**Experiment Project Documentation**

**Introduction**

This document captures the technical details related to the experiment development.

**Project**

**Domain Name :** Computer Science & Engineering

**Lab Name :** Speech Signal Processing lab

**Experiment Name :** Nature of Speech Signal

In this project we are aimed to study the time-varying nature of the speech signal in the time domain as well as frequency domain. By observing the time-varying nature of the excitation source and the vocal tract system for different sounds uttered by the same speaker.We this find out the variability of excitation and vocal tract system characteristics across speakers.

**Purpose of the project**

The purpose of the project is to convert the Hierarchical transformation in 2D experiment simulation from **Java** to **Javascript**.

**Project Developers Details**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.NO** | **Names** | **Year of Study** | **Role** | **Email-ID** | **github handles** |
| 1. | Sulam Ritu | 3rd | Developer | ritusulam@gmail.com | RITU sulaam |

**Technologies and Libraries**

**Technologies :**

1. HTML
2. CSS
3. Javascript

**Libraries :**

1. [**JQuery**](https://jquery.com/)

**Development Environment**

**OS :** <<Windows, LINUX so on...>>

**Bandwidth:** <<100Mbps>>

**Documents :**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **Link to Document** | **Role** |
| 1. | Procedure | This document captures the instructions to run the simulations |
| 2. | Test Cases | This document captures the functional test cases of the experiment simulation |
| 3. | Code Documentation | This document captures the details related to code |

**Process Followed to convert the experiment**

1. Understand the assigned experiment Java simulation
2. Understanding the experiment concept
3. Re-implement the same in javascript

**Value Added by our Project**

1. It would be beneficial for engineering students
2. Highly beneficial for tier 2 and tier 3 college students who can use this to learn and understand the concept of Computer Graphics.

**Risks and Challenges**

1. Making the whole process dynamic.
2. Plotting spectrum with frequencies of given audio file input.

**Issues :**

1. Not much responsive on browsers except chrome.
2. The spectrum displays as a video motion it cant be captured in single image.