

Project Phase 5

TWO-IN-ONE GAME

Jacqueline Palacios | jpalacio@my.athens.edu | 00100531

RESULTS OF THE SURVEY SUMMARIZED

It only took a few days to receive all of the responses back from the questionnaire. The questionnaire was distributed to users via a shareable link from Forms. Through this application, I am able to see various parts of the survey summarized. From six responses, the average time to complete was twelve minutes and fifty-four seconds. All users provided their names when submitting the survey. When asked if they enjoyed the game, four users responded they were very satisfied while two users responded they were somewhat satisfied. Forms gives an ID for each response and the user's name can be seen listed by their response if more details are selected. All users understood this question as it was easy to decide. While simplistic, they saw these games as being fun and not a huge take of their time.

I decided to ask this particular question since at the end of any number of questions asked, the most important one to ask is if the user enjoyed it. Knowing this reason encourages the programmer to continue to improve on the program. Four users responded that they were very satisfied while two stated that they were somewhat satisfied. Since the games were simplistic and familiar, I had hoped that the game would be enjoyable. The users were amenable to being asked this question since they were appreciative to have their opinion of the enjoyment of the game asked. Their enjoyment of the game is as important as the functionality of the program. This was the core reason I had felt the need to ask this on the questionnaire. The responses to this question can be seen in the figure below.

2. Did you enjoy the game?

[More Details](#)

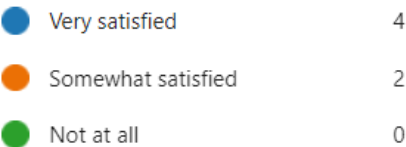


Figure 1 of Question Two

The next question asked users if it was easy to navigate the game. Four users responded that it was very easy, one said that it was somewhat easy, and one user said it was somewhat difficult. The users that found it easy to navigate the game were those that had some exposure to programming and understood the importance of inputting correct values. The two that had a bit of difficulty with navigating the game were those who had knowledge of computer software, but they had never launched a program with a compiler before. These users were guided through how to navigate the menu and the correct values to input. Navigating the game consisted of going through the main menu and going through each game option. This was another question that the users had no issue understanding. They were asked to consider the ease of accessing each part of the game and answered truthfully. While a user should enjoy the game before anything else, it is also important to know if the game was easy to navigate. If there was a part that was not easy to, a programmer can give extra care to revising portions of the game with the most problems. A graphic of the results of this question are displayed below.

3. Was it easy to navigate the game?

[More Details](#)

Very easy	4
Somewhat easy	1
Somewhat difficult	1
Very difficult	0



Figure 2 of Question Three

The question following this one asked users if there were any portions of the game that they believed should be revised. This question allowed users to select more than one response since there was a possibility of issues arising in each portion of the game. By asking this question, I could give extra attention to revising the sections of the game with the most issues. While I could attempt to debug the program myself, there could be issues that I do not see or would think to check. There was an overwhelming response from users who found that the Sudoku portion of the game needed to be revised. Only one user commented that they did not believe that the game needed to be revised. Most users were quick to respond to this question since during their gameplay, it was evident to see which parts they were struggling with or taking longer to complete. The users enjoyed having this question asked since they were allowed to select more than one response. The figure below presents the question and summarizes the results.

4. Are there any portions of the game that you think need to be revised?

[More Details](#)

● The Game Menu	0
● High Roll vs. Low Roll Game	0
● Sudoku	5
● No	1



Figure 3 of Question Four

The following question was asked in relation to the previous question. If a user selected an option besides “No,” they were asked to note where in the game they experienced their issues. Most users answered that the results portion of the Sudoku game is where they encountered a possible programming error while two users noted that they noticed issues with validating inputs during the Sudoku game and the results of it. One user stood out in that they stated that they had had trouble with the entire game. Since this was the user that was not too familiar with programming or IS, it made me wonder if my game was not accessible to those who had trouble with technology. When writing the code for this program, I had a suspicion that most of the errors, if any, with the game would stem from Sudoku since I had to intensively research that portion of the game and reference various materials. I was pleased to see that my suspicions were correct. This way, I could easily look pull up the code and revise it in those sections. When presented with this question, some users had to take a few minutes to ponder the question. With the way it is written, it could leave users confused. If I were to revise this questionnaire, I would word this question differently to lessen users’ confusion. Responses for this question can be seen in the figure below.

5. If you selected an option besides "No," what in the game(s) should be looked at?

[More Details](#)

5
Responses

Latest Responses

"Input for the values in the game and the results."

"The results portion for the Sudoku game."

Figure 4 of Question Five

The next question in this questionnaire asked users if it took them more or less time than they expected to complete this game. Before they were presented with the program to interact with, users were given a brief summary of the game, so they had an idea of what to expect. The responses to this question were evenly split throughout the board. Three users stated that it took them more time, two said it took less time, and one user stated that it took them about the time they expected to complete the game. I suspect that for the users who picked the first option, the part that took the most time was the Sudoku game. For the rest of the users, I believe they were able to breeze by since they were familiar with what the game expected of them. I deem this was a fair question to ask since it helped me gauge the time users expected to complete the game by. Since the majority of the functionality in this program stemmed from the two games, and given the concept of both, it is alarming to see testers respond that the game took longer than they expected. To revise this question, I would ask a follow-up query that was open-ended and inquired as to what specific parts of the game attributed to this. The results of this question can be seen in the figure below.

6. Did it take more or less time than you expected to complete the game?

[More Details](#)

More time	3
About the time expected	1
Less time	2



Figure 5 of Question Six

The final question asked users to describe any issues they had with the game. While a previous question asked something similar to this, this final question was meant to ask the final thoughts of the user. There were varying responses to this question. Most users did note that the Sudoku game is where most of their issues stemmed from. One user stated that they did not have any issues and that it was remarkably easy to play both games. Another user made an interesting note that gave me an idea for a future update to the game. They stated that they had had a hard time keeping track of the numbers they had to input for the board, so if the board updated as they typed their responses in, that would help them play the game more easily. They noted that they had enjoyed the high roll game. Two users had noted that entering an incorrect value during the Sudoku game broke it. They had also stated that they were familiar with playing Sudoku and had noticed that the game was not generating valid boards. With these comments, I am able to go back to specific points of my code to revise those portions. I left this question for last since I believed it would take the most time to answer since it is open-ended. Users did not have a character limit for this, so they were able to type as much as they wanted. Users noted that the question was easy to ask since the instances that they had had issues with the game were memorable since it led to unconventional errors. Responses for this question can be seen in the figure below.

7. Please describe any issues you had with the game.

[More Details](#)

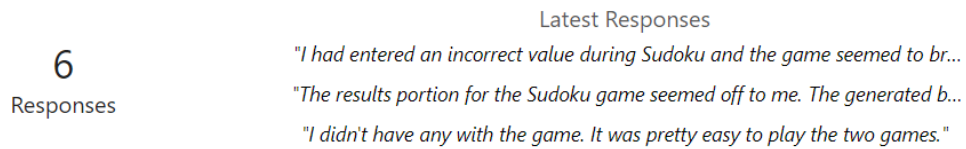


Figure 6 of Question Seven

REFLECTION & CORRECTIONS

After considering the results of the survey, there are a few changes I would implement to the user interface to make it easier for users to learn and use the system. The instructions in the games are straightforward, so there would be no changes there. Before the code is distributed to users, they should be informed on how to load the game and a recommended compiler suggested or included in the distribution of the code so as to make the game as accessible as possible for users. There were no issues as well with the High Roll vs. Low Roll game. Users did not report issues with any of the functionality of that game. The main issues with the system stemmed from the Sudoku game. Namely inputting incorrect values during the game and the system generating invalid boards for users at times. While functions were implemented for error checking the inputs for the row number, column number, and space value, these functions did not work as expected. In a revision of the system, I would carefully analyze if these functions work for each empty space, and if not, debug the code to see where the error arises. User input verification is rather simple to check, so it is possible this was missed while the code was being developed.

As for the invalid boards, this arises from an issue with the system. The code that I have developed creates boards in the specified orientation and range of values for this modified version of Sudoku. There is no error checking in the code to see if these boards are valid. While the program occasionally produces boards that are valid, there are more invalid than valid boards generated for users playing Sudoku. As such, the game is unplayable as it is. If a user is unable to

play a valid game, then the game is not fit to be distributed to users until the error is fixed. To ensure there is a valid board each time, I have come up with a possible solution.

Instead of creating a board that is generated with missing values, a solved board should be created in its place. A function should be created to black out a random set of squares for each block. At the end of the user's inputs, there are two ways to present the results of the game. First, the user can be presented with their board that has their submitted values. Another board could follow that would present the correct solution to the board so users can compare their board with the solved board. Secondly, the user could be presented with their board only and there would be no display of the correct board.

I lean toward the latter since presenting both boards has the potential to confuse the user, even if both boards are properly labeled. The only issue I see with leaning towards the latter solution is that the user may wonder which values were incorrect. To lessen confusion, after the user's solved board and the results of the game are displayed, there should be an option for the user to see the correct board if they would wish to do so. If not, the system would simply ask them if they would like to play another round or return to the main menu. By doing so, users would be able to easily differentiate their board from the solved board. They would be able to easily compare both boards and see where their errors lie.

RE-EVALUATION OF THE QUESTIONNAIRE

With this new interface in mind, I would change some parts of the questionnaire while leaving the rest unchanged. For question four, it asks the user if there are any portions of the game that they believe should be revised. A user may not completely understand what it means to revise a portion of the game if they are not familiar with programming. Instead, I would ask if the user had any issues with any of the sections in the game. If an issue is apparent to a user while playing the game, they are more likely to remember what section they had this issue. Broadly

asking what portions users think need to be revised could lead to confusion since this is a very broad question. The intentions behind it are to ask the user where in the game they encountered issues. As the question is, it does not convey this. Users could misinterpret this question easily.

To add to this, question five would also be revised. Instead of asking the user what in the game(s) should be looked at, I would ask what issues they encountered with the game, if any. Here, they would be able to write about anything they experienced that gave them an error if there are any present. By expressing the question in this format, any person would be equipped to answer the question without prior coding experience since it simply asks if the user experienced any issues with the game. If there are none, the user can easily state that they did not experience any issues with the game.

Lastly, I would revise the last question on this questionnaire. Question seven asks the user to describe any issues with the game. Since the previous question was revised to ask this query, I would instead use this question to ask the user if they would like to leave any additional comments about the game. Having this question for last will allow the user to ruminate on the game to gather their thoughts about the experience. The user will be at the end of the questionnaire and will have the rest of the survey to express any concerns or comments about the game. With this section, the user can comment on whatever they wish about the game. They are not being asked to analyze or troubleshoot any specific part of the game unless this is how they interpret the question. This is a scenario where it is desired for the user to interpret the question in any number of ways since comments would have the potential to unveil new things about the project. User could comment on the way instructions are worded, if any parts of the game are too vague, etc.

Appendix

1. What is your name?

Lindsay Preiss

2. Did you enjoy the game?

- ☒ Very satisfied
- ☐ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☐ Very easy
- ☒ Somewhat easy
- ☐ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☒ Sudoku
- ☐ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

The results of the Sudoku game.

6. Did it take more or less time than you expected to complete the game?

- ☒ More time
- ☐ About the time expected
- ☐ Less time

7. Please describe any issues you had with the game.

Even though I answered the Sudoku board to the best of my ability, I noticed it did not follow the rules of Sudoku. The rest of the game works good I believe.

Figure 1 of First Survey

1. What is your name?

Tracey Brown

2. Did you enjoy the game?

- ☒ Very satisfied
- ☐ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☐ Very easy
- ☐ Somewhat easy
- ☒ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☒ Sudoku
- ☐ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

I had trouble with the entire game.

6. Did it take more or less time than you expected to complete the game?

- ☒ More time
- ☐ About the time expected
- ☐ Less time

7. Please describe any issues you had with the game.

I had a hard time keeping track of the numbers I was typing in for the board. If they updated, that would be helpful. I really liked the high roll game.

Figure 2 of Second Survey

1. What is your name?

Michael Moore

2. Did you enjoy the game?

- ☐ Very satisfied
- ☒ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☒ Very easy
- ☐ Somewhat easy
- ☐ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☒ Sudoku
- ☐ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

Validating answers during the game and the results at the end.

6. Did it take more or less time than you expected to complete the game?

- ☐ More time
- ☐ About the time expected
- ☒ Less time

7. Please describe any issues you had with the game.

The sudoku game broke when I typed in an unknown value. I tried the sudoku game two more times and found that my solution wasn't correct. I wasn't sure what could be causing this unless I have typed in incorrect values all times.

Figure 3 of Third Survey

1. What is your name?

Patrick Hale

2. Did you enjoy the game?

- ☒ Very satisfied
- ☐ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☒ Very easy
- ☐ Somewhat easy
- ☐ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☐ Sudoku
- ☒ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

6. Did it take more or less time than you expected to complete the game?

- ☐ More time
- ☐ About the time expected
- ☒ Less time

7. Please describe any issues you had with the game.

I didn't have any with the game. It was pretty easy to play the two games.

Figure 4 of Fourth Survey

1. What is your name?

James Ham

2. Did you enjoy the game?

- ☒ Very satisfied
- ☐ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☒ Very easy
- ☐ Somewhat easy
- ☐ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☒ Sudoku
- ☐ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

The results portion for the Sudoku game.

6. Did it take more or less time than you expected to complete the game?

- ☐ More time
- ☒ About the time expected
- ☐ Less time

7. Please describe any issues you had with the game.

The results portion for the Sudoku game seemed off to me. The generated boards did not seem to follow the rules of Sudoku. With my best attempts, I was not able to successfully win a Sudoku game.

Figure 5 of Fifth Survey

1. What is your name?

Ryan Duke

2. Did you enjoy the game?

- ☐ Very satisfied
- ☒ Somewhat satisfied
- ☐ Not at all

3. Was it easy to navigate the game?

- ☒ Very easy
- ☐ Somewhat easy
- ☐ Somewhat difficult
- ☐ Very difficult

4. Are there any portions of the game that you think need to be revised?

- ☐ The Game Menu
- ☐ High Roll vs. Low Roll Game
- ☒ Sudoku
- ☐ No

5. If you selected an option besides "No," what in the game(s) should be looked at?

Input for the values in the game and the results.

6. Did it take more or less time than you expected to complete the game?

- ☒ More time
- ☐ About the time expected
- ☐ Less time

7. Please describe any issues you had with the game.

I had entered an incorrect value during Sudoku and the game seemed to break. Restarting the game fixed this issue. The Sudoku board did not seem to generate a valid board.

Figure 6 of Sixth Survey