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| Class Name:  Player | ID:  1 | | Type:  Concrete |
| Description:  A Player will be responsible for placing pieces on the board with the intention of gaining a score and winning. | | | Associated Use Cases:  1,3,4,5,6,7, 8 & 9 |
| Responsibilities | | Collaborators | |
| Each Player would keep their own separate score | | Game | |
| Can take a turn | | Piece, Board, Game | |
| Attributes | | | |
| Name | | | |
| Total Score | | | |
| Letters | | | |
| Relationships | | | |
| Owns (One to Many) | | Piece | |
| Inherits | | Client | |

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| Class Name:  Game | ID:  2 | | Type:  Concrete |
| Description:  The Game class controls each scrabble game that can be played on server. | | | Associated Use Cases:  1, 3,8 & 10 |
| Responsibilities | | Collaborators | |
| Game controls the board. | | Board | |
| Game controls the players. | | Player | |
| Handles joining and exiting of players. | |  | |
| Handles the main board view | | MainView | |
| Attributes | | | |
| ID (Primary Key) | | | |
| Game Join code. | | | |
| Game Owner | | | |
| Max-Slots | | | |
| Players joined | | | |
| Relationships | | | |
| Aggregation (has-parts) | | Client, Board | |
| Other Associations | | Server | |

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| --- | --- | --- | --- |
| Class Name:  Piece | ID:  3 | | Type:  Concrete |
| Description:  An object to be placed by players on the board to score points | | | Associated Use Cases:  3,4 & 5 |
| Responsibilities | | Collaborators | |
| Provide Information about itself (Letter and score) | |  | |
| Be placed on board | | Player | |
| Attributes | | | |
| Character | | | |
| Score | | | |
| Relationships | | | |
| Owned By (Many to One) | | Player, Board | |

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| Class Name:  Board | ID:  4 | | Type:  Concrete |
| Description:  The board necessary to play the game. Contains a 15 x 15 grid of squares, each of which accommodates a single letter tile. There are a few premium squares, which multiply the points awarded. | | | Associated Use Cases:  1, 2, 3, 4 & 5 |
| Responsibilities | | Collaborators | |
| Provides the game environment | | Server, Client | |
| Awards points | | Piece, Player | |
| Distributes playing pieces | | Piece, Player | |
| Keeps track of pieces in ‘letter bag’ | |  | |
| Proclaims winner | | Player, Client | |
| Attributes | | | |
| Space List (Occupied Spaces) | | | |
| Space List (Premium Spaces) | | | |
| Player Count | | | |
| Relationships | | | |
| Aggregation (has-parts) | | Piece | |

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| Class Name:  Server | ID:  5 | | Type:  Concrete |
| Description:  The mechanism passing information between clients and the respective game instance. | | | Associated Use Cases:  Almost All |
| Responsibilities | | Collaborators | |
| Notify of Changes | | Client | |
| Attributes | | | |
| List of games running | | | |
| Relationships | | | |
| Aggregation (has-parts) | | Game | |

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| --- | --- | --- | --- |
| Class Name:  Client | ID:  6 | | Type:  Concrete |
| Description:  The object responsible to provide a view of the board to the Players and of all the changes in the game. | | | Associated Use Cases:  Almost All |
| Responsibilities | | Collaborators | |
| Update View | | Server | |
| Attributes | | | |
| Associated Game | | | |
| Relationships | | | |
| Aggregation (is-part-of) | | Game | |

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| --- | --- | --- | --- |
| Class Name:  MainView | ID:  7 | | Type:  Concrete |
| Description:  The object responsible for providing the combined view of the board to be displayed to all the players on a shared screen. | | | Associated Use Cases:  Almost All |
| Responsibilities | | Collaborators | |
| Update View | | Game | |
| Attributes | | | |
| Associated Game | | | |
| Relationships | | | |
| Generalisation (a-kind-of) | | Client | |