PROJECT DESCRIPTION FORM

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| Project | **Simulated SFP device sending digital video over an IP network** |
| Context | Nowaday, streaming is very popular, especially for video and audio. SFP devices have been born for this purpose.  There’s two type of SFP devices: encapsulation and decapsulation. The Encapsulation will convert the digital signal to ip packet and send them to the decapsulation through the internet.  In the development, we need to build a simulator for the SFP devices to reduce the cost for development time.  The simulator will simulate the main function of SFP devices (convert between the video/audio to the IP packet follow the SMPTE 2110 protocol |
| Approach | Research SMPTE 2110 protocol to understand deeply about video and audio streaming.  Research about SFP+ device known as (Small Form-factor Pluggable) A small transceiver that plugs into the SFP port of a network switch and connects to Fibre Channel and Gigabit Ethernet (GbE) optical fiber cables at the other end.  Write as simulator to simulate SFP device function to bridge SDI signals into IP using SMPTE 2110 protocol.  This simulator also send its configuration to the existing Element Management System (EMS) software via rest api protocol. |
| Keyword | SFP device, SMPTE 2110, SDI signal, networking, UDP/TCP IP |
| Prerequisite | Basic network knowledge, OPP programming skill, database management system. |
| Number of student | 1 or 2 students |
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