

**Feature Number:** 5

**Feature Name:** Game States

**Programmer:** Collin Hughes

**Tester:** Brandon Louis

- **IScene Interface** - Interface for interacting with the GameStates class. Menus and levels will all need to inherit from this interface. Level Scenes are responsible for loading and managing physics and player. Contains 4 methods that must be implemented:
  - LoadSceneData() - Loads the data for the scene. For menus, this includes creating UI elements and loading sprites. For levels, this includes creating the physics world, setting physics parameters, loading sprites, creating objects and creating the player.
  - UnloadSceneData() - Unloads data in the scene.
  - UpdateSceneData(GameTime \_gameTime) - Updates the scene data. Takes in the gameTime value from the main game class. For menus, this includes checking the mouse position and calling the OnUpdate method for UI elements. For levels, this includes calling the OnUpdate method for the player and collision objects, and stepping world physics.
  - DrawSceneData(SpriteBatch \_spriteBatch) - Draws the scene data. Takes in the sprite batch from the main game class. Calls the OnDraw method for all objects
- **GameStates Class** - Class for handling transitions between scenes in the game. Scenes include any menus and actual game world. A scene object will be passed in. The methods of the class will call the respective methods of the level object
  - LoadData() - Method for loading a scene and its scene data. Will call a LoadSceneData inside of the scene class to load sprite data and populate the map. Calls the UnloadData method for the current scene. Swaps the current scene with the new scene.
  - UnloadData() - Method for unloading a scene and its scene data. Will call the unload method inside of the scene class to unload the sprite data and remove it from memory.
  - UpdateData(GameTime \_gameTime) - Updates any scene data. Takes in the gameTime value. Called in the main game class Update method each frame.
  - DrawData(SpriteBatch \_spriteBatch) - Draws the scene data to the screen. Takes in the sprite batch. Called in the main game class Draw method each frame.