Final Programming Project
CpSc 4160/6160: Data-Driven 2D Game Development
Computer Science Department
Clemson University
A Playable Game
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Due Date:

To receive credit for this assignment your solution must be submitted, using `handin`, by 8 AM, Sunday, April 30^{th}, 2017. You may receive 90% of the grade if you submit within three days of the deadline.

Project Specifications:

The goal of this project is to build a playable game that reaches a conclusion.

Story Driven: The requirements listed below should guide your project; however, if one or more of the requirements is inconsistent with the theme or story that you are trying to tell, stop by during office hours or send an email with times that we can meet to discuss your game idea.

Your final project should include:

1. A preliminary video illustrating the best features of your game. This video must be submitted by 8 AM on Wed, April 26th (10%).
2. Include in your final submission an mp4 movie that you generated, or make sure the F4 key works so that the TA can generate a movie of your final submission for you.
3. Include a well-controlled player object
4. Your game should create the illusion of depth.
5. An information HUD that appears at the start of the game and remains long enough to enable the user to see how to play the game, and how to move the player. Toggle the HUD with F1.
6. Projectiles: something flying through the air
7. Collision detection that triggers explosions; choose a strategy or use all 3.
8. Your player and NPCs should explode (chunks and/or frames). Your player should reappear after the explosion completes.
9. Demonstrate object pooling and show pool contents in a HUD.
10. Implement a reset function that restarts your game; toggle reset with "r" key.
11. Music and sound: play music during the game and play sound effects appropriate for game action.
12. Provide a "god" mode for your player; toggle it with "g" key.
13. AI
14. Doesn't crash

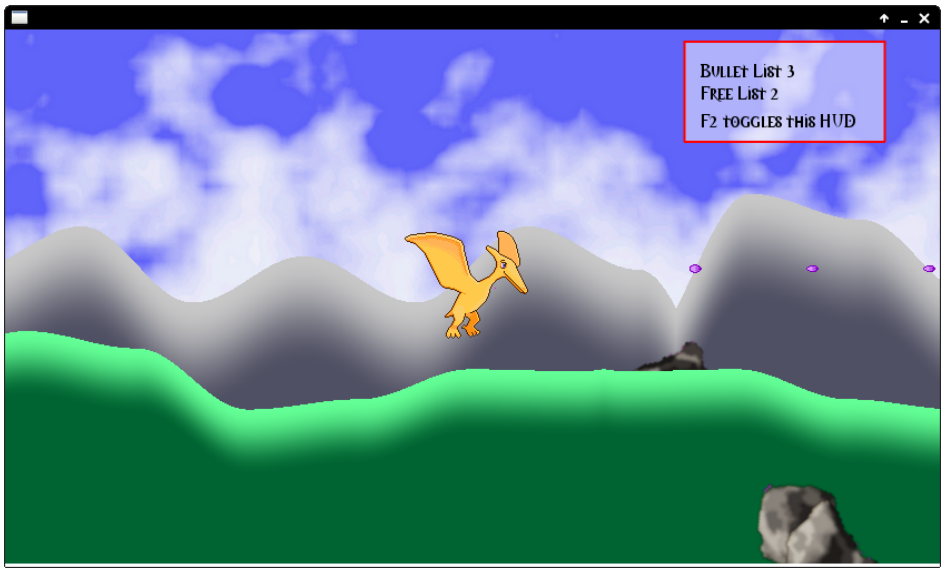

Figure 1: An illustration of object pooling, with three active bullets and one bullet in the "pool"

Your assignment will be tested on a Linux platform using gcc or clang, however you should test your project on several different platforms and it should be independent of platform and language implementation. (Key summary: F1 ⇒ help, F4 ⇒ frames, g ⇒ "god" mode, and r ⇒ restart)