Master Test Plan

*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

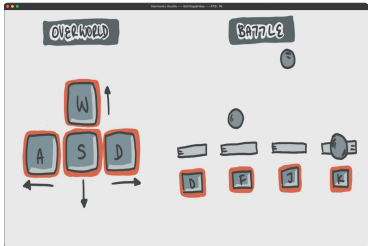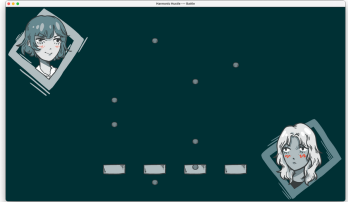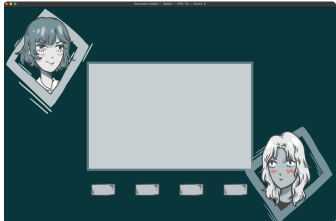| Implementation Milestone	Feature	Pre-conditions	Step(s)	Expected Outcome
	~ Overworld ~			

M2	Scene UI on launch	1. Game has yet to be launched	1. Launch game
			2. Check UI of Overworld scene on launch
			    a. background colour
			    b. Player sprite
			    c. Multiple enemy sprites
				a. Background asset is rendered in full colour
				
				b. Player sprite is rendered in full colour
				
				c. 3 enemy sprites from each type listed below are rendered on start. Guitar enemies are rendered in full colour, the other types are rendered tinted red
				
				Example of overworld screen with background and sprites on launch
				
				Player Sprite Guitar Enemy Sprite
				
				Drum Enemy Sprite in red Mic Enemy Sprite in red

M1	Sound	1. Player is in overworld screen	1. Listen for background music	1. Overworld music plays right at startup

M1	Player Movement - User Control	1. Player is in overworld screen	1. press "W" key on keyboard 2. press "A" key on keyboard 3. press "S" key on keyboard 4. press "D" key on keyboard	1. player sprite moves upwards 2. player sprite moves left 3. player sprite moves down 4. player sprite moves right
M1	Player Movement - Border	1. Player is in overworld screen	1. press "W" key until player sprite reaches top border of the window 2. press "W" key again 3. press "A" key until player sprite reaches left border of the window 4. press "A" key again 5. press "S" key until player sprite reaches bottom border of the window 6. press "S" key again 7. press "D" key until player sprite reaches right border of the window 8. press "D" key again	2, 4, 6, 8: nothing happens - player sprite does not move past window border
M2	Enemy Spawn on launch	1. Game has yet to be launched	1. Launch game	1. All enemies are spawned outside of player radius such that no enemies will immediately start chasing or running away from player a. Enemies will not be spawned on top of player and immediately cause a player-enemy collision

M2	Enemy Movement on launch	1. Game has yet to be launched	1. Launch game
			2. Wait ~30s and observe enemy sprites. (try to avoid collisions if it helps)
				1. On launch, all enemy sprites are 'paused' for ~1.5s to let player observe enemy sprite positions
				2. After initial 'pause' all enemies will move in a randomized direction
				  a. Enemies that hit the top/bottom wall will change their y-velocity as needed
				  b. Enemies that hit the left/right wall will change their x-velocity as needed

M2	Enemy Movement during game	1. Player is in the overworld screen	(optional - press 'X' for debug mode to help visualize) 1. Walk towards an equal level enemy (rendered in colour and is not red) using WASD 2. Walk away from the equal level enemy using WASD 3. Walk towards a higher level enemy (rendered with a red tint) using WASD 4. Walk away from the higher level enemy using WASD	1. Once enemy detects player, enemy will start running away (in the direction that is likely to get them farthest from player) 2. Once player is no longer detected, enemy will continue in a newly calculated randomized direction 3. Once enemy detects player, enemy will start walking towards the player 4. Once player is no longer detected, enemy will continue in a newly calculated randomized direction

M2/M3	Player to Equal Level Enemy Collision	1. Player is in overworld screen	1. player far from an enemy 2. move player sprite in front of an equal level enemy (not tinted red) 3. move player closer to enemy (collide)	1. nothing happens 2. enemy will start running away from player 3. *"bumped into an enemy" sound effect plays (not in M2)* a. collision triggered - open battle scene
M2/M3	Player to Higher Level Enemy Collision	1. Player is in overworld screen	1. player far from an enemy 2. move player sprite in front of a higher level enemy (enemy is tinted red) 3. move player closer to enemy (collide)	1. nothing happens 2. enemy will start running towards player 3. *"bumped into an enemy" sound effect plays (not in M2)* a. game restarts
M2	Enemy to Enemy Collision	1. Player is in overworld screen	1. enemy far from an enemy 2. observe and wait until enemy ends up close to another enemy (collide)	1. nothing happens 2. nothing happens
	~ Help/Settings screen ~			
M2	Toggle Help/Settings screen	1. Player is in overworld screen	1. Press "ESC" key to enter settings screen 2. Press "ESC" key to exit settings screen	1. Basic help screen is rendered Basic settings screen 2. Player is taken back to overworld screen
	~ Scene Transition ~			

M1	Change from Overworld to Battle Scene	1. Player is in overworld screen	(temp for M1 to test transitions)
			1. press "C" key on keyboard
				1. screen switches over to the Battle scene
				  a. (temp for M1) window title includes the word "battle"
				  b. player and enemy sprites are no longer rendered
				  c. player portrait, enemy portrait and 4 judgement boxes are rendered

M1	Change from Battle Scene to Overworld	1. Player is in battle screen	(temp for M1 to test transitions) 1. press "C" key on keyboard	1. screen switches over to the Overworld a. (temp for M1) window title includes the word "overworld"

				b. player portrait, enemy portrait, 4 judgement boxes and any existing notes are no longer rendered
				c. player and enemy sprites are rendered
	~ Battle Scene ~			

M1	Scene UI	1. Player is in battle screen	1. Check UI of Battle scene
			   a. background colour
			   b. Player portrait
			   c. Enemy portrait
			   d. Notes
			   e. judgement boxes
				a. background colour is set (not black or red)
				b. player portrait rendered in full colour at top left of window
				c. enemy portrait rendered in full colour at bottom right of window
				d. notes rendered in full colour
				e. 4 judgement boxes rendered in full colour
				
				Battle Scene

M1	Sound	1. Player is in battle screen	1. Listen for battle music	1. Battle music should be playing once scene appears (is different from Overworld music)
M1	Notes Collision	1. Player is in battle screen	1. let a note/notes fall to the bottom of the window	1. note disappears (past window); "dropped note" sound effect goes on
M1	Notes Movement	1. Player is in battle screen	1. check note transformations, observe note as it falls to bottom of the window, taking note of its speed	1. notes fall straight down in linear speed from top of the window to the bottom 2. notes grow from smaller to larger size as it gets closer to the bottom of the window
M1, M2	Notes to Key Input - "D" *(See *Note above)*	1. Player is in battle screen	1. press "D" key on keyboard when note 1 is above judgement line 2. press "D" key on keyboard when note 1 is at judgement line 3. press "D" key on keyboard when either note 2, 3, or 4 is at their judgement line and note 1 is not at the judgement line	1. judgement line 1 changes colour; "missed note" sound effect plays 2. judgement line 1 changes colour; "hit note" sound effect plays; note 1 disappears 3. judgement line 1 changes colour; "missed note" sound effect plays; note 2, 3, or 4 (which it was) does not disappear

M1, M2	Notes to Key Input - "F" *(See *Note above)*	1. Player is in battle screen	1. press "F" key on keyboard when note 2 is above judgement line 2. press "F" key on keyboard when note 2 is at judgement line 3. press "F" key on keyboard when either note 1, 3, or 4 is at their judgement line and note 2 is not at the judgement line	1. judgement line 2 changes colour; "missed note" sound effect plays 2. judgement line 2 changes colour; "hit note" sound effect plays; note 2 disappears 3. judgement line 2 changes colour; "missed note" sound effect plays; note 1, 3, or 4 (which it was) does not disappear
M1, M2	Notes to Key Input - "J" *(See *Note above)*	1. Player is in battle screen	1. press "J" key on keyboard when note 3 is above judgement line 2. press "J" key on keyboard when note 3 is at judgement line 3. press "J" key on keyboard when either note 1, 2, or 4 is at their judgement line and note 3 is not at the judgement line	1. judgement line 3 changes colour; "missed note" sound effect plays 2. judgement line 3 changes colour; "hit note" sound effect plays; note 3 disappears 3. judgement line 3 changes colour; "missed note" sound effect plays; note 1, 2, or 4 (which it was) does not disappear
M1, M2	Notes to Key Input - "K" *(See *Note above)*	1. Player is in battle screen	1. press "K" key on keyboard when note 4 is above judgement line 2. press "K" key on keyboard when note 4 is at judgement line 3. press "K" key on keyboard when either note 1, 2, or 3 is at their judgement line and note 4 is not at the judgement line	1. judgement line 4 changes colour; "missed note" sound effect plays 2. judgement line 4 changes colour; "hit note" sound effect plays; note 4 disappears 3. judgement line 4 changes colour; "missed note" sound effect plays; note 1, 2, or 3 (which it was) does not disappear
M2	Scoring	1. Player is in battle screen 2. Music is playing	(repeat for all battle keys D, F, J, K) – for more in depth test 1. press key when bottom of note just touches top of judgement line 2. press key when note just passes top of judgement line 3. press key when note is right in the middle of the judgement line 4. press key when note just passes middle of judgement line 5. press key when top of note just touches bottom of judgement line	1. judgement line changes colour to yellow; total score adds +5 ("alright" standing) 2. judgement line changes colour to green; total score adds +10 ("good" standing) 3. judgement line changes colour to purple; total score adds +15 ("perfect" standing) 4. judgement line changes colour to green; total score adds +10 ("good" standing) 5. judgement line changes colour to yellow; total score adds +5 ("alright" standing)

M2/M3	Winning Battle	1. Player is in battle screen	1. play the rhythm game until the end of song 2. get total score above needed threshold required of the enemy 3. song ends	3. "Won battle" overlay is displayed; Total score is shown Score threshold needed shown (Not for M2)
M2/M3	Losing Battle	1. Player is in battle screen	1. play the rhythm game until the end of song 2. get total score below/equal of needed threshold required of the enemy 3. song ends	3. "Lost battle" overlay is displayed; Total score is shown Score threshold needed shown (Not for M2)
	~ Integration/End-to-end tests ~			

M2	Triggering and losing a level battle	1. Game is not launched	1. Launch game and observe sprites
			2. Move player sprite towards a guitar enemy
			3. Collide with guitar enemy
			4. Wait for battle over pop up
			5. Press 'ENTER' key to return to overworld
			6. Observe enemy sprites
				1. Three different types of enemy sprites are rendered
				  a. guitar enemies are rendered in full colour
				  b. drum and mic enemies are red
				2. Guitar enemy will start running away
				3. A level battle is triggered and player enters battle scene
				4. A very simple pop up should be rendered (**a rendering bug currently exists*)
				
				Very simple popup
				
				The slightly buggy version
				
				1. Two guitar enemies remain
				  a. drum and mic enemies are still red

M2	Triggering and winning a level battle	1. Game is not launched	1. Launch game and observe sprites 2. Move player sprite towards a guitar enemy	1. Three different types of enemy sprites are rendered

			3. Collide with guitar enemy and take note of battle music
			4. Win battle by using DFJK
			5. Press 'ENTER' key to return to overworld
			6. Observe enemy sprites
			7. Collide with drum enemy
				a. guitar enemies are rendered in full colour
				  b. drum and mic enemies are red
				2. Guitar enemy will start running away
				3. A level battle is triggered and player enters battle scene
				4. A very simple pop up should be rendered (**a rendering bug currently exists - pictures above*)
				5. Guitar enemies are no longer rendered
				  a. drum enemies are now rendered in full colour
				  b. only mic enemies are red
				6. Drum enemy battle music should be different from guitar enemy battle music