

1. **(25 points)** Implement the templated Singleton class we discuss in class.
2. **(20 points)** Transform the LogManager and Application classes into Singletons using that class. Don't forget the "convenience macro"
3. **(45 points)** Download the GameObject class. Construct a Singleton GameObjectManager (GOM) class as we discuss in class using the .h on blackboard as a guide. Don't change anything in these classes unless we talk about it!
4. **(10 points)** Remove all SceneNodes from our main program and replace them with GameObject's that you create through the GOM (create a "temporary" group to house them) with one change: load and place a game object that holds an entity ("penguin.mesh") and positions it on the ogre's shoulder. The end product should look about the same as lab2 (plus the penguin), but we're getting a step closer to our Component-Object model (the next lab). Finally, add a key to toggle hiding all objects in a given layer – use the GOM function to hide them (e.g. the ground). Don't store the game object pointer (for the ogre) in application – test the GOM getter functions to get it in frameStarted.
5. **(10 points)** For documentation and following the style guide.
6. **(10 points)** Figure out how to get the penguin to play it's "amuse" animation (looped)