Class diagram for Greenfoot game: Speller

Worlds:

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| --- | --- |
| Name | Menu |
| Attributes | Width – 600px  Height – 800px  (obj\_Border is 100px so playable world is 400, 800)  Background – crumpled-paper.jpg |
| Methods | prepBackground() – Prepares the background, adds obj\_Border to the left and right and the word “Speller” in top centre.  prepButtons() – Create obj\_btnPlay, obj\_btnHelp, obj\_btnQuit. |

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| --- | --- |
| Name | GameWorld |
| Attributes | Width – 600px  Height – 800px  (obj\_Border is 100px so playable world is 400, 800)  Background – crumpled-paper.jpg |
| Variables | playerLives – Holds the players number of lives, default 3.  wordToSpell – The word the player must spell.  currentLetters – The players current letters.  playerWin – Has the player won? Default false. |
| Methods | startGame() – Triggered by obj\_btnPlay, triggers all methods below.  genWord() – Generate the wordToSpell. |

Note code:  
if(!playerWin && playerLives == 0){  
addObject(x, y, obj\_winScreen)  
} else if{  
addObject(x, y, obj\_loseScreen)  
}

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| --- | --- |
| Name | GameWorld |
| Attributes | Width – 600px  Height – 800px  (obj\_Border is 100px so playable world is 400, 800)  Background – crumpled-paper.jpg |
| Variables | None. |
| Methods | loadHelp() – Loads help text. |

Actors:

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| --- | --- |
| Name | Obj\_Border |
| Attributes | Width – 100px  Height – 800px  Image – obj\_Border.jpg |
| Variables | None. |
| Methods | None. |

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| --- | --- |
| Name | Obj\_btnPlay |
| Attributes | Width – px  Height – px  Image – obj\_btnPlay.jpg |
| Variables | None. |
| Methods | changeWorld() – Changes to GameWorld  Triggers startGame() in GameWorld. |

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| --- | --- |
| Name | Obj\_btnHelp |
| Attributes | Width – px  Height – px  Image – obj\_btnHelp.jpg |
| Variables | None. |
| Methods | showHelp() – Changes world to HelpWorld. |

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| --- | --- |
| Name | Obj\_btnQuit |
| Attributes | Width – px  Height – px  Image – obj\_btnQuit.jpg |
| Variables | None. |
| Methods | quit() – Closes the game. |

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| --- | --- |
| Name | Obj\_btnPlayAgain |
| Attributes | Width – px  Height – px  Image – obj\_btnPlay.jpg |
| Variables | None. |
| Methods | changeWorld() – Changes to GameWorld  Triggers startGame() in GameWorld. |

|  |  |
| --- | --- |
| Name | Obj\_character |
| Attributes | Width – px  Height – px  Image – obj\_character.jpg |
| Variables | hoizSpeed – Players horizontal speed. |
| Methods | movePlayerHoriz() – Moves player left or right depending on key held at horizSpeed. Stops player from going out of bounds. |

|  |  |
| --- | --- |
| Name | Obj\_letterBox |
| Attributes | Width – px  Height – px  Image – obj\_character.jpg |
| Variables | vertSpeed – objects vertical speed.  myLetter – The objects letter.  myNumber – The objects number in the sequence. |
| Methods | moveObjVert() – Move the player up at vertSpeed without stopping.  collision() – On collision remove instance of object.  genLetter() – Generate a random letter and put it on the box and assign the letter a number based on the letters position in the word. |

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| --- | --- |
| Name | Obj\_winScreen |
| Attributes | Width – px  Height – px  Image – obj\_winScreen.jpg |
| Variables | wordToSpell – The word for the player to spell. |
| Methods | showWord() – Place wordToSpell in correct place on the object. |

|  |  |
| --- | --- |
| Name | Obj\_loseScreen |
| Attributes | Width – px  Height – px  Image – obj\_loseScreen.jpg |
| Variables | wordToSpell – The word for the player to spell. |
| Methods | showWord() – Place wordToSpell in correct place on the object. |