**Progress report of Jeevan**

State of Art:

In state of art, I covered different topics related to quality estimation of video traffic as well as audio traffic. The different topics are listed below:

* QoS requirements for video and audio traffics.
* Network level protocols for audio and video transmission i.e. RTP, RTCP, SCTP, etc.
* Different subjective and objective quality estimation method for video and audio traffic.
* IPTV and VOIP Technologies.
* Fuzzy expert system and its implementation.
* Internet traffic packet inspection and classification.
* Understanding of MATLAB fuzzy toolbox, Implementation of fuzzy expert system in C.

Based on above knowledge, a methodology and a system based on fuzzy expert system to estimate the impact of network conditions (QoS) on the QoE of video traffic is proposed.

Methodology:

* Subjective tests are performed to correlate network QoS metrics with participants’ perceived QoE of video traffic.
* The correlation between the QoS metrics and the participants’ QoE is transformed into fuzzy membership functions using probability distribution functions and curve fitting methods.
* A simple methodology for fuzzy inference rules generation by assigning weights to the video impairment scores is proposed.
* A fuzzy expert system utilizes the membership functions and the rules to measure the impact of network condition (QoS parameters) on the user perceived satisfaction level (QoE) of video services.
* The system is simulated in MATLAB and the output is compared i.e. estimated QoE with the subjective QoE obtained from the participants in a controlled test, which is highly correlated.
* The system is integrated as part of a monitoring tool in an industrial IPTV test bed, to compare its output with standard Video Quality Monitoring (VQM) in a real-time, which shows that the proposed video quality estimation method based on fuzzy expert system can effectively measure the network impact on the QoE.