

Clipping Line Experiment

Project Documentation

Introduction

This document captures the technical details related to the experiment development, Developer Information, Environment Details and Technology Stack.

Project

Domain Name: Computer Science

Lab Name: **Computer Graphics**

Experiment Name: **Clipping Line**

Purpose of the project

The purpose of the project is to convert the Clipping Line experiment simulation from **Java(Iced tea)** to **Javascript**.

Project Developers Details

#	Name	Year of Study	Role	Email-ID	GitHub handle
1.	Avi Solanki	2nd Year	Web Development intern	avi27.999@gmail.com	Avi-141

Technologies and Libraries

Technologies :

1. Javascript and jQuery
2. HTML
3. CSS

Libraries:

None

Development Environment

OS :Windows 10 & Linux (Ubuntu 18)

Bandwidth: 30mbps

Documents :

S.NO	Link to Document	Role
1.	LineClipping.html	Webpage to run the experiment
2.	CSSStyles.css	Styles parent webpage
3.	Cohen-Sutherland.js	Javascript File having the core logic
4.	script.js	Javascript file to simulate a multiple line clipping animation for the user .
5.	Code Documentation	This document captures the explanation of the JavaScript code which implements the algorithm.
6.	Procedure Documentation	Contains the steps to run the algorithm
7.		

Process Followed to convert the experiment

1. Understand the assigned experiment through the manual provided on the website along with the simulation on vlab.co.in which was originally developed using Java.
2. Understanding the algorithm behind the experiment and how we would have to change the algorithm according to the manual.(Iteration wise functionality).
3. Develop the algorithm in Javascript and provide it a frontend using HTML and CSS.

Value Added by the Project

1. It would be beneficial for engineering students.
2. There would be more importance given to understanding algorithms and then using them in real life projects.
3. Highly beneficial for tier 2 and tier 3 college students who can use this to learn and understand the concept of perception learning.

Risks and Challenges :

1. Resizing the canvas every time the dimensions of the window is changed and make the page responsive.
2. Implementing WebGL functionality to render the canvas proportionally resize it. This also allows the website to resize and adapt to dimensions of a phone
3. Taking care of wrong inputs which can be given by the user using jQuery.

Issues :