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| Title: Title: Assignment2-Part2 Game  Start page fade in and move form right to left， then fade out. Tell user press enter to start the game.    Restart button, and button to choose game mode for 1,3,5 minutes. The default setting is 4 minutes.      Background music starts and can be control by user through button and music control item. | | | | |
| Description | Start page moves form bottom to top | Elements | Image/button | |
| Duration | 4s | Elements animation | 1. Move form right to left. 2. Fade in & fade out. 3. Start music and control at the bottom of the page | |
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| Description | Player can be controlled by arrow key to move inside of the canvas. | Elements | Images & Canvas draw circles/start game audio sound | |
| Duration | 4 minutes, can be change to 1,3,5minutes game. | Elements animation | 1. Player moves inside of canvas, controlled by arrow key 2. Bugs grow from small yellow one into large red bugs and stayed at the bottom for 4 seconds and move up. 3. A yellow circle on top of the scarecrow is animated and blink. 4. Left and right character show image rotate | |
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| Description | When press the space key, magic light show, and scarecrow can catch bugs. When the scarecrow hit bugs with the lights on, player gets 1 point, if the scarecrow hit bugs without the lights on, player lose 1 point | Elements | | Images & Canvas draw circles  Audio (win sound and lose sound). |
| Duration | 4 minutes | Elements animation | | 1. when scarecrow hit the bugs, the bugs disappear and score +1 or -1 2. When press the space key, magic light show 3. Left and right direction show image rotated |
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| Description | Ending page came out | Elements | Image | |
| Duration | 1s | Elements animation | 1. Ending page comes from right to left 2. Mute the background music. | |

Testing

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| **Requirement to test** | **Actual Outcomes** | **Test results** |
| 1. Time settings which can be changed by player. Default time setting for duration of game is 4 minutes. Other possible value for the duration of the game is 1, 3 and 5 minutes. | Graphical user interface  Description automatically generated | Defult set is 4 minutes as required， when user click buttons at the top, the gamemode will be changed to 1,3,5minutes gmae. |
| 1. Minimum 4 different sounds in the game (like two different collision beep and start and end game sounds) and users should be able to control the volume of the sounds. |  | 4 different sounds for background music, start game sound, happy sound, and sad sound.  Buttons can be used to control the volume and the control component at the right can be used to control the background music. |
| 1. Each bug has a life cycle for 6 stages. | Graphical user interface, application  Description automatically generated | Bugs appear randomly from the bottom of the canvas, and stay at the bottom for 4 seconds;  The color of the bug changes gradually from yellow to red within 3 seconds and grows from 6px to 20px within 5 seconds.  Bugs moved from the bottom to out side of the canvas and the character can not catch them. |
| 1. Character Mr X move control | A picture containing graphical user interface  Description automatically generated  Graphical user interface  Description automatically generated with medium confidence | Controled by arrow key and movement is restricted inside the canvas.  Change direction will rotate the character and catch net.  When enter the space key , magic light come from the bag , also rotate when direction changes. |
| 1. Every time Mr X successfully catch bug, a score of one is added to the current score and a ‘happy’ sound is played. However, if the bug touch Mr X, an ‘unhappy’ sound will be played and some image displayed and current score will be deducted by one. | A picture containing graphical user interface  Description automatically generated | The score shows on the top of the screen, with the magic light on, the character touch bug gets 1 point, without the magic light, the character touch bug lose 1 point. |