

Word Wizards

Genre: Turn-based Word Building RPG

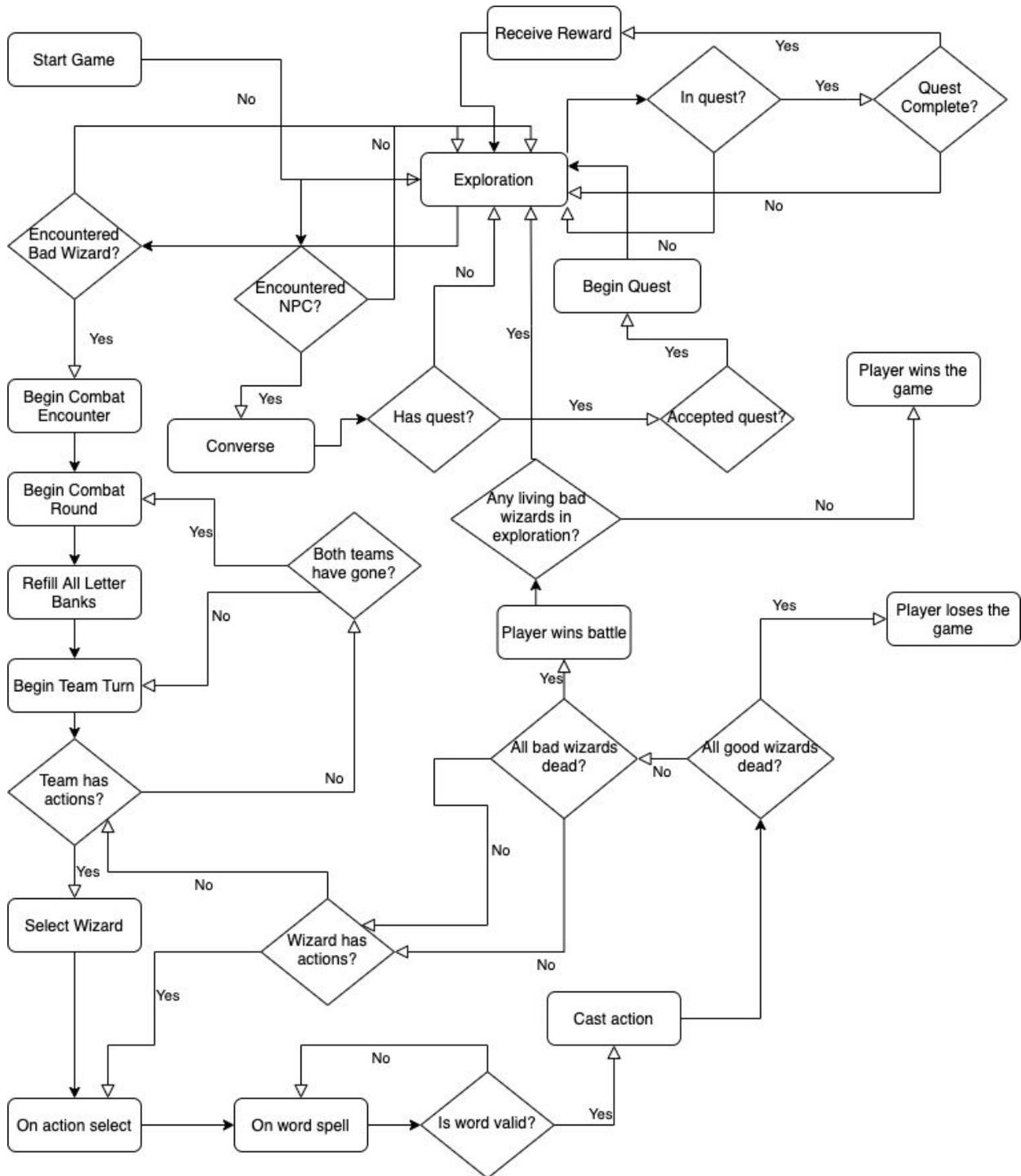
Summary

Word Wizards is a 2D turn-based RPG in which one good Word Wizard named Lang goes on an adventure to battle evil Word Wizards through turn-based combat. During combat, each Word Wizard can spell out English words using a set of Letter Pieces to perform actions. Throughout the game, other good Word Wizards will join the player's party. The goal of the game is to restore order to its world by defeating all of its evil Word Wizards.

Core Game Loop

In exploration mode, the player controls Lang in eight directions in a top-down environment. Lang interacts with various objects and NPCs to unlock other areas within the game world and go on side quests. When the player encounters a bad Word Wizard, the player enters turn-based combat mode. During combat, control swaps between the player and enemy teams after their action count runs out or passes their turn. The process repeats until all of one team has been defeated. If the enemy team has lost, the player returns to exploration mode. If the player team has

lost in any combat encounter, the player has lost the game. If the player defeats all bad Word Wizards in the exploration environment, the player has won the game.



Design Pillars

1. Turn-based combat
2. Word building
3. Top-down exploration

Systems

Inventory (Letter Banks)

Each character's inventory, also known as its Letter Bank, is allotted a number of slots to store Letter Pieces. The number of slots each character's Letter Bank has is dependent on its Letter Bank capacity (see Characters). Empty slots are filled with new Letter Piece at the beginning of each combat round. Letter Pieces can also be picked up and added to a character's Letter Bank during exploration mode. Any time a new Letter Piece is collected, at least one slot has to be empty in that character's Letter Bank for it to be added. If no slots are empty within a character's Letter Bank after collecting the Letter Piece, the player has the option to swap any Letter Piece with the newly collected Letter Piece. If there is an empty slot available, the new Letter Piece is assigned to the first available slot in the order in

which the Letter Bank slots are arranged. An example can be found in the below tables:

Inventory Add Example (BEFORE)								
New		Letter Bank						
K	+	A		E	F	W		D

Inventory Add Example (AFTER)						
Letter Bank						
A	K	E	F	W		D

In the above example, the 2nd and 6th slots are empty. A ‘K’ Letter Piece is added to the above Letter Bank in the 2nd slot because the 2nd slot comes before the 6th slot.

Turn-Based Combat

In each combat encounter, the combat system switches control between the player’s team and the enemy team each round. Unless a specific encounter specifies otherwise, the player’s team gets to go before the enemy team. At the beginning of each round, each unit’s Letter Banks are refilled to match the number of Letter Piece slots in its Letter Bank, which are all visible to other units

(including opponents). During the player's turn, the player can cycle between its heroes and each hero can perform as many actions as the number of words that its Letter Pieces can spell. Each action requires the character to use their Letter Pieces found in their Letter Bank toward an action to spell out a word.

Action Count Example						
Letter Bank						
C	A	T	D	O	G	S

If the player decides to go with the above example, that Letter Bank's assigned character can use each of those words with one action each, meaning that the player unit can perform 2 actions in that same turn. Players can also spell GOATS to get a higher word score.

Wizards can perform two types of actions: Attack and Magic. Attack actions allow wizards to cast a bolt out to an opponent to deal damage. Characters can attack more than once during their turn. Magic actions allow wizards to cast spells that target a given unit or team. Wizards can only use one Magic action per turn and each spell has a delay in turns (cooldown period) before it can be used again. Once the player runs out of actions, control automatically passes to the enemy team. Though, the player can choose to pass its turn to the enemy team. During the

enemy team's turn, enemies perform actions in the same way as player characters, but their words and actions are decided by AI algorithms. Once the enemy team runs out of actions, control passes back to the player's team and the combat cycle continues until no more units of one side are left standing.

Letter Bank Generation

During combat, new Letter Pieces are inserted into each Letter Bank's empty slots at the start of each combat round. Letters within each Letter Piece are not decided solely by picking random elements from the list of available pieces (A-Z and blank). Rather, the letters chosen will depend on randomly choosing a set of words from the game's word list. This process only runs for each Letter Bank if there is at least one empty slot in that Letter Bank. The method of how the game fills each Letter Bank with Letter Pieces will be as follows:

1. Store a number of random words from the word list in a temporary list called RandomWords.
2. Store a temporary list of all the Letter Pieces that are already in the Letter Bank called ActiveLetters.

3. Create a temporary priority queue called LetterMissFrequency, which keeps track of how many times each letter NOT in the temporary Letter Piece list is found in all words from the temporary word list.
4. For each word within the list from Step 2:
 - a. Create an empty list for this word called MissingLetters, which will store letters that do not spell out the word
 - b. Make a copy of the ActiveLetters list
 - c. For each letter in the word:
 - i. If at least one letter in the ActiveLetters duplicate list matches this letter, then remove the first instance of this letter from that list.
 - ii. If no letters in the list in the ActiveLetters duplicate list match this letter, add this letter to the MissingLetters list.
 - d. For each entry in the MissingLetters list:
 - i. Increment the corresponding letter's frequency value in the LetterMissFrequency priority queue by 1.
5. Repeat the following until all the Letter Bank's slots have been filled:
 - a. If the LetterMissFrequency priority queue is NOT empty:

- i. Retrieve the letter with the highest priority from LetterMissFrequency.
 - ii. On a percent chance:
 1. Place a Letter Piece of the letter found in Step 6A in the first available slot in the Letter Bank.
 - iii. On a high percent chance:
 1. Remove the letter found in Step 6A from the priority queue
- b. If the priority queue is empty:
- i. Select a random letter (or wild piece on a percent chance) and place a Letter Piece of that letter in the first available slot.

Core Mechanics

Exploration and Top-Down Movement

The player controls the main character, Lang, in a top-down environment outside of combat. Lang can move in eight directions within the environment using the WASD keys. Lang also interacts with NPCs and encounters evil Word Wizards during its adventure. Certain areas within the environment cannot be accessed

without completing quests from NPCs or gaining enough experience from defeating evil Word Wizards. There will also be obstacles for the player to collide into and then avoid while navigating through the environment.

Word Building

Most actions in the game require the player to spell out a word using each wizard's Letter Bank. Players cannot spell words with less than 3 Letter Pieces. Each Letter Piece has a score associated with it, which depends on the letter. The effectiveness of an action is determined by the word's sum of scores on each Letter Piece and the number of Letter Pieces used. The table below outlines the base score of each Letter Piece.

A = 1	E = 1	I = 1	M = 2	Q = 4	U = 1	Y = 3
B = 2	F = 2	J = 4	N = 1	R = 1	V = 3	Z = 4
C = 2	G = 2	K = 3	O = 1	S = 1	W = 3	Wild = 0
D = 2	H = 2	L = 1	P = 2	T = 1	X = 4	

Players are rewarded for spelling words with a higher letter count. The table below outlines the score bonuses for words of a certain length:

Letter Count	Score Bonus
3	+0
4	+1
5	+2
6	+3
7	+5
8	+8
9	+12
10+	+16

Some Letter Pieces can be color-coded, which indicate a positive or negative effect to each word caster. Only one color can be applied to a Letter Piece at any given point. There are a total of 10 colors that letter pieces can have and are selected at random for each new Letter Piece, based on each color's supplied percentage. The table below outlines the percent chance a color will be attached to any new Letter Piece added to each Letter Bank at the start of each combat round:

No Color: 50% Chance	+ Color: 25% Chance	- Color: 25% Chance
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If a Letter Piece has no color attached to it, that piece has no effect on its speller.

The table below outlines all the positive/negative colors that a Letter Piece can

have along with their percent chance of spawning:

Positive Colors	
Reduce letter scr. DMG for self (20% Chance)	x2 letter scr. (20% Chance)
Heal self by letter scr. (20% Chance)	x2 word scr. (10% Chance)
Poison atk. target by letter scr. (20% Chance)	x5 letter scr. (10% Chance)

Negative Colors	
Take scr. DMG (50% Chance)	Poison self by letter scr. (20% Chance)
Take x2 scr. DMG (20% Chance)	Total Word Score: 0 (10% Chance)

Characters

Each character has a level associated with it, with each starting at Level 1. A character's level determines how many Letter Pieces it can have at a time as well as its damage bonus.

Lang

Letter Piece Slots	7 + 1 every Lv+
Max HP	20 + 6 every Lv+
Damage Bonus	0 + 2 every Lv+
Spell	Power Spell

Lang is the leader of the party and, as such, is the party's source of encouragement. Lang's spell, Power Spell, gives all party members (including himself) a damage bonus to words they spell in that same turn. The number of bonus damage points given to each party member will depend on the word score that Lang earns from casting this spell.

Power Spell Example			
Word			Outcome
C	A	T	+4 DMG

Letta

Letter Piece Slots	6 + 1 every Lv+
Max HP	16 + 4 every Lv+
Damage Bonus	0 + 1 every Lv+
Spell	Express of Relief

Letta is the party's supporter and can heal her party by a spell called Express of Relief. Express of Relief replenishes the health of all party members by a certain number of points. The number of health points to replenish will depend on the word score that Letta earns from casting this spell.

Express of Relief Example			
Word			Outcome
R	A	T	+3 HP

Gram

Letter Piece Slots	8 + 1 every Lv+
Max HP	12 + 3 every Lv+
Damage Bonus	0 + 1 every 2 Lv+
Spell	Letter Delivery

Gram is the party's source of wisdom and has access to a lot of letters. Gram can also cast a spell called Letter Delivery, which gives all party members bonus letters to use toward spelling a word. The number of letters that Gram gives to each party member will depend on half of the word score that Gram earns from casting this spell. The final letter count granted from this spell is rounded down to a whole number.

Letter Delivery Example				
Word			Score	Outcome
K	I	N	5	+2 Letters

V. Larry

Letter Piece Slots	7 + 1 every Lv+
Max HP	14 + 4 every Lv+
Damage Bonus	0 + 1 every Lv+
Spell	Colorful Language

V. Larry is the party's most magical Word Wizard and is the reducer of threats.

Larry can cast a spell called Colorful Language. Colorful Language places a positive color on a number of neutral Letter Pieces and applies a neutral color on a number of negative Letter Pieces. The total number of Letter Pieces on each party member's Letter Bank that are affected by this spell depend on half of the word score that Larry earns from casting this spell. The final letter count granted from this spell is rounded down to a whole number. The number of Letter Pieces to apply a positive color to depends on half of the affected letter count, rounded up to the nearest whole number. The pieces left over from this calculation are how many negative-colored Letter Pieces are affected by this spell.

Colorful Language Example					
Word				Score	Outcome
W	O	R	D	8	+4 Positive Colors -4 Negative Colors

Art Style

Word Wizards will incorporate a 2D top-down pixel art style. The art style is similar to what is found in Wargroove because the pixel art is simple yet effective.

Audio Style

The audio style is chiptune music and sound effects. The audio style is similar to retro arcade games like Galaga and Pac-Man.

Justification

Lang the Word Wizard offers a new take on turn-based RPGs due to the combination of turn-based combat and word building. This game should be made to give players a new perspective on the genres this game covers.