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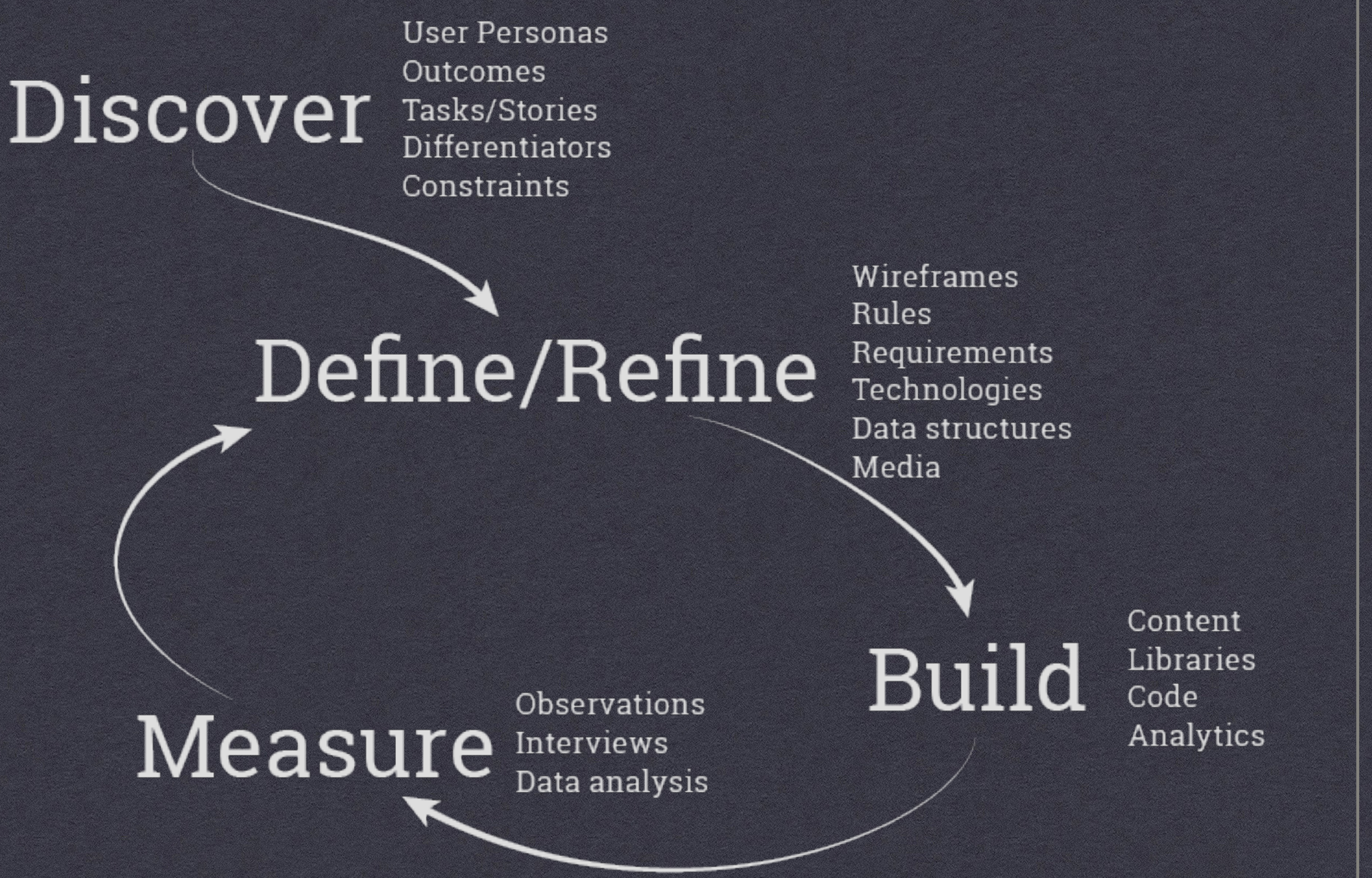
SKIPPER PICKLE

UX PORTFOLIO
2017



UX DESIGN PROCESS

In waterfall projects, I wrote functional requirements that included use cases.

These days, I am more comfortable with Agile's user stories, and, in retrospect, I think these are more like user stories.

USE CASES

Use Case 1: The student wants to play a math game and compete against others because competition is fun.

Use Case 2: The student wants to play a math game and compete against others because *WINNING* is fun. Because the student wants to win, the student plays on the easiest setting available and refuses more difficult challenges when they are offered as an option. The student may also attempt to drop out from games in which a win appears to be unlikely.

Use Case 3: The student wants to play a math game and play with other students. The student is averse to causing another student to lose face, so anonymous play is more compelling than competitive play.

Use Case 4: The student wants to play against a particular friend. However, that friend may or may not be online at the same time as the student.

Use Case 5: The student wants to gain points to advance on the Leader Board. Because Play allows higher gains in points than Learn, the student attempts to maximize their time in Play.

Use Case 6: The student wants to collect tokens and hoard them. The student avoids playing games in order to increase his or her token count.

Use Case 7: The student wants to customize his or her current avatar.

Use Case 8: The teacher wants the student to gain fluency in mental math skills and demonstrate gains in the student's fluency.

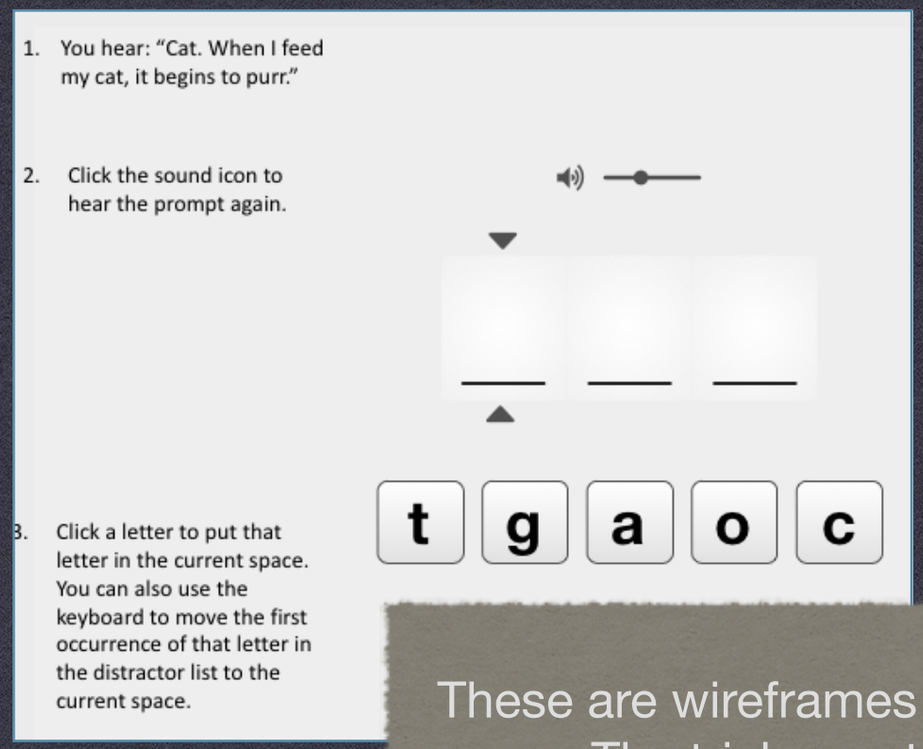
Use Case 9: The teacher wants the student to enjoy Pi but wants to be sure the student is learning and staying on task.

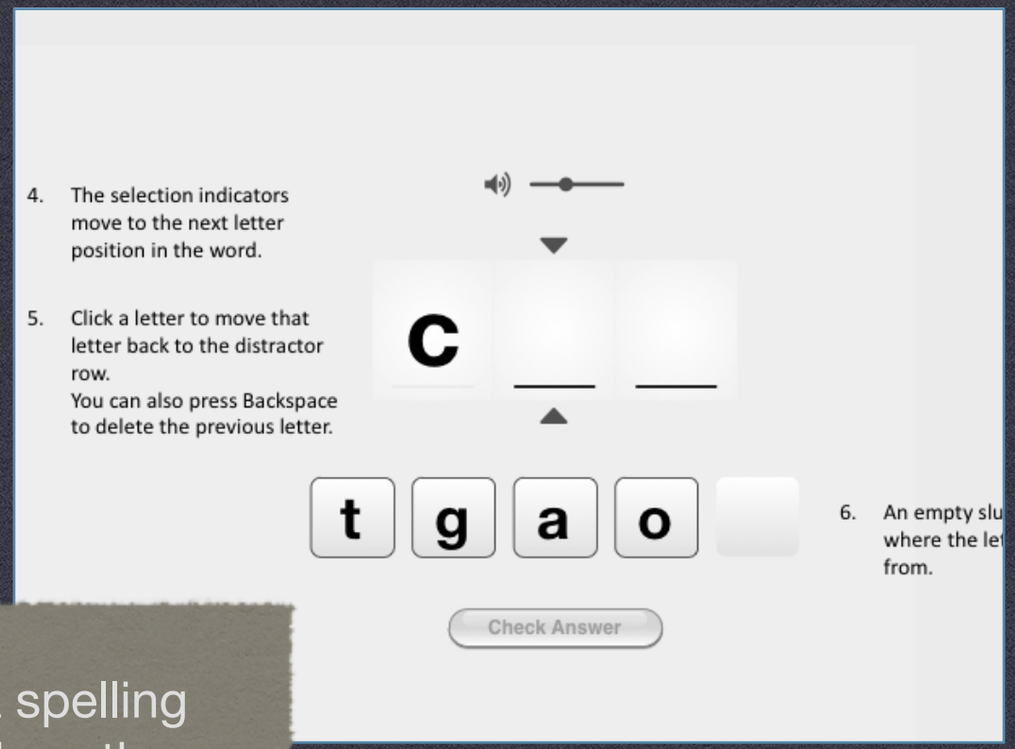
Use Case 10: Students in the same class or school want to play against each other in direct competiton.

DISCOVER

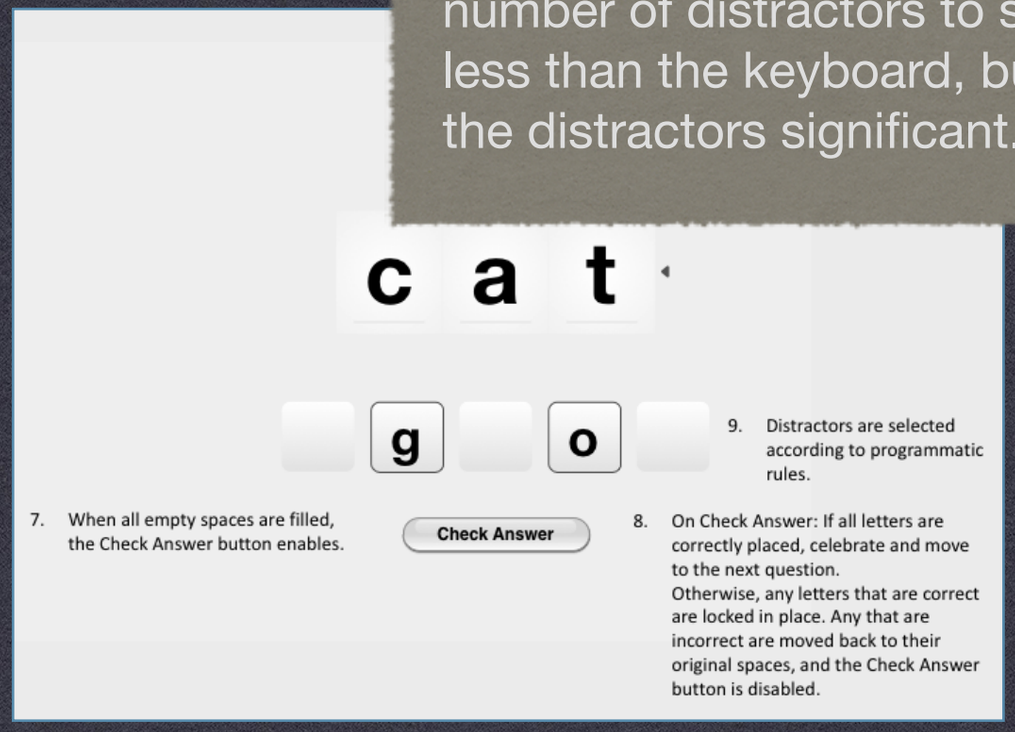
USER STORIES

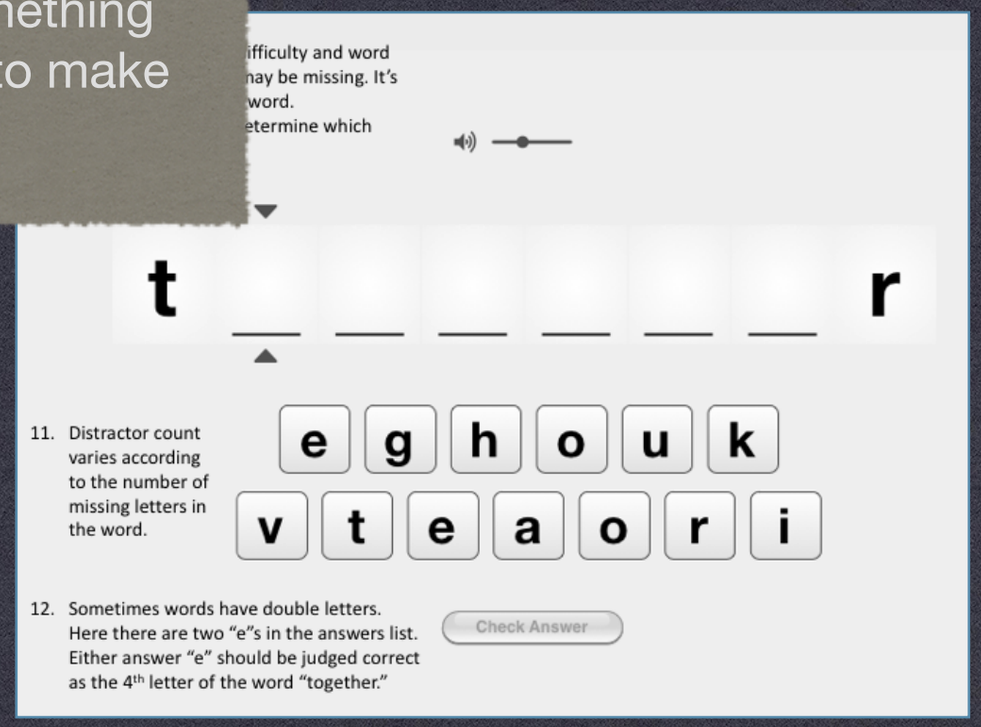
VMATHLIVE





These are wireframes for a spelling game. The trick was to reduce the number of distractors to something less than the keyboard, but to make the distractors significant.





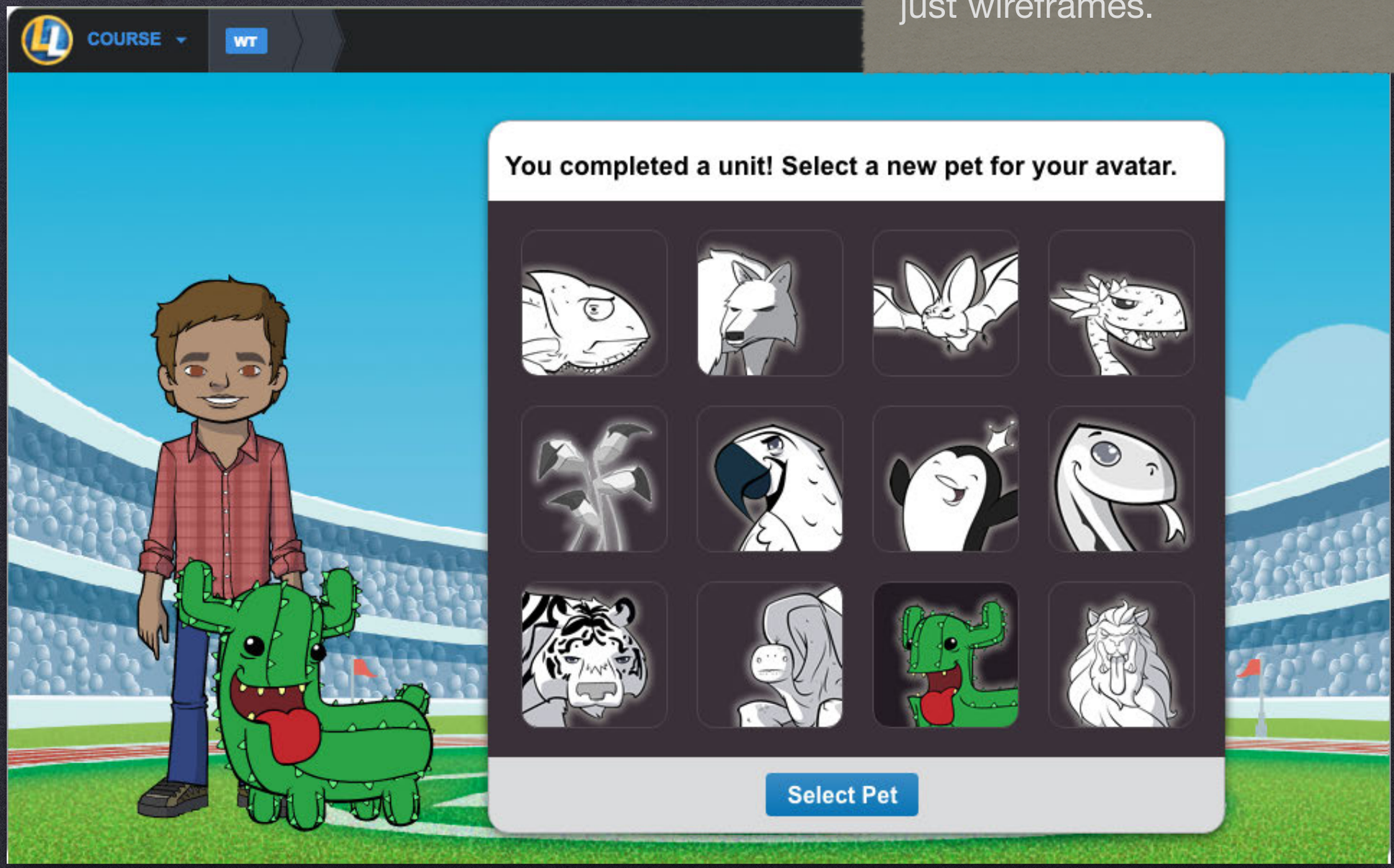
DEFINE

WIREFRAMES

LANGUAGE! LIVE

When it was time to create wireframes for the new pets to be added to our avatar system, I used Adobe XD.

The repeating grid feature was handy, and it was easy to pull in the elements from our Illustrator style library. I had to remind people these weren't comps, just wireframes.



DEFINE

WIREFRAMES

LANGUAGE! LIVE

I worked with devs to determine the rules for things like matching players in online play.

27. Rules about **matching**:

a. A game must have at least two players in it. If you are one of two players in
other player disappears, the game dies.

(1) We check to see if you match any other existing games. If so, we add y

(2) If you are not eligible to join any other games, we put you back in the player queue you're your playerQueueTimeout still ticking away.

b. If a game acquires four players assigned to it, it accepts no additional players. It launches when the fourth player joins the game.

c. The gameTimeout value is equal to the oldest playerQueueTimeout among the players currently assigned to the game. If a player leaves the game before it starts, the gameTimeout changes to match the oldest playerQueueTimeout of the remaining players. When a game's gameTimeout expires, we check to see how many players the game has and then determine whether:

(1) the game launches (if it has two or more players),

(2) it converts to Play vs Max and launches (if it only has one player), or

(3) it dies (if it has no players).

d. When we match your mentalMathProfile against an existing game:

(1) We compare the game's mental math skill and competence value to those in your mentalMathProfile. We ignore your Unqualified skills. You are not placed into any game that uses
lified skills.

ne match, we put you into a game.

me matches that criteria, we put you into the game with the highest difficulty

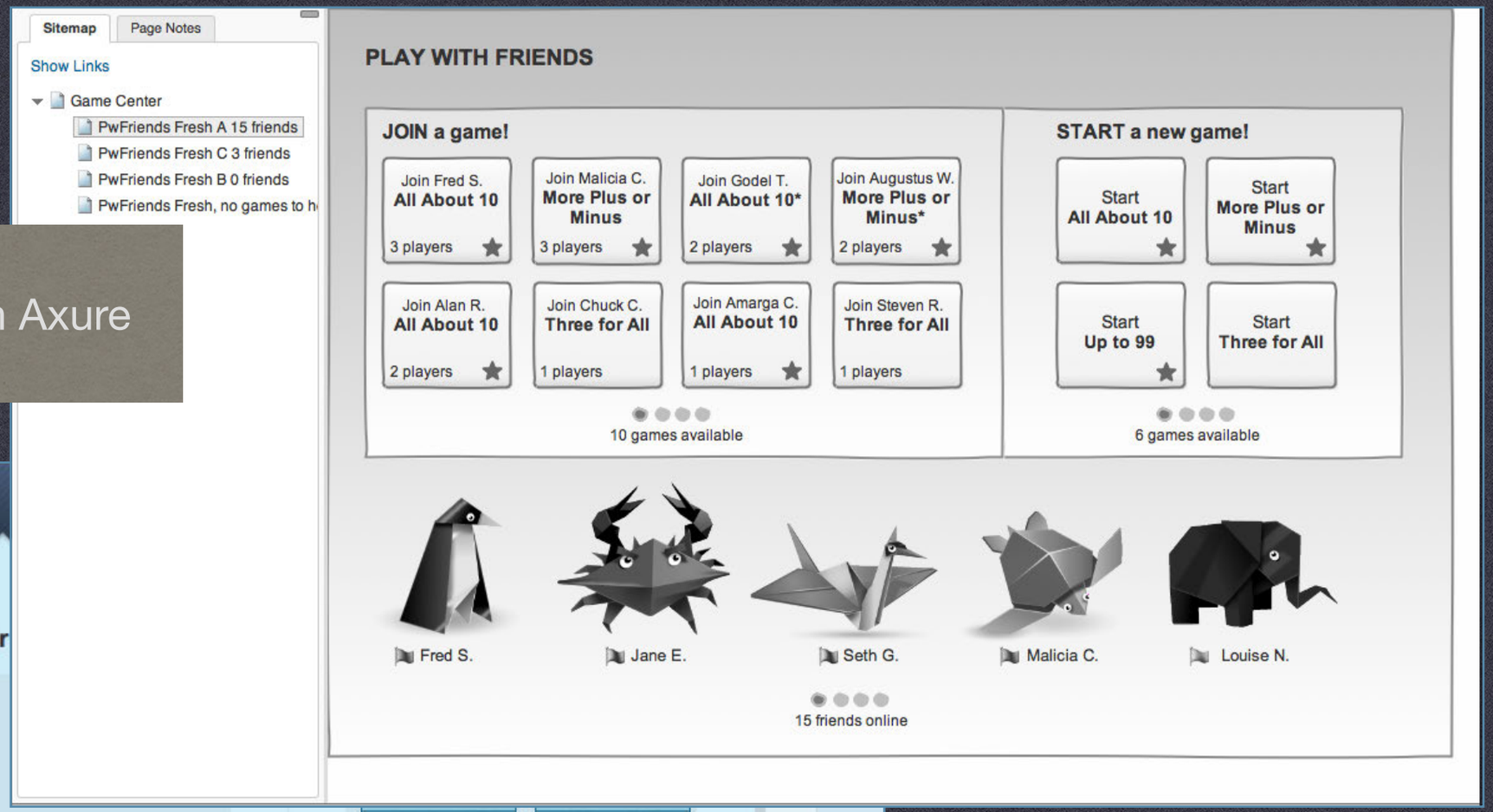
equenced by difficulty rating from 1 to 20—each game has a unique difficulty

These functional requirements served as both documentation and test plans, so I wrote them in prose for the sake of non-technical readers.

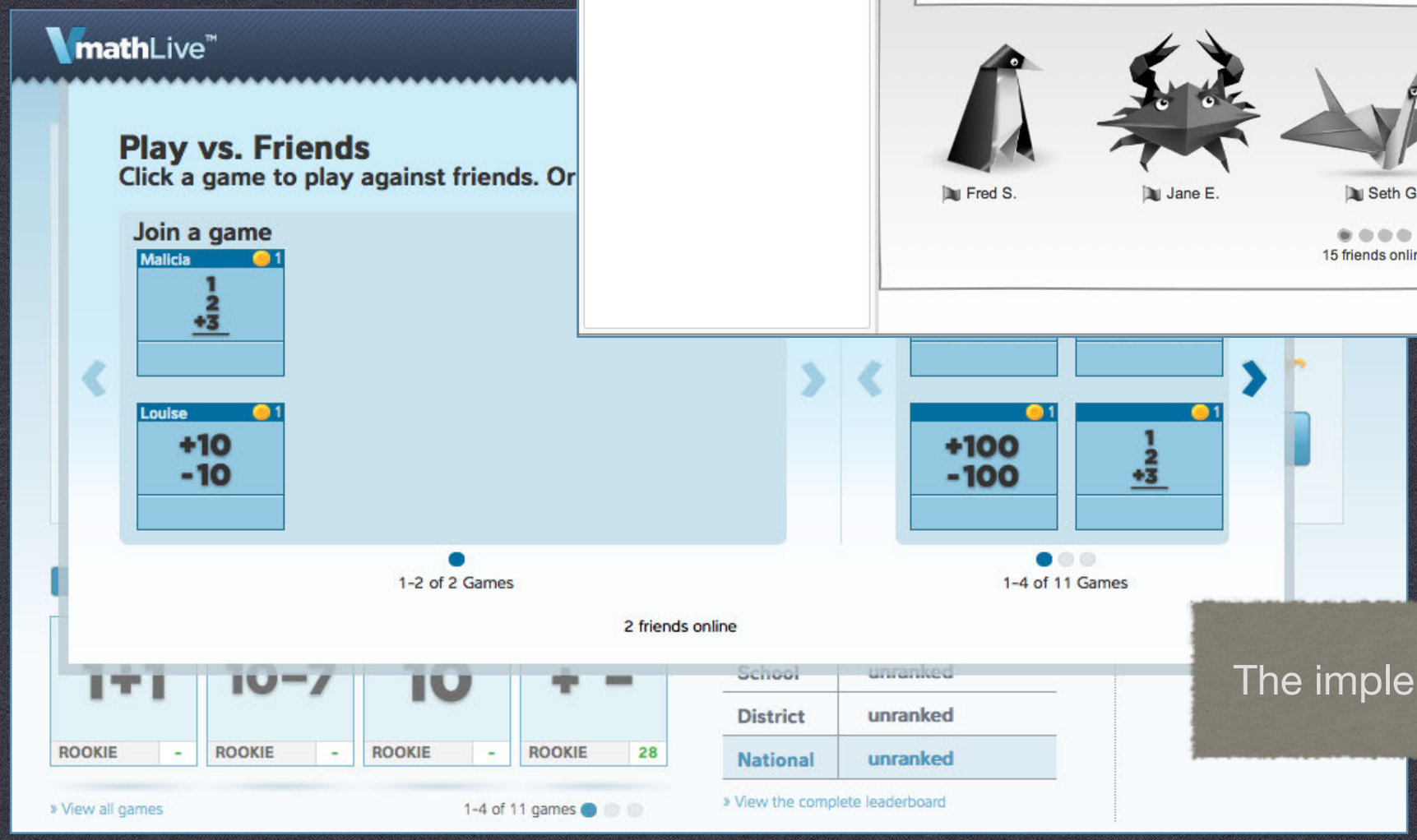
DEFINE

REQUIREMENTS

VMATHLIVE



A wireframe built in Axure



The implemented result in production

DEFINE

WIREFRAMES

VMATHLIVE

I like to build simulations that predict how hot the game economy has to be, how the reward system will work, and how much effort we're requiring of the user.

Trophy	Points Bonus	Tokens*
Gold	40	3
Silver	25	2
Bronze	15	10

Problem Solving	Points
1st attempt	10
2nd attempt	5
3rd attempt	2

Token Awards	Tokens
Complete Prob Solving	10

Module Complete	Module Test Mastery
500	0.8

Play Correct	Play Rank-up	Play Level Complete
5	100	500

Achievement Award Type	Point Bonus	Token Bonus
1	20	3
2	40	5
3	100	10
4	250	15
5	500	20
6	1000	30

Points Dials (and Model 1)	Default Value	Current Value
ptsLearnCorrect1	10	10
ptsLearnCorrect2	5	5
ptsLearnCorrectN	2	2
ptsLearnBronze	15	15
ptsLearnSilver	25	25
ptsLearnGold	40	40
ptsLearnModuleComplete	500	500
ptsPlayOthersCorrect	5	5
streakMultiplier	1	1
streakMultiplierMin	1	1
streakMultiplierMax	4	4
streakMultiplierIncrement	1	1
streakMultiplierTrigger	3	3
ptsPlayOthersFirstPlace	50	50
ptsPlayComputerFirstPlace	30	30
ptsPlayFriendFirstPlace	50	50
ptsPlayRankAdvancement	100	100
ptsPlayLevelAdvancement	500	500
ptsAchievementType1	20	20
ptsAchievementType2	40	40
ptsAchievementType3	100	100
ptsAchievementType4	250	250
ptsAchievementType5	500	500
ptsAchievementType6	1000	1000

Other Dials	Default Value	Current Value
preskillTrigger	5	5
masteryLearnBronze	8	8
masteryLearnSilver	9	9
masteryLearnGold	10	10

Model 2 Points Dials	Default Value	Current Value
ptsPlayBaseCorrect	5	5
streakMultiplier	1	1
streakMultiplierMin	1	1
streakMultiplierMax	4	5
streakMultiplierIncrement	1	1
streakMultiplierTrigger	3	5
ptsPlayOthersFirstPlace	50	50

*Tokens accumulate, so a student who wins a gold trophy earns 15 (3+2+10) tokens for that activity.
The message to the student is, 'You can earn up to 15 tokens per activity.'

You can anticipate many design constraints just by doing the math.

DEFINE

RULES

VMATHLIVE

I created this simulation in Excel to determine how many points students were likely to earn, given a variety of scenarios. I wanted a sense of the economy of points.

Question #	Question pts	Bonus pts	Total
1	20		20
2	20		40
3	20		60
4	20	5	85
5	20	6	111
6	20	7	138
7	20	8	166
8	20	9	195
9	20	10	225
10	20	11	256
11	20	12	288
12	20	13	321
13	20	14	355
14	20	15	390
15	20	16	426
16			426
17			426
18			426
19			426
20			426
21			426
22			426
23			426
24			426
25			426
26			426
27			426

Skipper Pickle:
Rule: 5 correct answers starts a streak. Bonus points increment by 1 for each extension of the streak.

Question #	Question pts	Bonus pts	Total
1	20		20
2	20		40
3	20		60
4	20		80
5	15		95
6	20		115
7	20		135
8	20		155
9	20		175
10	15		190
11	20		210
12	20		230
13	20		250
14	20		270
15	15		285
16	20		305
17	20		325
18	20		345
19	20		365
20	15		380
21	20		400
22			400
23			400
24			400
25			400
26			400
27			400

Skipper Pickle:
Rule: 5 correct answers starts a streak

Max points if student never got a streak

Question #	Question pts	Bonus pts	Total
1	15		15
2	15		30
3	15		45
4	15		60
5	15		75
6	15		90
7	15		105
8	15		120
9	15		135
10	15		150
11	15		165
12	15		180
13	15		195
14	15		210
15	15		225
16	15		240
17	15		255
18	15		270
19	15		285
20	15		300
21	15		315
22	15		330
23	15		345
24	15		360
25	15		375
26	15		390
27	15		405

Skipper Pickle:
Student averages 15 points / question (2nd answer correct)

Question #	Question pts	Bonus pts	Total
1	20		20
2	20		40
3	20		60
4	20	5	85
5	20	5	110
6	20	5	135
7	20	5	160
8	20	5	185
9	20	10	215
10	20	10	245
11	20	10	275
12	20	10	305
13	20	10	335
14	20	15	370
15	20	15	405
16			405
17			405
18			405
19			405
20			405
21			405
22			405
23			405
24			405
25			405
26			405
27			405

Question #	Question pts	Bonus pts	Total
1	20		20
2	20	1	41
3	20	2	63
4	20	3	86
5	20	4	110
6	20	5	135
7	20	6	161
8	20	7	188
9	20	8	216
10	20	9	245
11	20	10	275
12	20	11	306
13	20	12	338
14	20	13	371
15	20	14	405
16			405
17			405
18			405
19			405
20			405
21			405
22			405
23			405
24			405
25			405
26			405
27			405

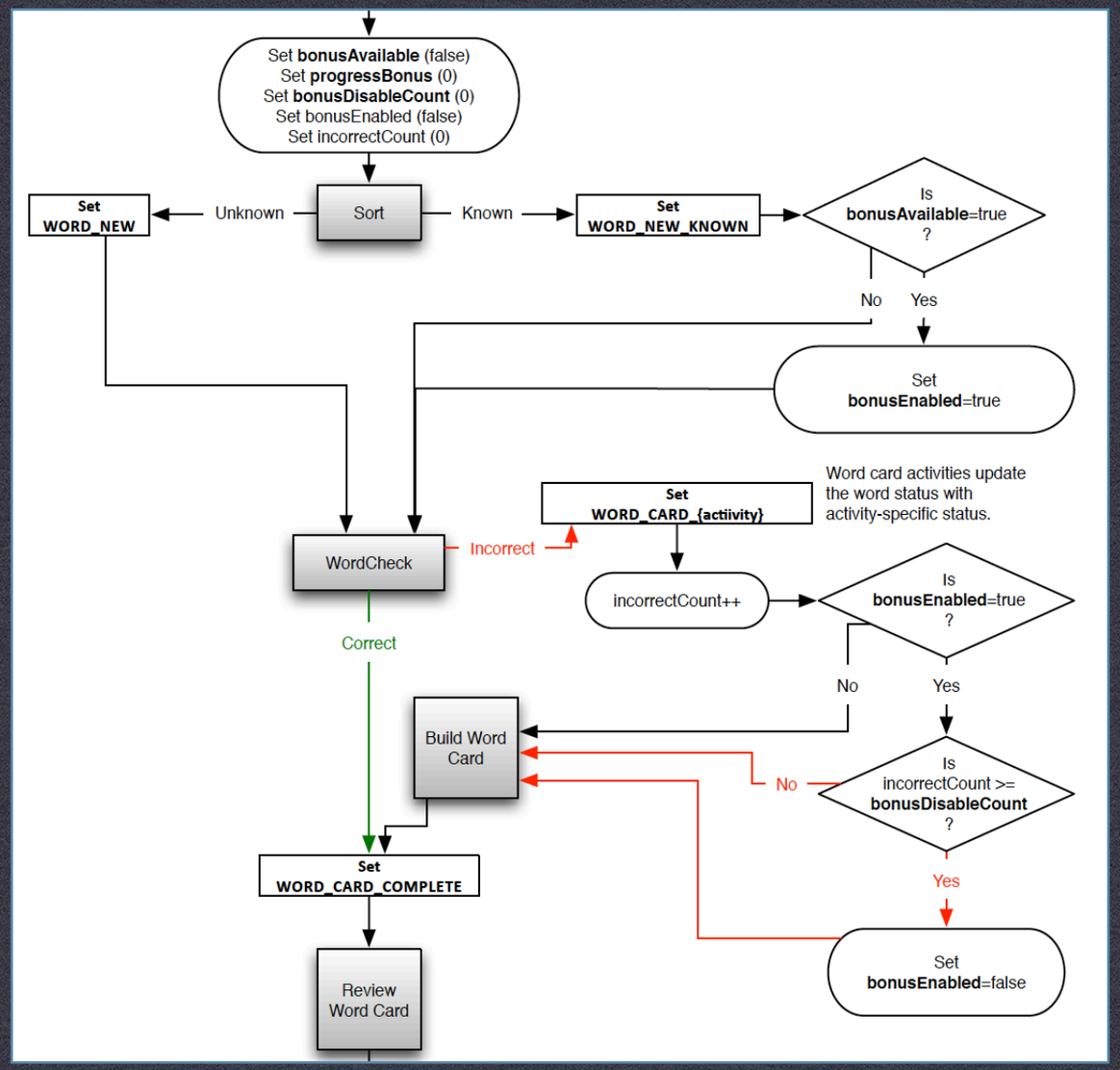
Skipper Pickle:
Rule: streak starts sooner and awards bonus points length of streak -1

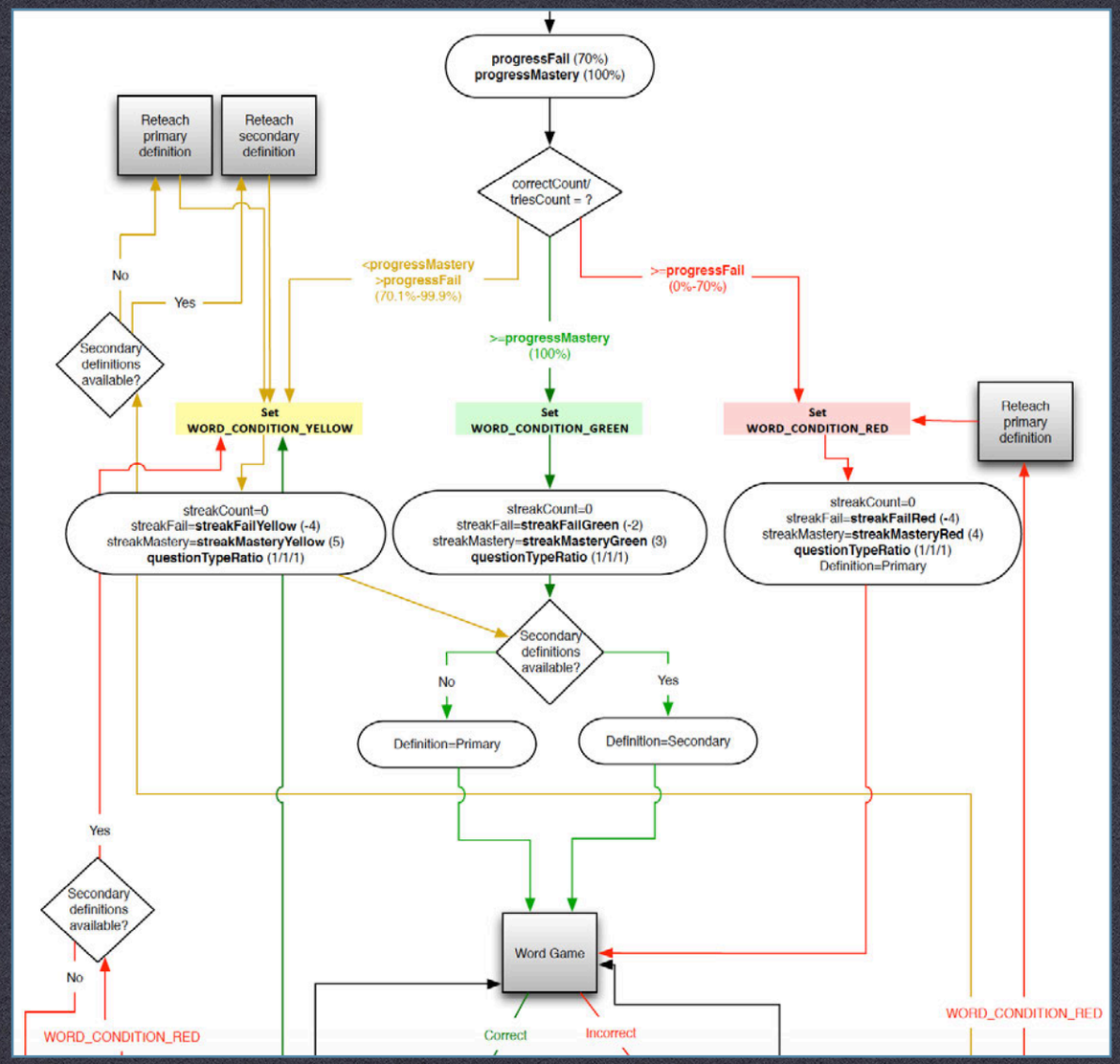
DEFINE

RULES

To have the vocabulary games adapt to student responses, we tracked student responses and assigned each word a state. The rules to prove word mastery were fairly complex. I created a flow chart to track the rules.

In reviewing these rules with the constituents who had to sign off on them, I had to be careful to confine the reviews to one part of the chart at a time, so that the constituents didn't feel overwhelmed.





DEFINE

RULES

VOCABJOURNEY

I designed this reading puzzle, but the budget ran out before it was built. I still like it: a student who is familiar with the words will get through the puzzle quickly. A student who isn't will have to stop and read.

That's as it should be.

DEFINE

RULES/WIREFRAMES

VOCABJOURNEY

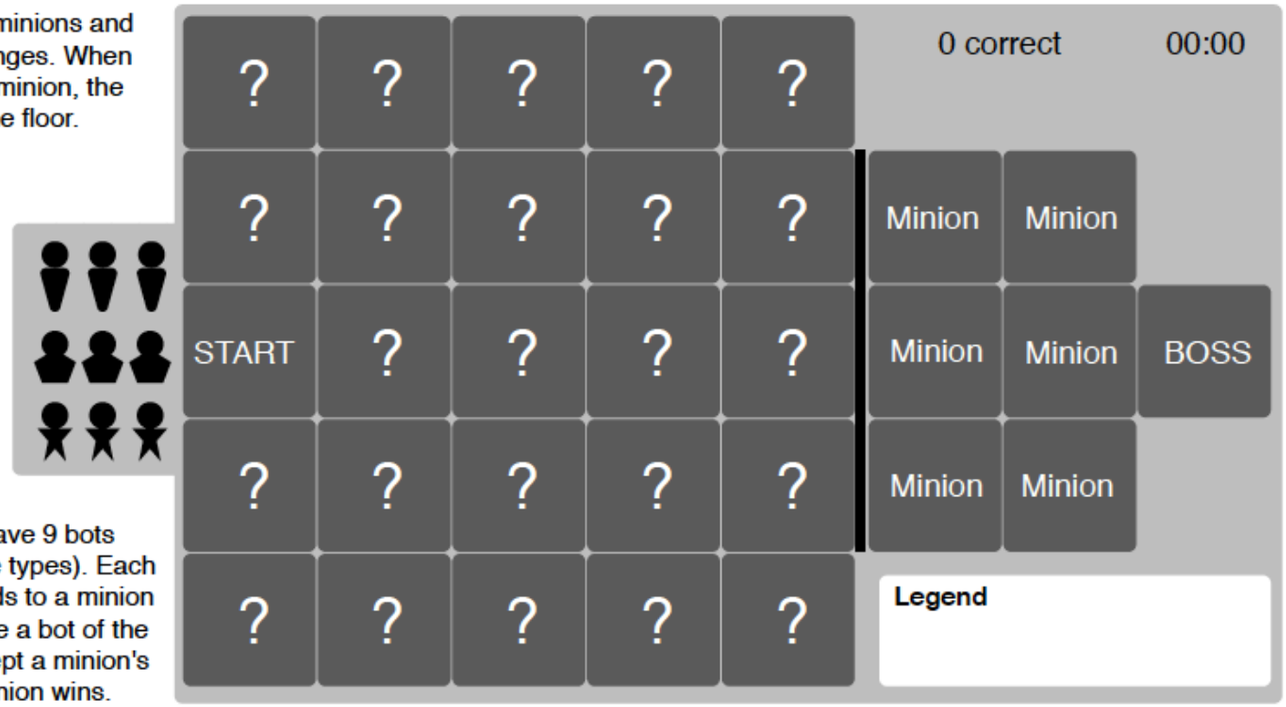
Sight Words Game 4
(version 3.1)

GATE: You cannot open tiles in the "back rows" (marked Minion) until you have found the 9 minions in the 5x5 area. Then the gate lifts.

GOAL: Find all 15 minions and answer their challenges. When you defeat the last minion, the Boss Robot flees the floor.

MOVE: From START, click to reveal 1 tile horizontally or vertically adjacent to any open (revealed) space. START position is always open.

Challenges: You have 9 bots (three each of three types). Each bot type corresponds to a minion type. You must have a bot of the correct type to accept a minion's challenge or the minion wins.



TIMER: Starts from 0 sec and counts time elapsed. Your proficiency is the time it takes to complete the board. You can take as much time as you like.

DEFEAT: If you score 4 incorrect answers, you are forced from the floor and must start again. (Mastery is 80% of 15 questions, so you have to score 12 correct to be able to pass.

SETBACK: If you are defeated and you answered the same TYPE of question incorrectly N (3) times, one of the corresponding bots becomes damaged and you must repair it by revisiting the related skill and repairing a bot. (If a robot is damaged by a trap, you can continue to play the current round, but if you have to repeat the round, you will have to repair the bot before reentering Game 4.

Assign each of the following to a random **mystery** (?) tile (9 tiles):

1. Minion01: An IDENTIFY challenge (one and only one)
2. Minion02: An IDENTIFY challenge (one and only one)
3. Minion03: An IDENTIFY challenge (one and only one)
4. Minion04: A SPELLING challenge (one and only one)
5. Minion05: A SPELLING challenge (one and only one)
6. Minion06: A SPELLING challenge (one and only one)
7. Minion07: A CLOZE challenge (one and only one)
8. Minion08: A CLOZE challenge (one and only one)
9. Minion09: A CLOZE challenge (one and only one)

Assign one item from the Treasure table to a single random **mystery** (?) tile (1 tile).

Assign one item from the Trap table to a single random **mystery** (?) tile (1 tile).

For each of the remaining **mystery** tiles (?), roll a d100 (14 tiles) and assign:

1. 0-90% - Blank tile
2. 91-95% - Select an item from the trap table.
3. 96-100% - Select an item from the treasure table.

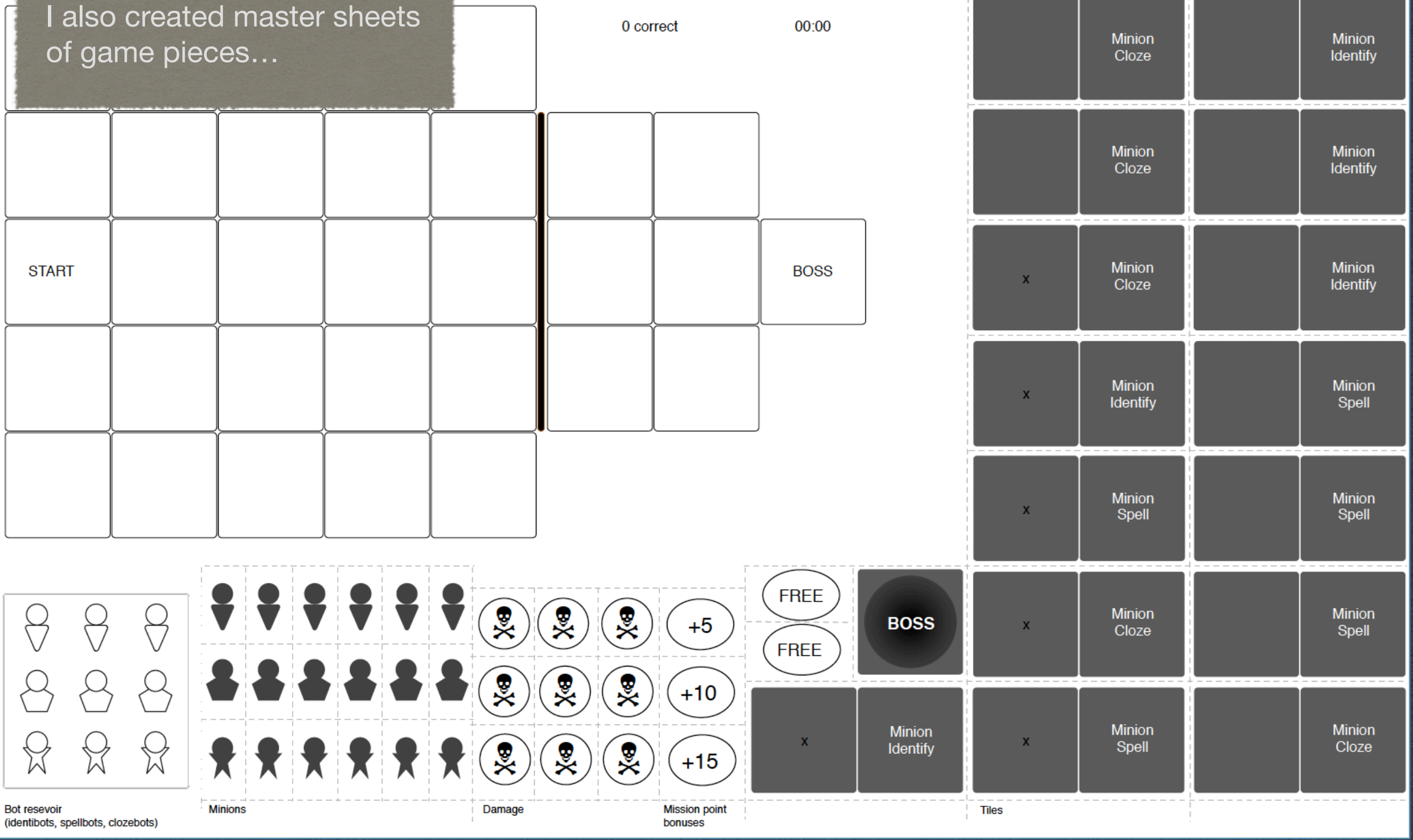
Minion tiles are always challenges (questions), evenly divided among the three skill types (identify, spelling, cloze). Each question type work the same as they do in their respective games

Treasure table (d100):
0-20% - **Rep**
21-40% - **Fr**
Boss Rob
round)
41-100% - **M**
value of d

Trap table (
0-60% Dam
61-100% TRIPLE Jeopardy (answer one of each question type) (max of 1 per board)

This game played more like a board game. I laid out the board and the rules on a one sheet to share internally.

I also created master sheets of game pieces…



DEFINE

WIREFRAMES

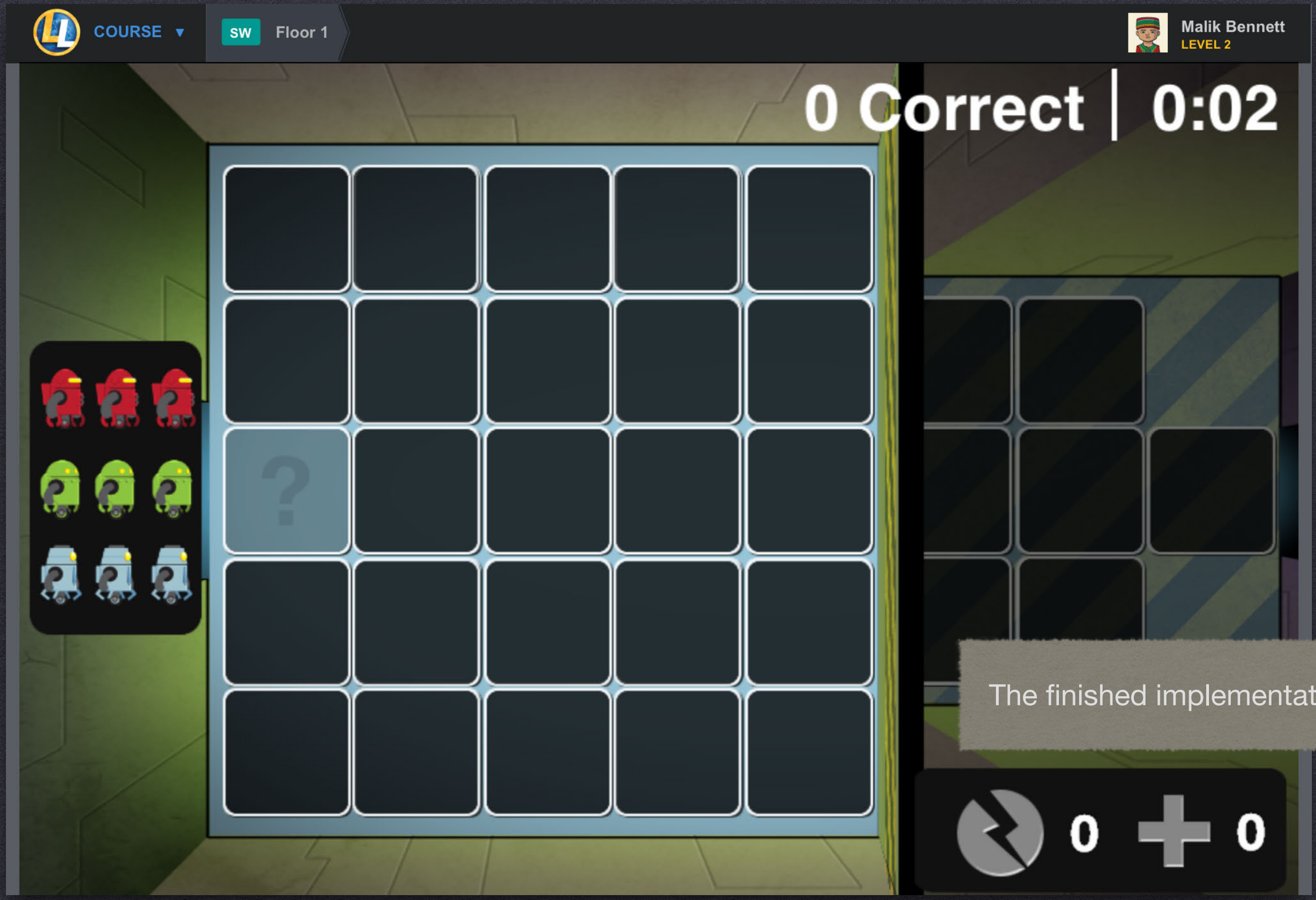
SIGHT WORDS 2

…because you have to sit down and play to see if the game is fun!

DEFINE

RULES

SIGHT WORDS 3



BUILD

APPLICATION

SIGHT WORDS 4

I designed these achievements for a vocabulary game. They are ready to import into the database from this spreadsheet.

VJ v2.0 Achievements

Name	Icon	Silver Trigger	Gold Trigger	Silver Hint	Gold Hint	Quotation	Author	Silver Pts	Gold Pts	Level	Notes
Traveller	Foot	You completed 2 word sets!	You completed all word sets!	Complete 2 word sets!	Move all the words to *Play!*	"Progress grows out of motion."	Robert Byrd	250	500	All	
Fleetfoot	Winged Sandal	You scored over 80% of the points in a word set.	You scored over 95% of the points in a word set.	How many points can you earn in *Learn*?	How many points can you earn in *Learn*?	"It is not the mountain we conquer, but ourselves."	Sir Edmund Hillary	350	700	All	What if a student gets to gold before getting to silver? Award points for both award levels--just show gold.
Wheels in the Air	Bicycle	You mastered 10 words!	You mastered all words in the level!	Play games to master 10 words!	Play games to master all the words!	"Everything is practice."	Pele	450	900	All	
Daytripper	Car (slugbug)	You answered 10 correct answers in a row!	You answered 25 correct answers in a row!	Get 10 correct answers in a row!	Get 25 correct answers in a row!	"By Endurance We Conquer!"	Shackleton Family Motto	500	1000	All	
Steering by Stars	Sailboat	You played each game!	You played each game 3 times!	Try each of the games!	Play each game 3 times!	"I have no special talents. I am only passionately curious."	Albert Einstein	600	1200	1	
Navigator	Train	You scored 80 points on a passage quiz!	You scored 80 points on 3 passage quizzes!	Get a perfect score on a passage quiz.	Get a perfect score on 3 passage quizzes!	"If you haven't got the time to do it right, when will you find the time to do it over?"	Jefferey Mayer	600	1200	2	
Barnstormer	Biplane	You completed 5 word sets in 5 days!	You completed all word sets in 10 days!	The quicker you *Learn,* the more you earn!	The quicker you *Learn,* the more you earn!	"No bird soars too high, if he soars with his own wings."	William Blake	600	1200	3	Days need not be contiguous. A student may complete a set on Tues, not log in Wed, and complete a set on Thu to still be in eligible for the achievement.
Majestic Wayfarer!	Cruiser (Ship)	You played 5 games of WordCatch!	You scored 250 points in a game of WordCatch!	Play 5 games of WordCatch (Medium or Hard)	Score 250 points in a game of WordCatch (Medium or Hard)	"A ship in harbor is safe—but that is not what ships are built for."	John A. Shedd	600	1200	4	
Rocketeer	Rocket	You played 5 games of WordDrop!	You scored 250 points in a game of WordDrop!	Play 5 games of WordDrop (Medium or Hard)	Score 250 points in a game of WordCatch (Medium or Hard)	"Life is either a daring adventure or nothing."	Helen Keller	600	1200	5	
One Foot on the Moon	Globe/moon?	You got ahead by 3 days!	You mastered all words 5 days early!	Get ahead and stay ahead by 3 days!	Beat your goal by 5 days!	"That's one step for man, one giant leap for mankind."	Neal Armstrong	600	1200	6	Measure at the end of a day, not the beginning.
New World!	Ringed planet?	You mastered 5 words in 1 day!	You mastered 10 words in one day!	Master 5 words today!	Master 10 words today!	"The cure for boredom is curiosity. There is no cure for curiosity."	Dorothy Parker	600	1200	7	

These are comps I created for our web-based Flash vocabulary program, converting to iPad.

The top one didn't have to change much.

But this screen had to be completely revised from the web version.

BUILD

CONTENT (IMAGES)

VOCABJOURNEY

Characters

Uncle Tocket Ticket

A scatter-brained but brilliant inventor. Very distracted but very grateful that you're here to help. Think Doc Brown in *Back to the Future* (remember how Christopher Lloyd channels Jimmy Durante?). There's bit of the Yiddish grandfather here—very deliberate inflection.

K.T. Ticket

A no-nonsense, get-it-done gal with tools hanging from her overalls. But she likes you. You are really helping her catch up on her work so she will do whatever she can to help you succeed. Sometimes she gets a little exasperated with Uncle Tocket's absent-mindedness.

Big Zogwog

The Big Zogwog always thinks he's the best at EVERYthing. Smug and smirky—Ralph Kramden with a winning lottery ticket. The trick here is to not be intimidating or nasty about it—BZ is inviting you to play games with him because games are FUN.

The Zogwogs

A whole tribe of Mr. Toads (*The Wind and the Willows*). They are mischievous and playful. They like to play pranks and games. They are not bad. Our young users should see them as even younger children who need guidance.

Characters I designed for a phonics program aimed at K-2 students. These write-ups are primarily for the voice actors.

Toyshop

The Toyshop looks like a cross between a laboratory and a drawing studio. Uncle Tocket plans out his toys and prototypes them in part, but everything here is in the planning stages.

The Toyshop is visited in a number of different states:

- First visit
- Blueprint selection
- Return visit
- Finished toy

First visit

On the first visit to the Toyshop, K.T. Ticket introduces herself and the toyshop. Then her absent-minded Uncle Tocket enters with terrible news!

SCENE: INT. TOYSHOP. K.T. TICKET IS HERE.

K.T. TICKET: Hi, there! I'm K.T. Ticket. Welcome to Uncle Tocket's Toyshop! Uncle Tocket is a funny guy--he's always forgetting things. But he's a genius! He thinks of new toys to play with and I get to help him put them together! In fact, he thinks of SO many new toys that I can't keep up with him!

K.T. TICKET: Hmm. I wonder where he is. He told me he had a batch of new toys he wanted us to put together. I'm so excited to see what he brings. He likes to think of toys no one has ever heard of before. Sometimes he makes regular toys that do surprising things! But he's usually here by now. I hope he's all right.

SFX: Shop door bells ring to indicate someone is entering.

UNCLE TOCKET ENTERS FROM RIGHT WITH PLANS UNDER HIS ARM.

UNCLE TOCKET: Oh, my goodness! It's terrible!

K.T. TICKET: Uncle Tocket! What's wrong? Where have you been?

UNCLE TOCKET: Something terrible has happened!

This phonics program had to deliver its instructions by audio (the target user is a non-reader). So the script I wrote combines the logic flow with the dialogue so that programmers knew when to play which character animation.

BUILD

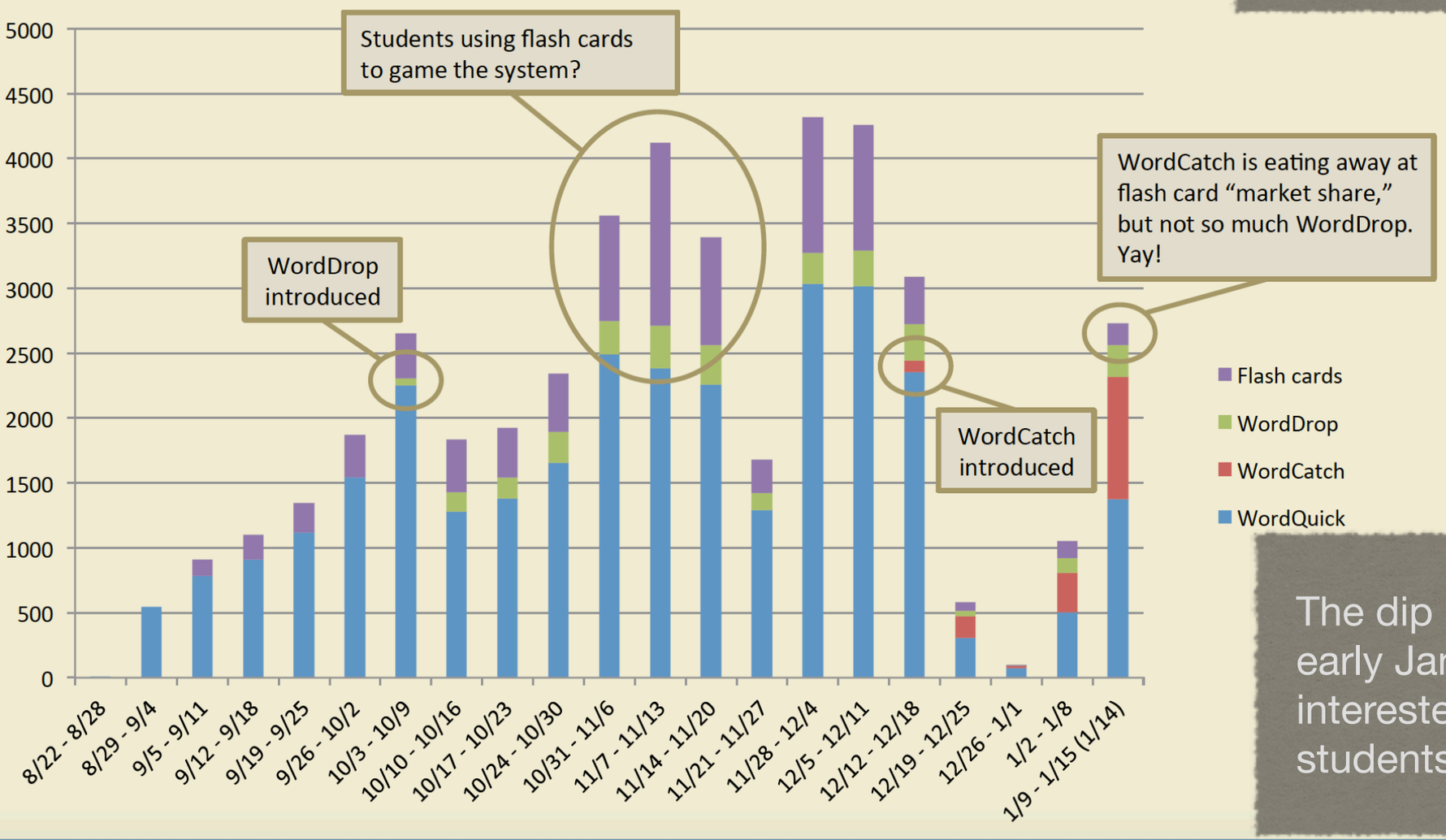
CONTENT (AUDIO, ANIMATION)

TICKET TO READ PHONICS

We introduced a new game into our vocabulary program. I ran some SQL queries to find out if the new game would catch on.

I was hoping to see students abandon the flash cards activity, an early requirement that was predictably unengaging.

Games played weekly



The dip in usage from mid-Dec to early Jan is customary. I'm interested in the last bar, when students have returned to school.

MEASURE

DATA ANALYSIS

VOCABJOURNEY

I designed this report to find out how many games it took students to get a new word to mastery. I liked this result.

Word State

Student Word Date	Word Sets Started But Not Compelte	Words Mastered	Word Condition Red	Word Condition Yellow	Word Condition Green
11/13/2011 12:00:00 AM	96	321	118	213	133
11/27/2011 12:00:00 AM	26	160	61	99	105
11/6/2011 12:00:00 AM	41	57	38	64	63
11/20/2011 12:00:00 AM	43	380	137	178	155
12/4/2011 12:00:00 AM	2	0	4	2	4

How many words started Play in...		Average of Games Required for Mastery	Words Moved to Mastery in 5 games or less	Words Moved to Mastery in 6-10 games	Words Moved to Mastery in 11-15 games	Words Moved to Mastery in 16-20 games	Words Moved to Mastery in 21-25 games	Words Moved to Mastery in 26-30 games	Words Moved to Mastery in 31-35 games	Words Moved to Mastery in 36-40 games	Words Moved to Mastery in 41-45 games	Words Moved to Mastery in 46-50 games	Words Moved to Mastery in 51+ games
Green	403	31.15	0	14	7	65	73	95	16	22	47	0	64
Red	274	28.58	0	2	0	2	70	146	4	32	11	0	7
Yellow	271	28.93	0	0	0	13	37	159	5	26	22	0	9

MEASURE

DATA ANALYSIS

VOCABJOURNEY