

SC443 Computer Game Programming
Assignment #03: Where Great Minds Collide
[Due: Sunday, August 31, 23:59 Hours]

Two galaxies collide, two countries collide and now it is our turn where great minds collide. In this assignment, you will create a simple game where objects collide with each other. Your job is to detect when two objects collide in 3D space.

The main points of this assignment are to:

- Construct a simple 3D world using at least two objects.
- Ensure that at least one of the object moves until it collides with the other.
- Provide simple mouse/keyboard input to initiate the movement of the object(s).

The activities you will engage in

- Select a simple game where you would like to implement collision detection (examples are):
 - Two aircrafts collide in mid-air (avoid it)!
 - A simple paddle game
 - Bouncing Ball
 - Navigate a narrow corridor with zero collisions on the side-rails
 - Cross the road without colliding with buses 179/199
 - ...
- You may design any game and it can be different from the one listed above as well.
- Write a short description of 1 page (max) of your game and the method used for collision detection used, and upload the html file to your game web page.
- The short description can also include snapshots and animation clips of the scene (for example you can use Alt-PrntScreen to capture snapshots of a window, or use SnagIT from <http://www.techsmith.com/> to capture snapshots/movie clips).
- From your assignment #03 html file, please provide a link to a zip file that contains (README, src files and exe file).

Sample Code

Sample Code 1 (A Simple 2D Collision Detection Demo)

<http://www.darwin3d.com/gdm1999.htm#gdm0199>

Sample Code 2 (Simple Bounding-Sphere Collision Detection)

<http://www.gamedev.net/reference/articles/article1234.asp>

Grading

- Your assignment #03 will receive up to 100 points based on the following factors:
 - Choice and Representation of your game (two objects should be sufficient)
 - The effectiveness/feedback of collision detection
 - Presentation of the 1-page short description for assignment #03

Administrative statement

This is an *individual* assignment. I encourage you to talk to others about the general nature of the assignment and ideas about how to pursue it. However, the writing of code and the work behind it must belong substantially to you. If any person besides you contributes in any significant way to the assignment, you must credit their work in your review. Similarly, if you include information that you have gleaned from other published sources or web pages, you must cite them as references.