A Proposal for Virtual Reality Lab
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I.   **Objectives of the Virtual Lab:**

The objective of this course is to provide a detailed understanding of the concepts of Virtual Reality and its applications in such a way that the user can bridge a gap virtual world which has a real aspect (virtual realism) with the real sound (auditive realism), and the user feels like part of that environment (haptic realism). This lab will,

- provide students access to a laboratory experience which may otherwise be unable to access due to resources or instructor constraints;
- provide a real-world like laboratory environment, while attending to the content and laboratory experiences exclusively in the virtual world;
- supplement student virtual experiences through connection to prior experiences with traditional wet-laboratory experience;
- serve as an orientation or anticipatory learning set from which to scaffold "hands on" experience in future laboratories.

List of experiments

1. Understanding of the concepts of Virtual Reality and its applications.
2. Developing architecture of a house using Virtual Reality.
3. Perform CRO based experiment using Virtual Reality.
4. Undertaking qualitative analysis in Chemistry using Virtual Reality.
5. Carry out assembly/disassembly of an engine using Virtual Reality.
6. Simulation of Fight/Vehicle/Space Station.
7. Building Electronic circuit using Virtual Reality, given basic electronic components.
8. Developing concept of Virtual class room with multiplayer.

Note: Please list all related experiments available on the web (vlab.co.in) and compare your proposed experiments with them. Please justify why the proposed experiments are needed and exactly what gaps they fill.

II.   **Target group of users**
a.   UG (1st Year/ 2nd Year) [highest priority for development]

III.   **Mapping of proposed lab with AICTE courses as per attached list of potential labs**
a.   Virtual Reality