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| Portal Gun |
| + int characterID |
| Shoot() |

Notes: shoot does a hitscan in the direction made by the vector from the gun’s location to the mouse location. The gun’s location is inherited from Character

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| Character Status |
| + int characterID  + int health |
| Move( keyInput )  Jump() |

Notes: position and velocity is inherited from Unity’s version of the Object cosmic superclass. takeDamage is called from an obstacle’s onColision function. If health is reduced to zero, the level is restarted

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| Obstacle |
| + int type  + int damageAmount |
| getGraphic(type)  lowerHealth(damageAmount, characterID) |

Notes: onCollision is called when something touches this obstacle. If it is a Character, it will call the takeDamage function and that Character object will decide what happens from there. The Obstacle class can be extended for enemies and different kinds of traps later in development as the user’s needs become more clear

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| Game Status |
| + boolean levelPassed |
| passLevel()  updateFile() |

Notes: passLevel loads the next level and updates the unlockedLevels array. restartLevel is called when the player pushes the restart button or dies. Position for goal will be inherited from Unity scene.

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| Save File Controller |
| + Int[] unlockedLevels  + int volume |
| saveFile(unlockedLevels)  changeVolume() |