**Experiment Project Documentation**

**Introduction**

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

**Project**

**Domain Name :** Computer Science & Engineering

**Lab Name :** Digital Logic Design Lab

**Experiment Name :** Latches and FlipFlops

## In this lab we will design and simulate any digital combinational or sequential circuit. Following instruction help you build the Different Latches and FlipFlops. A Javascript-based basic tool and simulation engine is at the hear of this laboratory. You can create many circuits and test them with fixed or time-varying input signals. You can also see the outputs as values or time-varying waveforms.**Application** of the **flip flop** circuit mainly involves in bounce elimination switch, data storage, data transfer, latch, registers, counters, frequency division, memory, etc.

**Purpose of the project**

The purpose of the project is to convert the **Perception Learning** experiment simulation from **Java** to **Javascript**.

**Project Developers Details**

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

**Technologies and Libraries**

**Technologies :**

1. HTML
2. CSS
3. Javascript

**Libraries :**

1. [**ChartJs**](https://www.chartjs.org/)

**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 perception learning.
3. We can simulate any circuit of our choice with this experiment.

**Risks and Challenges**

1. Making the whole process dynamic.

**Issues :**

1. Not much responsive on browsers except chrome.
2. NO issues.