

## **Project Proposal for**

## **Particle Systems**

**from**

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This proposal is to initiate my project which is to create and develop further area in particle system in computer graphics.

### **Introduction**

The particle system is one of the techniques in game physics, motion graphics, and computer graphics. It is basic representation of physic-based animation that computes force, velocity, and position of the particle. It gives visual effects with graphic objects which we called, “particle.” The particle system has been applied to simulate a fire, a galaxy, or even a bomb explosion. It can be applied to represent numerous visual effects. In this project, I want to focus on studying the effects of force and quantity of particles on the particle system.

### **Objectives**

- To fulfill academic curiosity
- To implement then represent the particle system visually
- To contribute on technological development in computer graphics
- To be able to determine which force can give which visual effects in particle system
- To be able to explain the concept and implementation of the particle system

### **Research Question(s)**

- 1) What is the particle system and how do I implement it?
- 2) What is the effect of type of force on the particle system?
- 3) What is the effect of quantity of particles on the particle system? Will particle system look like fluid if there are too many particles? If so, how can I determine the average amount of particles?

### **Plan of Work & Time Schedule**

#### **Task 1: Research (1 week)**

- What kind of programming languages should be used.
- What kind of environment should be installed.
- What is the particle system.
- What kind of knowledge and steps would be required to implement the particle system.

#### **Task 2: Implementation of Particle System (2 weeks)**

- What kind of force should be added.
- How many quantities of particles would I want to test with the particle system.

#### **Task 3: Testing (1 week)**

Tasks	Date of Tasks (by Weeks)			
Task 1: Research				
Task 2: Implementation				
Task 3: Testing				
	5	12	19	26
	November			

### Conclusion

The goal for this project is to fully understand the concept of the particle system then test the effect of each feature such as force, quantities of particles, etc. on the particle system. It is a one-month-long project to demonstrate the implementation of particle system. With this project, I expect to demonstrate the visual representation of the particle system, and how I can give effects on particle systems.