Hand gesture recognition using tensorflow

TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystem of tools, libraries, and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML-powered applications. TensorFlow was originally developed by researchers and engineers working on the Google Brain team within Google's Machine Intelligence Research organization to conduct machine learning and deep neural networks research. The system is general enough to be applicable in a wide variety of other domains, as well.

Hand Gesture recognition is a technique which is used to understand and analyze the human body language and interact with the user accordingly. This in turn helps in building a bridge between the machine and the user to communicate with each other. Gesture recognition is useful in processing the information which cannot be conveyed through speech or text. Gestures are the simplest means of communicating something that is meaningful.

Online exam portal is a web application platform conducting online examinations.It performs all crud operations-Create,Retrieve,Update,Delete.In this project,hand gesture recognition system was developed to capture the hand gestures being performed by the user and to control a computer system based on the incoming information. Many of the existing systems in literature have implemented gesture recognition using only spatial modelling, i.e. recognition of a single gesture and not temporal modelling i.e. recognition of motion of gestures. Also, the existing systems have not been implemented in real time, they use a pre captured image as an input for gesture recognition. To overcome these existing problems a new architecture has been developed which aims to design a vision-based hand gesture recognition system with a high correct detection rate along with a high-performance criterion, which can work in a real time HCI system without having any of the mentioned strict limitations (gloves, uniform background etc.) on the user environment.