

3D COLLISION DETECTION INVESTIGATION ON UNITY 3D



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DECLARATION

I hereby enunciate that the work in this thesis report is my own except for citations that have been duly acknowledged.

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The last, this thesis is far from being perfect, but it is expected that this thesis will be useful not only for the researcher, but also the readers. For this reason, constructive thought full suggestion and critics are well come to make this thesis better.

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Author

ABSTRACT

In the real world, solid object could collide with another object, But in a virtual world, object don't do anything unless we tell them to do something, and programmers must make an explicit effort to ensure that object do not pass through another one. This is the role of one of the central components of any game engine—the collision detection system. Thus, collision detection is a form as a result of the simulation physics, the topic talk about how to determine whether objects have collide each other.

Unity is an application that is used to develop multi-platform game that is designed for easy use. Graphic on the *unity* created by the high-level graphics for OpenGL and DirectX, *Unity* is a 3D game engine which comes with built-in physics *PhysX* by NVidia. Physics simulations are applied to game objects having rigid body attachment. Mostly it is used in collision detection.

The focus of this thesis is to provide analyze about *collision detection system*. Collision detection is a form as a result of the *physics Engine* simulation, a topic that talks about how to determine whether objects have collide each other. In this thesis, the author will explain about collision detection itself and also explain how to collision detection working on *unity 3D*.

Keywords : *Collision Detection, Unity3D, Physics Engine.*

LIST OF CONTENT

DECLARATION I

ACKNOWLEDGEMENTSII

ABSTRACT..... III

LIST OF CONTENT IV

LIST OF FIGURE..... VI

LIST OF TABLE VII

CHAPTER I..... 1

INTRODUCTION..... 1

 1.1 BACKGROUND 2

 1.2 HISTORY AND CURRENT RESEARCH 3

 1.3 RESEARCH OBJECTIVE 4

 1.4 METHODOLOGY 4

 1.5 SYSTEMATIC OF WRITING 5

CHAPTER II..... 7

BASIC OF COLLISION DETECTION 7

 2.1 PHYSICS ENGINE 7

 2.1.1 PhysX..... 10

 2.2 COLLISION DETECTION 10

 2.2.1 Collision detection definition..... 11

 2.2.2 Collision detection primitives 12

 2.2.3 Collision testing and analytical geometry 13

 2.2.3.1 Broad-phase..... 13

 2.2.4 Continuous collision detection..... 18

 2.3 GAME ENGINE..... 21

 2.3.1 Unity 3D 22

 2.3.1.1 Rigidbody on Unity 3D..... 23

 2.3.1.2 Collision detection on Unity3D 25

CHAPTER III 30

METODOLOGY AND DESIGN..... 30

 3.1 REQUIREMENT ANALYSIS 30

 3.2 PROBLEM ANALYSIS 30

 3.3 WORKFLOW SYSTEM 30

 3.4 COLLISION DETECTION DESIGN 32

CHAPTER IV 36

TESTING AND ANALYSIS 36

 4.1 IMPLEMENTATION AND TESTING COLLISION DETECTION ON UNITY 3D 36

 4.1.1 Implementation AABB versus Sphere detection 36

 4.1.1.1 AABB versus Sphere collider testing and analysis 38

 4.1.2 Implementation Sphere versus Sphere detection 39

 4.1.2.1 Sphere versus Sphere collider testing and analysis 40

 4.1.3 Implementation Continuous and Discrete Collision Detection..... 43

4.1.3.1	Continuous and Discrete Collision Detection testing and analysis	45
4.1.4	Implementation collision detection on racing car game	46
CHAPTER V	49
CONCLUSION	49
5.1 SUMMARY	49
REFERENCES	50



LIST OF FIGURE

FIGURE 2.1 A PHYSICS ENGINE THE CONTEXT OF A GAME APPLICATION.....	7
FIGURE 2.2 GENERAL PROCEDURE OF A PHYSICS ENGINE	9
FIGURE 2.3 PHYSICS ENGINE SIMULATING	9
FIGURE 2.4 A CAPSULE REPRESENTED BY TWO POINTS AND A RADIUS	12
FIGURE 2.5 AXIS-ALIGNED BOUNDING BOX.....	13
FIGURE 2.6 THREE EXAMPLE OF BOUNDING VOLUMES	14
FIGURE 2.7 BOUNDING SPHERE.....	15
FIGURE 2.8 SPHERE VERSUS POINT	15
FIGURE 2.10 SPHERE VERSUS AABB	16
FIGURE 2.9 SPHERE VERSUS SPHERE	16
FIGURE 2.11 POINT VERSUS AABB.....	18
FIGURE 2.12 AABB VERSUS AABB	18
FIGURE 2.13 RIGIDBODY ON UNITY3D	24
FIGURE 2.14 ILUSTRATES THE VARIOUS TYPES AND SUBTYPES OF COLLIDER	26
FIGURE 2.15 COLLIDER ON UNITY	27
FIGURE 2.16 COLLISION MATRIX INSPECTOR.....	27
FIGURE 2.17 BASIC CALLBACKS FOR COLLISIONS.....	28
FIGURE 3.1 WORKFLOW OF COLLISION DETECTION ON UNITY 3D.....	31
FIGURE 3.2 SPHERE-BOX COLLISION DETECTION	32
FIGURE 3.3 FLOWCHART SPHERE- BOX DETECTION	33
FIGURE 3.4 SPHERE-SPHERE COLLIDER	34
FIGURE 3.5 FLOWCHART SPHERE-SPHERE DETECTION	35
FIGURE 4.1 THE INITIAL VIEW UNITY 3D.....	36
FIGURE 4.2 SPHERE AND BOX COLLIDER ON UNITY 3D.....	37
FIGURE 4.3 SPHERE AND BOX COLLIDER ON UNITY 3D	37
FIGURE 4.4 SPHERE AND SPHERE COLLIDER ON UNITY 3D.....	39
FIGURE 4.5 SPHERE VERSUS SPHERE DETECTION ON UNITY3D	39
FIGURE 4.6 SPHERE VERSUS SPHERE DETECTION 2.....	41
FIGURE 4.7 SPHERE VERSUS SPHERE DETECTION 3.....	42
FIGURE 4.8 SPHERE VERSUS SPHERE DETECTION 4.....	43
FIGURE 4.9 DISCRETE AND CONTINUOUS COLLISION DETECTION IMPLEMENTATION ON INSIDE VIEW	44
FIGURE 4.10 DISCRETE AND CONTINUOUS COLLISION DETECTION IMPLEMENTATION ON OUTSIDE VIEW	44
FIGURE 4.11 DISCRETE COLLISION DETECTION	45
FIGURE 4.12 DATA RESULT OF DISCRETE COLLISION DETECTION	45
FIGURE 4.13 DATA RESULT OF DISCRETE COLLISION DETECTION	46
FIGURE 4.14 COLLIDER ON CAR.....	47
FIGURE 4.15 COLLIDER ON TREES.....	48
FIGURE 4.16 COLLIDER BETWEEN OBJECT.....	48

LIST OF TABLE

TABLE 2.1 RIGIDBODY PROPERTIES AND FUNCTION 24
TABLE 4.1 SPHERE – BOX 38
TABLE 4.2 SPHERE-SPHERE 40

