COMPENG 2SH4 Project – Statement of Contribution

Your Group Number   _____elkhaih-patem215_____

Your Name   _____Mahi Patel_____

Your Team Member's Name   _____Hala Elkhaiat_____

You must complete this statement of contribution without discussing it with your project partner, i.e., individually. Your statement should be concise (at most one-and-a-half page). It has three parts:

1. Tell us about your own contribution to the development of your COMPENG 2SH4 project. For example, you can tell us about which project iterations (as mentioned in the project manual) and C++ project classes that you worked on and completed. You can provide a concise answer either in paragraph form or through bullet points.
    Iteration 0:
    - Worked with my partner to understand the skeleton code thoroughly and implement the objPos class. Making sure all the special functions (constructors, destructors, copy operations) were correctly implemented to prevent any memory leaks.
    Iteration 1A:
    - Worked on restructuring the FSM code from PPA3 to make it into a object-oriented Player class
    - I also verified the functionality of the snake movement logic, both accurate position updates based on the users input and proper implementation of boundary wraparound mechanics
    Iteration 2:
    - We both worked on this iteration together to design and implement the objPosArrayList class, which is basically the way for tracking the snakes body
    - We also did the debugging and refining of the key operations (adding/removing and accessing elements in the list to make sure that the performance is reliable) together
    - At the end of the iteration, we also tested the functionality of the class thoroughly to make sure that the class was implemented correctly
    Iteration 3:
    - I worked on feature 2 which was the implementation of the collision detection mechanism for the snake head and the food
    - I implemented the logic to grow the snake's body correctly when the food was consumed, by dynamically updating the objPosArrayList
    - Added to the random food generation algorithm to make sure no overlaps with the snake's body happened
    - We did feature 3 together, we developed the logic to detect collisions between the snake's head and its body, and if that happened the game would end
    Bonus features:
    - We worked together to implement the special food item to the game
        o Designing the item to increase the score of the player while not increasing its size
        o We wrote the logic for the item integration together, to make sure it worked with the existing game mechanics correctly

o   We tested and debugged the new feature to make sure that the game was still able to be played smoothly

2. Repeat Part 1 above but this time tell us about your project partner's contribution to the development of your COMPENG 2SH4 project.

Iteration 0:
-   As I said above, we worked together on this to make sure we both understood the skeleton code and what was expected of us from this project overall

Iteration 1B:
-   She worked on restructuring the code from PPA2/3 into the GameMechs class, she made sure the global variables from the PPAs were organized into reusable class members
-   Implemented game board parameters (size, score…), the management of game exit and cleanup and she refined input collection routine
-   She also worked to make sure the GameMechs class had both a scalable and structured framework for managing the game mechanics

Iteration 2:
-   Again, as I said above, we worked together on this iteration to develop the objPosArrayList class to track the snake's body and food positions

Iteration 3:
-   She worked on feature 1 to implement the snake body mechanisms using the objPosArrayList
-   She developed the logic for dynamically growing the snake's body by adding to the head of the snake's body list while removing the tail
-   She also thoroughly tested the implementation of this feature to make sure the movement and growth logic were working properly
-   Again, as I said above, we worked on feature 3 together to make sure that when the snakes head collided with its body the game would end

Bonus feature:
-   As I previously mentioned we worked on implementing the bonus feature for the game together to add the special food item that when eaten would increase the players score by 20 while not increasing the length
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3. Tell us about your experience in your first collaborated software development through this project – what was working and what wasn't. If you are a one-person team, tell us what you think may work better if you had a second collaborator working with you.

Things that worked well:
-   We divided all our parts fairly and for the parts we did together we kept open minds considering both of our ideas. This ensured that were efficient with our time and were able to implement our ideas easily
-   We also both kept clear and open communication with each other through email, and social media so we both stayed on track with finishing the project and to debug any issues we came across

Things that didn't work well:
- Most things worked well for us as a team but I think the only thing we noticed when we split up the work for iteration 1 was that it took longer for us to finish that iteration then if we were to just sit down and do it together since we weren't setting a side time to work specifically on the project since there were many other things that were going on
- By working together on iteration 2 we were able to get it done faster then iteration 1

Overall, I think I gained and learned a lot through this project. Not only did I gain technical knowledge of how to develop a game in C++ but I also learned how to collaborate with another person to create a bigger piece of software.