Project Synopsis/Project Concept Document

Project number	**17**
Project Title	**Virtual labs - VLSI**
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Description

The virtual labs are an experiment-based platform for interactive learning. It has many courses in different disciplines. But since the website was created a long time ago at that time the technologies that were used became obsolete and hence, we need to reproduce the simulations in every experiment of the course given to us using the latest web technologies and libraries like HTML, CSS, JS etc and improve portability and usability. For our project we are given the course VLSI.

Profile of Users

Various users that are going to be using the system are students, administrators etc.

- **Students:**

  We want the student's interface to be as friendly as possible because it's easy for them to learn that way. We want to make sure that there is no ambiguity in any part of the experiment.

- **Administrators:**

  We want the code semantic structure to be modular so that it would be easy for anyone to edit in future.

Feature highlights

1. Since we are reproducing all the simulations using latest web technologies everyone will be able to access them in their current browsers.
2. Students can simulate various experiments in topic of VLSI so that they can learn interactively.
3. Our simulation software is faster with more components and more efficient compared to the older simulation software
4. We also have graphical analysis for the simulations of the experiments
5. We also have electronic and coding features and easy to use

6. For animations and electric circuits we have popular libraries like anime.js and raphael.js gojs p5.js

Usage Model and Diagrams (if any)

FLOWCHARTS