pop up states enemy has been defeated a. Total score and Enemy threshold scores are shown b. A summary of the battle stats are shown c. "Game Saved" text shows
	Losing battle	1. Player has started a new game and is currently level 1	1. Take note of player level and current enemies on screen 2. Trigger a battle by colliding with enemy	 5. Player is taken back to overworld a. Player level is now 2 b. No more guitar (lvl 1) enemies rendered c. Drum (lvl 2) enemies are now in full colour d. Mic (lvl 3) enemies are still red

		<p>3. Play battle until end of song. You must lose this one!</p> <p>4. Check battle over pop up</p> <p>5. Press SPACE to enter back to overworld</p>	<p>b. Drum (lvl 2) and mic (lvl 3) enemies are red</p> <p>2. Player is taken to battle screen</p> <p>3. Once song ends, battle over pop up displays</p> <p>4. Pop up states player has been defeated</p> <ul style="list-style-type: none"> a. Total score and Enemy threshold scores are shown b. A summary of the battle stats are shown c. "Game Saved" text shows 
	Entering settings/help	<p>1. Player is in battle screen</p> <p>2. Enter help by pressing H key</p> <p>3. Exit help by pressing H key</p> <p>3. Wait 3 seconds</p>	<p>5. Player is taken back to overworld</p> <ul style="list-style-type: none"> a. Player level is still 1 b. Two Guitar (lvl 1) enemies remain c. Drum (lvl 2) and Mic (lvl 3) enemies are still red 
<i>~ Boss Battle ~</i>			

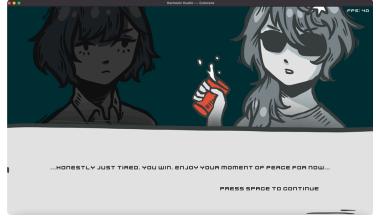
	Entering boss battle	1. Player is currently level 3 and in the overworld	<ol style="list-style-type: none"> 1. Trigger a level 3 battle by colliding with enemy 2. Win level 3 battle 3. Press SPACE to trigger boss intro cutscene 4. Continue pressing SPACE to advance the cutscene, until you enter the boss battle 5. Check boss battle UI 	<ol style="list-style-type: none"> 1. Player enters the level 3 battle 2. Battle over pop up displays 3. Player is taken to the boss intro cutscene  <ol style="list-style-type: none"> 4. Cutscene advances as needed <ol style="list-style-type: none"> a. At end of cutscene, player enters battle with the BOSS enemy 5. Boss enemy portrait is rendered and boss battle music is playing 
Reloadability	Loading into boss battle	<ol style="list-style-type: none"> 1. Player has a file that was saved after winning the level 3 battle but before ending the boss battle 2. Game is not yet launched 	<ol style="list-style-type: none"> 1. Launch game and click the "load" button 2. Continue pressing SPACE to advance the cutscene, until you enter the boss battle 3. Check boss battle UI 	<ol style="list-style-type: none"> 1. Player is taken directly to the boss intro cutscene 2. Cutscene advances as needed <ol style="list-style-type: none"> a. At end of cutscene, player enters battle with the BOSS enemy 3. Boss enemy portrait is rendered and boss battle music is playing
	Win/lose boss battle (both right now triggers same cutscene) and entering Game Over screen	1. Player is in the boss battle	<ol style="list-style-type: none"> 1. Play boss battle until the end 2. Press SPACE to exit the battle over pop up and enter the game over cutscene 3. Continue pressing SPACE to advance the cutscene, until you enter the game over screen 4. check game over UI 5. Hover over "Restart" and "Help" buttons with mouse 	<ol style="list-style-type: none"> 1. Battle over pop up displays  <ol style="list-style-type: none"> 2. Player is taken to the game over cutscene

				<p>3. Cutscene advances as needed</p> <p>a. At end of cutscene, player is taken to the game over screen</p> <p>4. A "Restart" and "Help" button is rendered</p>
				<p>5. Hovering over "Restart" will highlight "Restart" text.</p> <p>a. Hovering over "Restart" will highlight "Help" text.</p>
~ Game Over~				
	Restart in game over screen	1. Player is in game over screen	1. Click the "Restart" button 2. Click "New Game" button in main menu	1. Player is taken back to the Start Screen
Reloadability	Loading after game over	1. Player has defeated the boss and is in the game over screen	1. Exit game (game should have been saved automatically when the boss battle ended) 2. Launch game and click "Load"	1. Window should no longer be rendered 2. Player is taken to the game intro screen a. **because prev game has ended, "Load" will start a completely new game
	Entering Help/settings	1. Player is in game over screen	1. Enter the Help screen a. By clicking the "Help" button b. By pressing the H key 2. Exit the Help screen by pressing H	1. In both cases, player is taken to the Help screen 2. Player is taken back to the game over screen
~ Sound specific~				
	Changing Battle music for different enemies	1. Player has started a new game	1. Listen to initial overworld music 2. Trigger a level 1 battle 3. Win battle and return to overworld 4. Trigger a level 2 battle 5. Win battle and return to overworld 6. Trigger a level 3 battle	1. Overworld music is playing 2. Music changes to Enemy lvl 1 music 3. Music changes to overworld music 4. Music changes to Enemy lvl 2 music 5. Music changes to overworld music

			<p>7. Win battle and enter boss intro cutscene by pressing SPACE while battle over pop up is displayed</p> <p>8. Advance through boss intro cutscene by pressing SPACE and enter the boss battle</p> <p>9. win battle and enter game over cutscene by pressing SPACE while battle over pop up is displayed</p> <p>10. Advance through game over cutscene by pressing SPACE and enter the game over screen</p>	<p>6. Music changes to Enemy lvl 3 music</p> <p>7. During cutscene, overworld music plays</p> <p>8. Music changes to Boss Battle music once in boss battle</p> <p>9. During cutscene, overworld music plays</p> <p>10. Game over screen also plays overworld music</p>
	Battle note sounds	1. Player is in battle	<p>1. Let a note fall to the bottom of screen</p> <p>2. Repeat for each DFJK key to test thoroughly:</p> <ul style="list-style-type: none"> a. Press key when no notes are at judgement line b. Press key when a note is at the judgement line 	<p>1. "Missed note" sound plays</p> <p>2. Expected for each test: <ul style="list-style-type: none"> a. "Empty hit" sound plays b. "Note hit" sounds plays </p>
~ FPS ~				
	Player can see FPS in appropriate screens	1. Game is not yet launched	<p>1. Launch game and enter start screen</p> <p>2. Click "New Game" to enter game intro cutscene</p> <p>3. Continue pressing SPACE to advance cutscene and enter the overworld</p> <p>4. Press H to trigger help screen</p> <p>5. Press H to return to overworld</p> <p>6. Trigger battle by colliding with enemy</p> <p>7. Continue game until you enter the boss intro cutscene</p> <p>8. Play through boss battle to enter the game over cutscene</p> <p>9. Continue pressing SPACE to advance cutscene and enter the game over screen</p>	 <p>1. start screen</p>  <p>2, 7, 8. FPS shows in top right for entire cutscene</p>  <p>3. in overworld</p>  <p>4. in help</p>

				 <p>6. in battle</p>
				 <p>9. in game over screen</p>
	Player can toggle FPS	1. Player is in any screen where FPS is visible	1. Toggle FPS visibility by pressing TAB 2. Toggle FPS visibility again by pressing TAB	1. FPS should no longer be visible 2. FPS is once again visible
<p>~ Cutscenes ~</p>				
Story elements (cutscenes)	Intro cutscene	1. Player is in the start screen	<p>1. Player starts a new game by clicking "New Game"</p> <p>2. Check initial cutscene UI</p> <p>3. Press SPACE to advance and see Enemy dialogue</p> <p>a. check UI again</p> <p>4. Continue pressing SPACE to advance cutscene</p> <p>5. Press SPACE on last dialogue (currently it is Player: "Alright that's it!!")</p>	<p>1. Player is taken to the boss intro cutscene</p> <p>2. Cutscene starts with Player speaking. UI matches the pic below (text may vary as we're still working on dialogue)</p> <p>a. A "Press space to continue" renders near bottom of text box</p>  <p>3. Cutscene advances and enemy portrait is now highlighted</p>  <p>4. Each press of SPACE will change the person speaking and highlight them as appropriate (check pics above)</p>

				<p>a. Dialogue also changes every press</p> <p>5. Player is taken to the overworld screen</p>
Story elements (cutscenes)	Boss intro cutscene	<p>1. Player is in the battle over pop up after winning the level 3 battle</p>	<p>1. Press SPACE to exit the battle over pop up and trigger the boss intro cutscene</p> <p>2. Check initial cutscene UI</p> <p>3. Press SPACE to advance and see Enemy dialogue</p> <p>a. check UI again</p> <p>4. Continue pressing SPACE to advance cutscene</p> <p>5. Press SPACE on last dialogue (currently it is Enemy: "Ya we will see about that...")</p>	<p>1. Player is taken to the boss intro cutscene</p> <p>2. Cutscene starts with Player speaking. UI matches the pic below (text may vary as we're still working on dialogue)</p> <p>a. A "Press space to continue" renders near bottom of text box</p>  <p>3. Cutscene advances and enemy portrait is now highlighted</p>  <p>4. Each press of SPACE will change the person speaking and highlight them as appropriate (check pics above)</p> <p>a. Dialogue also changes every press</p> <p>5. Player is taken to the boss battle</p>
Story elements (cutscenes)	Game over cutscene	<p>1. Player has played though the boss battle and is in the battle over pop up</p>	<p>1. Press SPACE to exit the battle over pop up and trigger the game over cutscene</p> <p>2. Check initial cutscene UI</p> <p>3. Press SPACE to advance and see Enemy dialogue</p> <p>a. check UI again</p> <p>4. Continue pressing SPACE to advance cutscene</p> <p>5. Press SPACE on last dialogue (currently it is Enemy: "See you tomorrow :")</p>	<p>1. Player is taken to the game over cutscene</p> <p>2. Cutscene starts with Player speaking. UI matches the pic below (text may vary as we're still working on dialogue)</p> <p>a. A "Press space to continue" renders near bottom of text box</p> 

			<p>3. Cutscene advances and enemy portrait is now highlighted</p> 	
<i>~ Exiting Game ~</i>			<p>4. Each press of SPACE will change the person speaking and highlight them as appropriate (check pics above)</p> <p>a. Dialogue also changes every press</p> <p>5. Player is taken to the game over screen</p>	
	Exiting game	<p>1. Game is launched (can be in any game state)</p> <p>2. (saving/loading not considered for this test, check reloadability specific tests for auto saving after exiting)</p>	<p>1. Game is currently being played</p> <p>2. Press the ESC key to exit game</p>	
<i>~ End-to-End ~</i>			<p>1. Game is advancing as expected</p> <p>2. Game window is no longer rendered</p>	
	Happy path test	<p>1. Game is not yet launched</p>	<p>1. Launch game</p> <p>2. Press "New Game" to start a new game and enter the intro cutscene</p> <p>3. Continue pressing SPACE to advance intro cutscene</p> <p>4. Trigger a level 1 battle by colliding with level 1 enemy</p> <p>5. Play until song ends. Win the battle to advance!</p> <p>6. Press SPACE to continue after battle over pop up</p> <p>7. Trigger a level 2 battle by colliding with level 2 enemy</p>	<p>1. Game window is rendered and player is taken to the start screen</p> <p>2. A new game starts and player is taken to the intro cutscene</p> <p>3. Cutscene advances as appropriate, and player is taken to overworld once dialogue ends</p> <p>4. Player is taken to level 1 battle screen</p>

8. Play until song ends. Win the battle to advance!
9. Press SPACE to continue after battle over pop up
10. Trigger a **level 3 battle** by colliding with level 3 enemy
11. Play until song ends. Win the battle to advance!
12. Press SPACE to continue to **boss intro cutscene** after battle over pop up
13. Continue pressing SPACE to advance boss intro cutscene and enter **boss battle**
14. Play until song ends
15. Press SPACE to continue after battle over pop up
16. Continue pressing SPACE to advance **game over cutscene**
17. Click "Restart" button



Level 1 battle

5. **Battle over pop up** displays
6. Player is taken back to **overworld**
7. Player is taken to **level 2 battle** screen



Level 2 battle

8. **Battle over pop up** displays
9. Player is taken back to **overworld**
10. Player is taken to **level 3 battle** screen



Level 3 battle

11. **Battle over pop up** displays
12. Player is taken to the **boss intro cutscene**
13. Player is taken to the **boss battle**
14. **Battle over pop up** displays
15. Player is taken to the **game over cutscene**
16. Player is taken to the **game over screen**
17. Player is taken back to the **start screen**