



Electronics manufacturer and supply
Internet of Things
Embedded System and Electronics Design

Company Name	Details
Web	www.intricatelab.com
Name	Intricate Lab
Number of Employees	12
Expertise	Intricate Lab is an Electronics development and supply company situated in Bangladesh. We also develop custom software. We are expert in web application development in c#, nodejs, angularjs and mobile application development in java android. We are also expert in designing complex electronics product for home and industrial solution and also Internet of things
Facebook	https://www.facebook.com/intricatelab
LinkedIn	https://www.linkedin.com/company/13328790/admin/updates/
YouTube	https://www.youtube.com/channel/UCztj8CCuOJ0xuyIL5wzmbws
Google Play Store	https://play.google.com/store/apps/developer?id=IntricateLab&hl=en





Our Expertise

- **Government supplier and manufacturer of electronics product:** We bring products from anywhere and supply according to client requirement
- **Web Application Development:** We have excellent programmers who are expert in Asp.net MVC, Nodejs, MongoDB, Angularjs. We design high level synchronous and asynchronous web application as user requirement.
- **ERP:** We design ERP (Enterprise Resource Planning) for textile and mid-sized industries.
- **Smartphone Application Development:** We design mobile application for android for smart home system and health application using Bluetooth, Wi-Fi, Zigbee, z-wave technology. We have experienced UI designer and cross platform developer.



- **Desktop Application:** We design Desktop based software in .net framework for interlinking with hardware. Our experienced developer are familiar with Microsoft RDLC reporting and database design and SDK linking with hardware.
- **Embedded System:** We are expert in microcontroller programming. We have 10+ years' experience in designing with PIC, ATMEL, 8051 microcontrollers. We are familiar in developing MPLAB, AVR Studio, Arduino, Keil, MIKROC compiler.
- **PCB Designing:** We Design high quality single, double layer printed circuit board with experienced designer for different application. Main platform for our pcb design is Eagle. We are also familiar with design in Proteus.
- **Biometric Security software design for fingerprint and RFID.**
- **Solar Home system product design.**

Products

- 1) **Intricate ERP:** Intricate ERP (Enterprise Resource Planning) developed by Intricate Lab is a ERP software developed for small and mid-sized company. It has accounts, production, sales, purchase, inventory, office, payroll module. It also has graphical and pdf reporting. It is responsive and hosted in AWS elastic cloud in a multi-tenant architecture. Multi-tenant architecture means user can have their tenant domain with minimum service charge.



For detail see this video: <https://www.youtube.com/watch?v=V6FN0u8dYZM&t>

- 2) **Fingerprint time attendance system:** Fingerprint machine with time attendance software with leave management and HR module



Main Feature:

- Fingerprint Time attendance system consist of a fingerprint scanner hardware with a time attendance software.
- The software can be run in any windows PC. It doesn't need server. Just needs to connect with the device via Ethernet port to download data from device.
- Software can generate 17 types of reporting like daily attendance monthly attendance, Leave etc.
- Software also integrates leave management, Holiday, Shift, Manual update module.
- Software is developed in Microsoft .net framework.
- Along with fingerprint image hardware also consist of RFID card to read 125 KHz card input

For Detail: <https://www.youtube.com/watch?v=mDlVe4CThIQ&t>

- 3) **Knowledge Bay:** An interactive learning and quiz tool Developed for Bangladesh Navy. Administrator can upload quiz question and learning tools and user can participate in Quiz tests by scanning ID card and get a certificate from built in printer upon completion of test.



Hardware Features:

- 1) Multiple Monitor. One Touch Screen monitor for interaction with user and a display monitor for video and image and other supporting materiel. Multiple monitor makes user experience like no other existing solution.
- 2) ID card reader for all personnel. System keeps track of user progress record by the P/O no of user.
- 3) Certificate print with thermal printer. Thermal printer requires no ink. It prints paper by Heat.
- 4) UPS for power backup.
- 5) Speaker for sound and text to speech function.



Software Features:

- 1) Knowledge Bay consist of quiz tool and learning tool.
- 2) **Quiz Tool:** In the quiz tool user can participate in different quiz in their own preferred subjects. Subject like navigation, executive, supply etc. also has multiple sub subject under them. Each subject consists of three or more different level. Participant can move to a different level by finishing earlier level.
Each Level has many questions. The number of question depends on the subject. There is a threshold given by the administrator so the participant can get a certificate upon completion of that number. The idea is to show the certificate to the DO and be recorded.
The question for each level has multiple choices. Question can be uploaded in any format. Video, Audio or image-based question are some of the format can be used by the admin. If the user answers correctly then he will be awarded xp point and can move to the next question. If the answer is wrong then he has a chance to learn. Learning material displayed in the top monitor can be of anything like a video or image or simple text. Participant can try again by learning about that topic and then move to the next question. The question arrival patterns are all random in nature and user's progress is tracked by system. So if he quits a session and logs in later he will see a different question every time. This make the system less vulnerable for anticipating same thing. Participant can also learn about that topic even if he answers correctly. The whole idea behind knowledge bay is to make people want to learn more by designing in an attractive user interface.
That is also why each question has a text to speech format which speaks out all the question and the answers for a soothing experience.
- 3) **Leaning Tool:** Learning tool consist of topic-based learning materials. Admin can upload video, text, audio, pdf, doc and any defense terminology as he wants. A search engine is provided so the user can search for a term and get related answer. As defense terminology are not always available on the World Wide Web this is a useful tool for anyone to learn.
PDF files can be uploaded with pdf index. The index appears in the lower interactive screen and pdf is displayed in the upper screen. User can move to different indexes by clicking over an index.
- 4) **Site Management Unit:** SMU is the complete solution of controlling the passive devices present in a site. It is a microprocessor-based control device which operate based on selected input which is provided to specific port.

Main Feature:

- This device has an intelligent management system which receives the control signals and will operate based on that.
- The control signals is be provided to different ports. The device will sense the state of these ports (close or open) and will act accordingly.
- Once the signal (status) sent through the control ports are received, the device will operate different equipment according to supplied logic. It will
 1. Turn on/off the auto generator.

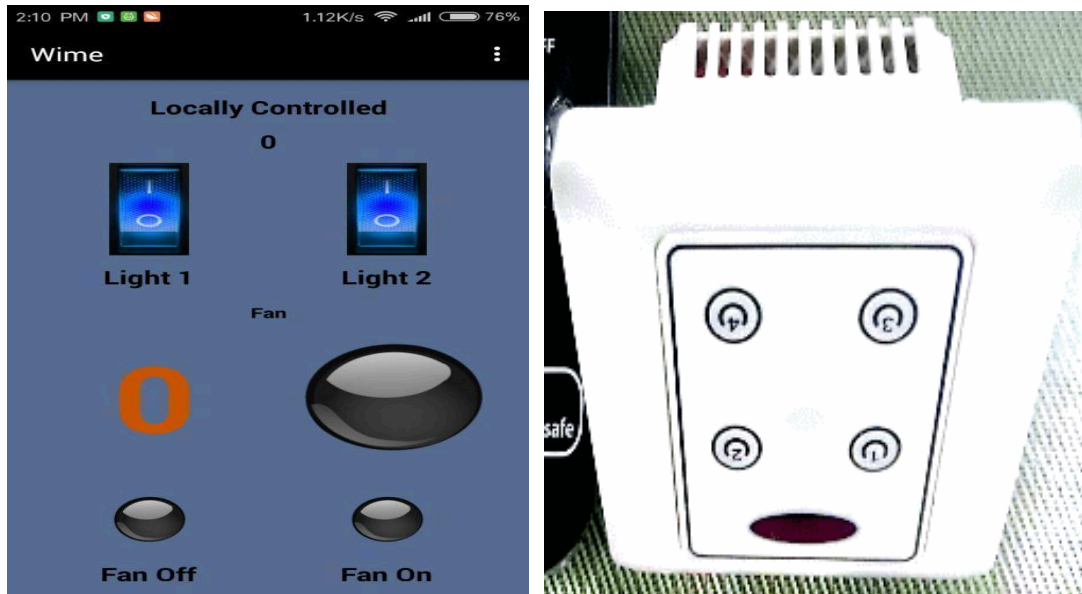


2. Turn on/off the DC Ventilation system
3. Turn on/off the Aviation Light
4. Turn on/off the main AC power
5. Generate “Dark Alarm” which is to be collected from LDR and to be supplied to specific alarm port.
6. Generate Aviation Light fail alarm which is to be collected through monitoring current flow to Aviation Light and to be supplied to specific alarm port.



Pic- Site Management Unit

- 5) **Wemey:** Wemey is a smartphone controlled switching and dimming device. It has three output in a single box. Two On/Off and one dimming output. The dimming output has 8 steps and can be used as ceiling fan regulator or light valve dimmer. The Wemey box has 4 built in touch switches. The switch One and two is toggle (means first touch on and second touch off) for light on/off. The third and 4th switch is for dimming at full speed and half speed. The third switch second touch switches off dimmer.
- The most attractive feature for Wemey is it can be controlled via android smartphone app locally or via internet (world wide web). The Wemey server is hosted on Amazon web service IOT (Internet of things). So Wemey can be controlled from anywhere in the world in real time. User can also connect the device via local router or directly if they don't want to use that feature. The app settings page gives all option to connect. The app can be downloaded from google play store.



Wemey has a super cool outlook with outstanding reliability. It is developed and maintained by Intricate Lab

6) Remo : Remote controlled Electric switch with dimmer

রিমোট কন্ট্রোল সুইচ
সাধারণ সুইচের যুগ শেষ
এসেছে **Manual Switch System**
সহ রিমোট কন্ট্রোল ইলেকট্রিক সুইচ।
লাইট ও ফ্যান রিমোট দ্বারা অন ও অফ করা যায়।
ফ্যানের গতি কমানো বাড়ানো যায়।

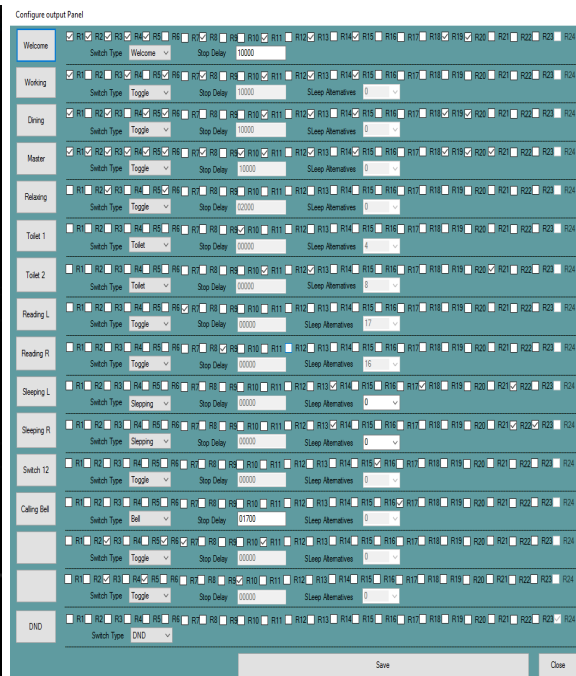
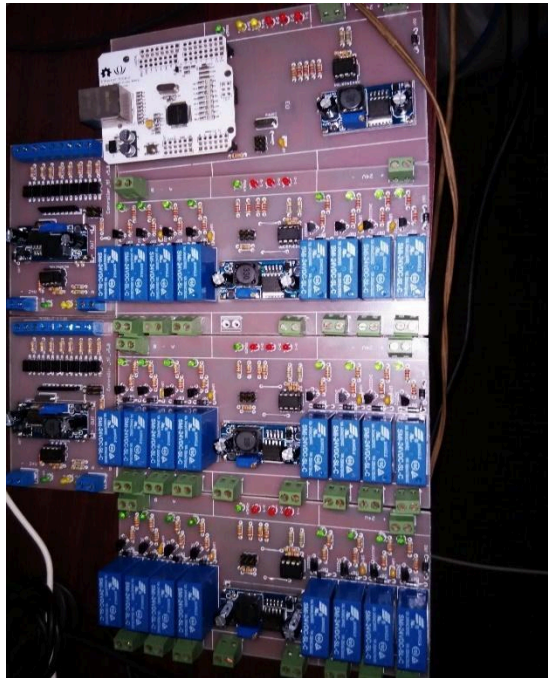


IPS এর জন্য অধিক কার্যকর
Intricate Lab
To make something, Stop at nothing

Main Feature:

- Fully Functional custom remote controlled switch and dimmer.
- Manual push button option.
- Internal Electronic Triac switching - no sparks.
- Fan speed regulation 1-9 steps with indication.
- Fits in Standard Switch boxes.
- State save in EEPROM. No chance of reset in power cut
- Two on/off output and one dimmer output is available.

7) **ShapL:** Programmable Lighting automation for smart hotel and home. This project is implemented in LE Meridian Hotel



Main Feature:

- ShapL is a modular programmable lighting automation device for home or hotels.
- One master with Ethernet connectivity can connect with a .net based software to upload program on slave and switches
- Each slave module consist of 8 relay. Relay will work on switch press based on program uploaded from software. More than one slave can be connected.
- Each switch module consist of 8 touch toggle switches. More than one switch module can be connected.
- Slave, Master and switch is connected via Modbus connection.
- All modules are powered by a 24v power supply
- Each switch can be work as toggle or delay timer based on programming.

8) **IPS/UPS & Solar Inverter**– World’s Most Advanced DSP Based PWM Technology. Intricate Lab DSP (Digital Signal Processor) IPS PURE SINE WAVE LCD-Display. Capacity: 400VA – 10 KVA.

* Intricate Lab DSP PURE SINE WAVE COMMERCIAL LONG BACK-UP IPS/UPS & Solar Inverter (400VA - 10000 VA) based on World’s most advanced Digital Signal Processor (DSP) Technology. It is safest combination of IPS/UPS & Solar Inverter. The power it supplies is actually much pure than the power supplied from the mains. This is clearly evident, as appliances don’t make any irritating, humming sound as they do on normal IPS/UPS & Solar Inverter in the market.

* Your sensitive and expensive equipment will be correctly powered by Intricate Lab DSP SINE WAVE COMMERCIAL IPS/UPS & Solar Inverter, which an ordinary IPS/UPS & Solar Inverter cannot supply the right kinds of power to run the equipment. Intricate Lab IPS/UPS & Solar Inverter gives the right charging for the batteries ensuring life and less toping up for your batteries.



*All the application such as Power tools, Lights, Fans, LCD-TV, Satellite Receiver, Computer, Printer, Monitor, Scanner, Washing machine, Water pump, Microwave Oven, Server, Refrigerator, Air Conditioner, EPABX, Intercoms, Photo-Copier, Type Writer , Medical Instrument etc. over the years, any residential and commercial unit, can run all together, which requires uninterrupted power back-up source, 220 V @ 50Hz Pure Sine Wave Output.

* PURE SINE WAVE OUTPUT: Pure Sine Wave 100% clean, Regulated, and completely stable and distortion free power, which is absolutely safe to running sophisticated appliance without humming & irritating, sound.

* LCD Display – It will display! Battery Voltage, Inverter output Voltage, Inverter Load in Watt. Charger on/off & Charging Ampere., IPS/UPS & Solar Inverter, IPS/UPS & Solar Inverter Standby on/off, Mains AC Voltage etc.

* Protection: Over load, short circuit, battery dip discharge, battery over charge, main over voltage, reverse connection or phase and neutral of mains input. In all these error condition will be shown in the LCD display.

* INSTANT SWITCHOVER: In case of power failure, the process of switchover to the battery mode is a few milliseconds, hence the power supplied to the connected appliance s, like computers is not interrupted, as a result of which the system does not reboot.

Some of our esteemed Client:



1) Atomic Energy Commission:



“Intricate Lab members has been long standing partner for atomic energy commission Bangladesh. They have a great microcontroller development and software development team”

Mahbubul Haq
Director
Atomic Energy Commission

2) Bangladesh Navy:



“Intricate Lab has a very expert software development group who are efficient and hard working. I wish them Good Luck”

Captain Hasan Tareq
Director NAVAL Training(DNT)
NHQ

3) BCSIR:



“Intricate Lab has very good expertise in industrial automation. They have the one stop solution for product design that I was looking for. I wish them all the best.”

Rupesh Chandra Roy
Director pp&pd