Building a Connected Classroom Leveraging IoT

THE CLIENT

The client is a global university in US.

BUSINESS NEED

The client wanted ALTEN Calsoft Labs to design a framework to control multiple devices through a single remote. Some of the challenges faced in the process includes:

- Controlling multiple projectors and displays in lecture rooms
- Controlling huge number of DVD players and speakers

TECHNOLOGY USED

Main Board consists of MCU and peripherals listed below:

- Number of buttons: 8
- Control Types: Serial RS232, Infrared (IR), 12V DC Triggering
- Data/Power Connection: Rj45
- Buttons: Rubberized - contact style
- Key Plate Material: ABS Plastic
- Wall Plate Cover Material: Nylon
- PCB Dimensions (HxWxD): 103 x 45 x 25mm

Multiport Controller Interface Adapter (MCIA) consists of:

- Connections: 5.5mm DC Power, DB9 Male x 2, 3.5mm TS, 2-Port Screw Terminal (IR), RJ45, 3-Port Screw Terminal (12V trigger)
- Material: ABS Plastic
- Dimensions (HxWxD): 23.5 x 82.4 x 69.1mm

SOLUTION DELIVERED

ALTEN Calsoft Labs’ end-to-end IoT solution included the following activities viz,

- Design and development of Hardware & Embedded software for A/V controller used in Conference Rooms
- Manufacturing and supply of H/W boards to our client based in USA
- Provides support for 120+ devices (of different makes) available in the US market

BUSINESS BENEFITS

- On-board, real-time clock for easy time and date programming
- 12V DC Triggering provides control for electromechanical devices, such as projector screens, blinds, DVD/Blu-Ray players, Speakers, etc.
- Up to 32 commands for control of numerous A/V devices
- Backup capability eliminates the need for reprogramming in the event of a power failure.
- The TruLink AV Controller when installed in a Classroom has the ability to control multiple devices from a single IR remote.
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