# Abstract

Digital Board Marker is an innovation through technology which focuses on reduction of resource usage. The system records and live stream the lecture by using the minimal resources. In Particular, usage of storage media and communication media is enhanced so that recording and live streaming of lecture seems to be one hundred times more resource efficient as compared to regular video lectures. Learning management system is implemented and lectures are managed on it. Class instructors, students, sketch artists and online lecturers are the end users of digital board marker. What makes this project unique is, it does not record the video from camera, it does not compress the video so no compromise on quality, it does not implement any physical touchpad that makes it ultradurable because no physical contact with system.

--Literature Review—

Methodology and general diagrams as per module explain that how a particular module will be developed, where to start and working conditions at top level. Methodology used to develop a project module, necessary design tools and essentials, pre-requisites in terms of tool and logic required are discussed. Entity relationship diagram shows the relationships among entity blocks that are related in a database. Database diagram represents skeleton structure that exhibits the logical view of the entire database.

Implementation details are about the actual tools and techniques used to develop the project. Project structure depicts that how each module in the project is related to another module on actual interaction level. Requirements of a module tells us what a module is supposed to do. General flow is described in descriptive format. Detail of hardware and software components used in the project are detailed. Circuit and schematic diagram of hardware modules give the idea of physical linkage of components at electronic level. General flow diagram explains the general working of the module. Rules and assumptions that must be true while normal usage of each module is addressed.

Evaluation criteria explains the conditions and test cases that are used to evaluate overall project. Each test case has some pre-conditions, test steps and test data to evaluate in each scenario. Post condition is the verification checkpoint that must be true in order to make the system pass the test case.

Results of the corresponding test cases are addressed. Pre-conditions, post-conditions, expected and actual results of each test case are explained in well-formed tabular format.

Future work and scope enhancement of the project will be done by mainly using machine learning and computer vision algorithms. Use of ordinary marker instead of marker hardware. Sustainable system irrespective of board dimensions. Noise removal in audio hardware. Automatic notes generation on LMS. Recording of lectures in an uncontrolled environment. Automated google searching.