**REPORT**

**UCS632**

**3-D MODELLING AND ANIMATION**

**ASSIGNMENT-1**

****

**CSED,**

**TIET, PATIALA**

**SUBMITTED TO: SUBMITTED BY:**

**DR. SHAILENDRA TIWARI IBNEET KAUR**

**COE11**

**101703238**

**VOLCANIC ERUPTION PARTICLE SYSTEM**

**Implementation**

In this assignment, I have applied 2 forces on each particle namely gravity and wind. It can be seen that when the mouse is pressed wind force is applied in that direction with some velocity and acceleration. I have defined collision between these particles and the bottom of the window such that when particles reach the bottom they bounce back. Also I have defined the lifespan of each particle i.e. they get faded after a specific time.

**Software used**

I used Processing to implement the following particle system.

For the past sixteen years, Processing has promoted software literacy, particularly within the visual arts, and visual literacy within technology. Initially created to serve as a software sketchbook and to teach programming fundamentals within a visual context, Processing has also evolved into a development tool for professionals. The Processing software is free and open source, and runs on the Mac, Windows, and GNU/Linux platforms.

Processing continues to be an alternative to proprietary software tools with restrictive and expensive licenses, making it accessible to schools and individual students. Its open source status encourages community participation and collaboration that is vital to Processing’s growth. Contributors share programs, contribute code, and build libraries, tools, and modes to extend the possibilities of the software. The Processing community has written more than a hundred libraries to facilitate computer vision, data visualization, music composition, networking, 3D file exporting, and programming electronics.

Software prototyping and data visualization are two of the most important areas for Processing developers. Research labs inside technology companies like Google and Intel have used Processing for prototyping new interfaces and services. Companies including General Electric, Nokia, and Yahoo! have used Processing to visualize their internal data. For example, the New York Times Company R&D Lab used Processing to visualize the way their news stories travel through social media. The NSF and NOAA supported research exploring phytoplankton and zooplankton diversity that was realized at the University of Washington as a dynamic ecology simulation. Researchers at the Texas Advanced Computer Center at UT Austin have used Processing to display large data visualizations across a grid of screens in the service of humanities research.

**Sources**

1. <https://processing.org/reference/>
2. <https://www.youtube.com/watch?v=vdgiqMkFygc&list=PLRqwX-V7Uu6Z9hI4mSgx2FlE5w8zvjmEy>