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Cures & Curios Usability Report

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GAT 370

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## Abstract

This paper looks at the experience of test subjects when playing Cures & Curios. The early game user experience is examined using a combination of surveys and in-game analytics. Most players reported an interest in playing further despite struggling to grasp the core mechanic of the game, crafting. Though the paper attempts to examine what causes the issue preventing players from fully grasping the crafting system, a critical loss of data makes it difficult to mathematically pinpoint what is causing the issue.

## Game Summary

The build used for this test is the Cures & Curios pre-submission build from April 20<sup>th</sup> affectionately known as FinalSubmission\_v3. This build was packaged in a custom version of Unreal 4. The game is a Vive VR potion crafting experience set in an alternate version of the old west. The player begins by selling their soul to “The Beast”, who forces the player to work in his travelling medicine show cart making potions. The core loop of making a potion must be understood by the player very early on to deliver an enjoyable experience.



## Methodology

A random sample of eight DigiPen students was provided by the principal investigator, Prof. Radakovich, via Acuity Scheduling. The test occurred in a temporary laboratory established in one of DigiPen's classrooms. Each subject was briefed by the principal investigator and filled out a consent form before being randomly assigned to one of the available tests. There were between one to three tests running concurrently in the lab.

Upon arriving at the Cures & Curios testing station subjects were briefed on the specifics of the test via a script before beginning a pre-test survey about their gaming and VR experiences. Subjects were then helped into the headset by the investigator. The subject was instructed on how to adjust the Vive headset to improve visibility and allowed time to adjust this while viewing a Vive splashscreen. When ready, the subject was then given headphones and the controllers.

The subject then played the main menu, the cauldron crafting tutorial, the first day, and the first purchasing sequence. This is roughly between seven and fifteen minutes of gameplay. At this point the subject was asked to remove the headset and fill out a post-test survey when ready. They were then offered a chance to add any final questions or comments before returning to the principal investigator.

## Qualia

The pre-test survey utilized questions about VR and general gaming experience to test whether there is any relationship between levels of familiarity and the Cures & Curios experience. In-game analytics recorded timestamps of progress through the tutorial, the number of potions failed, and the number of potions successfully created. The post-test survey focused on subjective ratings to compare player experiences against the gameplay data.

## Disclosures

The investigator is a student at DigiPen Institute of Technology who worked as a testing lead and gameplay designer on Cures & Curios. The investigator also worked with a romantic partner who held the role of producer on the project. One of the test subjects is a friend of the investigator and has played Cures & Curios within the current school year. DigiPen being a small school, the investigator has met or attended classes with all but one of the test subjects. Additionally, with all test subjects involved in learning to make video games in some capacity, they are more likely to understand situations which might confuse other players. With such a small sample size, data is not normalized in this paper. When performing the testing, it had appeared that all gameplay data was being recorded correctly. Unfortunately, much of the data was lost due to inconsistencies among the custom dimensions and metrics in Google Analytics accounts. This had a severe impact on the usefulness of the data recorded.

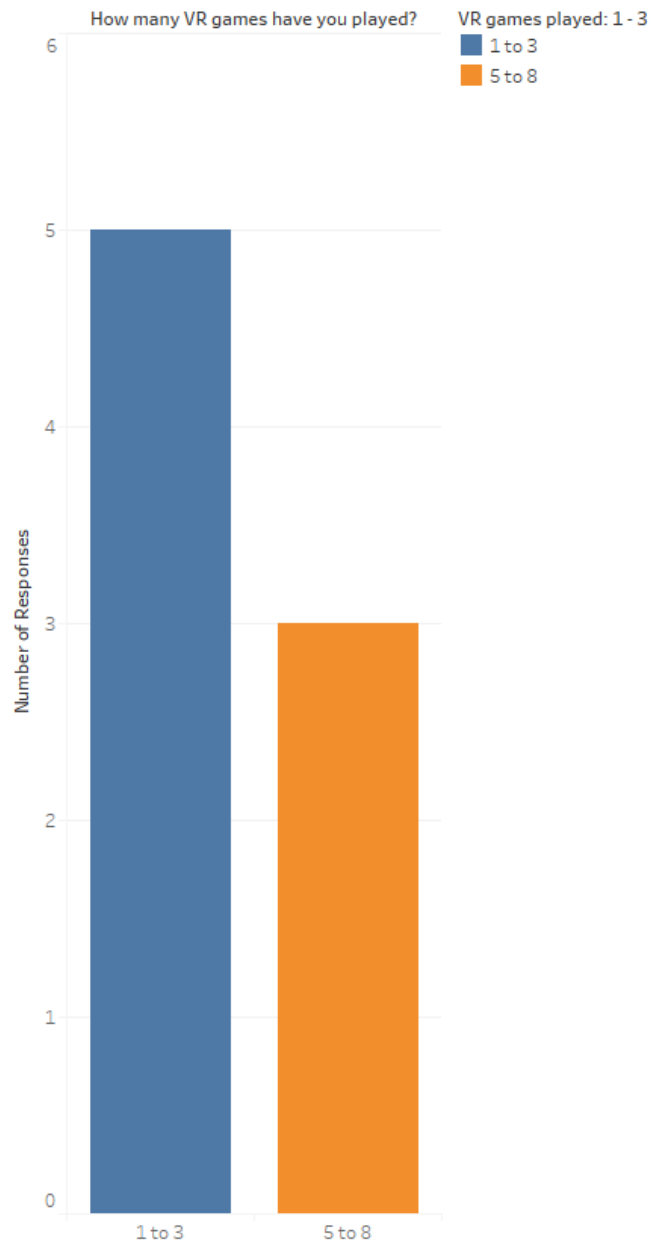
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2. Testing instruments
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## Results

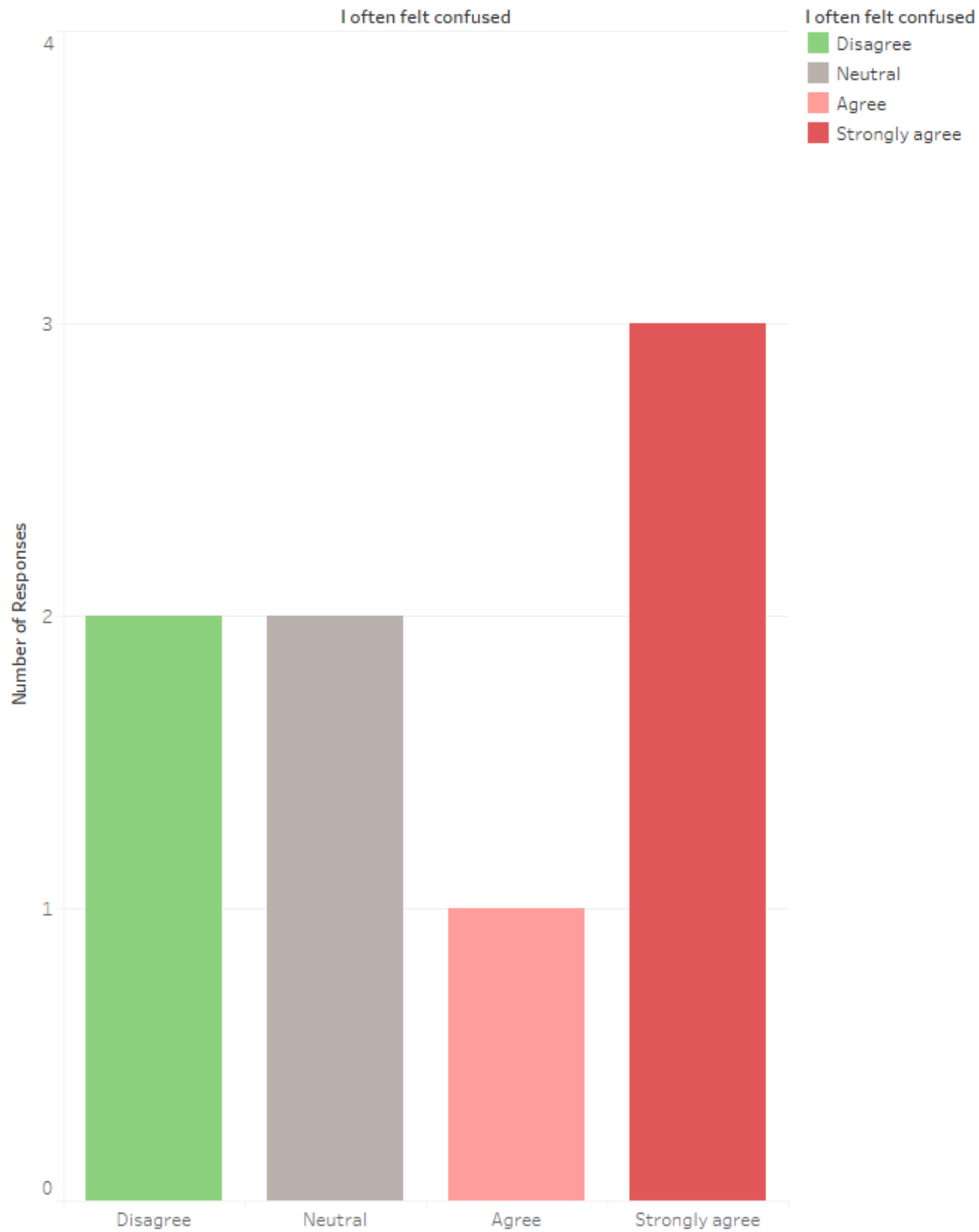
One hypothesis which emerged throughout the process of non-scientific playtesting of Cures & Curios was that those without any VR experience would fare worse when playing the game. All test subjects have tried at least one VR game, so the five subjects with less experience were used to test this hypothesis.

All responders have tried VR before



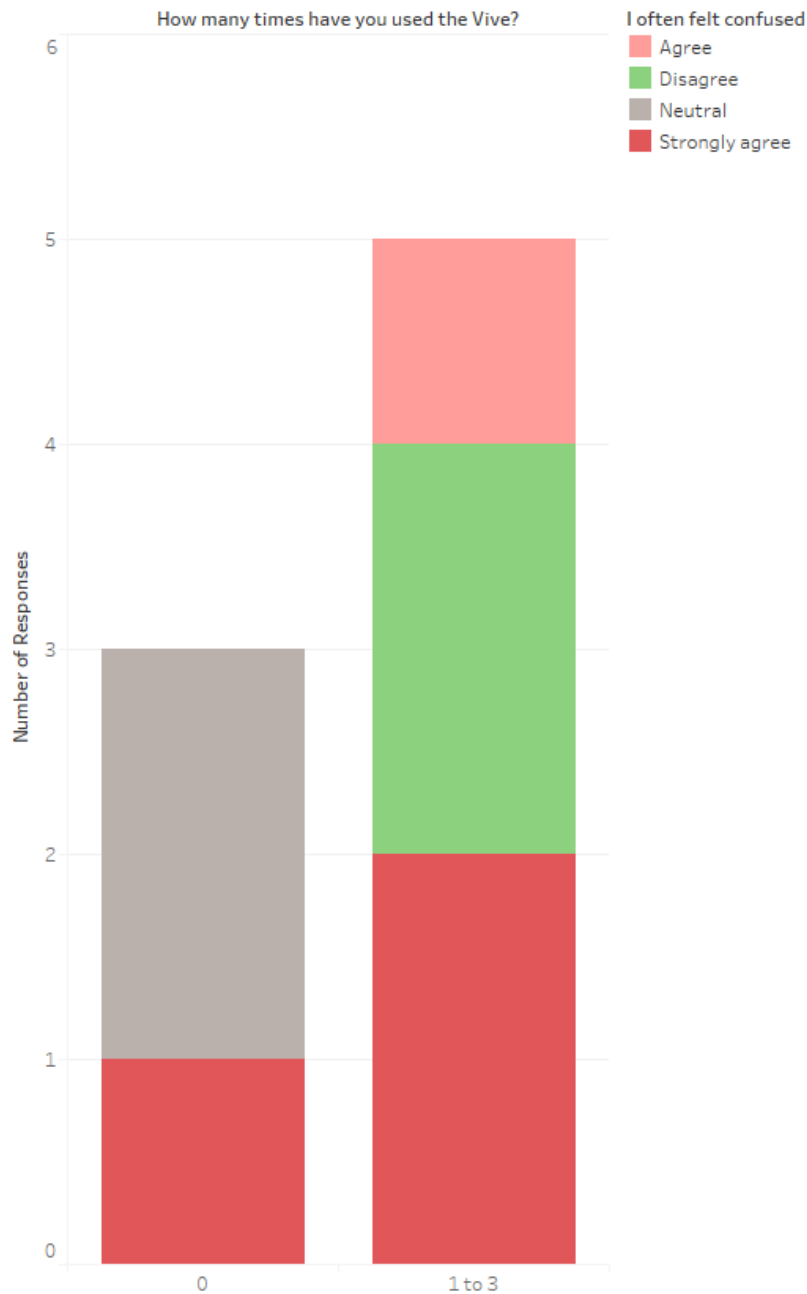
Fifty percent of testers experienced confusion during the game whereas only twenty percent didn't.

### Most players experienced confusion

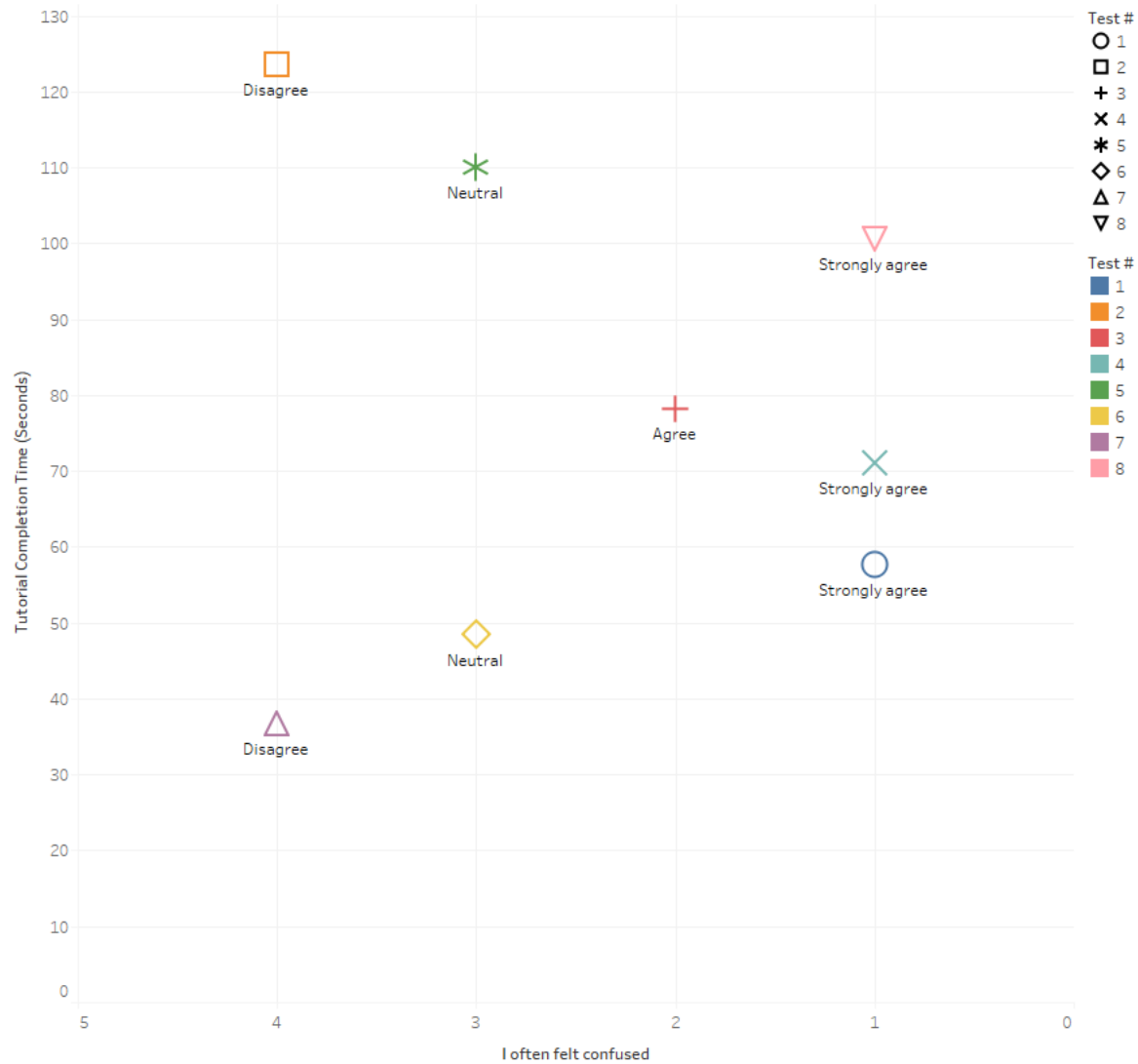


Those that have never tried the Vive before all reported experiencing confusion whereas those who had tried before experienced varying results.

Lack of Vive experience may affect  
players' level of confusion



Time to complete the tutorial doesn't affect the players' level of confusion

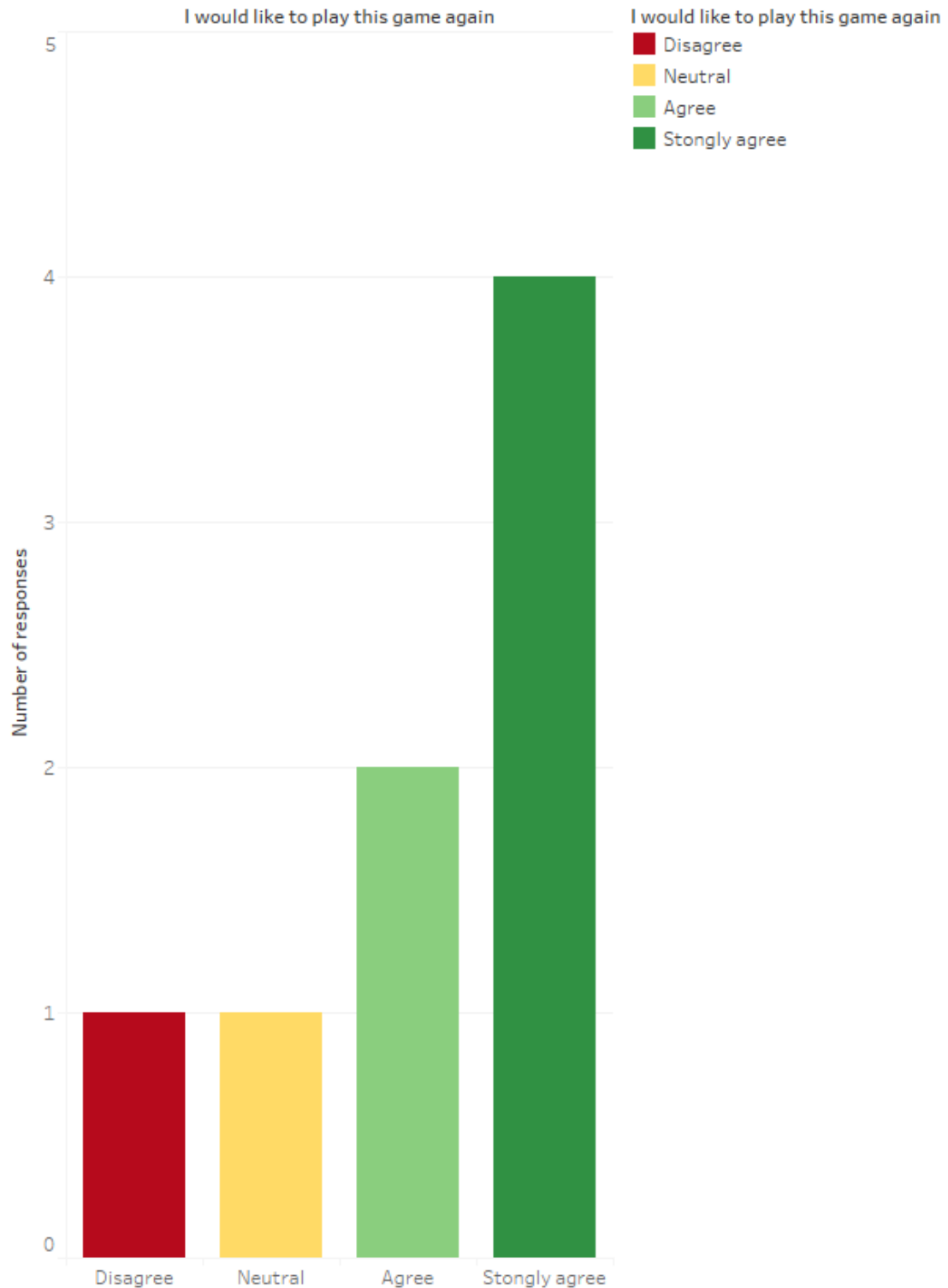


Of the steps in the tutorial, players most often failed in deciding between using the butter or barley. The tutorial resets to step three when the potion is failed.

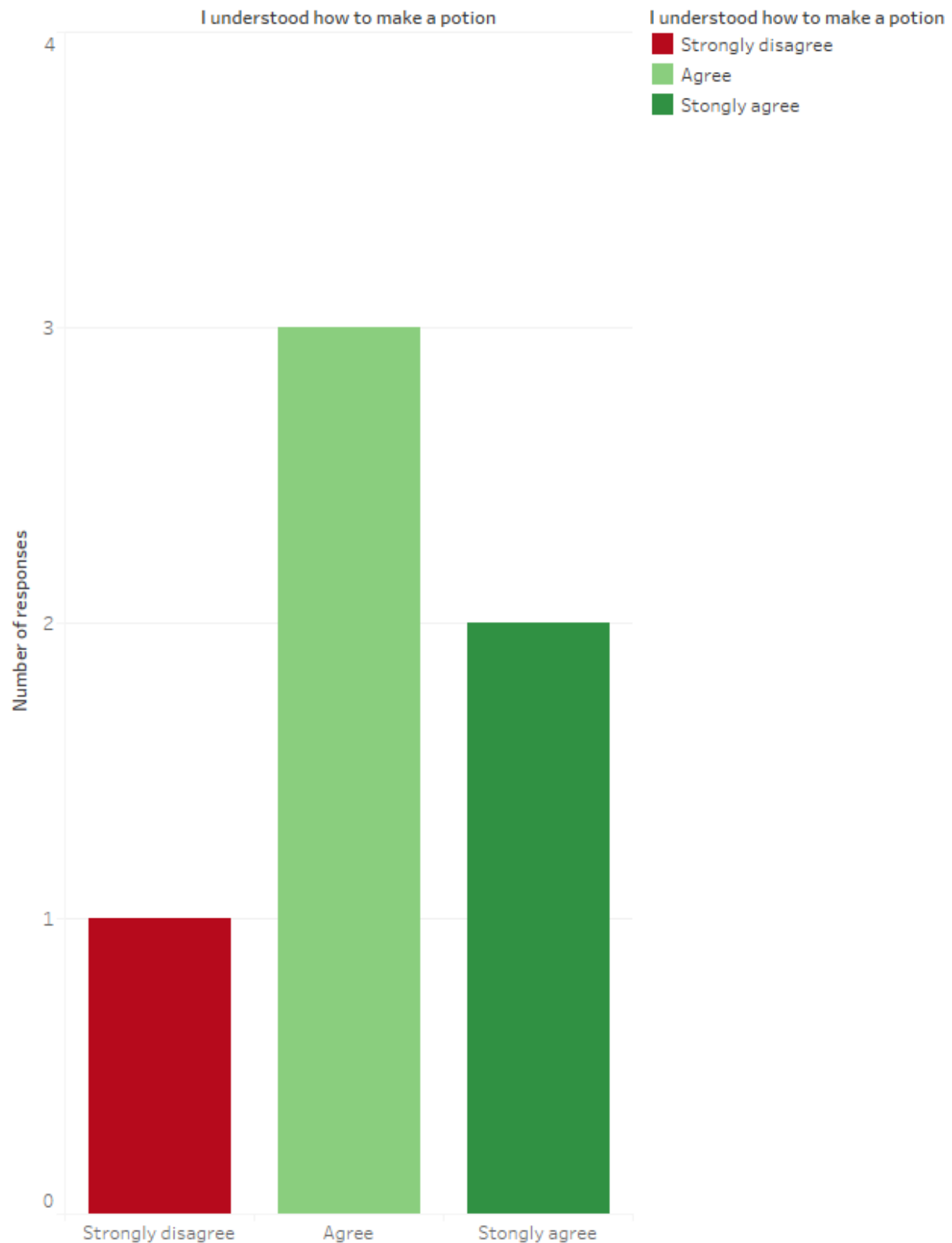
Tutorial step before error	Step Description	Occurrences
3	Ticket placed on holder	4
4	Barley grabbed	9
5	Barley placed in cauldron	0
6	Honey placed in cauldron	0
7	Crystal placed in cauldron	1

Despite the players often feeling confused, they reported interest in playing further.

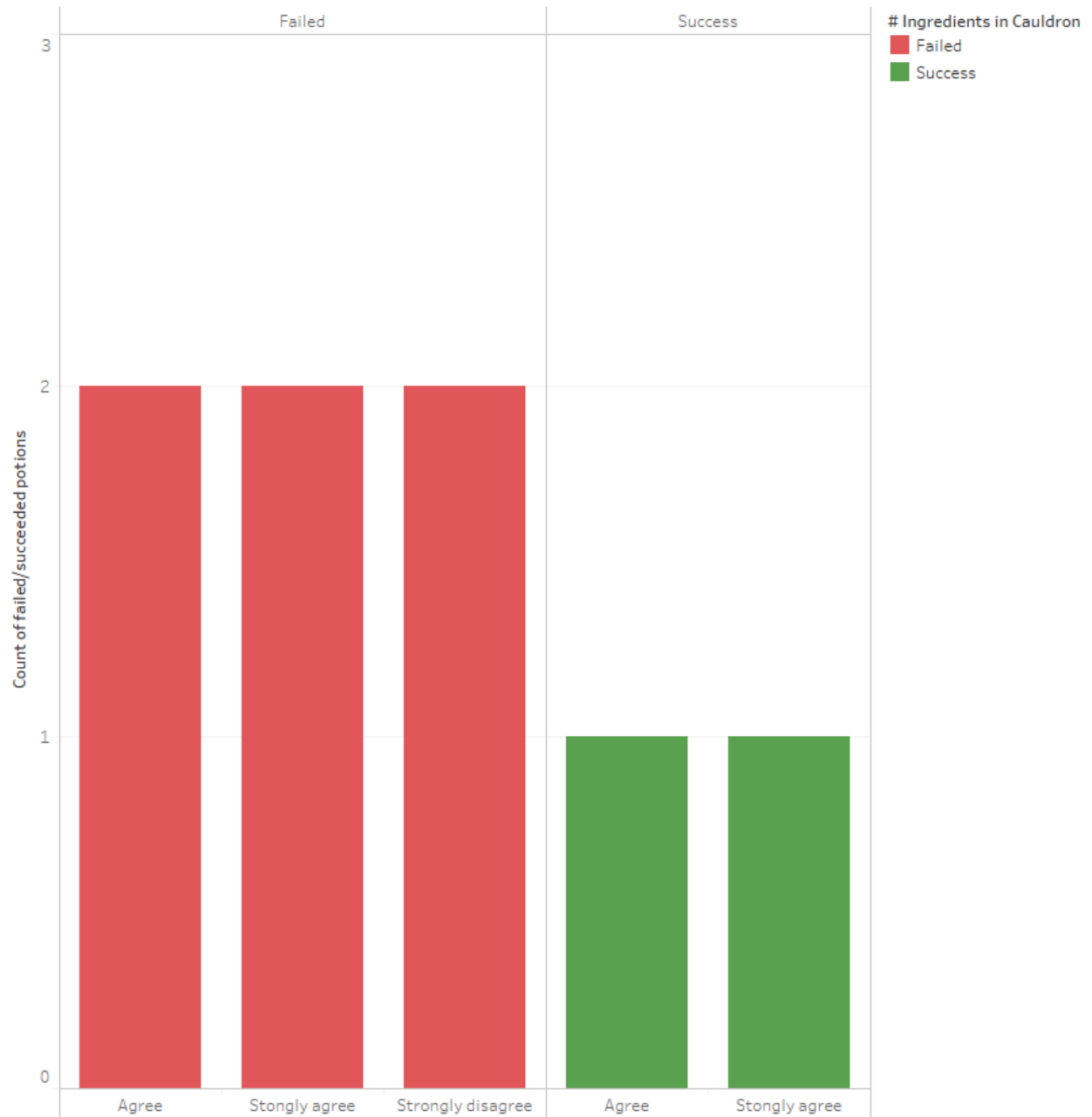
The majority of testers would like to play again



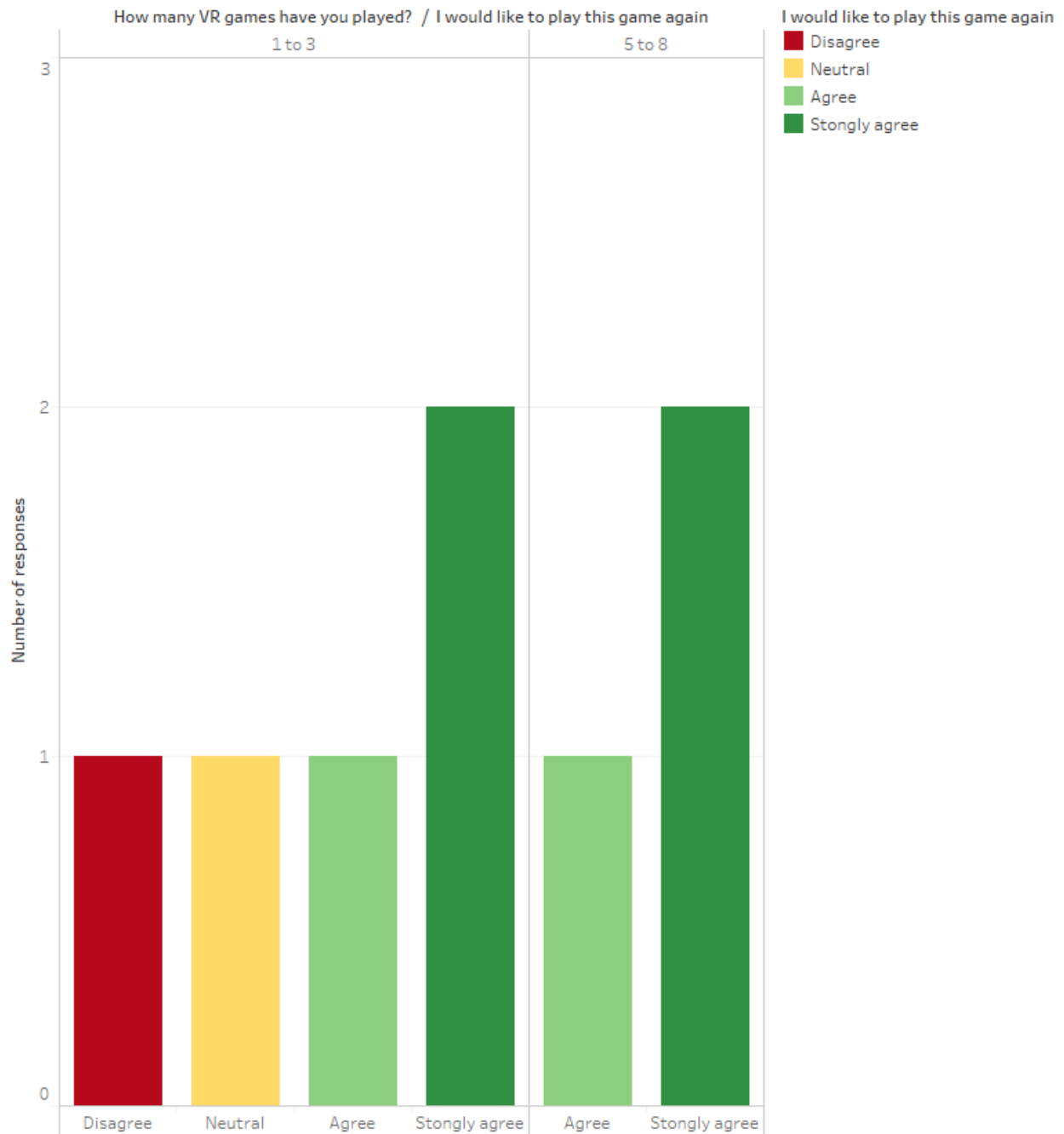
Most testers that would like to play again  
felt they understood how to make potions



...Despite only two successfully made potions between them



Testers interested in playing again came from both levels of VR experience amongst the group



## Analysis

Though some confusion in the early portion of the game is expected only twenty percent reported that they were not confused. Vive experience did aid at least one of the two testers who did not report confusion. The other, tester seven, has tried the game within the last year. This explains the above average numbers posted in the potion making success rate below.

Test #	Num Potions Failed	Num Potions Made	Num. Potions Att. (Started)	Success Rate
1	2	1	3	0.333333333
2	2	0	3	0
3	4	0	4	0
4	1	0	1	0
5	1	0	1	0
6	1	0	1	0
7	1	1	2	0.5
8	5	1	6	0.166666667

Sum	17	3	21	1
Std. Dev	1.452368755	0.484122918	1.653594569	0.181620789
Avg	2.125	0.375	2.625	0.125
Median	1.5	0	2.5	0

A paltry three potions were successfully made by all eight test subjects. Once again, subject seven's numbers may be skewed due to experience with the game. Instead of crafting potions the subject spent much more time investigating the environment.

The amount of time it took to complete the tutorial did not have any bearing on the players' level of confusion. The two fastest and slowest times reported no confusion. Despite this, only tester seven successfully completed a potion after the tutorial.

Test #	Time to complete tutorial	Mistakes Made (Count)
1	57.725356	3
2	123.581593	1
3	78.25593	0
4	71.050526	0
5	110.09948	1
6	48.565437	0
7	36.782383	0
8	77.418587	8

Sum	603.479292	13
Std. Dev	27.56915435	2.595067437
Avg	75.4349115	1.625
Median	74.2345565	0.5

## Discussion

Amongst all the data shown above it is difficult to discern any sort of relationship to explain the poor potion crafting success rate. Despite crafting at least one potion in the tutorial, subjects still hadn't grasped the system. Unfortunately, a critical piece of test data was lost: the data which recorded which ingredients were placed in the cauldron prior to the failed potion. This could shed some light on where the issue is arising for players.

## Appendix

### Testing Script

#### Intro

Hi, my name is David, I will be conducting this user research and I'd like to thank you for taking your time to participate in this test. Before we begin, I'm going to give you a brief overview of the test and how it will work.

We'll begin by having you fill out a brief survey about your gaming and VR experiences. After this I will put you in the headset and be watching and listening to your responses as you play. It's important to know that we are testing the game, not you. You can't do or say anything wrong here so feel free to let me know if there is anything you like, dislike, or are confused about during this process. I promise you won't hurt my feelings. You will play through three sections of the game, taking between ten to twenty minutes, after which I will ask you to remove the headset. Once you are ready, I will then have you fill out one more brief survey.

I'd also like you to talk me through your thought process as much as possible. For instance, if you see a glowing object that you want to interact with, saying something like, "this caught my eye so I'm going to try and interact with it" would be very useful.

If at any point you have questions, please don't hesitate to ask. Do you have any questions so far?

Okay, let's get started, please proceed to fill out the survey on this computer.

#### Headset script

Now we'll put you in the Vive headset.

*(If wearing glasses)*

Would you like to wear your glasses while you play?

There are straps on either side of the headset as well as a strap at the top, use either of these to tighten the headset and improve visibility. There is also a knob on the left front side of the headset which can be used for visibility adjustments. Once you feel comfortable in the headset I will pass you the headphones and finally, the controllers.

### Post-game

To take off the headset you will hand me the controllers, the headphones, and the headset in that order. Feel free to take a moment to acclimate to the environment before beginning the survey.

### Testing Instruments

A custom-built PC with a 1070 GPU was used to run Cures & Curios. The HTC Vive and a pair of Sennheiser headphones were used to play the game. GameDNA's Google Analytics plugin for UE4 (Unreal Engine 4) was used to record and send data via Blueprints to Google Analytics. The survey was conducted on Google Forms.

### Survey

Link:

[https://docs.google.com/forms/d/e/1FAIpQLServ2Umgs4WL6v9I5AbljZY71mAWMaReVBwassA08szBvwIBA/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLServ2Umgs4WL6v9I5AbljZY71mAWMaReVBwassA08szBvwIBA/viewform?usp=sf_link)

## Cures & Curios Pre-Test Survey

Have you played Cures & Curios before?

Yes

No

(If Yes)

When did you last play Cures & Curios?

Between Fall 2016 – Spring 2017

Between Fall 2017 - Present

(If No on question 1)

How many hours do you spend playing video games in a week?

0      1 to 3      5 to 8      10 to 15      20+

How many VR games have you played?

0      1 to 3      5 to 8      10 to 15      20+

How many times have you used the Vive?

0      1 to 3      5 to 8      10 to 15      20+

Which of the following games have you played? Select all that apply.

Don't Starve

Diner Duo

Madden

Cooking Mama

Candy Crush

Terraria

Factorio

Cures & Curios

None of the above

(Next section)

Thank You

When you are ready, we will put the headset on you and begin the playtest

(Next section)

## Cures & Curios Post-Test Survey

I understood my role in the game

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I often felt confused

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I understood how to make a potion

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I understood how to buy packages from the night merchant

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

I felt rushed

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

The game was easy

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

The night merchant is my

	1	2	3	4	5	
Enemy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ally

I would like to play this game again

	1	2	3	4	5	
Strongly Agree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Disagree

Thank you for your time!

Be sure to grab a donut if you haven't!

## Survey Results

Test #	Timestamp	Have you played Cures & Curios before?	How many hours do you spend playing video games in a week?	How many VR games have you played?	How many times have you used the Vive?	Which of the following games have you played? Select all that apply	I understand my role in the game	I often felt confused	I understand how to make a potion	I understand how to buy packages from the night merchant	I cared about which packages I bought from the night merchant	I felt rushed	The game was easy	The night merchant is my	I would recommend this game to friends	I would like to play this game again	When did you last play Cures & Curios?
1	4/23/2018 14:16:03	No	20+	5 to 8	1 to 3	Cooking Mama, Candy Crush, Terraria	2	1	2	1	3	2	2	1	3	2	
2	4/23/2018 15:19:28	No	5 to 8	5 to 8	1 to 3	Don't Starve, Terraria	1	4	2	5	5	5	2	2	1	1	
3	4/23/2018 17:20:41	No	5 to 8	1 to 3	1 to 3	None of the above	2	2	5	5	5	2	4	3	3	3	
4	4/23/2018 18:19:50	No	5 to 8	1 to 3	0	Don't Starve, Madden, Terraria	3	1	5	5	1	4	4	2	2	1	

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Test #	Timestamp	Have you played Cures & Curios before?	How many hours do you spend playing video games in a week?	How many VR games have you played?	How many times have you used the Vive?	Which of the following games have you played? Select all that apply	I understood my role in the game	I often felt confused	I understood how to make a potion	I understood how to buy packages from the night merchant	I cared about which packages I bought from the night merchant	I felt rushed	The game was easy	The night merchant is my	I would recommend this game to friends	I would like to play this game again	When did you last play Cures & Curios?
5	4/24/2018 13:20:08	No	10 to 15	1 to 3	0	Don't Starve, Candy Crush	2	3	1	3	1	5	4	4	2	1	
6	4/24/2018 14:16:42	No	1 to 3	1 to 3	0	Cooking Mama, Terraria	2	3	2	2	4	4	3	2	4	4	
7	4/25/2018 13:20:52	Yes	1 to 3	5 to 8	1 to 3	Don't Starve, Madden, Cooking Mama, Cures & Curios	1	4	1	2	1	5	2	2	1	1	Between Fall 2016 - Spring 2017
8	4/25/2018 13:42:07	No	1 to 3	1 to 3	1 to 3	Terraria	2	1	2	3	2	3	5	3	2	2	

## Tutorial Data

Test #	Date	Hour	Minute	Second (of gameplay)	Event Value
1	20180423	14	7	29.264093	2
1	20180423	14	7	34.514286	3
1	20180423	14	7	38.066128	4
1	20180423	14	7	52.430363	3
1	20180423	14	7	54.853676	4
1	20180423	14	7	61.611538	3
1	20180423	14	7	63.074856	4
1	20180423	14	7	68.927628	5
1	20180423	14	8	78.511047	6
1	20180423	14	8	86.989449	7
2	20180423	15	8	42.035564	2
2	20180423	15	8	72.796738	3
2	20180423	15	8	90.724342	4
2	20180423	15	9	129.862534	3
2	20180423	15	9	131.750168	4
2	20180423	15	9	143.355408	5
2	20180423	15	10	156.077789	6
2	20180423	15	10	165.617157	7
3	20180423	17	6	22.429876	2
3	20180423	17	6	41.809963	3
3	20180423	17	6	44.613918	4
3	20180423	17	7	63.925873	5
3	20180423	17	7	91.637764	6
3	20180423	17	7	100.685806	7
4	20180423	18	10	33.414669	2
4	20180423	18	10	39.424534	3
4	20180423	18	10	44.886223	4
4	20180423	18	10	59.127781	5
4	20180423	18	11	94.814705	6
4	20180423	18	11	104.465195	7
5	20180424	13	11	35.221901	2
5	20180424	13	11	73.310486	3
5	20180424	13	12	90.031166	4
5	20180424	13	12	104.663475	3
5	20180424	13	12	107.791183	4
5	20180424	13	12	124.009872	5
5	20180424	13	12	136.497223	6
5	20180424	13	12	145.321381	7

6	20180424	14	9	42.88945	2
6	20180424	14	9	48.798298	3
6	20180424	14	9	58.884747	4
6	20180424	14	9	71.718819	5
6	20180424	14	9	81.793671	6
6	20180424	14	9	91.454887	7
7	20180425	13	14	19.49395	2
7	20180425	13	14	28.430553	3
7	20180425	13	14	31.6021	4
7	20180425	13	14	35.645714	5
7	20180425	13	14	48.993481	6
7	20180425	13	14	56.276333	7
8	20180425	13	28	24.92263	2
8	20180425	13	28	30.250504	3
8	20180425	13	28	32.049175	4
8	20180425	13	28	44.067966	3
8	20180425	13	28	45.520168	4
8	20180425	13	29	70.864456	3
8	20180425	13	29	72.126785	3
8	20180425	13	29	77.968636	3
8	20180425	13	29	82.436356	3
8	20180425	13	29	90.14341	4
8	20180425	13	29	104.910126	3
8	20180425	13	29	105.736626	4
8	20180425	13	29	109.244125	5
8	20180425	13	29	118.503952	6
8	20180425	13	30	125.485527	7
8	20180425	13	33	31.893806	2
8	20180425	13	33	49.988594	3
8	20180425	13	33	58.679077	4
8	20180425	13	33	79.364838	5
8	20180425	13	34	95.359489	6
8	20180425	13	34	102.341217	7

## Failed Potion Data

Test #	Date	Hour	Minute
1	20180423	14	10
1	20180423	14	11
2	20180423	15	11
2	20180423	15	12
3	20180423	17	8
3	20180423	17	9
3	20180423	17	11
3	20180423	17	18
4	20180423	18	13
5	20180424	13	14
6	20180424	14	12
7	20180425	13	15
8	20180425	13	31
8	20180425	13	36
8	20180425	13	40
8	20180425	13	52
8	20180425	13	59