Final Year Project Report
Virtual Laboratory
(The Grain Fineness Number)

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ABSTRACT

A virtual laboratory may be defined as a computer software system that utilises the multimedia tools in such a way that the student while running such a software system will be able to get the real practice on the actual equipment as if doing in the physical facility. This paper tries to categorise the various virtual laboratories into five different types since not all the virtual-laboratories will be similar in development. The requirements of each of the type of virtual laboratory have been given in terms of the contents, approach methodology as well as the procedures that need to be adopted for such development.

In order to demonstrate the concept, a prototype virtual laboratory that is most commonly used in mechanical engineering discipline has been given with all the necessary development procedure. The possible software development tools that will help in the development are given to guide the prospective authors of such virtual laboratories.

To be noted that, developments in information technology services during the previous and current decades are argued to have very significant implications for the conduct, and even the nature, of research. These changes should not be thought of as predictable, linear developments, or even as mere discontinuous functions. They constitute a revolution, challenging established notions of research process.

How implementation being done? Steps taken making it possible to be done? Effects on the existing physical laboratory? The area of practical usage of the virtual laboratory? Pros & Cons? All these question are going to be answered along this report. Thus, to further enhance this report we have also included some figures, charts, examples, reviews & surveys and some programming codes for the reader to better use of understanding.