

## CMR UNIVERSITY

### Consultancy and Corporate Training Income

The Consultancy and corporate training Income is included in the other income of the Income and expenditure account, the breakup for the same is as follows

Sl. No.	Year	Particulars	Amount
1	2018-19	Consultancy and corporate training Income	10,05,000
2	2018-19	Photo copy Income	1,36,500
3	2018-19	Other Income	2,16,627
		<b>TOTAL</b>	<b>13,58,127</b>


## CMR UNIVERSITY

### INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2019

Previous Year	Expenditure	Sch No.	Amount Rs.	Previous Year	Income	Sch No.	Amount Rs.
82,123,605	Employee Cost	6	111,204,388	252,991,522	Fee Income		406,883,362
912,450	Board & University Expenses	7	2,937,180	538,232	Other Income	9	1,358,127
7,762,036	Students Welfare Expenses	8	24,606,662	-	Bank Interest		146,791
51,929,710	Administration Expenses	9	85,753,927				
8,396,318	Repairs & Maintenance	10	7,200,610				
2,074,725	Other Expenses	11	6,333,385				
8,513,716	Depreciation	3	41,849,838				
91,817,290	Excess of Income over Expenditure for the year		128,502,310				
253,529,754	Total		408,388,299	253,529,754	Total		408,388,299

As per our report of even date attached

For CMR UNIVERSITY

  
President

For SUNDARESHA & ASSOCIATES  
Chartered Accountants  
(Firm Registration No.008012S)

  
Partner



Place: Bangalore

Date : 21.09.2019

## CMR UNIVERSITY

### Consultancy and Corporate Training Income

The Consultancy and corporate training Income is included in the other income of the Income and expenditure account, the breakup for the same is as follows

Sl. No.	Year	Particulars	Amount
1	2019-20	Consultancy and corporate training Income	14,07,000
2	2019-20	Photo copy Income	1,58,500
3	2019-20	Other Income	1,33,467
		<b>TOTAL</b>	<b>16,98,967</b>

## CMR UNIVERSITY

### INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

Previous Year	Expenditure	Sch No.	Amount Rs.	Previous Year	Income	Sch No.	Amount Rs.
11,12,04,388	Employee Cost	6	14,54,98,255	40,68,83,382	Fee Income		60,74,81,598
29,37,180	Board & University Expenses	7	40,36,800	13,58,127	Other Income	9	16,98,967
2,46,06,662	Students Welfare Expenses	8	3,57,05,227	-	Bank Interest		1,38,890
8,57,53,927	Administration Expenses	9	11,84,82,508				
72,00,610	Repairs & Maintenance	10	60,29,427				
63,33,385	Other Expenses	11	46,57,661				
4,18,49,838	Depreciation	3	8,00,30,776				
12,83,55,519	Excess of Income over Expenditure for the year		21,48,78,801				
40,82,41,508	Total		60,93,19,455	40,82,41,508	Total		60,93,19,455

As per our report of even date attached

For CMR UNIVERSITY

President

For SUNDARESHA & ASSOCIATES

Chartered Accountants  
(Firm Registration No. 008012S)

Partner



Place: Bangalore

Date : 10.12.2020

## CMR UNIVERSITY

### Consultancy and Corporate Training Income

The Consultancy and corporate training Income is included in the other income of the Income and expenditure account, the breakup for the same is as follows

Sl. No.	Year	Particulars	Amount
1	2020-21	Consultancy and corporate training Income	80,05,000
2	2020-21	Photo copy Income	41,500
3	2020-21	Other Income	8,14,400
		<b>TOTAL</b>	<b>88,60,900</b>

## CMR UNIVERSITY

### CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

Previous Year	Expenditure	Sch No.	Amount Rs.	Previous Year	Income	Sch No.	Amount Rs.
145,498,255	Employee Cost	7	135,773,220	607,481,598	Fee Income-		614,870,649
4,036,600	Board & University Expenses	8	1,281,045	1,698,967	Other Income	13	8,880,900
35,705,227	Students Welfare Expenses	9	82,188,556	138,890	Bank Interest		29,118
118,482,506	Administration Expenses	10	38,877,493				
-	Loss on Sale of Vehicle		20,007				
6,029,427	Repairs & Maintenance	11	7,232,438				
4,657,661	Other Expenses	12	3,714,283				
80,030,776	Depreciation	4	72,370,026				
214,878,801	Excess of Income over Expenditure for the year		282,323,600				
609,319,455	Total		623,760,667	609,319,455	Total		623,760,667

For CMR UNIVERSITY

*Sabitha*  
(Dr. Sabitha Ramamurthy)  
Chancellor

*K.R. Lakshmi*  
(K.R. LAKSHMISH)  
Chief Finance Officer

As per our report of even date attached

For SUNDARESHA & ASSOCIATES  
Chartered Accountants  
(Firm Registration No.008012S)

*C. Ramesh*  
(C. RAMESH)  
Membership No.022268  
Partner

Place: Bangalore  
Date : 03.01.2022

## CMR UNIVERSITY

### Consultancy and Corporate Training Income

The Consultancy and corporate training Income is included in the other income of the Income and expenditure account, the breakup for the same is as follows

Sl. No.	Year	Particulars	Amount
1	2021-22	Consultancy and corporate training Income	86,54,000
2	2021-22	Photo copy Income	1,57,500
3	2021-22	Other Income	4,07,438
		<b>TOTAL</b>	<b>92,18,938</b>

## CMR UNIVERSITY


### CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2022

Previous Year	Expenditure	Sch No.	Amount Rs.	Previous Year	Income	Sch No.	Amount Rs.
13,57,73,220	Employee Cost	7	21,07,47,585	61,48,70,649	Fee Income		72,97,44,622
12,61,045	Board & University Expenses	8	49,95,419	88,60,900	Other Income	13	92,18,938
8,21,88,556	Students Welfare Expenses	9	67,98,270	29,118	Bank Interest		8,709
3,88,77,493	Administration Expenses	10	14,05,25,757				
20,007	Loss on Sale of Vehicle		-				
72,32,438	Repairs & Maintenance	11	1,59,30,524				
37,14,283	Other Expenses	12	1,02,61,469				
7,23,70,026	Depreciation	4	7,46,53,804				
28,23,23,600	Excess of Income over Expenditure for the year		27,50,59,441				
62,37,60,667	Total		73,89,72,269	62,37,60,667	Total		73,89,72,269

As per our report of even date attached

For CMR UNIVERSITY

For SUNDARESHA & ASSOCIATES  
Chartered Accountants  
(Firm Registration No.0080128)

  
(Dr. Sabitha Ramamurthy)  
Chancellor

  
(K.R. LAKSHMISH)  
Chief Finance Officer

  
Partner



**CMR UNIVERSITY**

**Consultancy and Corporate Training Income**

The Consultancy and corporate training Income is included in the other income of the Income and expenditure account, the breakup for the same is as follows

Sl. No.	Year	Particulars	Amount
1	2022-23	Consultancy and corporate training Income	25,09,000
2	2022-23	Photo copy Income	1,05,000
3	2022-23	Other Income	6,63,441
		<b>TOTAL</b>	<b>32,77,441</b>

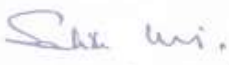
**CMR UNIVERSITY**

**CONSOLIDATED INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2023**

Previous Year	Expenditure	Sch No.	Amount Rs.	Previous Year	Income	Sch No.	Amount Rs.
21,07,47,585	Employee Cost	5	22,58,73,368	72,97,44,622	Fee Income		99,97,20,711
49,95,419	Board & University Expenses	6	64,62,884	92,18,938	Other Income		32,77,441
67,98,270	Students Welfare Expenses	7	2,80,46,219	8,709	Bank Interest		-
14,05,25,757	Adminstration Expenses	8	29,11,70,759				
1,59,30,524	Repairs & Maintainance	9	4,25,85,773				
1,02,61,469	Other Expenses	10	1,65,61,247				
7,46,53,804	Depreciation	3	7,67,84,406				
27,50,59,441	Excess of Income over Expenditure for the year		31,55,13,495				
46,39,12,828	Total		68,74,84,856	73,89,72,269	Total		1,00,29,98,151

As per our report of even date attached

For CMR UNIVERSITY

  
(Dr. Sabitha Ramamurthy)  
Chancellor

  
(K.R. LAKSHMISH)  
Chief Finance Officer

For SUNDARESH & CO.,  
Chartered Accountants  
(Firm Registration No. 004223S)

  
(K. BALAKRISHNA SHABARAYA)  
Membership No. 025944  
Partner



Place: Bangalore

Date : 26.10.2023

### 3.5.1 Revenue generated from consultancy and corporate training during the last five years (INR in Lakhs)

SI No	Name of the consultant	Name of consultancy project	Consulting/Sponsoring agency with contact details	Year	Revenue generated (INR in Lakhs)
1	Dr. Vivek Rajapadmanabhan, Dr. Sugant, Prof. Mohan Cherian, Prof. Jacob Thomas, Prof. Anand Lokhande	Certificate Program on "Contemporary Skills for Managers in VUCA world"	Hindusthan College, Coimbatore	2022	6.50
2	SOLS CMRU	Legal Aid Services	Justice AV Chandrasekhara	2021	2.05
3	Ms Vindhiya, Ms Shirley, Mr Vignesh	IIFL Samasta	IIFL SAMASTA FINANCE LIMITED No 110/3, Lalbagh Road, Krishnappa Layout, Bengaluru Urban, Karnataka,	2024	1.121
4	Prof. R. Muralishankar,	EMIDAS TECHNOLOGY PVT LTD	MIDAS- Nagesh Kashyap +91 9343003203	2024	0.305



Dr. Sugant R &lt;sugant.r@cmr.edu.in&gt;

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**Certificate Programme -reg.**

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**Director MBA** <directormba@hicas.ac.in>  
To: "Dr. Sugant R" <sugant.r@cmr.edu.in>

Tue, Oct 11, 2022 at 11:08 AM

Dear Dr.Sugant,

We are planning to send 46 students and one faculty for the certification programme. Kindly send me the Invoice for the same.

Our Billing Address is- Hindusthan College of Arts & Science, Coimbatore.  
GST Number: 33AAATH2282D1Z5

Kindly send your PAN number and scanned copy of it for our reference an payment process.

Looking forward to you.

--  
With Regards

Dr.B.Sudhakar  
Director-MBA  
HICAS  
Coimbatore.  
+91 9443706035.

**PRAVEEN R**

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**Dr B SUDHAKAR**  
Director  
Hindusthan College of Arts and Science  
Coimbatore

August 22, 2022

Dear Sir,

**Sub: Certificate Program in Management**

Further to the discussion we had, we are pleased to submit the proposal for conduct of Certificate Program on “Contemporary Skills for Managers in VUCA world” for II Year MBA students (60 nos.) from October 13 – 19, 2022.

The indicative program details and agenda are as below:

**Indicative Itinerary/ Program Agenda**

Date	Time	Activity
October 13, 2022	7 am	Pick-up from Station/ Bus Stand and transfer to Guest House
	9.30 am	Transfer from Guest House – CMR University, OMBR Campus
	10 am – 10.30 am	Inauguration of the program
	10.30 am – 1 pm	Classroom session
	1 – 1.30 pm	Lunch
	1.30 pm - 4.30 pm	Classroom session
	4.45 pm	Transfer to Guest House
October 14, 2022	9.30 am – 4 pm	Industry Visit
October 15, 2022	8 am – 6 pm	Bangalore City Tour
October 16, 2022	Full day	Students are on their own
October 17, 2022	9.30 am	Transfer from Guest House – CMR University, OMBR Campus
	10 am – 1 pm	Classroom session
	1 – 1.30 pm	Lunch
	1.30 pm - 4.30 pm	Classroom session
	4.45 pm	Transfer to Guest House
October 18, 2022	9.30 am	Transfer from Guest House – CMR University, OMBR Campus
	10 am – 1 pm	Classroom session
	1 – 1.30 pm	Lunch
	1.30 pm - 4.30 pm	Classroom session
	4.45 pm	Transfer to Guest House
October 19, 2022	9.30 am	Check out from Guest House; Transfer to CMR University, OMBR Campus
	10 am – 1 pm	Classroom session
	1 – 1.30 pm	Lunch
	1.30 pm – 4.00 pm	Classroom session
	4 pm – 4.30 pm	Valedictory Session and Award of Certificates
	5 pm	Transfer to Bus Stand/ Railway Station



**Commercials (indicative):**

1. The investment for the above would be Rs.12,500 + GST @ 18%
2. The investment is inclusive of:
  - Accommodation – from October 13<sup>th</sup> morning to October 19<sup>th</sup> morning
  - Food:
    - Breakfast, lunch and dinner – on October 13, 17, 18
    - Breakfast and dinner – October 14 & 15
    - Breakfast and lunch – October 19
  - Travel from guest house to campus and back
  - Pick-up and drop from/ to the station/ bus stand
  - Industry visit
  - One day Bangalore city tour
  - Classroom training, course materials and certification
3. 50% of the investment may please be paid with the confirmatory work order; balance 50% to be paid on or before October 13<sup>th</sup>
4. The payment details (payee details) will be shared upon your confirmation.

Look forward to your confirmation so that we can block the accommodation.

Should you need any further information, please do let us know.

Sincerely,



**Dr R SUGANT**  
Dean  
School of Management  
School of Economics and Commerce

**Certificate Program on "Contemporary Skills for Managers in VUCA world"**

**MBA Students of Hindusthan College of Arts and Science, Coimbatore**

Day/ Date	Time	Particulars	Resource Person
<b>Thursday, 13 October, 2022</b>	10 am - 10.30 am	Inauguration	
	10.30 am - 11.30 am	Project-centric Approach in Management; Assigning Projects and guidelines to students	Prof Anand Lokhande, Professor, School of Management
	11.45 am - 12.45 pm		
	1.45 pm - 3.15 pm	Communicating for Success	Prof Mohan Cherian, Head - MBA Program, School of Management
	3.30 pm - 4.45 pm	Managing in a Digital World	Dr R Sugant, Dean, School of Management & School of Economics and Commerce
<b>Friday, 14 October, 2022</b>	Full Day	Industry Visit	
<b>Saturday, 15 October, 2022</b>	Full Day	Bengaluru Sight Seeing	
<b>Monday, 17 October, 2022</b>	9.45 am - 11.15 am	Innovation and Problem Solving through Design Thinking	Dr Vivek Rajapadmanabhan, Director, School of Management
	11.30 am - 12.45 pm		
	1.45 pm - 3.15 pm		
	3.30 pm - 4.45 pm		
<b>Tuesday, 18 October, 2022</b>	9.45 am - 11.15 am	Product Management in Digital World	Mr Rahul Mohandas, Product Management Consultant
	11.30 am - 12.45 pm		
	1.45 pm - 3.15 pm		
	3.30 pm - 4.45 pm		
<b>Wednesday, 19 October, 2022</b>	9.45 am - 11.15 am	Creating a start-up mindset	Prof Bhanukrishna, School of Economics and Commerce
	11.30 am - 12.45 pm		
	1.45 pm - 2.45 pm	Interaction with start-up entrepreneurs	
	3.00 pm - 4.30 pm	Student Presentations	
	4.30 pm - 5 pm	Closing Remarks, Valedictory, Award of Certificates	

**JUSTICE A.V.CHANDRASHEKAR COMMITTEE  
BDA HEAD OFFICE, KUMARAPARK WEST  
BANGALORE-5600 20**

**PROCEEDINGS DATED 13.10.2021 OF THE COMMITTEE**

Hon'ble Supreme Court of India appointed Justice A.V.Chandrashekar formerly Judge, Karnataka High Court to look into the 7351 buildings in the proposed Dr.Shivaram Karanth Layout, Bangalore undertaken by the Bangalore Development Authority.

- Ref: 1) Judgment dated 3<sup>rd</sup> August 2018 of the Hon'ble Supreme Court of India- Hon'ble Justice Arun Mishra and Hon'ble Justice S.Abdul Nazeer in Civil Appeal Nos. 7661-63 of 2018 between BDA and another Vs. State of Karnataka and another.
- 2) Judgment dated 3<sup>rd</sup> December 2020 of the Hon'ble Supreme Court of India- Hon'ble Justice S.Abdul Nazeer and Hon'ble Justice Sanjiv Khanna in Misc. Application Nos. 1614-1616 of 2019 in Misc.Application Nos. 1346-1348 of 2019 in Civil Appeal Nos. 7661-7663 of 2018 between BDA and another Vs.State of Karnataka and Others.
- 3) Proceedings dated 16.01.2021 of Justice A.V. Chandrashekar Committee regarding appointment of NAVIGEM DATA as " Technology Partner".

**Present:**

- 1) Hon'ble Justice Sri.A.V.Chandrashekar, Chairman, Formerly Judge High Court of Karnataka.
- 2) Dr.S.T.Ramesh, IPS, Member, Formerly D.G and IGP,Karnataka, Bangalore

**PRAVEEN R**

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- 3) Sri.Jayakar Jerome IAS, Member, Formerly Commissioner, BDA, Bangalore.

**Preamble:**

In the Judgment referred to at second above, the Hon'ble Supreme Court of India appointed the above committee to identify the lawful constructions made in the notified lands of Dr.Shivaram Karanth Layout prior to 3.8.2018. The Hon'ble Supreme Court of India has also said that the Committee is permitted to device its own mechanism and procedure for holding the enquiry

- 2) Consequent to the commencement of Help Desk at Medi Agrahara Urdu Primary School, Vaderahalli Panchayath with effect from 01.03.2021 as a Pilot, the data capture work of Dr. K.Shivaram Karanth Layout commenced with the help of Interns, employees of the Committee and Navigem Technology Team.
- 3) Help Desks started functioning with effect from 15.3.2021 at Samudaya Bhavana, Somashettyhalli, Government Primary school, Dodda Bylakere and Dr.Ambedkar Samudaya Bhavana, Singanayakana halli.
- 4) The interns who are Law students at C.M.R. University – School of Legal Studies, HRBR Layout, Bangalore – 5600 84 were deployed to man the Help Desks at Medi Agrahara from 01.03.2021 and at Medi Agrahara, Somashettyhalli, Dodda Bylakere and Singanayakana halli from 15.3.2021 onwards.

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5) As a token of appreciation, the Committee has proposed to pay a sum of Rs.5,000/- ( Rupees Five Thousand only) each to 41 Interns, who managed the Help Desks from 01.03.2021 to 31.08.2021. The List of Students, interns is attached to this proceedings.

6) The amount will be credited to the CMR University- School of Legal Studies, Bangalore whose account details are furnished below:

**CMR University- School of Legal Studies, Bangalore**

Account Name	CMR University- School of Legal Studies
Account No.	39431978708
Bank Name	State Bank of India
Branch Address	St.Thomas road, Lingarajapuram
Swift Code	SBININBBM37
RTGS Code/IFSC Code	SBIN0040283

C.M.R. University authorities are requested to disburse the amount to Interns by obtaining due acknowledgment from them and intimate the Committee after having done so.

**ORDER NO. JCC/ 151 /2021-22 DATED 13.10.2021**


Sanction is accorded for payment of Rs.2,05,000/- ( Rupees Two Lakhs five thousand only) towards payment to 41 Law students Interns of C.M.R. University, Bangalore through the University Authorities as a token of appreciation of the services rendered by the Interns.

  
DR.S.T.RAMESH  
MEMBER

Dr. S. T. Ramesh, IPS(R)  
Member, JCC

  
JAYAKAR JEROME  
MEMBER

Mr. Jayakar Jerome, IAS(R)  
Member, JCC

  
A.V.CHANDRASHEKAR  
CHAIRMAN

Jus. A. V. Chandrashekar  
Chairman, JCC

**PRAVEEN R**

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To

- 1) Sri. M.B.Rajesh Gowda, I.A.S.  
Commissioner, BDA
- 2) Justice A.V.Chandrashekar, Chairman, JCC
- 3) Dr.S.T.Ramesh, Member, JCC
- 4) Sri.Jayakar Jerome, Member, JCC
- 5) Sri.Ramprasad  
Finance Member, BDA along with List of Interns
- 6) ✓ C.M.R. University- School of Legal Studies, HRBR Layout,  
Bangalore – 5600 84... The Dean of the School of Legal Studies is  
requested to acknowledge the receipt of the amount and inform  
the Committee after disbursement to the Interns under  
acknowledgement.
- 7) Committee File

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List of students participating in the Legal Aid Work: Suprme Court Committee comprising of Hon'ble Mr. Justice A.V. Chandrasekhar, former Judge of the Karnataka High Court, as its Chairman, Mr. Jayakar Jerome, former Commissioner of the BDA and Mr. S.T. Ramesh, former Director General of Police : Formation of Dr. Shivarama Karanth Layout from 1st March 2021 to 31st August 2021

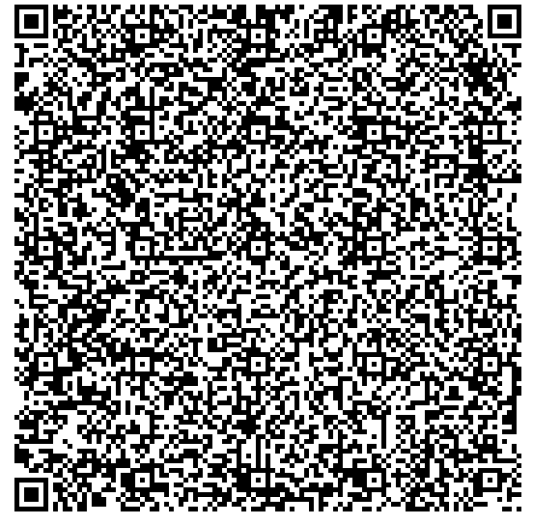
Sl.No.	Name of the Student	Course and Semester
1	Ms. Likitha.U	LLB - 1 Sem
2	Mr. Ranjith Kumar M	LLB - 1 Sem
3	Mr. Om Prakash PM	LLB - 1 Sem
4	Ms. Usha Rani. B	LLB - 1 Sem
5	Ms. Punya K.K	LLB - 1 Sem
6	Mr. Rahul N Reddy	LLB - 1 Sem
7	Ms. Rashmi G.S	LLB - 1 Sem
8	Ms. Soundarya	LLB - 1 Sem
9	Ms. Monica Jerusha	LLB - 1 Sem
10	Ms. Vibha. H.V	BA LLB - 1 Sem
11	Ms. Bhoomika Kumar	BA LLB - 1 Sem
12	Ms. Madhumitha.K	BA LLB - 1 Sem
13	Ms. Hamsa. K	BA LLB - 1 Sem
14	Ms. Subiksha. V	BBA LLB - 1 Sem
15	Ms. Preethi CA	BBA LLB - 1 Sem
16	Mr. Punith. N	LLB- 3 Sem
17	Mr. Bharat Kumar C	LLB- 3 Sem
18	Mr. Darshan Ms	LLB- 3 Sem
19	Mr. Pruthvi. N	LLB- 3 Sem
20	Mr. Surya.S	LLB- 3 Sem
21	Mr. Mithun Sai Krishna J	BA LLB- 3 Sem
22	Mr. Dharshan.M	BA LLB- 3 Sem
23	Mr. Shivashankar. R	BA LLB- 3 Sem
24	Mr. Sahasrajith.M	BA LLB- 3 Sem
25	Mr. Hariharan S	BBA LLB- 3 Sem
26	Mr. Samarth Prakash Kori	BBA LLB- 3 Sem
27	Ms. Asha Ashrit	B.Com LLB- 3 Sem
28	Mr. Raghu. V	LLB - 5 Sem
29	Ms. Chandana D Reddy	BA LLB- 5 Sem
30	Mr. Surya Teja MP	BA LLB- 5 Sem
31	Ms. Sarika Venkatesh	BA LLB- 5 Sem
32	Ms. Chi. Na. Roshni	BA LLB- 5 Sem
33	Mr. Syed Bakhar Azeez	BBA LLB- 5 Sem
34	Mr. Vinay Krishna B.G	BBA LLB- 5 Sem
35	Mr. Abhishek C.N	BBA LLB- 5 Sem
36	Ms. Tejashri Inder	BBA LLB- 5 Sem
37	Mr. Naveen. J	BA LLB- 7 Sem
38	Mr. Bhaskar. B.S	BA LLB- 7 Sem
39	Mr. Shiva Kumar R	BA LLB- 7 Sem
40	Mr. Sharath. S	BA LLB- 7 Sem
41	Ms. Prarthana Govappa	BBA LLB- 7 Sem

**PRAVEEN R**

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 DN: c=IN, o=C M R JNANADHARA TRUST, ou=ADMINISTRATION, phone=+91987120111, cn=PRAVEEN R  
 PostalCode=560004, st=KARNATAKA, SERIALNUMBER=9a2f8b1b7ca445388cda64b4663c3999602827e0c05215c52ddca553a8b1.  
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# 29AAATC0512H1Z6

## C M R JNANADHARA TRUST



### 1.e-Invoice Details

IRN : 08616d818dc9cb82ebb4ea9f338e01aeb Ack No. : 112419358506740  
98f01b5a73c3376df15bb054ee202ed

Ack Date : 27-02-2024 11:55:00

### 2.Transaction Details

Supply type Code : B2B

Document No. : Sales/11/2023-24

IGST applicable despite Supplier and Recipient located in same State : No

Place of Supply : KARNATAKA

Document Type : Tax Invoice

Document Date : 27-02-2024

### 3.Party Details

Supplier :

GSTIN : 29AAATC0512H1Z6

C M R JNANADHARA TRUST

No.02, 3rd C Cross, 6th Main, HRBR Layout, IInd Block,

Banasvadi

Bangalore 560043 KARNATAKA

Recipient :

GSTIN : 29AAACC4577H1ZG

IIFL SAMASTA FINANCE LIMITED

No 110/3, Lalbagh Road, Krishnappa Layout, Bengaluru Urban,

Karnataka,

Bengaluru Place of Supply: KARNATAKA

560027 KARNATAKA

### 4.Details of Goods / Services

SINo	Item Description	HSN Code	Quantity	Unit	Unit Price(Rs)	Discount(Rs)	Taxable Amount(Rs)	Tax Rate(GST + Cess   State Cess + Cess Non.Advol)	Other charges	Total
1	PROFESSIONAL CHARGE	999294	0	OTH	200000	0	95000	18.00 + 0.00   0.00 + 0	0	112100

Tax'ble Amt	CGST Amt	SGST Amt	IGST Amt	CESS Amt	State CESS	Discount	Other Charges	Round off Amt	Tot Inv. Amt
95000.00	8550.00	8550.00	0.00	0.00	0.00	0.00	0.00	0.00	112100.00

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on :2024-02-27 11:55:00

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HOD-ECE &lt;hod.ece@cmr.edu.in&gt;

## Fwd: Estimate of the work

2 messages

**Muralishankar R** <muralishankar.r@cmr.edu.in>

Wed, Dec 27, 2023 at 11:06 PM

To: Nagesh HS <n.kashyap@emidastec.com>

Cc: HOD CSE SOET <hod.cse@cmr.edu.in>, Dr Sarvana Kumar <hod.it@cmr.edu.in>, HOD-ECE <hod.ece@cmr.edu.in>, Dean SoET CMR University <dean.soet@cmr.edu.in>, Prof H B Raghavendra <vc@cmr.edu.in>, "Dr. Gourish Goudar" <gourish.g@cmr.edu.in>, "Dr. Kalyan N" <kalyan.n@cmr.edu.in>, Roopesh R <roopesh.r@cmr.edu.in>, sudhir.r@cmr.edu.in, khushboo.s@cmr.edu.in, Suja Bennet <suja@cmr.edu.in>

Greetings, Mr. Nagesh H. S.

Thanks for your offer, support, and encouragement. Team CMRU (Dr. Gaurish, Dr. Kalyan, Dr. Roopesh, and I) accept this offer and work towards completing the remaining milestones. Our team will sign an NDA to take this consultancy work forward.

**Thanks and best regards.**

**Prof. R. Muralishankar**, <https://sites.google.com/a/cmr.edu.in/muralishankar/home>  
**Dept. of Electronics and Communication Engineering**  
**School of Engineering and Technology**

**CMR University**

Off Hennur| Bagalur Main Road|

Chagalatti| Bagalur| Bengaluru 562149|

Karnataka| INDIA|

M:9741156023|E: muralishankar.r@cmr.edu.in

W: [www.cmr.edu.in](http://www.cmr.edu.in)

Home Page: <https://muralishankar.blackweb.io/>

ORCID: <https://orcid.org/0000-0001-5737-7974>

----- Forwarded message -----

From: **Nagesh HS** <n.kashyap@emidastec.com>

Date: Wed, Dec 27, 2023 at 3:01 PM

Subject: Re: Estimate of the work

To: Muralishankar R <muralishankar.r@cmr.edu.in>

Cc: Dr. Gourish Goudar <gourish.g@cmr.edu.in>, Dr. Kalyan N <kalyan.n@cmr.edu.in> Roopesh R <roopesh.r@cmr.edu.in>

Dear Dr. Muralishankar and team (Dr. Gourish, Dr. Kalyan, and Dr. Roopesh)

Thanks for your Virtual Demo (yesterday, Dec. 26, 2023), RFQ study and proposal.

We also appreciate the initial / fast effort in duplicating a few Data Entry screens plus Database architecture. Your understanding and application is in the right direction.

We have earlier offered a project cost to be around **52,000/-**

Now considering your detailed analysis, project work estimate is around 183 manhours.

With current market dynamics, future engagements in Phase-II upgradation of this same project to Cloud based SaaS Model, we request you to consider **Rs. 75,000/-** as final Development cost. Our team will be available for domain knowledge sharing, explaining legacy softw  
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We are also contemplating many more projects on similar lines, with resource availability, allocation and delivery schedules from your end  
Based on your confirmation, we will release formal PO and NDA closure to proceed further

Thanks and Regards

Nagesh Kashyap  
+91 9343003203



On Tue, Dec 26, 2023 at 11:35 PM Dr. Gourish Goudar <[gourish.g@cmr.edu.in](mailto:gourish.g@cmr.edu.in)> wrote:

Dear Sir,  
PFA, estimate of the work hours.

**Nagesh HS** <[n.kashyap@emidastec.com](mailto:n.kashyap@emidastec.com)>

Thu, Dec 28, 2023 at 11:17 AM

To: Muralishankar R <[muralishankar.r@cmr.edu.in](mailto:muralishankar.r@cmr.edu.in)>

Cc: HOD CSE SOET <[hod.cse@cmr.edu.in](mailto:hod.cse@cmr.edu.in)>, Dr Sarvana Kumar <[hod.it@cmr.edu.in](mailto:hod.it@cmr.edu.in)>, HOD-ECE <[hod.ece@cmr.edu.in](mailto:hod.ece@cmr.edu.in)>, Dean SoET CMR University <[dean.soet@cmr.edu.in](mailto:dean.soet@cmr.edu.in)>, Prof H B Raghavendra <[vc@cmr.edu.in](mailto:vc@cmr.edu.in)>, "Dr. Gourish Goudar" <[gourish.g@cmr.edu.in](mailto:gourish.g@cmr.edu.in)>, "Dr. Kalyan N" <[kalyan.n@cmr.edu.in](mailto:kalyan.n@cmr.edu.in)>, Roopesh R <[roopesh.r@cmr.edu.in](mailto:roopesh.r@cmr.edu.in)>, sudhir.r@cmr.edu.in, khushboo.s@cmr.edu.in, Suja Bennet <[suja@cmr.edu.in](mailto:suja@cmr.edu.in)>

Dear Prof. Muralishankar,

Thanks for positive response in accepting the offer and intention to kick start the project  
Please find below attached NDA, request authorised person signature and seal to complete the procedure.  
With this we will release formal PO and share all the old source codes for your reference

Thanks and Regards

[Quoted text hidden]

 **EMIDAS NDA.docx**  
118K

**PRAVEEN R**

Digitally signed by PRAVEEN R  
DN: c=IN, o=C M R JNANADHARA TRUST, ou=ADMINISTRATION, phone=+919343003203, postalCode=560004, st=KARNATAKA, serialNumber=6445388c8a464b4663c3999602627e0c05215c52fddca553a9b1, cn=PRAVEEN R  
Reason: your signing reason here  
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HOD-ECE &lt;hod.ece@cmr.edu.in&gt;

## Re: Reg. Automated Report Generation and Notification Tool - Estimate

2 messages

**Muralishankar R** <muralishankar.r@cmr.edu.in>

Sun, Dec 31, 2023 at 11:00 PM

To: Anup Rangappa <anup@bloomelectrical.co.nz>, Ravikant Singh <ravi@bloomelectrical.co.nz>

Cc: HOD CSE SOET <hod.cse@cmr.edu.in>, Dr Sarvana Kumar <hod.it@cmr.edu.in>, HOD-ECE

<hod.ece@cmr.edu.in>, Dean SoET CMR University <dean.soet@cmr.edu.in>, sudhir.r@cmr.edu.in, "Dr. Gourish Goudar" <gourish.g@cmr.edu.in>, "Dr. Kalyan N" <kalyan.n@cmr.edu.in>, Roopesh R <roopesh.r@cmr.edu.in>

Greetings, Mr. Anup and Mr. Ravikant Singh.

**Happy New Year, 2024**

Thank you both for the consultancy offer. Our team is willing to take up the first project, **Automated Report Generation System with AI capability for iwent product**. Later, we will look into other projects listed. You know that we are presently engaged in a consultancy project offered by Mr. Nagesh from MIDAS.

**Thanks and best regards.**

**Prof. R. Muralishankar**, <https://sites.google.com/a/cmr.edu.in/muralishankar/home>  
**Dept. of Electronics and Communication Engineering**  
**School of Engineering and Technology**

**CMR University**

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Karnataka| INDIA|

M:9741156023|E: muralishankar.r@cmr.edu.in

W: [www.cmr.edu.in](http://www.cmr.edu.in)

Home Page: <https://muralishankar.blackweb.io/>

ORCID: <https://orcid.org/0000-0001-5737-7974>

On Sun, Dec 31, 2023 at 1:04 AM Anup Rangappa <anup@bloomelectrical.co.nz> wrote:

Dear Prof. Muralishankar Sir and Team,

We, the team at ART Labs, thank you for your time on 29<sup>th</sup> Dec. 2023 at your office, trying to understand the needs and necessity of all the future projects Listed below.

1. For ART Labs: Automated Report Generation System with AI capability for the product being developed by a startup mentored by you.
2. For Bloom Electrical: Customized job management software to manage, allocate, and manage jobs and field service representatives. The admin management software and warehouse stock integration system.
3. For ART Labs: For a new product to be launched (iWent) in New Zealand, your team handshake with us to develop and implement software capable of handling the minimum 10,000 client database.
4. For ART Labs: To develop a robust, customized web and app-based software to handle stock management, job bookings, service reminders, **customer complaints, etc**

**PRAVEEN R**

DN: c, cn=PRAVEEN R, o=CMR UNIVERSITY, ou=CMR UNIVERSITY, email=PRAVEEN R, phone=908871205111, c=IN, postalCode=5600084, st=KARNATAKA, serialNumber=60, email=praveenr@cmr.edu.in, cn=PRAVEEN R  
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I am excited to collaborate with your team on this.

Your team proposal for point no. 1 looks comprehensive and thoroughly addresses my questions/requirements. I am particularly impressed by the creative approach employed by your team in looking into every detail provided in the exhaustive proposal.

I'm confident that your team skills and experience align perfectly with our needs, and we are eager to sanction this project under the head consultancy. The cost agreed upon over a call is presented under a bullet for your information.

- 61-man hours at the rate of Rs. 500 is **Rs. 30,500.00**

We request you to kindly accept our collaboration with CMRU under the head consultancy and formally sign the NDA attached with the mail. I attach a signed NDA for your reference and acceptance of the same.

To ensure a smooth start, I'd be grateful if we could schedule a kick-off meeting as soon as possible to discuss the next steps and any additional information you might need from our side.

I'm looking forward to a productive and rewarding collaboration!

PS: PO shall be issued once we receive the signed NDA.

Thanks,

Anup



**Mobile: +64 021 271 6686**

**Address: 82B Spartan Rd Takanini - 2105**

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---

**From:** Dr. Kalyan N <kalyan.n@cmr.edu.in>

**Sent:** Friday, December 29, 2023 3:29 AM

**To:** Anup Rangappa <anup@bloomelectrical.co.nz>

**Cc:** Dr. Gourish Goudar <gourish.g@cmr.edu.in>; Muralishankar R <muralishankar.r@cmr.edu.in>; Roopesh R <roopesh.r@cmr.edu.in>

**Subject:** Reg. Automated Report Generation and Notification Tool - Estimate

Dear sir,

**PRAVEEN R**

Digitally signed by PRAVEEN R  
DN: c=IN, o=C M R JNANADHARA TRUST, ou=ADMINISTRATION, phone=+919877125111, cn=PRAVEEN R  
PostalCode=560004, st=KARNATAKA, SERIALNUMBER=60186107ca445388c8a464b4663c3999602627e0c05215c52fddca553a9b1, CN=PRAVEEN R  
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Date: 2024.06.19 09:59:05+05:30  
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Please find the attached document for the "[Automated Report Generation and Notification Tool](#)" - estimate.

Thanks & Regards

**Dr. Kalyan Nagaraj, Ph.D (RVCE)**

Assistant Professor, Dept of CSE,  
School of Engineering & Technology,  
CMR University (Lakeside Campus),  
Bangalore.

Ph - +91-8123286507

Email - [kalyan.n@cmr.edu.in](mailto:kalyan.n@cmr.edu.in),

[kalyan1991n@gmail.com](mailto:kalyan1991n@gmail.com)

[Homepage | Google Scholar](#)

---

**Anup Rangappa** <[anup@bloomelectrical.co.nz](mailto:anup@bloomelectrical.co.nz)>

Mon, Jan 1, 2024 at 11:31 AM

To: Muralishankar R <[muralishankar.r@cmr.edu.in](mailto:muralishankar.r@cmr.edu.in)>, Ravikant Singh <[ravi@bloomelectrical.co.nz](mailto:ravi@bloomelectrical.co.nz)>

Cc: HOD CSE SOET <[hod.cse@cmr.edu.in](mailto:hod.cse@cmr.edu.in)>, Dr Sarvana Kumar <[hod.it@cmr.edu.in](mailto:hod.it@cmr.edu.in)>, HOD-ECE

<[hod.ece@cmr.edu.in](mailto:hod.ece@cmr.edu.in)>, Dean SoET CMR University <[dean.soet@cmr.edu.in](mailto:dean.soet@cmr.edu.in)>, "sudhir.r@cmr.edu.in"

<[sudhir.r@cmr.edu.in](mailto:sudhir.r@cmr.edu.in)>, "Dr. Gourish Goudar" <[gourish.g@cmr.edu.in](mailto:gourish.g@cmr.edu.in)>, "Dr. Kalyan N" <[kalyan.n@cmr.edu.in](mailto:kalyan.n@cmr.edu.in)>, Roopesh R <[roopesh.r@cmr.edu.in](mailto:roopesh.r@cmr.edu.in)>

Good Day Sir,

We from Team ART Labs and Bloom, wish you and the team a happy and prosperous New Year.

Thank for your quick response!

Yes, we are aware that EMIDAS has engaged your services for a project which has started.

Could you please let us know when we can catch up to discuss the timelines.

This is a priority task for us to launch the product and will involve testing and server capabilities as well.

Looking forward to meet you and the team.

Thanks,  
Anup

Sent from [Outlook for iOS](#)

---

**From:** Muralishankar R <[muralishankar.r@cmr.edu.in](mailto:muralishankar.r@cmr.edu.in)>

**Sent:** Sunday, December 31, 2023 11:00:02 PM

**To:** Anup Rangappa <[anup@bloomelectrical.co.nz](mailto:anup@bloomelectrical.co.nz)>; Ravikant Singh <[ravi@bloomelectrical.co.nz](mailto:ravi@bloomelectrical.co.nz)>

**Cc:** HOD CSE SOET <[hod.cse@cmr.edu.in](mailto:hod.cse@cmr.edu.in)>; Dr Sarvana Kumar <[hod.it@cmr.edu.in](mailto:hod.it@cmr.edu.in)>; HOD-ECE

<[hod.ece@cmr.edu.in](mailto:hod.ece@cmr.edu.in)>; Dean SoET CMR University <[dean.soet@cmr.edu.in](mailto:dean.soet@cmr.edu.in)>; [sudhir.r@cmr.edu.in](mailto:sudhir.r@cmr.edu.in)

<[sudhir.r@cmr.edu.in](mailto:sudhir.r@cmr.edu.in)>; Dr. Gourish Goudar <[gourish.g@cmr.edu.in](mailto:gourish.g@cmr.edu.in)>; Dr. Kalyan N <[kalyan.n@cmr.edu.in](mailto:kalyan.n@cmr.edu.in)>;

Roopesh R <[roopesh.r@cmr.edu.in](mailto:roopesh.r@cmr.edu.in)>

**Subject:** Re: Reg. Automated Report Generation and Notification Tool - Estimate

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**PRAVEEN R**

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PostalCode=500084, st=KARNATAKA, serialNumber=640196107ca445388cda464b4663c3999602627eecd5215c52fddca553a9b1, cn=PRAVEEN R  
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# PURCHASE ORDER

The Registrar, CMR University, Bengaluru 562149

**Purchase Order Date**  
29 Jan 2024

Bloom Electrical Limited  
82B Spartan Road

**Delivery Date**  
8 Feb 2024

Takanini 2105  
NEW ZEALAND

**Purchase Order Number**  
PO-0004

**Reference**  
ART Labs - iWent project

**GST Number**  
122-083-217

Description	Quantity	Unit Price	Amount NZD
Software development charges for Automated Report Generation, Monitoring and Notification Tool	1.00	530.43	530.43
Note: Above value is equivalent of INR 30,500			
Subtotal			530.43
TOTAL GST 15%			79.57
<b>TOTAL NZD</b>			<b>610.00</b>

## DELIVERY DETAILS

**Delivery Address**  
82B Spartan Road  
Takanini  
2105  
New Zealand

**Attention**  
Anup Rangappa  
**Telephone**  
+64 21 271 6686

**Delivery Instructions**  
Software to be installed/delivered and tested on either ART Labs Ltd or Bloom Electrical New Zealand server or both places if required.

PRAVEEN R

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DN: c=IN, o=C M R JNANADHARA TRUST, ou=ADMINISTRATION, phone=+919877201111, email=praveen@cmru.ac.in, postalCode=560004, st=KARNATAKA, serialNumber=650198107c4445388cda464d4663c39996012627e0c05215c52fddca553a9b1, cn=PRAVEEN R  
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**CMR UNIVERSITY**

Private University Established in Karnataka State by Act No. 45 of 2013

# Automated Report Generation and Notification Tool for the iVent System

*A Consultancy Project Report Phase-I for Bloom Electrical,  
New Zealand*



## Team Members

Dr. R Muralishankar

Dr. Gourish Goudar

Dr. Kalyan N

Dr. Roopesh R

Date: 09/02/2024

Location: CMR University, Bangalore

**PRAVEEN R**

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CN=PRAVEEN R  
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# 1 Project Overview

The "Automated Report Generation and Notification Tool" project represents a significant technological advancement for Bloom Electrical's iVent system, a smart device aimed at optimizing indoor climate conditions through artificial intelligence. The iVent system collects various critical data points such as House Temperature, Roof Temperature, Fan Speed, Indoor Air Quality (IAQ), Device Set Temperature, and Volatile Organic Compound (VOC) Parameters. The objective of the project is to create a tool that can automatically generate comprehensive reports from these data points over user-selected periods and subsequently distribute these reports to the system's users on a fortnightly basis.

This initiative not only aims to enhance user engagement by providing them with valuable insights into their indoor climate management but also seeks to automate a process that was previously manual, thereby reducing labor costs and minimizing the potential for human error. The project is set against the backdrop of increasing demand for smart home technologies and the growing importance of maintaining healthy indoor environments, further underlining its significance.

# 2 Technical Architecture

The technical architecture of the Automated Report Generation and Notification Tool is meticulously designed to dovetail with the current infrastructure of the iVent system, a strategic move that ensures a cohesive ecosystem and facilitates a streamlined workflow. At the heart of the project are the software and hardware components, each chosen for their robustness, reliability, and compatibility with the iVent's operational paradigm.

On the software front, the architecture is built upon a foundation of programming languages that are renowned for their performance and scalability. Languages such as Python are employed for their extensive libraries and frameworks that are particularly adept at handling data analytics and machine learning tasks. This is complemented by the use of robust databases designed for high-velocity data acquisition and storage. The chosen database solutions offer advanced data indexing and query capabilities, ensuring swift retrieval of time-series data generated by the iVent systems. The architecture's backbone is supported by cloud services that guarantee high availability and scalability. These cloud platforms provide a suite of tools that are integral to managing the infrastructure's elasticity, allowing it to expand or contract as per the demands of the data load. This flexibility is vital for handling the influx of data points during peak operational hours and ensuring that the system remains resilient and responsive.

Data flow is engineered to be seamless and secure, employing state-of-the-art encryption and data transfer protocols. The flow mechanism ensures that data from various sensors, including House Temperature, Roof Temperature, Fan Speed, Indoor Air Quality (IAQ), and others, are transmitted securely to central analytics engines. These engines are responsible for the aggregation, processing, and analysis of data, transforming raw figures into actionable insights. Central to the system's value proposition is the development of core functionalities that cover the entire spectrum of report generation. The

tool's capabilities encompass the collection of vast datasets, their subsequent processing through sophisticated algorithms, and the generation of comprehensive reports. The reports are not only detailed but also curated to match the official reporting formats preferred by the stakeholders. The automation of email notifications stands out as a pinnacle feature, representing a significant stride towards operational efficiency. This feature leverages customized mailing scripts that interface with the user database, ensuring that each customer receives personalized reports at biweekly intervals, as per the project's mandate. Artificial intelligence algorithms play a pivotal role in analyzing the collected ventilation and climate data. These algorithms are the result of extensive research and development, carefully crafted to discern patterns and anomalies within the data. By employing techniques such as machine learning and predictive analytics, the tool can offer not just retrospective data analysis but also forward-looking predictions that enhance the overall utility of the iVent system. This focus on AI-driven analytics underscores the innovative edge of the tool, setting it apart as a next-generation solution in smart home technology.

In summary, the technical architecture of the Automated Report Generation and Notification Tool is a harmonious blend of contemporary software practices, robust hardware selections, and cutting-edge cloud technologies, all orchestrated to elevate the iVent system's efficiency and efficacy. The architecture is not merely a framework but a dynamic conduit that propels the iVent system towards achieving its operational zenith, underpinned by a commitment to innovation and a vision for a smarter, more intuitive future in home climate management.

### 3 Data Management and Analytics

The Automated Report Generation and Notification Tool is pivotal in transforming the data-rich environment of the iVent devices into an actionable and insightful narrative. Effective data management and analytics form the cornerstone of this transformative process. The sheer volume of data emanating from an array of sensors—capturing house temperature, roof temperature, fan speed, indoor air quality (IAQ), device set temperature, and volatile organic compound (VOC) parameters—presents both a challenge and an opportunity. Data storage is approached with a long-term vision, utilizing scalable database systems that are both flexible and secure. These databases are designed to handle the high-velocity and voluminous data generated in real-time, facilitating rapid access and retrieval. They are augmented with redundancy plans to ensure data persistence and equipped with advanced encryption standards to safeguard privacy, ensuring compliance with stringent data protection regulations.

In terms of analytics, the tool employs a suite of sophisticated analytical methods to distill large datasets into discernible patterns and trends. Machine learning algorithms are deployed to parse through the data, identifying correlations and causations that might elude conventional analysis. The system is capable of recognizing and adapting to the nuances of environmental variables, providing a granular analysis of the indoor climate conditions and the operational efficiency of the iVent systems. The analytical process culminates in the generation of reports that are both informative and visually engaging. Reporting formats are carefully tailored to a broad spectrum of users, with a

strong emphasis on clarity and conciseness. Graphical representations—such as time series graphs, heat maps, and bar charts—are meticulously designed to convey complex data in a straightforward manner, enabling users to grasp the intricacies of their indoor environment at a glance. Customization is another integral feature of the reporting tool, offering users the ability to tailor reports to their specific needs and preferences. This user-centric approach not only enhances the overall experience but also empowers users to interact with their data more meaningfully. Addressing the scalability of the data analytics infrastructure is paramount. The system is architected to accommodate an expanding user base and the subsequent increase in data load. This is achieved through a modular design, allowing for incremental enhancements to computing resources and storage capacity. Parallely, measures are in place to maintain the integrity and accuracy of data, with rigorous validation protocols and error-checking mechanisms ensuring the reliability of the reports generated.

In conclusion, the strategic management of data and the deployment of advanced analytics are the engines that drive the Automated Report Generation and Notification Tool. Through careful planning and the implementation of robust systems, the tool stands as a beacon of innovation, setting a new benchmark in the realm of smart home technology and exemplifying the transformative power of data in enhancing user engagement and operational efficiency.

## 4 User Experience and Interface Design

The efficacy of the Automated Report Generation and Notification Tool hinges not just on its technical prowess but equally on its user experience (UX) and user interface (UI) design. Recognizing that the ultimate value of any tool is determined by its usability, significant emphasis has been placed on crafting an interface that is intuitive, user-friendly, and responsive to the diverse needs of the end-users. This includes a meticulous application of design principles that prioritize simplicity, consistency, and an emphasis on user pathways that reduce complexity and cognitive load. The UI is conceived to facilitate ease of navigation, with a logical flow that guides users from data input to report customization and final analysis. Key information is presented through a clean layout, with actionable items distinctly visible, ensuring that users can access features without unnecessary searching or confusion. Interactivity is woven into the UI, allowing users to manipulate data visualizations, toggle between different report sections, and customize parameters in real-time.

The feedback mechanisms are an integral part of the design strategy, enabling continuous dialogue between the users and the development team. These mechanisms range from in-app feedback forms to user forums and direct support channels. Each piece of feedback is evaluated and tracked, feeding into an iterative design process that aims to refine and enhance the tool's features and usability. This user-centric approach to design ensures that the tool evolves in alignment with user expectations and needs. Accessibility is a fundamental consideration, extending the tool's usability to include individuals with disabilities. Compliance with the Web Content Accessibility Guidelines (WCAG) ensures that the tool is navigable and operable for users with various impairments. Features like keyboard navigability, screen reader compatibility, and color contrast adherence are not afterthoughts but integral to the design process, ensuring an inclusive experience for all

users.

The UX and UI design's impact on user satisfaction and engagement is measured through both qualitative and quantitative metrics. User surveys, usage data, and engagement analytics provide a comprehensive view of how the tool is being received. High levels of user retention and low bounce rates are indicative of a successful interface design, while user testimonials and case studies provide narrative evidence of the tool's effectiveness in meeting its intended goals. Ultimately, the UX and UI design of the Automated Report Generation and Notification Tool stand as a testament to the commitment to provide users with a seamless and productive experience. By harmonizing aesthetics with functionality and fostering an inclusive and user-responsive environment, the tool is poised to not only meet but exceed user expectations, driving engagement and solidifying its role as an indispensable resource in the smart home technology arena.

## 5 Implementation and Deployment

The implementation and deployment phase of the Automated Report Generation and Notification Tool was a pivotal stage, requiring meticulous planning and execution to synchronize seamlessly with the existing iVent system. To manage the complexities of the project effectively, a hybrid project management approach was adopted, integrating the flexibility of Agile with the structured phases of Waterfall. This approach was selected to combine the iterative development and rapid prototyping benefits of Agile with the clear milestones and rigorous testing protocols inherent in Waterfall methodologies. Agile practices facilitated a dynamic development environment where the project team could respond swiftly to changing requirements and user feedback. Regular sprint meetings and scrums ensured that the project was progressing on schedule and allowed for quick course corrections. The Waterfall method contributed to a disciplined framework, especially beneficial during the deployment phase, where sequential progress—such as system design, implementation, verification, and maintenance—was critical.

An extensive testing strategy was a cornerstone of the deployment process. Unit testing was performed to validate each component of the tool independently, ensuring that individual functions operated correctly. Integration testing followed, where different system components were combined and tested as a group, uncovering any issues in the interactions between modules. The culmination of the testing efforts was user acceptance testing (UAT), where end-users were engaged to validate the functionality in real-world scenarios. This process not only served to highlight any latent issues but also to reassure stakeholders of the tool's readiness for deployment. Compatibility checks were rigorously conducted across a spectrum of hardware and software environments to guarantee a frictionless integration. Efforts were made to anticipate and mitigate potential conflicts, ensuring that the tool performed optimally regardless of the variations in users' technical setups. To minimize downtime and service interruptions, the deployment was scheduled during off-peak hours, accompanied by comprehensive communication to users about the process and expected outcomes. Post-deployment, a robust support and maintenance structure was put in place. This structure included a dedicated helpdesk for user inquiries, an issue tracking system for bugs, and a scheduled maintenance plan for updates. Continuous monitoring tools were employed to proactively address any operational issues,

and regular updates were pushed to refine the tool's performance and security.

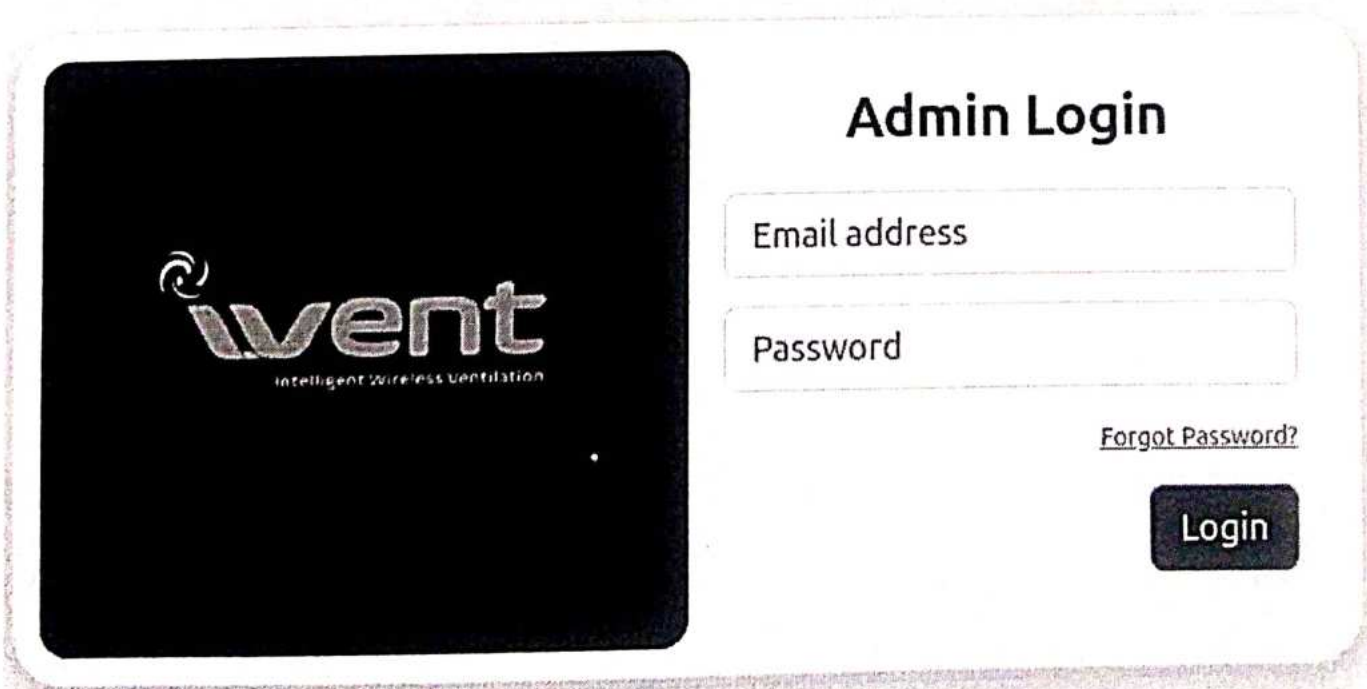
The deployment was not seen as the project's conclusion but as the beginning of an ongoing process of enhancement and support. Feedback loops from customer support interactions and system performance metrics informed iterative improvements. This commitment to post-deployment care ensures that the tool remains reliable, efficient, and aligned with the evolving needs of users, thereby fostering trust and satisfaction in the long term.

## 6 Conclusion and Future Directions

In concluding the report, a summary of the project's key achievements and the benefits realized by Bloom Electrical and its customers through the deployment of the Automated Report Generation and Notification Tool will be provided. This will include a reflection on the project's impact on customer engagement, operational efficiency, and the overall market position of the iVent system.

The report will close with a discussion on potential future enhancements to the tool, including the incorporation of additional data points, the use of advanced AI and machine learning techniques for predictive analytics, and the expansion of reporting and notification functionalities. The opportunities and challenges associated with these future directions will be explored, setting the stage for ongoing innovation and improvement.

## 7 Application Snapshots



**Admin Login**

Email address

Password

[Forgot Password?](#)

**Login**



Gourish Goudar  
SDEL4  
Profile Picture  
Change Password

Start Date: dd/mm/yyyy, --:--  
End Date: dd/mm/yyyy, --:--  
Mac ID: 00CEDDC14C5D-Device 7  
Plot

Figure 2: Home Page

SDEL4  
Profile Picture  
Change Password

09/02/2024, 14:48  
Mac ID: 00CEDDC14C5D-Device 7  
Plot

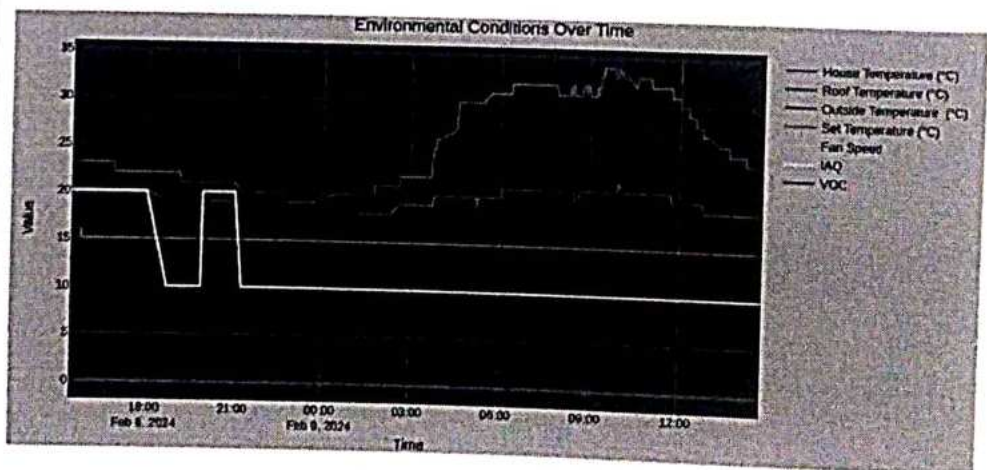


Figure 3: Sample Plot Page



Gourish Goudar  
SDE L4  
Profile Picture  
Change Password

Start Date:  
dd/mm/yyyy, --:--

End Date:  
dd/mm/yyyy, --:--

Mac ID:  
00CEDDC14C5D - Device 7

View Report

Figure 4: Generate Report Page



MAC ID: 00F019224271  
Name: Roopesh R  
Email: anup@bloomelectrical.co.nz  
Property ID: NZ1235  
Device Name: Device 6  
Installation Date: 2023-11-30

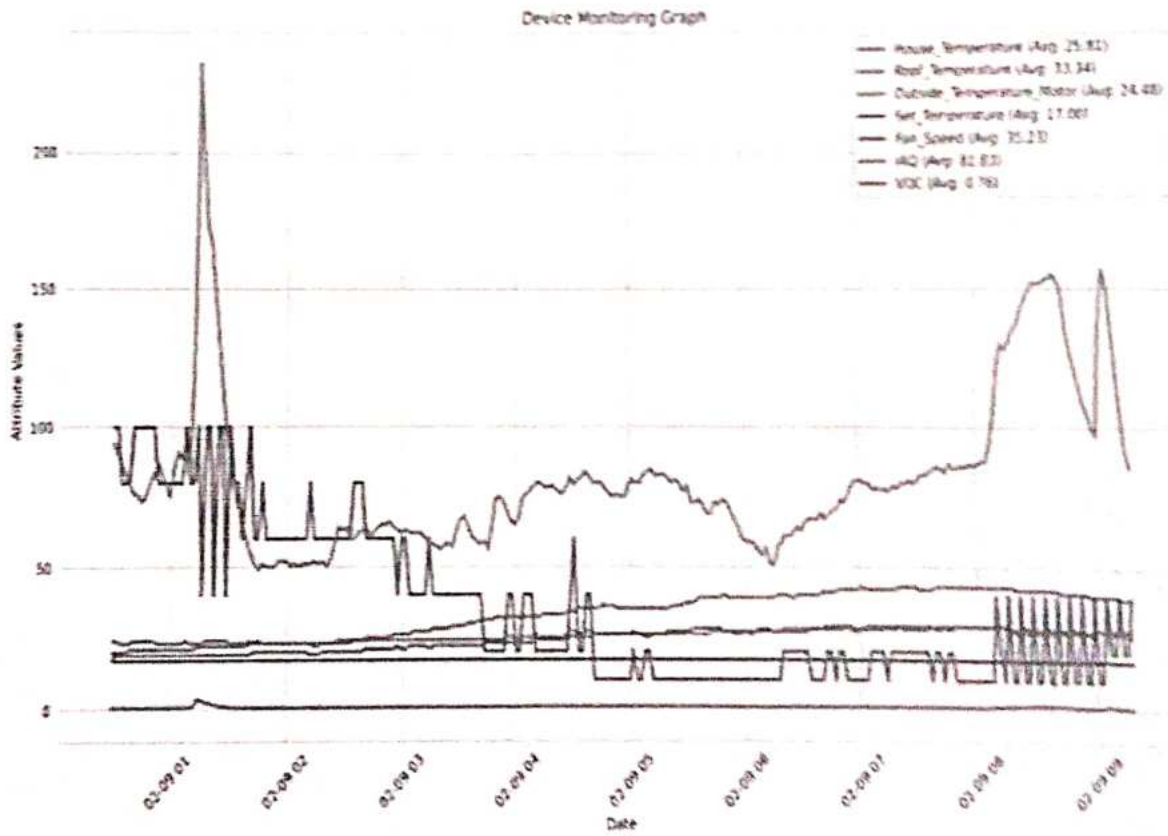


Figure 5: Sample Report

PRAVEEN R

Digitally signed by PRAVEEN R  
DN: c=IN, o=C M R JNANADHARA TRUST, ou=ADMINISTRATION, phone=+919877228111, cn=PRAVEEN R  
Reason: your signing reason here  
Location: your signing location here  
Date: 2024.08.19 09:59:56+05:30  
Foxit PDF Editor Version: 2024.1.0



**a**

**Gourish Goudar**  
SDE L4

[Profile Picture](#)  
[Change Password](#)

**Start Date:**  
07/02/2024, 14:45

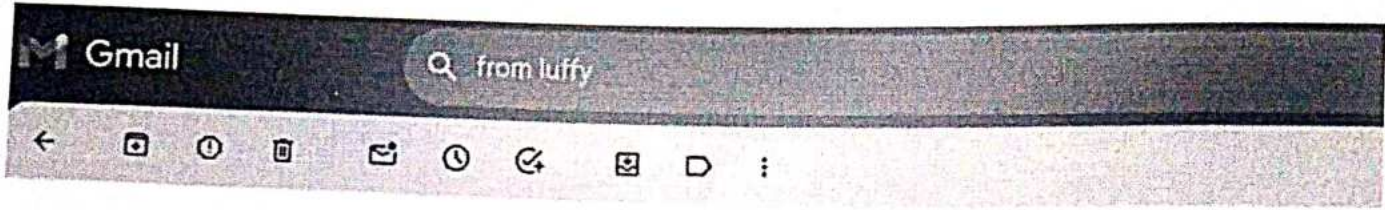
**End Date:**  
09/02/2024, 14:45

**Select Mac IDs:**


<input checked="" type="checkbox"/>	Mac ID	Name	Email
<input checked="" type="checkbox"/>	00CEDDC14C5D	Gourish Goudar	ravi@bloomelectrical.co.nz
<input checked="" type="checkbox"/>	00F019224271	Roopesh R	anup@bloomelectrical.co.nz
<input checked="" type="checkbox"/>	00E33E678ED2	Kalyan N	kalyan.n@cmr.edu.in

**Email Report**

Figure 6: Notify Customers Page




Ventilator Report | iVent External ↳ Inbox ✕

 Luffy <luffy1991m@gmail.com>  
to me ▼

Report for Mac ID: 00E33E678ED2 from: 2024-02-01 03:32:00 to: 2024-02-03 03:32:00

One attachment • Scanned by Gmail ⓘ



 Luffy <luffy1991m@gmail.com>  
to me ▼

Report for Mac ID: 00E33E678ED2 from: 2024-02-02 16:38:00 to: 2024-02-03 03:37:00

One attachment • Scanned by Gmail ⓘ



Figure 7: Notification Mail Sample



Gourish Goudar  
SDE L4

[Profile Picture](#)

[Change Password](#)

### Customer Information

Property ID:	Contact:
<input type="text"/>	<input type="text"/>
MAC ID:	Name:
<input type="text"/>	<input type="text"/>
Device Name:	Address:
<input type="text"/>	<input type="text"/>
Email:	Installation Date:
<input type="text"/>	<input type="text"/>
<input type="button" value="Add"/>	

Figure 8: Add Device Page



Gourish Goudar  
SDE L4

[Profile Picture](#)

[Change Password](#)

### Customer Details

Installation Date	Device Name	Action
Fern. City: Roslyn - Street 92 Arnel Place. City: Bishoppdale 2023-04-14	Device 7	<input type="button" value="✕"/>
Fern. City: Roslyn - Street 92 Arnel Place. City: Bishoppdale 2023-11-30	Device 6	<input type="button" value="✕"/>
Fern. City: Roslyn - Street 92 Arnel Place. City: Bishoppdale 2023-02-05	Device 8	<input type="button" value="✕"/>

## 8 Project NDA & Discussion

The Project Phase I discussion and meeting for the Automated Report Generation and Notification Tool for the iVent System took place on December 15, 2023, gathering key project team members and stakeholders to evaluate the initial phase's progress and outline steps for the next stages. Held at the specified location, the agenda encompassed opening remarks, a presentation on Phase I achievements, a session on challenges and solutions, a roadmap for Phase II, an open forum for feedback, and closing remarks. Photographic documentation captured various moments, including the presentation sessions with project progress and challenges displayed, interactive group discussions focusing on strategic planning, and candid shots of networking, highlighting the collaborative spirit of the team. These photographs serve as a formal record of the event, showcasing the commitment and collective effort towards achieving the project's goals. The meeting was a critical milestone, facilitating open communication, problem-solving, and strategic planning for the successful continuation of the project.



