ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY

Shobhavan Campus, Mijar, Moodbidri - 574225

(Affiliated to Visvesvaraya Technological University, Belagavi
Approved by AICTE, New Delhi & Recognized by Government of Karnataka)

ALVA'S
Education Foundation®

A Report on

Activities Under MOU at "Oscki Labs"

Registered Office: #2645, 8th A main, 15th cross,
Banashankari 2nd stage,
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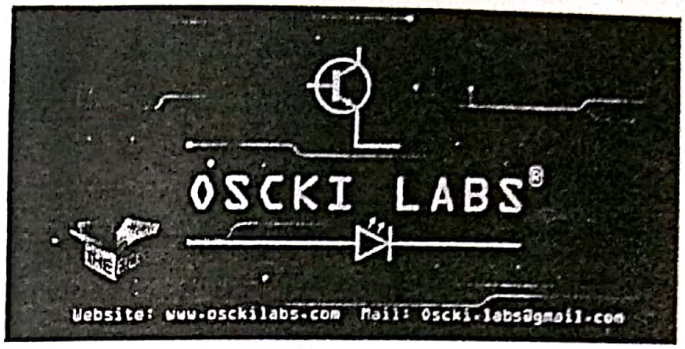
GSTIN: 29FOTPS5726F1Z3

Contents

IN COLLABORATION WITH



MEMORANDUM OF UNDERSTANDING

Between

Alva's Institute of Engineering & Technology
(A unit of Alva's Education Foundation®)

And

Oscki Labs®

Introduction: This memorandum of understanding is between two organizations Alva's Institute of Engineering & Technology, Mijar, Moodabidri DK and Oscki Labs®, Bangalore for bridging the gap between industry and academics.

About Oscki Labs®: A multi field research, product development and service based lab started in the year 2011, primarily focused on R&D and Product development. It was then converted into an official company in the month of March, 2013.

Moto: Thinking out of the box.

Mission: To bridge the gap between industry and academics.

Expertise & Research Areas:

Idea incubation, application based research, prototype and product development & business consultancy in the flowing areas:

- Electronics, electrical and mechanical research/prototyping/development
- Special purpose machines & teaching aids for the disabled
- Advanced robotics & autonomous drones
- Green Energy

- Vending and recycling machines
- LED/EL products, home & industrial automation
- Internships and training for students on the latest trends & technologies backed up with multiple industries and experts.

Project Envision:

We started project envision in order to provide the students a platform to develop skills they require for their life and career by providing them with practical and theoretical know how from the basics of technology pertaining to various fields such as Electronics, electrical, computer sciences and mechanical to the advanced levels of skills they require to stay in the ever changing trends in technology.

We also strive to provide a link with core industries to provide in-plant training and industrial technology training on the academic institution's campus by enabling the setting up of corresponding labs that house the industrial-academic teaching aids.

Envision Lab:

This is a unique lab built in collaboration with Alva's Institute of Engineering & Technology. Main purpose of the lab is to provide a platform for every student including all the faculties a platform to try, test & enhance their ideas, research & prototyping skills.

This lab is interdisciplinary and built by students where they get to work on their own projects and Oscki labs® live projects providing them a fair industrial exposure.

Objectives:

a. Training students with a low cost long duration workshop. Giving students time and infrastructure to understand technology from the very basics.
b. During workshops students have to come up with their own idea to work on. If the presented ideas are unique and workable they are pushed towards making prototype within the workshop duration.
c. Selected prototypes and teams are given proper guidance (technical support, business aspects, paper publishing, patents etc.) and funding for the prototype built at Envision Lab.

d. These students will work for minimum duration of few months under Envision lab and once they go through this period, the selected projects are fed into respective branches or special labs at AIET.
e. Envision lab is open for every faculty and students. Main purpose of the lab is to provide a platform to try, test & enhance their ideas, research & prototyping skills.
f. Few selected students will get to work on Oscki Labs live projects as interns.
g. Regular visits by industrial experts and guidance from them will constantly improve the skills & provide exposure on the industrial technology trends & requirements for students.

Terms & Conditions

For both Oscki Labs® & Alva's Institute Of Engineering & Technology®

i. **Consultation fee of INR 60,000/- (after TDS reduction of INR 6,666/-) will be paid every month to Oscki Labs® from Alva's Institute Of Engineering & Technology which is valid from April 2017 to April 2018.**

ii. **All related materials and information pertaining to Training Fee for Workshops and training sessions** will be given to the management of Alva's Institute of Engineering & Technology **before the start of such sessions.**

iii. **The expense for development of the Envision lab for the next 6 months** (till August 2017) **will be borne by Oscki Labs®** and **the materials** (components, machinery, tools etc.) that will be present in lab **will remain the responsibility of Oscki Labs®** whereas the entire lab along with all its infrastructure will remain the **sole property of Alva's Institute Of Engineering & Technology.** Infrastructure such as CCTV systems need to be provided to avoid any loss of materials and any untoward incidents that occur inside the lab.

iv. **The investment from Oscki Labs® will include components(such as development boards,sensors,actuators etc.), prototyping equipment & tools (such as drilling machines, screw driver sets , zig saw cutters, soldering machines and all necessary accessories) etc.** so that Envision Lab will house all the necessary tools and equipment to perform basic prototyping.

v. **If any student or faculty** would like to use the equipment mentioned above, **proper permission and work clock needs to be provided to Oscki Labs® team or management of Alva's Institute of Engineering & Technology before 24hours.**

vi. **Alva's Institute of Engineering & Technology** will have to **provide basic infrastructure** of space for the lab, furniture's, desktop computers, white board, presentation accessories, CCTV systems etc. **for the Envision Lab.**

vii. The **consultation fee will be paid in advance within the first week of every month.**

viii. The **complete workshop fee for AIET students will have to be collected and paid by Alva's Institute of Engineering & Technology to Oscki Labs® (without TDS deduction) on or before the start of the workshop.**

ix. Alva's Institute of Engineering & Technology will **provide accommodation and food for all the members of Oscki Labs® team.**

x. **Oscki Labs® team will be present at AIET for 20 days every month this includes a combination of working days and non-working days.** The start and end date can be modified according to the schedule of Oscki Labs® Team and Alva's Institute of Engineering & Technology. The exact duration will be provided to AIET management in the monthly report.

xi. **Oscki Labs® and its authorised team will only be answerable to the Alva's Institute of Engineering & Technology management.**

xii. **The live projects (client, research and industrial products) that will be deputed at Envision Lab will be used as a medium to enhance the objectives of Envision Lab but will they will remain proprietary property of Oscki Labs®.**

xiii. **The projects/ideas by AIET students incubated by Oscki Labs® at Envision Lab will undergo further prototyping and skill developments for a minimum duration after which the project can be diverted to any one of the Lab's or faculty present on AIET campus.**

xiv. The faculty in charge of Envision lab will be **deputed by Alva's Institute of Engineering & Technology.**

xv. **A monthly report including work progress, financials, items purchased** etc. will be **updated to Alva's Institute of Engineering & Technology management by the end of every month.**

xvi. The entire database of students and their work log will remain under the control of Oscki Labs® unless and until requested by the management.

xvii. "Envision Lab" is not bound to any department or branch but it is open for all under our terms and conditions.

xviii. TDS certificates will have to be given to Oscki Labs® at the end of every financial year or whenever applicable.

xix. Oscki Labs® will require access to various labs such as mechanical, computer etc. for prototyping and development.

xx. For any project which is initiated or mentored by Oscki Labs under Envision lab, in case they publish any paper, articles, journals, patents etc. Oscki Labs®, its official team and guiding faculties of AIET will also be a part of authors contributing towards the respective work done.

xxi. For any other project work, technical guidance and business incubation or support, separate contract will be made with specific terms and conditions with the respective authorities. All the progress and details will be published through the monthly report for Alva's Institute of Engineering & Technology.

For Non-AIET students:

xxii. Oscki Labs® will require help from Alva's Institute of Engineering & Technology in maintaining the rules & decorum of AIET during workshops that will be conducted during vacations.

xxiii. AIET students who do not get selected through Envision Lab can also apply and participate in the workshops conducted for Non-AIET students but the training fee will be lower and different for AIET students in terms of the particular workshop/internship.

xxiv. The non-AIET students will have to pay the entire amount of the training fee prior to the start of the workshop. Alva's Institute of Engineering & Technology can deduct 20% of the total amount and provide the remaining amount in cash (excluding TDS). Suitable receipt for the same needs to be provided to Oscki Labs® after the deduction.

xxv. Oscki Labs® & its team will make it the highest priority to make sure that no damages/loss of equipment and untoward events will take place inside the Envision Lab or the place of conducting of workshop. Oscki Labs® and its team will not be held responsible for actions of students outside our respective labs.

Termination:

i. This agreement may be amended whenever required or terminated by mutual consent.

ii. This MOU shall be effective for 1 year (April 2017 - April 2018) from the date of signature unless cancelled in writing by either of the participating organizations within 90days notice.

Approved and Accepted by

Alva's Institute of Engineering & Technology

For Alva's Institute Of Engineering & Technology®,

Signed by: Dr. Peter Fernandes

Principal – AIET

Date: March 22nd 2017

Seal: PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K.

Approved and Accepted by

Oscki labs®

For Oscki Labs®,

Signed by: Shamanth.S

Founder & CEO – Oscki Labs®

Date: March 22nd 2017

Seal:

For OSCKI LABS

Proprietor

PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K

OSCKI LAB

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ANNUAL REPORT

FROM MARCH 2017 TO MAY 2017

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
Shobhavana Campus, Mijar – 574225, Moodbidri.
Dakshina Kannada, Karnataka, India.

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REPORT OF ENVISION LAB, MARCH 2017.

Contents:

Report By,

Himanshu Rangadhol

CTO, Oscki Labs.

Introduction:

A morning walk between with Mr. Vivek Alva and Mr. Himanshu Rangadhol turned into a conversation of concerns and goals towards the education system and society. The main concern was the lack of structured workshops conducted on latest technology for studetns. So based on this under Project Envision the team of Oscki Labs lead by Mr. Shamanth S and Mr. Himanshu Rangadholalong with continuous help of Mr. Parveez Shariff B G the faculty of AIET planned and conducted a fifteen days of workshop at AIET on Arduino Sensor Interfacing and prototyping with huge support and constant encouragement by Mr. Vivek Alva, during the January vacation for the students of AIET.

Students from different disciplines got together as a team and came up with some unique and precise ideas for prototyping during the internship. Every team presented their idea and prototype in front of a jury of seven members at the end of the workshop. During the workshop students wereencouraged to learn the concepts in depth from the basics and to come up with their own unique ideas looking around in the society addressing some problems we face every day. Some of the projects were, the smart iron box, the smart helmet, Food spoilage detector, Farm and field protection system etc.

The positive response from the students and the jury led Oscki Labs to be collaborated with Alva's Institute of Engineering Technology Mijar, Moodbidri(AIET) through the great support from Mr. Vivek Alva. Now Oscki Labs in collaboration with AIET is setting up Envision Lab, the lab is beingdesigned and built by the students under guidance of industrial experts.

Enivision Lab:

Envision lab will be interdisciplinary and multi-field prototyping lab, open for both students and faculties at AIET. The entire infrastructure and all the facilities for the lab being provided by AIET. Here under constant technical support and funding from Oscki Labs students will build their own prototypes from scratch. Also Oscki Labs is getting its own live projects to AIET at Envision Lab to provide fair industrial exposure to selected students also providing internships for them. This unique Envision Lab is collaborated with the entire college and all the disciplines for providing a firm platform for students to build their prototypes. Selected projects from students will be lead to publishing papers, applying patents, industrial funding and also to start their own companies.

Events:

MOU between AIET and Oscki Labs

Oscki Labs with the presence of **Mr. Shamanth S**, Founder and CEO of Oscki Labs and **Mr.HimanshuRangadhol**, CTO of Oscki Labs signed a MOU with AIET for one year duration on **22nd March** in the presence of **Mr. M Mohan Alva**, Chairman of Alva's Education Foundation, **Mr. Vivek Alva**,
Managing Trustee of Alva's Education Foundation, **Dr. Peter Fernandes**, Principal of Alva's Instituteof Engineering and Technology and **Mr. Parveez Shariff**, Assistant professor and Envision Lab
coordinator at Alva's Institute of Engineering Technology.

MoU Between Oscki Labs and AIET

In the photo (from left to right): Mr. Himanshu Rangadhol, CTO of Oscki Labs, Mr. Shamanth S, Founder and CEO of Oscki Labs, Dr. M Mohan Alva, Founder of Alava's Education Foundation, Dr. Peter Fernandes, Principal Alva's Institute of Engineering and Technology, Mr. Vivek Alva, Managing
Trustee of Alva's Education Foundation and Mr. Parveez Shariff B G, Assistant Professor at ECE dept.AlET.

Progress of the month:

1. Meeting with all the HOD's:
   A meeting in the presence of the principal with all the HOD's of respective departments was conducted on 15th March,2017 to give a fair idea on what Envision Lab stands for and what all prospect we have in coherence with the institute.
   Along with the meeting a feedback and suggestions were asked from them.

2. Finalizing the Envision Lab membership for the students:
   For the first stage only the students who attended the workshop were given option to take the membership of the Envision Lab.
   Out of 46 students who attended the workshop 43 students have registered for the membership. The list is Shown Below,

   List of student members for Envision Lab.

No	Name	USN/LATERAL ENTRY	Current Year	Department
1.	Pradeep Kumar R	4AL15EC061	2nd Year	ECE
2.	Chethak Shetty	4AL14EC023	3rd Year	ECE
3.	Thirtha A L	4AL15EC093	2nd Year	ECE
4.	Rakshith B	4AL16EC409	2nd Year	ECE
5.	Yashaswi s	4AL15EC433	3rd Year	ECE
6.	A shreya	4AL15EC001	2nd Year	ECE

7.	Chaithra	4AL14EC021	3rd Year	ECE
8.	Anusha A Poojary	4AL14EC007	3rd Year	ECE
9.	Mukesh H M	4AL15CS060	2nd Year	CSE
10.	Rohan R	4AL15EC071	2nd Year	ECE
11.	Prethika J	4AL16EC408	2nd Year	ECE
12.	Ganesh Prasad E	4AL15IS009	2nd Year	ISE
13.	Vishwath Putti	4AL15IS050	2nd Year	ISE
14.	Jasmine Princy Lobo	4AL15CS043	2nd Year	CSE
15.	Chethan M N	4AL14EC024	3rd Year	ECE
16.	Jolyn Tellis	4AL15CS046	2nd Year	CSE
17.	Sheethal. M. Nayak	4AL14EC077	3rd Year	ECE
18.	Avinash AP	4AL14EC016	3rd Year	ECE
19.	Joel Crasta B	4AL15EC020	2nd Year	ECE
20.	Dinesh N Ambiga	4AL15EC021	2nd Year	ECE
21.	Amitkumar Konnur	4AL15EC007	2nd Year	ECE
22.	Dheeraj S Shetty	4AL15EC020	2nd Year	ECE
23.	Sevanthika H V	4AL14EC076	2nd Year	ECE
24.	Chandan Shastri	4AL15IS007	3rd Year	ECE
25.	Mayur shikhare	4AL15EC048	2nd Year	ISE
26.	Sameeksha Hegde	4AL15IS036	2nd Year	ECE
27.	Namratha	4AL15ECO52	2nd Year	ISE
28.	Akash O	4AL14EC003	2nd Year	ECE
29.	Kumaraswamy V S	4AL15CS051	3rd Year	ECE
30.	Pavan Kumar T J	4AL15EC055	2nd YEAR	CSE
31.	A Shabaz Khan	4AL14EC001	2nd Year	ECE
32.	Pavan.k.rao	4AL15EC054	3rd Year	ECE
33.	Jyothi	4AL14EC042	2nd Year	ECE
34.	Akshay shenoy	4AL15IS003	3rd Year	ECE
35.	Ananya.M	4AL15EC008	2nd Year	ISE
36.	Ganesh arasikeri	4AL16EC402	2nd Year	ECE
37.	Rahul Itnal	4AL15EC067	2nd Year	ECE
38.	Vijay C Hadpad	4AL15EC100	2nd Year	ECE
39.	Teena lobo	4AL15EC092	2nd Year	ECE
40.	Shefali S Shetty	4AL15EC080	2nd Year	ECE
41.	Ranjitha poojary	4AL15EC069	2nd Year	ECE
42.	Srilaxmi upadhyaya	4AL15EC086	2nd Year	ECE
43.	Challa meghana	4AL15EC016	2nd Year	ECE
44.	Sachin K V	4AL14EC072	2nd Year	ECE

3. Started Setting the Envision Lab with the help of students.
   Have arranged the entire lab with the available desks.
4. Assigning roles to individual students.
   Lab Coordinator: Mr. A Shabaz
   KhanProject Manager: Mr. Dheeraj
   Shetty
   Inventory Managers: Mr. Sachin K V and Mr. Chethan M
   NBranding Manager: Ms. Jolyn Tellis
   Now these coordinators take their responsibilities and make a proper documentation of all the proceedings. All these roles will be transferred to other students once in a month.
5. Finalizing the current projects and discussion and accepting the new ideas.

*All the details regarding the projects are presented under Project section.

6. Items Received at Envision Lab from AIET, March 2017.

SI No.	Item	Details	Quantity
1	PC's	Includes 1 monitor, 1 cabinet, 1 mouse and 1 keyboard	5
2	Sockets	5Amp Sockets	5
3	Tables	2*3 feet Tables	2
4	Locker	A 4 compartment Locker	1

7. Items brought by Oscki Labs to Envision Lab, March 2017.

SI No.	Item	Details	Quantity
1	Tools	Precision Screw Driver Set, 2 setsof normal screw drivers, 360 degree benchwise, 4 cutters, Laser cut professional Blade, Measuring Tape, 120 M-F single strand cables, 12V adaptors, 10 Bread boards.	3620/-
2	Electronic Tools	1 Digital MultiMeter, Glue Gun with 12 glue Sticks, 1 Solder Gun	2480/-
3	Lighting	1 High Luminous LED light, 2 LED drivers.	1600/-
4	IoT Boards	1 tiCC3200 IoT developmentBoard, 1 ti Capacitive touch booster pack	5800/-
5	Other	Insulation tape, trays, holders and miscellaneous.	650/-
6	Posters and Certificates	12*2 A3 size posters and 46 ASIPW certificates	1480/-
Total:			15,630/-

8. Received the list of all the labs with facilities available from Dr. Basavaraju Bennehalli on 25thMarch, 2017.
9. Projects for Alva's Foundation:
   a. Few of the common problems were considered and after discussion turned into a project for Oscki Labs.
   b. Constant discussions
10. From Oscki Labs one person was here from 8th to 28th of March, 2017.

Project Details:

1. Students project proposal for prototyping:

SL No	Project Name	Details	Team members
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz KhanAkash O Chethan M N
2	Vehicle MonitoringSystem	A digital method to monitor moving in and out of the gate.	Mukesh H MJyothi Akash O
3	E-Bin	Waste bin to identify and separate the items thrown into without any human intervention	Anusha Rakshith Jolyn Namratha
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar T JDheeraj Shetty Jasmine Lobo
5	Smart Follower	A smart carrier for special children	A Shabaz Khan Challa Meghana Dheeraj Shetty Shefali Shetty
6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh
7	Smart Surveillance system	To turn on the CCTV's only whenthere is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy
8	Smart water heater	Automatic controlling and increasing the efficiency of water heaters.	Thirtha A L

2. Project for patenting:

SL No	Project Name	Details	Team Members
1	Smart Iron Box	To make our iron box really asmart one.	Chandan Shastri Rohan R Pawan K Rao

This project still needs a lot of work to be finished before filing for patent. So it will be commenced from April 2017.

3. Projects for Envision Lab:
   All these projects are funded by Oscki labs and the materials are picked from AIET campuswith permission. Most of the materials are either discarded are scrapped ones.

SL No	Project Name	Details	Team Members
1	Indoor Plantation	To do testing for indoor plantation for controlling the temperature and oxygen levels within the lab	Mayur Sikhare Joel Crasta Anusha Jyothi Chaithra
2	Workbench Design	Developing and implementing housing for the work bench and solving power supply socket issues	Yashasw i Pradeep Ganesh Akash O
3	Notice Board Designing	To make an notice board with available materials	Anusha Thirtha Rohan Sevanthika Mukesh

Plans for the next month:

Envision Lab is all about setting up a new culture among students to be creative, interactive, to explore things in right way, to spread the knowledge and to learn and understand the concepts in depth.

For the month of April, 2017 the plans are as follows,

a. Completing the lab with all the basic facilities like workbench, power supply and all the basic tools for prototyping.
b. Initiating all the projects by students and creating a database for tracking the progress of individual projects.
c. Creating a blog for updating all the data a news of Envision Lab.
d. Every week there will be multiple journal publication from students, these topic may vary from simple concept like resistors to complicated experiments like mapping of sensors.
e. Encouraging students to take initiative to organize functions, talks and activities from Envision Lab.
f. A technical talk and demo on “Sensors, Data acquisition and Labview” by Mr. R ShanmugaPrasad, Vice President- Product Development, Syscon Instruments Private limited.
g. Promoting 3rd year students to approach industries in the right way.
h. Bringing in more industrial resources and technical experts to guide students at Envision Lab.
i. Setting up a system where students learn, explore and understand the new concepts and spread these things around without any kind of hesitation.

Conclusion:

It’s been a great start, the students have been energetic and they are finding their ground in the lab. No words or explanation can express the support and encouragement from Mr. Vivek Alva. His vision and support has been the firm foundation for the Envision Lab.

A constant review and stand by Dr. Peter Fernades has been a huge bliss for Envision Lab. He has been helping us to set up collaboration between all the branches and have cordially gave us permission to make right use of any lab and equipment at the institute. A special thanks to Mr. Parveez Shariff B G for being a frim pillar for building Envision lab from scratch.

Any lab will take its own time to be fully functional, looking at the current pace it might take few more months to sync in and bring the students to a level where they work and learn with open mind.

Report By,

Himanshu Rangadhol

CTO, Oscki Labs.

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TIN: 29451275751

REPORT OF ENVISION LAB, April 2017

Contents:

Report By

Joshua Daniel
Project Manager (R&D), Oscki Labs

Himanshu Rangadhol
CTO, Oscki Labs

Introduction:

This is the monthly report of Envision Lab, containing all the details on projects, progress of the month, expenses and plans for upcoming month.

Events:

Dropbox discussion for AIET library

A brainstorming and discussion session was held with the chief librarian, Mr. Parveez Shariff and Mr. Joshua Daniel , to deploy a project to help the patrons of the library return books journals and other periodicals to the library without having to physically make a visit to the library. A brief discussion was held and a group of student aim to kickstart this project to help aid the students and faculty members.

Progress of the month:

1. Prototyping of teaching kit for special children by Mayur Shikhare and Joel Crasta, students have been guided to develop the existing prototype to and an enhanced model to be field tested. Possible use of IR sensors to interface with LED lights and be used as teaching kit for special children. This model has also been proposed for a product launch in the coming month of May.
2. The multi-sense board has been incorporated into the envision lab, a product which is in the initial stages of development under Oscki Labs has been deployed here to finish the final testing and is scheduled for a product demo in the month of May.

3. Items Received at Envision Lab from AIET, April 2017.

SI No.	Item	Details	Quantity
1	Printer	Epson L385 colour printer	1
2	projector	Epson WiFi Projector	1

4. Items brought by Oscki Labs to Envision Lab, March 2017.

SI No.	Item	Details	Price
1	Bosch Power DrillComplete Kit	A complete kit with 3 driller, 3 set of different drill bits and miscellaneous	3800/-
2	RF tx/rx with H12E an H12D	As tx and rx modules	650/-
3	16*4 DMUX		120/-
4	Table Synthetic Mat	6*5 Feet	1100/-
5	Precision axel holders and Blades	2 holders and 25 blades	650/-
6	Standard Hacksaw	1 holder and 12 blades	280/-
7	15Mtr tape		350/-
8	Connecting wires	Single strand 92 mtr 2 set cables and 14mtr normal power cable	650/-

9	Components	100 LED's, set of resistors	150/-
10	Miscellaneous	5 pocket screw drivers, 1 measuring tape, 1 cutter, 9V – 5 batteries.	200/-
11	Others	Sandpapers, different nails, bolts, markers, tapes.	300/-
Total:			8250/-

5. Projects for Alva's Foundation:
   These projects are proprietary products being developed by Oscki Labs for Alva's Education Foundation. Till the demo phase the complete product funding, research and development will be done at Oscki Labs Bengaluru. Once it clears the demo phase these projects will be taken up at Envision Lab considering few performing students as interns.

   a. **Water Level Indicator:** This will be product for Kaveri-C block hostel monitoring waterlevel in the over tank, completely avoiding the wastage of water.
   b. **Automated Room Lights:** This project is to avoid wastage of electricity by the lightswhich are ON during the night or day time unnecessarily.
   c. **GPS Tracker:** This project is to track the vehicles. The tracking data, the daily or timed travelled routes, all this data will be made visible for few of the selected people from administration for better administration over the vehicles and the drivers.
6. From Oscki Labs Mr. Himanshu Rangadhol was here from 1st of April till 16th of April and Mr.Joshua Daniel was here 26th April to 30th April.

Project Details:

1. 21 students have shown a regular attendance and consistent work for the month and are deemed fit to receive the envision lab ID card, the remaining students have been notified of their attendance issue.

2. Student's projects for prototyping:

SL No	Project Name	Details	Team members	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz KhanAkash O Chethan M N	working prototype is complete
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H MJyothi Akash O	Students undergoing trainign for Open CV and python
3	E-Bin	Waste bin to identify and	Anusha	students are

		separate the items thrown into without any human intervention	Rakshith Jolyn Namratha	running a feasability check .
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar TJ Dheeraj Shetty Jasmine Lobo	Project is under review for improvement
5	Smart Follower	A smart carrier for special children	A Shabaz KhanChalla Meghana Dheeraj Shetty Shefali Shetty	project is under review for improvements
6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Atmel Libraries are being built for HT12E sensor modules
7	Smart Surveillancesystem	To turn on the CCTV(s) only when there is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy	Paused until cctv(s) are to be installed
8	Smart water heater	Automatic controlling and increasing the efficiency ofwater heaters.	Thirtha A L	Students are running a feasibility check .
9	KidZ	A teaching kit of specialchildren	Mayur Sikhare Joel Crasta	1st stage of prototyping is completed. 2nd stage is already in progress.

3. Project for patenting:

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	Members are under review and 2nd stage of prototyping is over.

4. Projects for Envision Lab:

   All these projects are funded by Oscki labs and the materials are picked from AIET campuswith permission. Most of the materials are either discarded are scrapped ones.

SL No	Project Name	Details	Team Members	Status
1	Indoor Plantation	To do testing for indoor plantation for controlling the temperature and oxygen levels within the lab	Mayur Sikhare Joel Crasta Anusha Jyothi Chaithra	Procurement of materials is underway.A site visit is also has been intiated and a report is awaited from the students.
2	Workbench Design	Developing and implementing housing for the work bench and solving power supply socket issues	Yashaswi Pradeep Ganesh Akash O	Completed
3	Notice Board Designing	To make an notice board with available materials	Anusha Thirtha Rohan Sevanthika Mukesh	A rudimentary box type model is currently being used

Plans for the next month:

1. To organize a technical talk by a resource person from an industry . This is to help bring students from varied fields of engineering and to sensitize them the various trends in the industrial sector .This will be underway as the Expert Lecture Series.

2. A product demo of the KidZ project and the MSB(multi sense board) has been suggested , this is planned to be held in May with industry experts , Special educators and Doctors to be in attendance for the product aimed for the special childrens' education.

3. ASIPW v2 has seen 25 students register but only 3 have completed the payment procedure and with many students citing the semester examinations as the cause for not being able to

dedicate more time for co-curricular lab work .Hence the Batch has been scheduled to start from the month of June/July during the vacation of the students, Such that the students are able to make full use of the lab facility.

This workshop/internship will be in collaboration with other industries and for longer duration penetrating along with curriculums for better impact and learning.

The workshop is priced at INR 4900/- per students including all the facilities and hardware provided.

Details of the students:

No	Name	USN	Branch	Bill Number
1	Supriya A M	4AL14EC089	ECE	ENV-S1-001
2	Vandana Shree J S	4AL14EC094	ECE	ENV-S1-002
3	Nagaraj E	4AL12IS018	ISE	ENV-S1-003

Conclusion:

Considerable progress was made during the month of April 2017. The permission from **Mr.Vivek Alva** for students to work at Envision Lab till 11PM everyday has been acting like a catalyst for the progress of the Lab as well as for the students.

Support from all the staffs and Alva's management has been good and we the Team of Oscki Labs promise to ignite few more students to work on real good problems and come up with perfect solutions at Industrial standards.

Report By

Joshua Daniel
Project Manager (R&D), Oscki Labs

Himanshu Rangadhol
CTO, Oscki Labs

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Bangalore – 560070.
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REPORT OF ENVISION LAB, May 2017.

HOD's Copy

This copy of the report consists only the details of students and the current projectstatus.

Projects at prototyping stage:

1. Students Project:

SL No	Project Name	Details	Team members	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz KhanAkash O Chethan M N	Paused due to semester examinations
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H MJyothi Akash O	Students undergoing training for Open CV andpython
3	E-Bin	Waste bin to identify and separate the items thrown into without any human intervention	Anusha Rakshith Jolyn Namratha	Project withdrawn due to impracticality
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar T J Dheeraj Shetty Jasmine Lobo	Project is under review for improvement
5	Smart Follower	A smart carrier for special children	A Shabaz Khan Challa Meghana	project is under review for improvements

			Dheeraj Shetty Shefali Shetty	
6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	HT12E sensor module libraries are built. Implementation pending.
7	Smart Surveillanc esystem	To turn on the CCTV(s)only when there is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy	Paused due to semester examinations.
8	Smart water heater	Automatic controlling and increasing the efficiency of water heaters.	Thirtha A L	Project withdrawn due to impracticality
9	KidZ	A teaching kit of specialchildren	Mayur Sikhare Joel Crasta	Has finished first stage of demo and with funding from Oscki Labs will be going for the next stage.

1. Project for patenting:

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	Members are under review and 2nd stage of prototyping is over.

Report By,

Himanshu Rangadhol

CTO

Oscki Labs®

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REPORT OF ENVISION LAB, June 2017.

HOD's Copy

This copy of the report consists only the details of students and the current projectstatus.

Projects at prototyping stage:

1. Students Project:

SL No	Project Name	Details	Team members	Progress
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2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H MJyothi Akash O	Paused due to semester examinations
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar TJ Dheeraj Shetty Jasmine Lobo	Paused due to semester examinations
5	Smart Follower	A smart carrier for special children	A Shabaz Khan Challa Meghana Dheeraj Shetty Shefali Shetty	Paused due to semester examinations

6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Paused due to semester examinations
7	Smart Surveillanc esystem	To turn on the CCTV(s) only when there is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy	Paused due to semester examinations.
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2	Notice Board Designing	To make a notice board with available materials	Anusha Thirtha	Paused due to semester examinations.

			Rohan Sevanthika Mukesh	

Report By,

Himanshu Rangadhol

CTO

Oscki Labs®

Email-ID: himanshu@osckilabs.com

Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K - 574225
Phone: 08258-262725, Fax: 08258-262726

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Date: 13/01/2017

To

The Principal

Alva's Institute of Engineering and Technology

Mijar Moodbidri 574225

Respected Sir

Sub: **ARDUINO sensor interfacing and prototyping internship Program.**

With reference to the above subject I request you to permit me to conduct an internship program titled "**ARDUINO sensor interfacing and prototyping**" for their technical development from **15th January 2017 to 29th January 2017 for the interested students at** OSCKI Labs AIET. Mr Himanshu Rangadhol will conduct this program kindly oblige and **do the needful.**

Thanking you

HOD
Dept. of E.C.E

PRINCIPAL

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TIN: 29451275751

ARDUINO SENSOR INTERFACING AND PROTOTYPING INTERNSHIP

REPORT

Venue: Alva's Institute of Engineering Technology, Shobhavana Campus, Mijar, Moodbidri –574225

Duration: 15th January 2017 to 29th January 2017

CONTENTS:

INTRODUCTION:

A discussion over a small jogging session turned into a beautiful long term Internship concept. The main point of conducting the workshop for long duration was to provide students a fair opportunityto learn the concepts in depth and a workshop which can add real value in their future.

Project Envision

A unique project from Oscki Labs to bridge the gap between industry and education system for the students. Project Envision constitutes many different aspects such as, long term workshops, training programs and technical support for selected students to move from prototype to product.

Here we try to take the fear out of students from using new technology and platforms. Here more stress is on learning than memorizing anything. Students work on their own under well drafted courses. Here students get the complete freedom to experiment and explore new concepts and technologies.

Arduino Sensor Interfacing and Prototyping workshop

Arduino is one of the best development boards in the world, with a large database and support provided throughout the world. Most importantly it is an **Open Source** platform. For this workshop we chose **Arduino Uno** Development board and **Arduino IDE** for programming.

During this workshop students learnt and interfaced more than 20 different types of sensors. Also developed and experimented more than 26 modules using all the sensors.

WORKSHOP STRUCTURE:

1. Each group is carefully formed to collaborate with **four** students from **different branch** and **different years**.

2. Once the group is formed,
   a. **Different roles** will be assigned depending upon their interests.
   b. They will be working like a **micro company**.
   c. Every day they have conduct **meeting and update** the key points and decision made during the meeting.
   d. Morning session will be for learning, **afternoon** working on learnt things and developingthe **prototype** and the last **evening session** dedicated for **open discussion.**
   e. All the schedule and details will be directly updated to **individual Google accounts** andevents will be updated on their **calendar**.
   f. They have to put their **best efforts to solve the problems**, still if they cannot solve it then they should raise the doubts during the **discussion session** only. Also they have to show the **patterns and procedures** they tried to solve the issue.
   g. Every coding done by the team should be uploaded on **GitHub**.
   h. **Milestones for prototyping** should be clearly declared within 16th Jan.

i. **Technical Experts** will accompany the students to develop their prototypes by second week of the internship.
j. **Final Presentation** will be done on 29th of Jan and the winners will be disclosed on thesame day.
k. **Each student** will receive the **industrial experience certificate** based on their **roleassigned in team** for the internship.

SESSIONS DETIALS:

Session	Code	Duration
Session 1 during week 1	S1W1	2 hour
Session 2 during week 1	S2W1	1 hour 30 min
Session 3 during week 1	S3W1	2 hour 30 min
Discussion session	DS	1 hour
Session 1 during week 2	S1W2	1 hour
Session 2 during week 2	S2W2	1 hour
Session 3 during week 2	S3W2	5 hour

Date	Session	Duration	Session Information
15.01.17	S1W1	9AM-11AM	Introduction to internship and Oscki Labs
	S2W1	11.30AM-1PM	Assigning complete instruction procedures (minitue.io, documentation)
	S3W1	2PM-4.30PM	Formation of batches and instructions on idea presentation and prototyping
	DS	4.30PM-5.30PM	Land Drone demo
16.01.17	S1W1	9AM-11AM	Basic Electronics
	S2W1	11.30AM-1PM	Basic Electricals
	S3W1	2PM-4.30PM	Submission of ideas for prototyping
	DS	4.30PM-5.30PM	Product demo - Quench
17.01.17	S1W1	9AM-11AM	Intro to Arduino / IDE
	S2W1	11.30AM-1PM	Intro to basics of C
	S3W1	2PM-4.30PM	Final submission of ideas (3 ideas per batch)
	DS	4.30PM-5.30PM	Product demo - LED Controllers
18.01.17	S1W1	9AM-11AM	Advanced C, Arduino syntax, cycles, clock division, times and delays.
	S2W1	11.30AM-1PM	Arduino driver instruction, COM port, about IDE
	S3W1	2PM-4.30PM	How to create presentation (Synopsis formation)
	DS	4.30PM-5.30PM	Fun in innovation
19.01.17	S1W1	9AM-11AM	Hands on - LED (on/off, delays, sequence, loop)
	S2W1	11.30AM-1PM	Hands on – buttons, I/O, buzzer, RGB, LEDs, Module 1, Module 2, Module 3

	S3W1	2PM-4.30PM	Synopsis presentation (10 min per batch), Work on prototyping
	DS	4.30PM-5.30PM	Product Demo - LED Suits
20.01.17	S1W1	9AM-11AM	Hands on LDR, 7 segment display, Module 4, Module 5
	S2W1	11.30AM-1PM	Sound Sensor, Module 6, Work on prototyping
	S3W1	2PM-4.30PM	Instructions on using GitHub, Freedcamp. Work on prototyping
	DS	4.30PM-5.30PM	Tinkering with available materials, Product Demo – Vending Machines
21.01.17	S1W1	9AM-11AM	Potentiometer, Model 7, PWM
	S2W1	11.30AM-1PM	12V DC motors with L293D driver, Module 8, Module 9
	S3W1	2PM-4.30PM	Working on prototype
	DS	4.30PM-5.30PM	Product Demo – RC boats
22.01.17	Day Off		Day Off

23.01.17	S1W2	9AM-10AM	Analog i/p, logic levels, intro to Sensors, Vibration Sensor, Module 10
	S2W2	10.30AM-11.30PM	Tilt switch, Reed switch, Module 11, Module 12
	S3W2	11.30PM-4.30PM	Work on prototyping
	DS	4.30PM-5.30PM	IC's and Bob Widlar, RFID Demo and Module 17
24.01.17	S1W2	9AM-10AM	Relay, Module 13, Work on prototyping
	S2W2	10.30AM-11.30PM	Temp Sensor, Humidity Sensor, Module 14, Module 15
	S3W2	11.30PM-4.30PM	Working on prototype
	DS	4.30PM-5.30PM	Product Demo – Flex Sensor and robotic arm
25.01.17	S1W2	9AM-10AM	Soil Moisture Sensor, Servo motor, Module 16, Module 18
	S2W2	10.30AM-11.30PM	LCD Display, Module 19, Work on prototyping IR, LASER intro. Module 20, Module 21
	S3W2	11.30PM-4.30PM	Ultrasonic intro, basics of encoder, rotary encoder, Module 22
	DS	4.30PM-5.30PM	Trend in Technology
26.01.17	S1W2	9AM-10AM	NO SESSION TAKEN
	S2W2	10.30AM-11.30PM	NO SESSION TAKEN
	S3W2	11.30PM-4.30PM	Work on prototyping
	DS	4.30PM-5.30PM	Open Discussions

27.01.17	S1W2	9AM-10AM	Accelerometer theory, interface and applications, Module 24
	S2W2	10.30AM-11.30PM	Gyroscope theory, interface and applications, Module 25
	S3W2	11.30PM-4.30PM	Work on prototyping
	DS	4.30PM-5.30PM	IoT Devices and trends
28.01.17	S1W2	9AM-10AM	Rotary Encoder, Module 23
	S2W2	10.30AM-11.30PM	Industrial Talk
	S3W2	11.30PM-4.30PM	Finishing the prototype(Presentation)
	DS	4.30PM-5.30PM	Finishing the prototype(Presentation)
29.01.17	S1W2	9AM-11AM	Final Presentation (10 Min per batch)
	S2W2	11.30AM-1PM	Final Presentation (10 Min per batch)
	S3W2	2PM-4.30PM	Announcements (winners)
	-	4.30PM-5.30PM	Epilogue (Concluding the Internship)

Modules:

Module	**Information**
Module 1	Button with LED
Module 2	Button with Buzzer
Module 3	Button with RGB and LED
Module 4	LDR with LED
Module 5	Display with Button
Module 6	Sound senor with LED
Module 7	Potentiometer with LED, PWM
Module 8	12V motors with L293D drivers
Module 9	Potentiometer with motors
Module 10	Vibration sensor with Buzzer
Module 11	Tilt switch with Buzzer
Module 12	Reed switch with LED
Module 13	Relay with LED
Module 14	Temperature Sensor with LED
Module 15	Humidity sensor with LED
Module 16	Soil moisture with display
Module 17	RFID applications
Module 18	Servo Motor speed control
Module 19	LCD Display and driving it
Module 20	IR interfacing
Module 21	Laser Interfacing
Module 22	Ultrasonic with Buzzer
Module 23	Rotary Encoder Interface
Module 24	Accelerometer Interfacing
Module 25	Gyroscope interface, SPI, SDA, SCL, 3 LEDs

BATCH DETAILS:

Total number of students registered: 47

Total number of students appeared for the workshop: 46

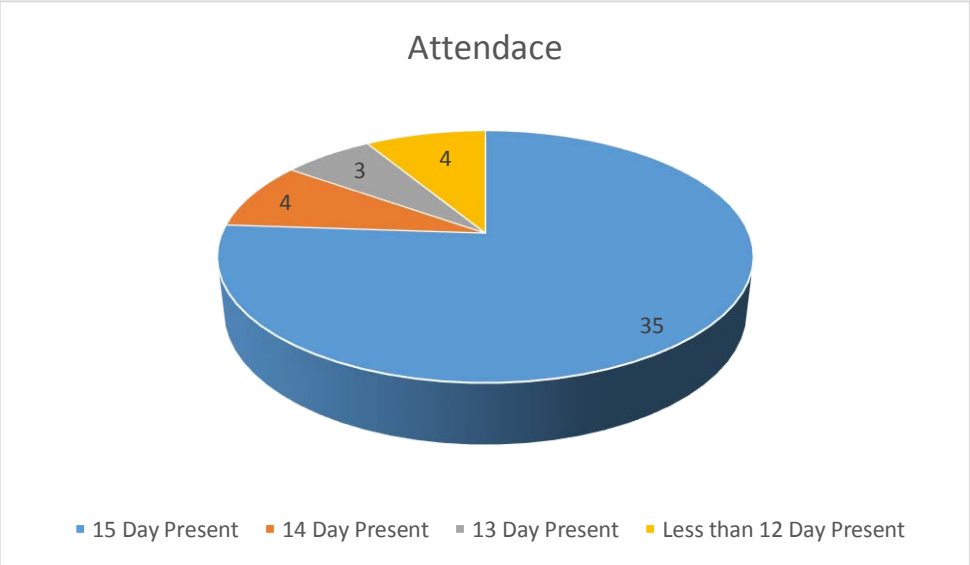
Number of batch: 12

Batch	Team Members	Prototype worked on
B1	Mukesh H M Chethak Shetty Jyothi Akash O	Power Automation using Arduino
B2	Ganesh Prasad E Yashaswi S Pradeep Kumar R	Fields and Farm Protection Using UltrasonicSensors
B3	Vishwath Putti Chaithra Thirtha A L Mayur shikhare	LED Cube
B4	Jolyn Tellis Anusha A PoojaryRakshith B Namratha	Smart Mailbox Detector
B5	Jasmine Princy Lobo Dheeraj A Shetty A Shreya Pavan Kumar T J	Food Spoilage Detector
B6	Chandan Shastri Nagesha Gowda Rohan R Pavan K Rao	Smart Iron Box
B7	Sameeksha Hegde Chethan M N Prethika J Ananya.M	Smart Surveillance System
B8	Kumaraswamy V S Sheethal. M. Nayak Joel Crasta B Ganesh Arasikeri	Smart Helmet
B9	Akshay Shenoy Avinash AP Lokesh M Rahul Itnal	Interactive Lighting Systems

B10	Ranjitha Poojary Sevanthika.H.V Dinesh N Ambiga Vijay.C.Hadpad	Automatic Room Light Controller withBidirectional Visitor Counter
B11	Srilaxmi Upadhyaya Sachin.K.V Amitkumar Konnur Teena Lobo	Arduino Medicine Reminder
B12	Challa Meghana A SHABAZ KHAN Dheeraj S Shetty Shefali S Shetty	Smart Follower

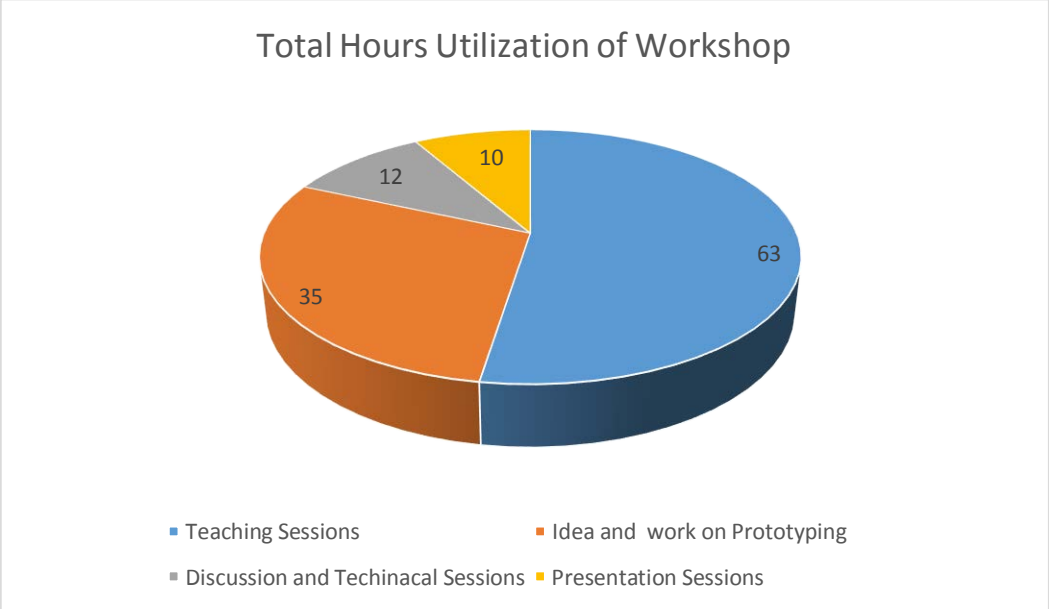
5. STATISTICS OF WORKSHOP:

1. During the workshop one session on 18th Jan 2017 was used to for **Idea Presentation** by the students. This even was judged by **Prof Edwin** and **Prof Parveez Shariff.** All the batches and every student presented their ideas with a presentation. This was the first chance for all thestudents to make maximum use of the platform.
2. Second and final presentation was completed on 29th Jan 2017. A jury of 7 guest was formed and all the students presented their idea with utmost confidence. B6 team was awarded by jury for their effort and concept.
3. Attendance was taken regularly and all the data will be provided to college through Google Drive. A simple attendance chart is shown below,



Considering the industrial standards entire workshop was drafted for 8 Hours a day sessions.

Total Hours Utilized: 120 Hours.



6. STUDENTS FEEDBACK:

Main feedback from most of the students was on number of days the workshop was conducted. For our surprise they felt 15 days was short duration for them!

Student feedback was collected through online platform. Some of the feedbacks are mentioned below,

Question:

Q: Any Changes you would like to propose?(Please also rate the internship out of 10 (1 being Poor ,5 being good and 10 being Excellent)

Responses:

10
10
10
10
10
10
10
10
10
10
10

9
9
9
no changes
9.5
10, no changes
no.10
10,No changes
9.99
don’t skip hacking
you have to propose us more…. 10
10 excellent
no comments –10/10
no,10
No changes required. ..10
can you extend your internship .my rating is 7.5,
7-Projects were not at all required,all the sensors must have been covered
no changes.. it was excellent. 8.5 out of 10
No change Required. Internship Rating: 9/10.
I don’t think any changes are needed , for me internship out of 10 (10)
9, actually i have no ideas to propose any changes.
I don’t want any changes. I would like to give rate to the internship is 10.
I would like to give 9...
no changes required.after the session there will be a discussion class which really helpful forus.(9/10).

Some brief explaination for some components
Yes!!!!!!! From next time onwards please keep this workshop for long time as possible(like 1 month)!!!!!!! It’s impossible to rate your efforts but still I want to rate it as 10!!!!
Nothing everything was good .....and rating would be (9.5/10)because non of the substance on earth is 100%efficient. hehehe
9 No changes
7
NO EVEN I LIKED THIS INTERNSHIP SESSIONS MORE THAN MY REGULAR CLASSES ,THIS INTERNSHIP MADE OUR BRAIN TO WORK 10/10
10
10/10.no changes, I wanted this internship to continue for atleast 20 days because i wanted to know still many more things and can’t because of time constraints.
10++
No changes. Rate of internship=10.

7. REPORT BY INSTRUCTORS

a. Report by **Mr Parveez Shariff B G.** Senior Assistant Professor at AIET

The internship program on "Aurdino Sensor Interfacing & Prototyping" was well planned and conducted by Mr. Himanshu and by his team from Oscki labs. The intention of internship is to create awareness among the students about the working procedures and the technologies used at the industry level.

The internship was planned and executed for fifteen days. There were 3 session per day including hands on experience with aurdino and various sensors. By the end of the day there were discussion classes and students were also working on their prototype projects.

The firsts two days session was on basics of electronics and about basis of C programming. Later started with simple switch and LED circuit connectios and programming the Aurdino. The student learnt on using various sensos and switches like LDR, Reed switch, temperature sensor, tilt switch, laser, RGB LEDs, infrared LEDs and also learnt to control the motors using motor driver's using PWMtechnique. The advanced session were on ultrasonic sensors, proximity sensor, and accelerometer sensor gyroscope sensor.

So the students had got the chance to work on various sensors and got an idieas to implement there prototypes. On the final day of the internship, students had demonstrated there working prototypes that indicates the purpose of the internship was served.

b. Report by **Mr Shamanth S.** CEO, Oscki

LabsIntroduction:

We started the ASIPW on 15th January 2017(Sunday) where most of them needed to be called and informed to attend the internship on time since it was a Sunday. They were eager to know how the course would shape up and were also avoiding eye contact when any questions were asked. But after continuous monitoring and interacting with students we were able to give each and every one attention to their doubts and queries. The students at the end of the 15 days had a purpose and understood the vastness of engineering technology.

Course work:

The course work was extremely challenging for us and the student’s as we had to make sure the students understood the theoretical aspect along with the applications of sensors, it’s functioning and interfacing. But as days progressed the enthusiasm and energy possessed by the students increased which in turn helped us get all the more interested to teach them the depths of every topic that was covered at the same time being ahead of our timeline to make way for the delays thatwould creep in during the prototyping stages.

Ideas & prototyping:

All the students were supposed to work in teams to come up with ideas. Many of them fell short of their ideas but never lost their patience as we used to guide them and help them out during the times they were stuck. We are happy that every team gave their 100% effort in developing their prototype.

We are also happy that many teams were able to conceptualize their ideas into a product level thinking that will be useful for different markets.

Conclusion:

Last but not the least we are evermore eager to come back to AIET to continue “Project Envision” at a much higher scale that would help the students and society.

c. Report by **Mr Himanshu Rangadhol.** CTO, Oscki

LabsIntroduction:

A simple idea of providing a bridge between academics and industry took a beautiful shape under AIET and Oscki Labs as 15 days works. We started with very simple concepts and difficulty wen onincreasing session after session. Every student was provided with a PC along with internet connection. So now all of them had equal opportunity to understand and explore the concepts.

Course:

Student’s energy was increasing day by day. They welcomed every new technology and concept with curiosity and eagerness to learn. Though at some points they lost the interest because of depth of the concept or duration of sessions. Still they tried to learn and execute most of the programs by themselves.

Conclusion:

They enjoyed the workshop and all of them have tried their best. Really looking forward for what’s the future will hold for all these ignited minds with knowledge.

d. Report by **Mr Joshua Daniel.** Project Manager, Oscki Labs

Introduction:

Based on the time and the number of students an individual analysis and feedback is not possible, but an overall feedback on their observance, retention and application is detailed below; Opportunities and constructive comments are mentioned separately.

Course and topics covered:

1) Lateral thinking Session:

Lateral thinking was a non-technical session on creative thinking and idea formation techniques, the students seemed to be very keen in listening to it, which was brought out by their proactive responses to the various questions posed.

During the starting of the session a small meditation and orientation session was held for approx. 5-8 min, although most of the students seemed amused by the idea, pin-drop silence followed, with every student following the instructions given thereafter.

Comments:

1) Not many students seemed to be taking written notes during the slide presentation; the culture of writing down the important points must be inculcated in the students.

2)A majority of students responded extremely well when asked question about various other topics, which points to show they are not afraid of peer pressure and perceived as being wrong in front of a classroom gathering.

3) Few students were able to appreciate the essence of the session and use some of the techniques discussed in their presentation and team efforts.

2) Rotary encoder:

Principle and working of rotary encoders was discussed, although the topic could have been covered in depth; there was a growing stiffness in answering the verbal questions students responding to basic questions about duty cycle, PWM signals and general working of encoder and decoders.

3) Debugging & tutorial Sessions:

There was active participation in the hands-on sessions conducted and most of them tried to follow with the code being executed .Even as some students slacked off from coding at first ,all the members of the team were told to code—after which students made real efforts to try and learn the coding language and the environment.

The prototyping phase helped bring out the creative side as each student gave his/her inputs to the prototype, the task break up was followed and resulted in the completion of their prototypes within the stipulated time frame.

Conclusion

The students were diligent in following the instructions given and practiced coding and debugging the errors and with increasing knowledge about the Arduino IDE they were able to proactively try out different iterations and variations of the code being practiced.

All groups(except one or two) displayed good team morale and were witness to positive team dynamics ,this was brought out by every member taking turns to present each slide during the final presentation ,also a breakup of the task among them members was visible on a day-to-day basis.

Their best trait was to use their personal unique experiences which brought novel ideas and way of approaching a problem, their enthusiasm promises a bright future whilst keeping in mind a nurturing environment and a supportive structuring for growth.

8. DATABASE:

The complete database of the workshop which includes all the technical details, students and batch details along with batch wise daily progress will be provided to college via **Drive.**

9. CONCLUSION:

This workshop has been a reality only because of continuous support by Mr Vivek Alva and efforts by Mr Parveez Shariff B G. Both of them have been the main pillars of support for Oscki Labs from the day of inception of this workshop concept.

Students with their marvellous energy and dedication made it more successful. All these students have tried to explore new horizons and have given their best efforts to make best use of the workshop.

Within 15 days they have learnt a lot of new technology and even they have successfully completed prototyping on their own ideas. These students have the tenacity to work and dedicate time to complete their projects as a team.

Let's provide them a firm and highly explorative platform for these students and under right circumstances these students can make miracles.

Report made by:

Himanshu Rangadhol

CTO

Oscki Labs

PRINCIPAL
Alva's Institute of Engg. & Technology,
Mijar, MOODBIDRI - 574 225, D.K

OSCKI LAB

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Website: www.osckilabs.com
GSTIN: 29FOTPS5726F1Z3

ANNUAL REPORT

FROM JULY 2017 TO MAY 2018

ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY
Shobhavana Campus, Mijar – 574225, Moodbidri.
Dakshina Kannada, Karnataka, India.

TABLE OF CONTENT

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TIN: 29451275751

REPORT OF ENVISION LAB, July 2017.

HOD's Copy

This copy of the report consists only the details of students and the current project status.

Projects at prototyping stage:

1. Student's projects for prototyping:

SL No	Project Name	Details	Team members	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N	Paused due to semester examinations and vacation
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	Paused due to semester examinations and vacation
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar T J Dheeraj Shetty Jasmine Lobo	Paused due to semester examinations and vacation
5	Smart Follower	A smart carrier for special children	A Shabaz Khan Challa Meghana Dheeraj Shetty Shefali Shetty	Paused due to semester examinations and vacation

6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Paused due to semester examinations and vacation
7	Smart Surveillance system	To turn on the CCTV(s) only when there is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy	Paused due to semester examinations and vacation
9	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Paused due to semester examinations and vacation

2. Project for patenting:

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	Paused due to semester examinations and vacation

3. Projects for Envision Lab:

All these projects are funded by Oscki labs and the materials are picked from AIET campus with permission. Most of the materials are either discarded are scrapped ones.

SL No	Project Name	Details	Team Members	Status
1	Indoor Plantation	To do testing for indoor plantation for controlling the temperature and oxygen levels within the lab	Mayur Sikhare Joel Crasta Anusha Jyothi Chaithra	Paused due to semester examinations and vacation

2	Notice Board Designing	To make a notice board with available materials	Anusha Thirtha Rohan Sevanthika Mukesh	Paused due to semester examinations and vacation

Report By,

Himanshu Rangadhol

CTO

Oscki Labs®

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REPORT OF ENVISION LAB, August 2017.

HOD's Copy

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Projects at prototyping stage:

1. Students Project:

SL No	Project Name	Details	Team members	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	**Continued under TRIA with first stage of research funding.**
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	Will be initiated once a firm and new team is formed.
4	Food Spoilage Detector	Quality monitoring of foods in a closed environment	A Shreya Pavan Kumar T J Dheeraj Shetty Jasmine Lobo	Project has been terminated
5	Smart Follower	A smart carrier for special children	A Shabaz Khan Challa Meghana Dheeraj Shetty Shefali Shetty	Project has been terminated
6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	**Continued under TRIA with first stage of research funding.**

7	Smart Surveillance system	To turn on the CCTV(s) only when there is a human activity	Sameeksh Hegde Ananya Chetan Akshay Shenoy	Project has been terminated
9	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	completed ; literature survey and field trials for documentation

2. Project for patenting:

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	**Continued under TRIA with first stage of research funding.**

3. Upcoming Project:

SL No	Project Name	Details	Team Members	Progress
1	KidZ 2nd version	To add more features to previous version of Kidz and build a better team for the project	Mayur Rakshith Rahul Itnal Vasanth	**Continued under TRIA and will be started once the KidZ project finishes field trial.**

Report By,

Himanshu Rangadhol

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REPORT OF ENVISION LAB, Septemper 2017

Contents:

Report By

Joshua Daniel
Project Manager, Oscki Labs

Himanshu Rangadhol
CTO, Oscki Labs

Introduction:

This is the monthly report of Envision Lab, containing all the details about the events, workshops, projects and progress of the month, expenses and plans for upcoming month.

The highlight for this month was the PCB Designing Certificate Course started from September 7th. This period was also marked by various additions and activities to update the projects and infrastructure in the Envision Lab.

From Oscki Labs Mr.Himanshu Rangadhol from 1st September to 24th September, Mr. Uday C and Vishnu C from 6th September to 23rd September were present at Envision Lab.

Events/Courses:

1. **PCB Design : A beginners' Course**

In the month of August PCB course was started and so far we have covered 90% of the modules during the 26 hours of teaching sessions and 10 hours of discussion sessions.

In the upcoming month more hands on experience on the tool will be encouraged and final exam will be conducted by mid weeks of September.

A complete report on the course will be made upon completion of the PCB course.

2. **Prototyping Hackathon (Meetings)**

A two day hackathon open for all branches and years. Main areas for ideas will be on problems faced by society, farmers and industries. Group of 2 or individual students can participate in the hackathon and have to submit a model or simulation within the time limit.
Selected projects will be given grants and funding under **TRIA program at Envision Lab.**

A detailed structure of the hackathon was discussed with Mr. Vivek Alva and was approved to further improvements by him on 14th August.

A meeting with 2 faculties from every departments was conducted on 19th August at Innovation Lab. The decision was made to chop out the appropriate dates for the events, avoiding any kind of clashes with other events and functions.

Items added to the Lab

This includes the items brought to lab and also the components funded for the projects of students.

*are the components brought for the PCB course.

Sl. No	Particulars		
	Components	Quantity in pcs.	Amount
1	LED bulb 24W	4	3,400
2	LED pannel 30 W	1	1,000
3	PIR bulb	1	800
4	LDR	2	400
5	Demux Holders	2	140

6	TIP31C IC	4	160
7	7805 IC	3	30
8	RGB LED's (CC)	25	250
9	9V battery*	88	1760
10	RTC Module	1	150
11	330 Ohm Resistor	20	20
12	RF Rx/Tx with encoder	1	750
13	Bluetooth Module	2	700
14	Super Glue (743)	1	50
15	Berg Strip	2	20
16	PCB board (small)	2	60
17	Projects files	15	750
18	Envision Lab Sticker	2 sheets	500
19	Plastic Sheet	5	375
20	Flex Banner Small	1	1,250
21	Flex Banner Big	1	2,500
21	Vinyl Sticker for Door	1	3,650
22	White LED strip 5 Mts	2	700
23	Cotton Roll (BIG)	1	240
24	Mesh Wire	1	50
25	LED Serial Set	1	200
26	PCB Hand Drill+bits	1+4	220
27	ATMega328P IC	2	240
28	L293D IC	1	20
29	Screw Driver Set	1	300
30	12V 2A adapter	4	880
31	Glue Gun Fine Quality	1	450
32	Glue Sticks	30	360
33	Toy Motor	6	120
34	Button Cell	2	40
35	Press Switch	5	50
36	Spray Paint Black	1	225
37	Spray Paint Gold	1	220
38	Battery Caps*	85	425
39	LED's 5mm	100	180
40	Resistor 56 ohms	50	50
41	Resistor 100 ohms	10	10
42	Resistor 220 ohms	10	10

43	Resistor 270 ohms	10	10
44	Resistor 330 ohms	10	10
45	Resistor 470 ohms	10	10
46	Resistor 560 ohms	10	10
47	Resistor 680 ohms	10	10
48	Resistor 820 ohms	10	10
49	Resistor 1K ohms	10	10
50	Copper Cladding 4X4 inches*	5	600
51	PCB board(small)*	85	1700
52	PIR switch	1	750
53	Soldering Gun	1	120
54	Fecl3 powder*	3	165
55	3mm 2inch and 1.5 inch screws	25	250
56	3mm washers and nuts	60	180
58	12V DC power jack	1	200
59	Bajaj Iron Box	1	600
60	Miscellaneous-Glue, stickers, paint, DVD's, stationaries	-	800
	Total Cost(in Rupees)		**29,140/-**

Project Details:

1. **Projects for Alva's Foundation:**

   These projects are proprietary products being developed by Oscki Labs for Alva's Education Foundation. Till the demo phase the complete product funding, research and development will be done at Oscki Labs Bengaluru. Once it clears the demo phase these projects will be taken up at Envision Lab considering few performing students as interns.

   a. **Water Level Indicator:** Product is currently under research and development. This project has finished the sensor testing and **Hall Effect sensor** has been finalized for doing the project. Also the algorithm is done for the sensor stage, **ESP controller** has been used for testing **WLAN** protocols.
   This project is now being applied for SERB funding to do at AIET itself.

   b. **Automated Room Lights:** This project is to avoid wastage of electricity by the lights which are ON during the night or day time unnecessarily. Product has finished its testing phase at the Bengaluru Oscki Labs office.
   A rigorous test was made with the product at Envision Lab, putting the product under many different scenarios.

   The product succeeded at many of the test and now the work is going on at Envision Lab to make the product more rigid.

   c. **GPS Tracker:** This project is to track the vehicles. The tracking data, the daily or timed travelled routes, all this data will be made visible for few of the selected people from administration for better

administration over the vehicles and the drivers.

Product was tested with Mr. Nikhil Alva's vehicle over the period of one week, the product worked according to the expectation and results are promising.

One more new board will be tasted and based on comparison of results final call will be made a proposal will be put across the management.

2. Student's projects for prototyping:

Most of the stagnant projects have been discarded and the number of students has been reduced to finite numbers.

SL No	Project Name	Details	Team members	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	**Continued under TRIA with first stage of research funding.**
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	Will be initiated once a firm and new team is formed.
6	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	**Continued under TRIA with first stage of research funding.**
9	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Completed; literature survey and field trials for documentation

3. Project for patenting:

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	**Continued under TRIA with first stage of research funding.**

4. **Upcoming ProjectS:**

SL No	Project Name	Details	Team Members	Progress
1	KidZ 2nd version	To add more features to previous version of Kidz and build a better team for the project	Mayur Rakshith Rahul Itnal Vasanth	**Continued under TRIA and will be started once the KidZ project finishes field trial.**
2	Smart watch	To build a smart watch for visually impaired and for everyone with loads of features	Rahul Pillay	**Multiple rounds of meetings has been finished and currently being encouraged to incorporate as a company.**

Plans for the next month:

1. PCB Design Course:
Out of two one of the assignment has been finished and in the next month more hands on experience on PCB design tools will be given to students.

An open book examination will be conducted and certificates will be awarded based on students' performance.

2. TRIA Program
This program's primary objective is to provide students with the exposure of creating an idea and publishing a paper. Its main aim is to guide students to *postulate, prototype and publish* their ideas within a period of three months.

Student groups will be guided and taken through the steps to publish a paper, whereby they are exposed to the rigorous research methodologies that are need for a student's holistic development.
Guides: One guide will be from AIET faculties and the other guide will be from Oscki Labs. This will boost the product and paper levels and students will get the support from both industry and institute side.

3.Prototyping Hackathon
Appropriate dates will be finalised for the conducting prototyping hackathon. Upon this students and faculties groups will be made as volunteers. Also a look out for appropriate sponsors for the hackathon will be made.

Conclusion:

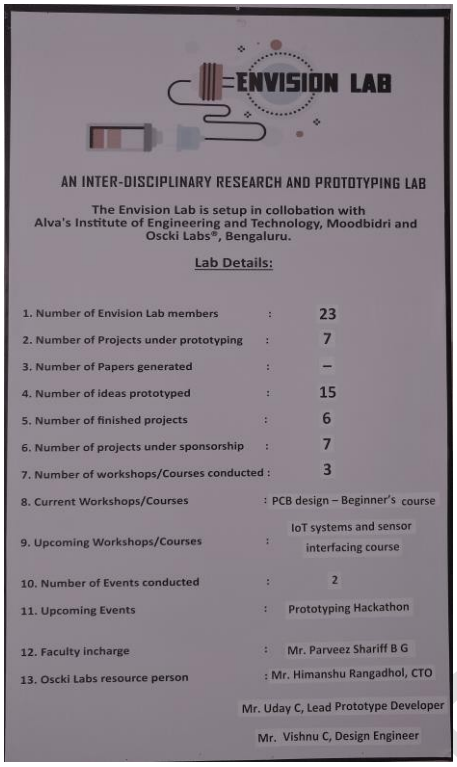
This month all the projects were reviewed and the halted projects were terminated. New plan was initiated under TRIA to get more interested students to lab.

PCB course will be started and hackathon will get us more good ideas and students to work with.

KidZ will finish its feild trials in the upcoming month and will be pushed for paper publication. Also the Smart Iron box will be pushed to apply for Provisional or proper Patent.

So upcoming months will be crucial and important for Envision Lab and for the students.

A facelift was made for the Envision Lab. Here are few of the pictures.



Report By

Joshua Daniel

Project Manager, Oscki Labs

Himanshu Rangadhol

CTO, Oscki Lab

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REPORT OF ENVISION LAB, October 2017.

HOD's Copy

This copy of the report consists only the details of students and the current project status.

Projects at prototyping stage:

1. Student's Projects:

SL No	Project Name	Details	Team members	Progress for paper publishing	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	LIterature Survey undertaken. Mathematical model to be calculated.	**Working prototype completed .**
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	NA	Will be initiated once a firm and new team is formed.
3	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Draft -1 of paper to be submitted after reviewing IEEE papers	**Expected to receive Draft-1 of the product for paper publishing**
4	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Data for paper to be collected analysed . A Draft is to be submitted	Completed;

1. **Project for patenting:**

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	**First stage of Funding underway .Patent prototype to be fabricated.**

2. **Projects for prototyping from PCB Course:**

Few students were selected from PCB Course based on their idea and few projects were initiated from Envision Lab.

SL No	Project Name	Details	Team Members	Progress
1	LED fidget spinner	A fidget spinner with LED's which glows while spinning	Vasanth Kumar M	**Working prototype completed.**
2	LED Yoyo	A yoyo (toy) which glows while spinning	Karthik J	**Working prototype completed.**
3	Musical Piano	A toy piano developed with electronic components.	Vivek A Bharadwaj Ramanath Vishwanath Naik	**Working prototype completed.**
4	Toy Gun	A toy gun with LED's which glows when triggered.	Vidya L S	**Working prototype completed.**
5	Spinning Watch	A Watch which glows the LED's while spinning	Rahul G Itnal	**Working prototype completed.**

Report By,

Himanshu Rangadhol

CTO

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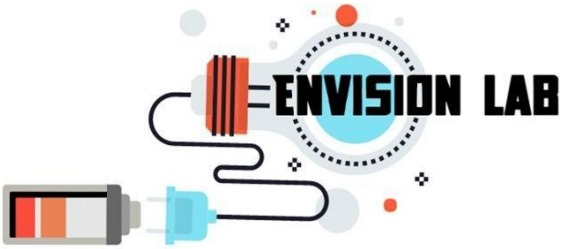

REPORT OF ENVISION LAB

December 2017

Report By

Joshua Daniel

Project Manager, Oscki Labs®

Himanshu Rangadhol

CTO, Oscki Labs®

Contents:

Introduction:

This is the monthly report of Envision Lab, detailing the events, workshops, projects and progress of the month, expenses and plans for upcoming month.

From Oscki Labs the following resource people were present at the Envision Lab.

1) Mr.Joshua Daniel: 4th December to 22th December
2) Mr.Himanshu Rangadhol :26th November to 7th December

Events/Courses:

1. **Rahul Pillai : Project DreamWorks**

   Different variations of the smart watch was carved using soap .The Hexi-wear kit will be prototyped on using the docker based on the design of the carved soap. Various critical features for the Visually impaired will be added to the kit with inputs coming from Rahul Pillay

2. **Alva's Nudisiri - Vijnana Siri**

The concept of having a science exhibition with the projects done by engineering students was really good. That too in the honour of **Dr. Harish Bhat** was the best part.

From Envision Lab we took 11 projects. All the projects were working and were at the final stages of prototyping.

The projects displayed were

1. KidZ
2. 3D LED Cube
3. Rocker Bogie
4. Smart Alarm
5. Automatic vehicle speed control at accident prone zones
6. Smart follower
7. Voice controlled robot
8. Solar detection robot
9. LED spinner
10. Yo-Yo
11. Piano

Highlighted points:

1. People loved the projects and were so happy to know that students developed all these products from scratch.
2. Most of the students and children were interested in playing with models just to see how they work.
3. They loved the joy of experiencing the products in real life.
4. Many students from the high school and primary school were very interested in the process and were curious to know how to build them.
5. Lot of people came with requirements for the product.
6. There were few industrial people who wanted to buy the products and were asking for brochure.
7. A person from **Deshapande foundation** approached for funding details for these projects.
8. **An industrialist from Chikkamangaluru** wanted to get some **agro products** done from the Lab.

Items added to the Lab

		Particulars		
Sl.No	**Components**	**Incoming Quantity**	**Cost per Piece**	**Amount**
1	Atmega328P-PU	4	140	560
2	L293D Motor Driver IC	6	20	120
3	5mm LED White	14	2	28
4	5mm LED Red	11	2	22
5	Barrel Jack Module	6	20	120
6	DP/DT Switch	3	20	60
7	Press Hold Switch	5	15	75
8	Push Switch	2	15	30
9	Push Button	5	10	50
10	Berg Strips(M-M double)	4	30	120
11	Berg Strips	3	20	60
12	Resistor 1K ohms	20	1	20
13	5mm LED	5	2	10
14	Heat Sink for 30W LED panel	1	400	400
15	A4 sheet bundle	1	150	150
	Total Cost (In Rupees)			**1825**

Project Details:

1. **Projects for Alva's Foundation:**

   These projects are proprietary products being developed by Oscki Labs for Alva's Education Foundation. Till the demo phase the complete product funding, research and development will be done at Oscki Labs Bengaluru. Once it clears the demo phase these projects will be taken up at Envision Lab considering few performing students as interns.

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   This project is now being applied for SERB funding to do at AIET itself.

   b. **Automated Room Lights:** This project is to avoid wastage of electricity by the lights which are ON during the night or day time unnecessarily. Product has finished its testing phase at the Bengaluru Oscki Labs office.
   A rigorous test was made with the product at Envision Lab, putting the product under many different scenarios.

   The product succeeded at many of the test and now the work is going on at Envision Lab to make the product more rigid.

c. **GPS Tracker:**

Following the various discussions and meeting with the management, a pilot model of the GPS tracker was installed in a transport vehicle ferrying students and faculty between the campuses.

The hardware was tested against the weather and temperature effects and the results are positive. The hardware has survived and it can be used at this station without any issues.

2. **Student's projects for prototyping:**

Most of the stagnant projects have been discarded and the number of students has been reduced to finite numbers.

SL No	Project Name	Details	Team members	Progress for paper publishing	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	Draft of paper is pending	**Paused due to Examination**
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	NA	**Paused due to Examination**
3	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Draft of paper is pending	**Paused due to Examination**
4	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Draft of paper is pending	**Paused due to Examination**

3. **Project for patenting:**

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	**Paused due to Examination**

4. Projects:

SL No	Project Name	Details	Team Members	Progress
1	KidZ 2nd version	To add more features to previous version of Kidz and build a better team for the project	Mayur Rakshith Rahul Itnal Vasanth	**Paused due to Examination**
2	Smart watch	To build a smart watch for visually impaired and for everyone with loads of features	Rahul Pillay	**Paused due to Examination of Envision Lab students**

Gallery Section:

Alva's Nudisiri 2017- Vijnana Siri: Product demo of Envision Lab Projects

Plans for the next month:

A. RFID Project for Placement Cell

A makeshift database has been put up and is under going testing in the Envision Lab.After the pilot idea is fully tested it will be scaled up to incorporate the needs of the placement cell.The front end is developed and is waiting to be incorporated with the backend system.

B. Smart Watch Project

Initial Funding for the smart Watch has been made and efforts to procure HEXIWEAR a prototyping kit for smart wearable devices are underway. Meanwhile a market research is underway to identify target customers.

C. GPS tracker

Complete proposal will be presented to the management with all the financials and the budget. Also the team of students to be working in this project will be finalized.

Conclusion:

Only minimal activities were conducted during this month, due to the examination of students in this semester. IoT internship will conducted in the month of January 2018 for 15 days.

Also a complete revamping of the structure and lab will be made in the upcoming days.

Report By

Joshua Daniel

Project Manager, Oscki Labs

Himanshu Rangadhol

CTO, Oscki Lab

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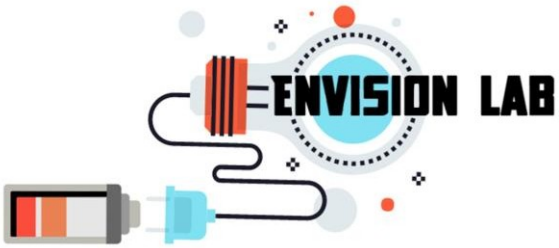
REPORT OF ENVISION LAB, November 2017



Contents:

Report By

Joshua Daniel
Project Manager, Oscki Labs

Himanshu Rangadhol
CTO, Oscki Labs

Introduction:

This is the monthly report of Envision Lab, detailing the events, workshops, projects and progress of the month, expenses and plans for upcoming month.

Major highlights and events of this month were Science and Fun fair and commencement of Project DreamWorks (Rahul Pillay Project)

From Oscki Labs the following resource people were present at the Envision Lab.

1) Mr. Shmanth :7th November to 17th November
2) Mr. Raghava : 7th November to 23rd November
3) Mr.Joshua Daniel: 13th November to 29th November
4) Mr.Himanshu Rangadhol :26th November to 7th December

Events/Courses:

1. **Science and fun Fair exhibition**
   All the projects from Envision Lab done by the Lab members as well as the students from the PCB design course were on display to the attendees of various educational institutions .The Students from primary school epically took a liking to the all the colourful and interactive projects that were on display that day
   A digital recreation and 3D mapping of some landscape near the Shobhavana were also displayed via photo-telemetry and was projected at the venue for the students to view.

2. **Rahul Pillai Project**
   Rahul Pillai Project aka Project DreamWorks was initiated on the 8th of November 2017 with a discussion with Rahul Pillai 1St year student of BBM , Alva's College
   Roadmaps and project details were discussed and different iteration of the prototype were built by the student. Software development team is set to be formed and will begin development in the month of January, 2018.

3. **ASIPW v2**
   Following the continuous absence and unavailability of students for the ASIPW v2 course a discussion was held with each student. Since most of the students are in their 4th year and cited that shall now be able to attend the classes due to their Final Year projects assignments, a consensus was reached which has been detailed below.

ASIPW V2					
Sl no.	**Name**	**USN**	**Invoice no.**	**Remarks**	**Action taken**
1	Supriya	4AL14EC089	Env-S1-001	**Withdrawing due to project in NIT-K on MEMS**	**Rs.3500/- refunded and basic kit will be provided**
2	Vandana Shree JS	4AL14EC094	Env-S1-002	**Withdrawing due to project in NIT-K**	**Rs.2400/- refunded and basic kit will be provided**
3	Nagaraj E	4AL12IS018	Env-S1-003	**Withdrawing citing time constraint for final year project.**	**Rs.2400/- refunded and basic kit will be provided**
4	Nikkil Arya	4Al14EC056	Env-S1-004	**Converted to IOT internship**	**Difference amount of IOT course fee to be paid**
5	Megha	4AL15CS055	Env-S1-005	**Continuing the course**	
6	Pooja Arekal K	4AL14EC061	Env-S1-006	**Withdrawing citing time constraint for final year project.**	**Rs.2400/- refunded and basic kit will be provided**
7	Aishwarya	4AL15EC046	Env-S1-007	**Continuing the course**	
8	Shivakumar	4AL14EC080	Env-S1-008	**Withdrawing citing time constraint for final year project & GATE preparation**	**Rs.2400/- refunded and basic kit will be provided**
9	Roopa	4AL15EC423	Env-S1-009	**Withdrawing due to project in NIT-K on MEMS**	**Rs.3500/- refunded and basic kit will be**

					provided
10	Chandana C	4AL14CS019	Env-S1-010	**Withdrawing citing time constraint for final year project (Kakunje software Pvt Ltd)**	**Rs.2400/- refunded and basic kit will be provided**
11	Yashodha	4AL14EC102	Env-S1-011	**Withdrawing due to project in NARL project**	**Rs.2400/- refunded and basic kit will be provided**
12	Divya R	4AL15CS032	Env-S1-012	**Continuing the course**	
13	Suman Shekar	4AL14EC087	*NA	**Withdrawing due to project in NARL project**	**Basic kit will be provided**
14	Vithoba	4AL14EC100	*NA	**Withdrawing citing time constraint for final year project.**	**Basic kit will be provided**

***NA- not applicable –only 2500/- was originally paid by recipients.**

Items added to the Lab

Sl. No	Particulars			
	Components	Quantity in pcs.	Cost per piece	Amount
1	Silicon Glue White	1	350	350
2	Silicon Glue Black	1	350	350
3	Gun Adapter	1	200	200
4	VGA Splitter	1	300	300
5	Insulation Tape Black	10	20	200
6	Black Spray Paint	1	225	225
7	Gold Spray Paint	1	225	225
8	Soldering Lead	2	500	1000
9	Soldering Tip	1	100	100
10	Bulb Holder	1	100	100
11	Oscki Lab Custom Design Lamp	1	nil	0
12	Nose Plier	1	120	120
13	Digital Multi Meter Probes	1	100	100

14	Berg Strips	5	10	50
15	Fevi Kwik(Super Glue)	1	55	55
16	HackSaw Blades	4	25	100
17	Glue Sticks	2	20	40
18	Resistor 15 ohms	20	1	20
19	Resistor 47 ohms	15	1	15
20	TIP32C	5	40	200
21	Resistor 1/2W 1K	7	1	7
22	16Hz Oscillator	2	30	60
23	Soldering Lead(small)	1	100	100
25	Knife Blades	9	20	180
26	LED Serial Set	1	300	300
27	Button Cell	4	20	80
28	Push Button	5	10	50
29	Press Hold Switch	5	15	75
30	DP DT Swtich	4	20	80
31	Fevicol Bottle	1	50	50
32	MultiPin Socket	1	80	80
33	Key Plate	5	20	100
34	Speaker 5V	1	80	80
	Total Cost (In Rupees)			**4992**

Project Details:

1. **Projects for Alva's Foundation:**

   These projects are proprietary products being developed by Oscki Labs for Alva's Education Foundation. Till the demo phase the complete product funding, research and development will be done at Oscki Labs Bengaluru. Once it clears the demo phase these projects will be taken up at Envision Lab considering few performing students as interns.

   a. **Water Level Indicator:** Product is currently under research and development. This project has finished the sensor testing and **Hall Effect sensor** has been finalized for doing the project. Also the algorithm is done for the sensor stage, **ESP controller** has been used for testing **WLAN** protocols.
   This project is now being applied for SERB funding to do at AIET itself.

   b. **Automated Room Lights:** This project is to avoid wastage of electricity by the lights which are ON during the night or day time unnecessarily. Product has finished its testing phase at the Bengaluru Oscki Labs office.
   A rigorous test was made with the product at Envision Lab, putting the product under many different scenarios.
   The product succeeded at many of the test and now the work is going on at Envision Lab to make the product more rigid.

c. **GPS Tracker:**
Following the various discussions and meeting with the management , a pilot model of the GPS tracker was installed in a transport vehicle ferrying students and faculty between the campuses .

Gallery Section:

Figure 1:Envision Lab members engaging students during the 'Science and Fun Fair'

Figure 2: Photo-telemetry of the park area near Shobhavana Campus

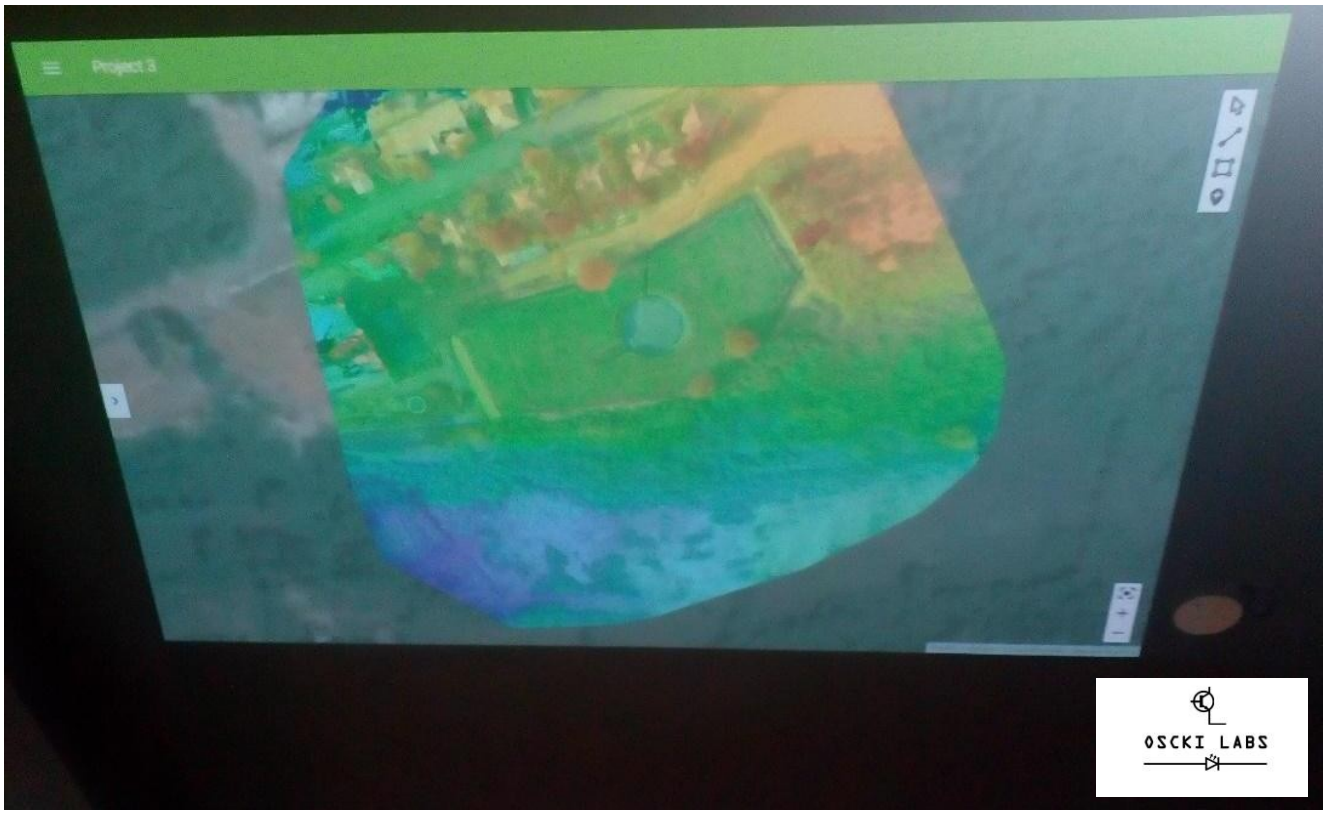


Figure 3: Alva's PU students' visit Envision Lab as a part of Orientation Program

Alvas GPS Tracking - Statistic Report - December 2017

Information		
Company: Oscki Labs	User: Alvasgps	Vehicle: Omni - F
Organisation: Alvas Education Foundation	Start Time: 00:00:00	End Time: 23:59:59

Content

Sl.No	Asset Name	Date	Day	Driving time	Parking time	Mileage(km)	Max Speed(km/h)	Average speed(km/h)
1	Oscki1	12/1/2017	Friday	1Hour 13Minute 65second	22Hour 46Minute 545second	35.87	66	26
2	Oscki1	12/2/2017	Saturday	4Hour 43Minute 415second	19Hour 16Minute 195second	152.55	70	28
3	Oscki1	12/3/2017	Sunday	4Hour 49Minute 425second	19Hour 10Minute 185second	150.92	72	27
4	Oscki1	12/4/2017	Monday	5Hour 10Minute 315second	18Hour 49Minute 295second	183.19	68	34
5	Oscki1	12/5/2017	Tuesday	6Hour 55Minute 105second	17Hour 4Minute 505second	227.17	92	31
6	Oscki1	12/6/2017	Wednesday	3Hour 9Minute 505second	20Hour 50Minute 105second	82.38	66	29
7	Oscki1	12/7/2017	Thursday	5Hour 48Minute 355second	18Hour 11Minute 255second	205.1	75	33
8	Oscki1	12/8/2017	Friday	4Hour 27Minute 185second	19Hour 32Minute 425second	145.79	85	31
9	Oscki1	12/9/2017	Saturday	3Hour 46Minute 225second	20Hour 13Minute 385second	96.66	72	31
10	Oscki1	12/10/2017	Sunday	3Hour 14Minute 85second	20Hour 45Minute 525second	93.87	81	26

Figure 4: Weekly Report of GPS Vehicular data(One Example Screenshot)

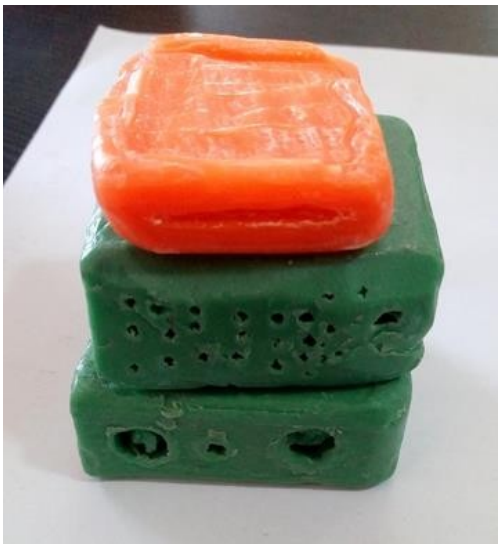


Figure 5: All prototypes carved on soap by Rahul Pillay

Figure 6: Smart Watch body design prototype -II

2. **Student's projects for prototyping:**

Most of the stagnant projects have been discarded and the number of students has been reduced to finite numbers.

SL No	Project Name	Details	Team members	Progress for paper publishing	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	LIterature Survey undertaken. Mathematical model to be computed.	**Working prototype completed .**
2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	NA	Will be initiated once a firm and new team is formed.
3	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Draft -1 of paper to be submitted after reviewing IEEE papers	**Expected to receive Draft-1 of the product for paper publishing**
4	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Data for paper to be collected analysed .draft to be submitted	Completed;

3. **Project for patenting:**

SL No	Project Name	Details	Team Members	Progress
1	Smart Iron Box	To make an iron box into an automatic heat controlled device.	Chandan Shastri Rohan R Pawan K Rao	**First stage of Funding underway .Patent prototype to be fabricated.**

4. **Projects for prototyping from PCB Course:**

Few students were selected from PCB Course based on their idea and few projects were initiated from Envision Lab.

SL No	Project Name	Details	Team Members	Progress
1	LED fidget spinner	A fidget spinner with LED's which glows while spinning	Vasanth Kumar M	**Working prototype completed.**

2	LED Yoyo	A yo-yo (toy) which glows while spinning	Karthik J	**Working prototype completed.**
3	Musical Piano	A toy piano developed with electronic components.	Vivek A Bharadwaj Ramanath Vishwanath Naik	**Working prototype completed.**
4	Toy Gun	A toy gun with LED's which glows when triggered.	Vidya L S	**Working prototype completed.**
5	Spinning Watch	A Watch which glows the LED's while spinning	Rahul G Itnal	**Working prototype completed.**

5. **Upcoming Projects:**

SL No	Project Name	Details	Team Members	Progress
1	KidZ 2nd version	To add more features to previous version of Kidz and build a better team for the project	Mayur Rakshith Rahul Itnal Vasanth	**An data analysis is to be made and revisions made based on the field trials.**
2	Smart watch	To build a smart watch for visually impaired and for everyone with loads of features	Rahul Pillay	**Technical and testing team is advised to be formed at the earliest. Market analysis underway.**

Plans for the next month:

A. RFID Project for Placement Cell

Front End for the website has been created and RFID hardware testing has been completed in separate modules. Integration of hardware and software will be carried out in the month of January after the completion of the Semester exams of the students

B. Smart Watch Project

Initial Funding for the smart Watch has been made and efforts to procure HEXIWEAR a prototyping kit for smart wearable devices is underway. Meanwhile a market research is underway to identify target customers and also a fleet of students will be formed to work under this project after the examinations.

C. GPS tracker

Testing results of GPS tracker is successful and the data retention has been phenomenal. Testing will be continued for few more months and a unified plan will be made for the installation and server allocation for this project.

Conclusion:

This month has been good in terms of projects and students' progress. IoT workshop will be initialized in the upcoming month for the summer vacation internships. From January 2018 TRIA program will be made more intense and students working at lab will be provided with more facilities.

This vacation has been planned to get more ideas out of IoT workshops and also to finish off the existing projects. Students will be provided with more industrial exposure and will be guided in how to make maximum utilization of the internet.

More efforts will be put from our team to embed the culture of research from very early stage of engineering and also to get more students to participate on the internet platform along with international competitions.

Report By

Joshua Daniel

Project Manager, Oscki Labs

Himanshu Rangadhol

CTO, Oscki Lab

Monthly Report: February,2018

REPORT BY:

JOSHUA DANIEL
PROJECT MANAGER,
OSCKI LABS®

HIMANSHU RANGADHOL
CTO,
OSCKI LABS®

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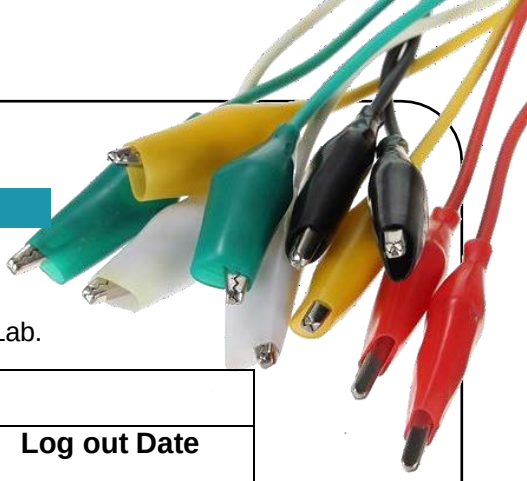


OVERVIEW OF ACTIVITIES

This is the monthly report of Envision Lab, detailing the events, workshops, projects and progress of the month, expenses and plans for upcoming month.

From Oscki Labs the following resource people were present at the Envision Lab.

Resource Person Log			
Sl.No	**OL_Employee Name**	**Log in Date**	**Log out Date**
1.	Louis Christopher	10th Feb	24th Feb
2.	Raghava S	2nd Feb	26th Feb
3.	Himanshu Rangadhol	10th January	20th February

HIGHLIGHTS FOR THE MONTH

I. **Experimental open Courses: Python Course**

This course was conducted by our developer Mr. Louis Christopher for a period of one week after class hours. Only selected and interested 10 students were part of the course and they really did well during the course.

The course used to start at 5.30PM and end at 8PM on weekdays and on weekend the course would start bit earlier. Whole intention of the course was to make the students experience the Python language at the industrial standards and application.

Day wise breakdown of the Course

13/2/17 Tuesday

The first day started off with getting to know the students. The students were from both EC and CSE and had already started learning python as part of their regular curriculum. The plan for the day was to introduce Python to the students and cover some of the areas relating to Object Oriented Programming in Python. All teaching was done using the projector with live coding. The day ended with the students getting a lot of resources from where they can learn Python effectively with a real world/practical focus.

14/2/17 Wednesday

The goal for the day was to install the necessary software and get the students familiarised with the using the Pycharm IDE. The students were introduced to

using external API to create a simple currency converter app. By building this simple application the students were introduced to a range of new topics including HTTP verbs, querying external API's and using a framework for building web applications.

15/2/17 Thursday

The goal for the day was to build the first half of the web application. The app is a simple library application which allows authenticated users to add new books to the catalog while the regular users only see the catalog of books.

We began by creating the database and getting comfortable with SQL queries. After that the idea of using logic based templates to build the UI of the web application was demonstrated. All the students followed along with the instructor live coding the same application they were building so they understand the flow of the code. At all stages of the session the students who faced any bugs or technical difficulty were troubleshooted and fixed on the spot in front of them so they can learn their mistakes in real-time.

16/2/17 Friday

The next day our goal was to create a HTML form where you could input data into the database. GET and POST requests were discussed and appropriate code relating to storing and viewing the data was introduced. Now on loading the site you had an area to input new books into the catalog and just below it a template generated list of all the books currently present.

17/2/17 Saturday

The only thing left was to add authentication to the site and allow only signed in users to see the input box to enter new data. The students learnt how to add if conditions to their HTML templates to allow python to programmatically change the look of the website based on if their logged in or not. All students had a new perspective regarding the many intricacies involved in building a simple web application.

II. Project Dreamworks

After the procurement of the Hexiwear kit for Rahul Pillai's project the initial phase testing was undertaken by the Oscki Team to develop

action plan modules for interns to further the develop in the Envision Lab

FINANCIAL DETIALS

ITEMS ADDED TO ENVISION LAB

February 2018				
Particulars				
Sl.No	**Components**	**Quantity**	**Cost per Piece**	**Amount**
1	Hexiwear for Rahul Pillai's project	1	1	14,810
2	Text-to-speech (Hexiwear)	1	1	1,500
3	Components for Bio-gas project	-	-	600
4	Arduino Uno	1	1	550
5	Arduino Cable	1	1	100
6	IR Module	1	1	120
7	Relay Module	1	1	150
Total:				**17,830/-**

STUDENT PROJECT DETAILS

I. Envision Lab Projects

SL No	Project Name	Details	Team members	Progress for paper publishing	Progress
1	Speed Humps Detector	To Detect humps on the roads and automatically controlling the speed of the vehicle.	A Shabaz Khan Akash O Chethan M N Rakesh	Draft of paper is pending	**Next stage upgradation for improving quality**

2	Vehicle Monitoring System	A digital method to monitor moving in and out of the gate.	Mukesh H M Jyothi Akash O	NA	**Halted**
3	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Draft of paper is pending	**Documentation for Provisional patent**
4	KidZ	A teaching kit of special children	Mayur Sikhare Joel Crasta	Draft of paper is pending	**Documentation for Provisional patent**
5	Smart Iron Box	A smart iron box avoiding burning of clothes	Chandan Shastry	Documentation for patenting	**Documentation for Provisional patent**

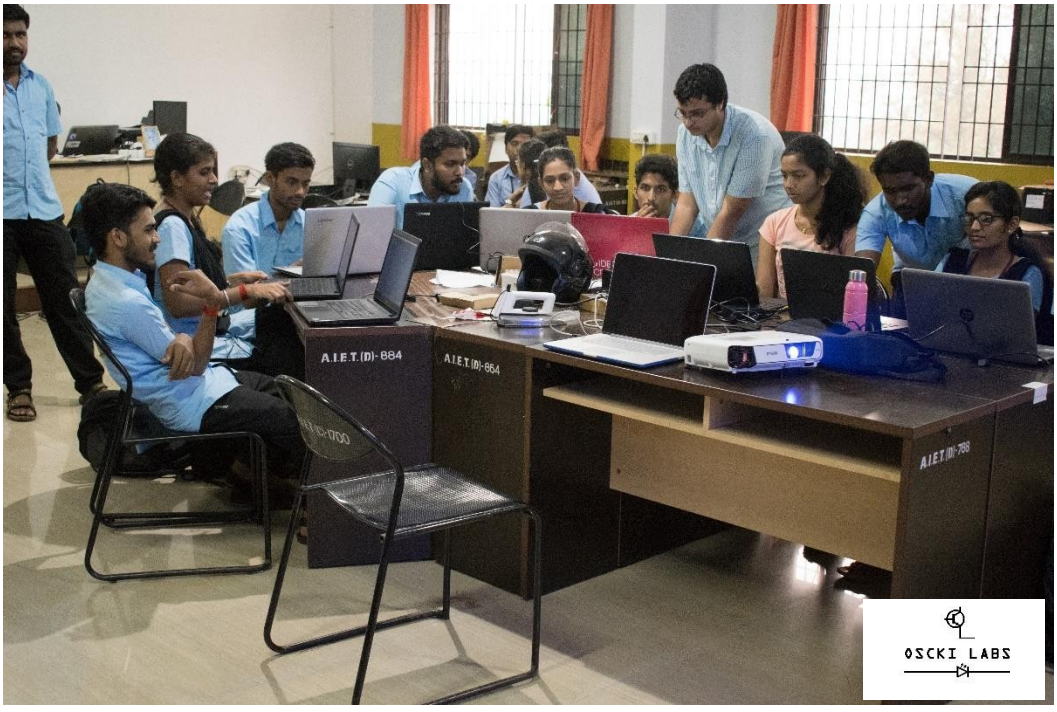
II. IOT Workshop Projects

Sl.No	Name	Project Title	Status
1	Kiran N	Automated Street light control system	Prototype completed, ready. To start implementation
2	Madhu K R		
3	Ashish Shanbhag		
4	Rahul Jattennavar		
5	Revanth V	Green House Craft	Prototype completed, to start study on plant health and implementation
6	Karegowda K N		
7	Heema Rubab		
8	Ramanath Vishwanath Naik	IOT based poultry farm	Prototype completed, site visit to be done for implementation
9	Safiya Banu		
10	Sangamesh Kajagar		
11	Bhuvanesh M	Automated food feeding system	Prototype completed, site visit to be done for implementation
12	Viveka		
13	Raziya Banu		
14	Akshatha S Patil	Utility dispensing machine	Practical implementation to be done
15	Chaitanya A		
16	Yogyashree		
17	Anand Kumar K	Smart ATM	Terminated
18	Niranjan S J		

19	Karthik J		
20	Sooraj		
21	Ganesh Palekar	Automated Pollution Monitoring System	basic prototype ready, research going on for further testing
22	Vishruth K		
23	Kumarswamy V S		
24	Sameeksh Hegde		
25	Shruthi I T	Sparsh Gloves	Basic prototype ready, application will be changed from blind to SPM
26	Vasanth Kumar M		
27	Divyashree A K		
28	Nikkil Aarya M		
29	Bharath Santosh	Land drone for irrigation	further testing to be conducted in filed
30	Melvin George M		
31	Rahul Itnal	Automatic Assistive System	Project halted temporary for issues.
32	Thirtha A L		
33	Pradeep Kumar R		

GALLERY SECTION

A glimpse of python course



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ACTION PLAN FOR THE NEXT MONTH

Experimental Courses:

These courses are done on any one specific technology for members and interested students. Courses will be after college hours and main goal is prepare the students for industrial standard.

PCB making course:

This course will take the students through all the steps involved in manufacturing of a PCB. Here students will be involving in step wise designs and final etching. Batches will be made and they will have to work towards a common goal.

Students' Learning Platform: Taking forward.

This will be a unique course for senior students to teach their juniors on any specialization. Most of the senior students will be getting together to chalk out a course after college hours.

Main intention of this program is create a new research culture in college and set the tone of shared learning among students

Special tasks and challenges will be thrown to all the students as competitions. Also a small reward will be given to take it further.

CONCLUSION

Students were exposed to industrial standards through open courses. Best part is they have responded really well. Next step will be making these students to work in some great projects to create higher impact.

Also the projects in the lab will be pushed to make case studies on the actual problems. Where in students have to go outside the lab and interact with actual clients, understand the actual problem and present all the different iterations of possible solutions.

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No. 2645, 8th A Main, 15th Cross,
Banashankari, 2nd Stage, Bengaluru: 560070

Monthly Report: March,2018

REPORT BY:

JOSHUA DANIEL
PROJECT MANAGER,
OSCKI LABS®

HIMANSHU RANGADHOL
CTO,
OSCKI LABS®

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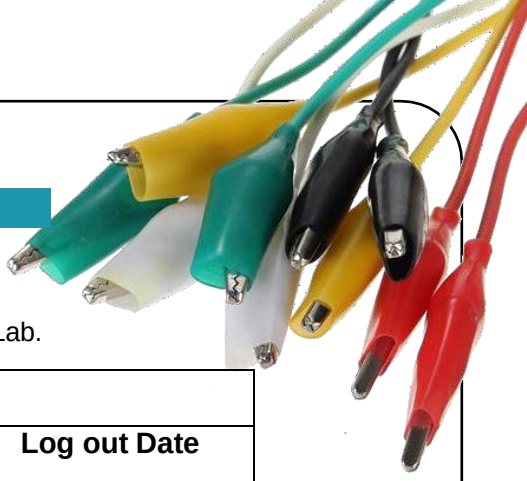

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Sl.No	**OL_Employee Name**	**Log in Date**	**Log out Date**
1.	Uday C	6th March	23rd March
2.	Shamanth S	20thMarch	23rd March
3.	Himanshu Rangadhol	19th March	23rd March

HIGHLIGHTS FOR THE MONTH

1. **Open discussion sessions:**
   These are experimental classes on a specific topic and the structure is more of a discussion class.

   ARM: A discussion class was held on Sunday morning 10AM to 1PM at Envision Lab with interested 24 students from ECE and CSE 3rd Year.

   The discussion class included the special information about ARM and its history in the industry. Also discussions were made with real hardware to have a hands on experience.

   The discussion class was carried by Mr. Himanshu Rangadhol

   MEMs Product Development and Technology migration of pressure sensors: The discussion class was held for interested students in the evening session. The discussion session included a complete presentation flow and explanation.

   Also industrial importance and impact of MEMs was discussed and the session was presented by Mr. Shamanth S.

ITEMS ADDED TO ENVISION LAB

March 2018				
Particulars				
Sl.No	**Components**	**Quantity**	**Cost per Piece**	**Amount**
1	Printer Ink	2B,1C,1Y,1M	850/-	850/-
Total:				**850/-**

`STUDENT PROJECT DETAILS

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3	Smart Helmet	A smart helmet which detects whether the rider is wearing it or not	Joel Crasta Sheethal Kumara Swamy Ganesh	Draft of paper is pending	**Documentation for Provisional patent**
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33	Pradeep Kumar R		

GALLERY SECTION

A glimpse MEMs discussion class

ACTION PLAN FOR THE NEXT MONTH

Experimental Courses:

These courses are done on any one specific technology for members and interested students. Courses will be after college hours and main goal is prepare the students for industrial standard.

These courses have been continued and new courses will be planned in the upcoming month.

Revoking and scrutiny of Envision Lab membership and projects:

All the projects will be put under scrutiny for assessing and evaluating. Once the evaluation is done membership will be given only to the students working in the finalized projects. This step is to monitor and complete the selected projects within the defined duration.

Finalizing the summer internships and projects:

The projects and the number of internships will be finalized within the month of May so that shortlisted students can start training and in the vacation should be able to finish the projects.

CONCLUSION

Discussion classes and open learning platforms are slowly picking up and in future can become a major platform for knowledge flow in the institute.

In the upcoming months infrastructure and teams will be built in the lab to make place for upcoming projects from Oscki Labs.

Entire structure of the Envision Lab will be revamped and new rules will be disclosed in time.

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No. 2645, 8th A Main, 15th Cross,
Banashankari, 2nd Stage, Bengaluru: 560070

Alva's Institute of Engineering & Technology
Shobhavana Campus, Mijar, Moodbidri, D.K – 574225
Phone: 08258-262725, Fax: 08258-262726
DEPT. OF ELECTRONICS & COMMUNICATION ENGINEERING

Date: 11/09/2017

To

The Principal

Alva's Institute of Engineering and Technology

Mijar Moodbidri 574225

Respected Sir

Sub: Requisition for conducting PCB beginner's course.

With reference to the above subject I request you to permit me to conduct an workshop program titled **"PCB beginner's course"** for their technical development from **15th September 2017 to 12th October 2017 for the registered 80 students at OSCKI Labs AIET.** Mr. Himanshu Rangadhol will conduct this program kindly oblige and do the needful.

Thanking you

D.V.T

HOD
Dept. of ECE

PRINCIPAL
Alva's Institute of Engg. & Technology
Mijar, MOODBIDRI - 574 225, D.K

Registered Office: #2645, 8th A main, 15th cross,
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GSTIN: 29FOTPS5726F1Z3

PCB BEGINNER'S COURSE

REPORT

Venue: Alva's Institute of Engineering and Technology, Shobhavana Campus, Mijar, Moodbidri –574225

Duration: 15th September 2017 to 12th October 2017.

Tool: Ki-Cad

CONTENTS:

1. INTRODUCTION:

The feedback from the Envision Labs members requesting for a certificate course, initiated Oscki Labs to start PCB Beginner's Course. The objective of this course was to make students learn all the steps involved in PCB development from basics. The entire course was framed in a way to make it more interactive and creative learning oriented.

PCB Beginner's course:

A Printed circuit board (PCB) mechanically supports and electrically connects electronic components. PCB is very important in every electronic gadget and its development holds a major part in electronics industry.

There are different software's which can be used for designing the circuits, but the students were trained using the Ki-Cad software because, Ki-Cad is a simple software which can help students learn easily and quickly. During the workshop, students learnt to design their own circuit. Best designs were selected and opportunity was given to few of the student's to etch their circuits.

2. WORK STRUCTURE:

The students from the different branches participated in this workshop.

a. Individual PC's were assigned to the students and personal laptop were also allowed to learn during the course period.
b. The course was conducted only in the evening time. First 50mins was a theory session which concentrated on basics of PCB and process of designing. For the next 1hr, students were asked to work on things learnt during the theory session and design the circuits in the software.
c. The last 10 min was dedicated for open discussion.
d. Assignments was assigned to all the students and marks was awarded based on student's efforts, creativity and design thinking.
e. Final Exam was held on 12th October 2017 and the results was disclosed by 08th November 2017.
f. Those who had shown good progress during the course period got opportunity to develop a mini project in Envision Lab and others who had good attendance and innovative ideas got a chance to work with Envision Lab members on the ongoing prototyping projects.
g. Students who passed the exam were offered Envision Lab membership to work on their ideas.

3. PCB CLASS WORK SHEET:

WORK SHEET			
DATE	MODULES	DETAILS	ASSIGNMENTS
07/09/2017	Introduction	Over view of PCB course	Assignments on PCB Design
08/09/2017	Introduction of PCB	Importance of PCB, designing, basic circuit analysis, basic circuit building and component learning.	
11/09/2017	Circuit simulation	How to choose a component according to the circuit and design a schematic in e-schema. (Control panel tools ,Schematic Editor and Layout Editor)	
12/10/2017	Circuit simulation	Handle the tools according to design a schematic (Design Rules, creating custom components using them in schematics).	
13/09/2017	Foot print allocation	Depending on schematic, allocate the foot print of the components (ERC, Net List generation and annotation methods. Choosing the right components and practical aspects.	
14/09/2017	Discussion	Brief discussion about the previous sessions and doubt clarification.	
15/09/2017	PCB Design tools	Successful completion of foot print to design a circuit in PCB view and learn designing tools.	

16/09/2017	Toy building	Developing the toys using electronic components and how to choose a component of the toy.	
18/09/2017	Layer explanation	How to select layer, width based on the requirements and which layers to be chosen.	
19/09/2017	Trails of multiple circuits	Designing multiple circuits and figure out the errors.	
20/09/2017	Track and components explanation	How to select the track and working of the particular component present in the circuit.	
21/09/2017	Design Rules	Once the circuit is finished, check DRC (design rule check) for any error in design.	
22/09/2017	Create Gerber file	Complete the circuit, create a Gerber file for the circuit.	
09/10/2017	Recall the session	Brainstorming the entire sessions.	
10/10/2017	Create own new library	How to create own library depending on the requirements and structure.	
11/10/2017	Create a foot print	Once the library is finished, based on the schematic create a foot print	
12/10/2017	Final PCB Exam		

4. STUDENTS DETAILS:

Total number of students registered – 80

S.NO	USN	NAME
1	4AL16EC057	Rasika Basagouda Patil
2	4AL16EC060	Rohini Halloli
3	4AL16EC015	Bhuvanesh M
4	4AL15EC016	Challa Meghana
5	4AL15EC048	Mayur Shikhare
6	4AL16EC409	Rakshith B
7	4AL15EC067	Rahul G Itnal
8	4AL16EC052	Rahul Jattennavar
9	4AL16EC054	Ramanath Vishwanath Naik
10	4AL16EC059	Revanth.V
11	4AL15EC008	Ananya.M
12	4AL15EC034	Joel Crasta B
13	4AL16EC064	Sangeetha S V
14	4AL16ECO71	Shilpa N
15	4AL16EC093	Vidya L S
16	4AL15EC083	Shruthi I T
17	4AL15EC091	Sushmitha S
18	4AL15EC102	Vinaya Nagesh Naik
19	4AL15EC099	Vasanth Kumar M
20	4AL16EC030	Karthik J
21	4AL16EC078	Srinidhi J C
22	4AL16EC038	Mohith S
23	4AL16EC011	B.S.Nagarakshitha
24	4AL15EC001	A Shreya

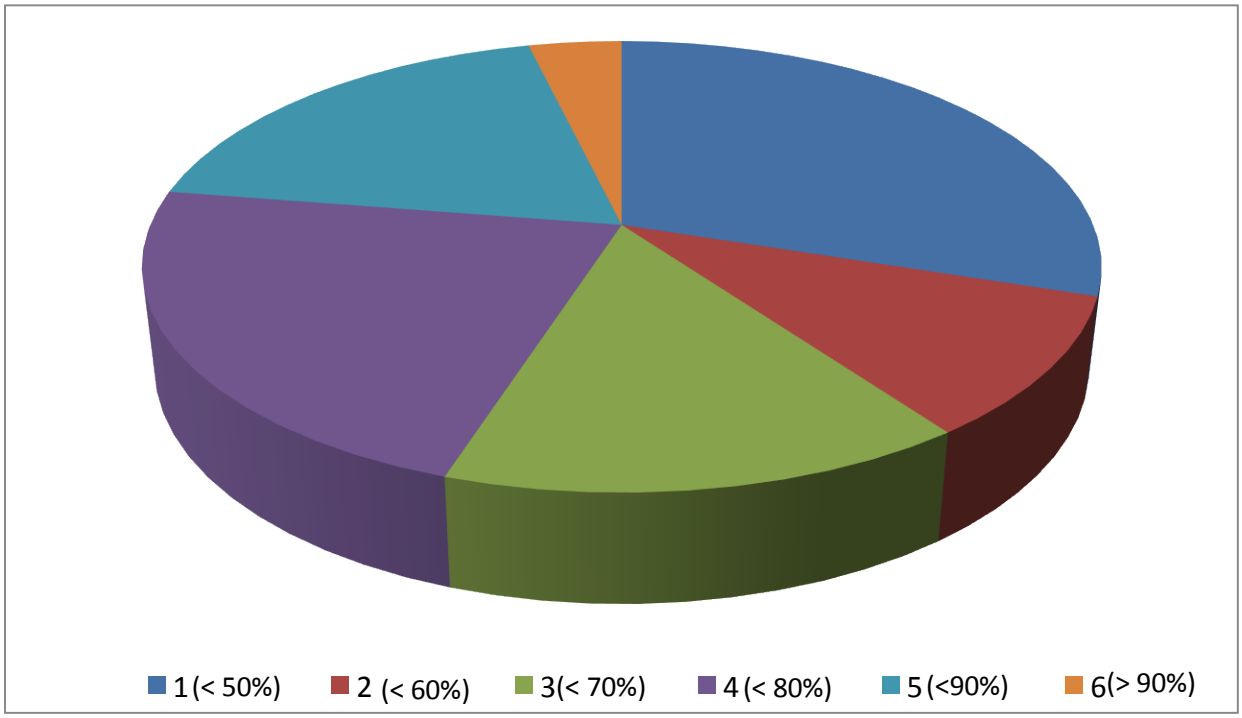
25	4AL16EC077	Soundarya N A
26	4AL15EC017	Charan Raj S
27	4AL15EC057	Pooja M
28	4AL16EC001	Akshatha S Patil
29	LATERAL	Dilip Kumar.V
30	4AL15EC042	MB Chinnappa
31	4AL16EC023	Heema Rubab
32	4AL15EC098	Varshitha P J
33	4AL16EC090	Veena S
34	4AL15EC019	Devika H S
35	4AL16EC017	Chandana.R
36	4AL15EC009	Anjali H R
37	4AL15EC030	Harshitha N P
38	4AL15EC027	Gouthami K
39	4AL15EC018	Deepika N Karanth
40	4AL15EC064	Priyanka
41	4AL15EC049	Monisha P.
42	4AL15EC059	Poojary Manish
43	4AL15EC049	Megha .A .Kadadavar
44	4AL15EC066	Priyanka. H. G
45	4AL15EC065	Priyanka Bangari
46	4AL15EC012	Ashritha
47	4AL15EC004	Akshata Patil
48	4AL16EC404	Kavyashree G.B
49	lateral entry	Bhavya G.B
50	4AL16EC096	Vivek A Bharadwaj

51	4AL16EC022	Gagana M.R.
52	4AL16EC095	Vinayaka B M
53	4AL15EC060	Poonam M G
54	4AL16EC026	Jayanand.J
55	4AL16EC094	Vidya N
56	4AL16EC020	Deepak R
57	4AL16EC049	Priyanka.U.
58	4AL16EC092	Vidhyashree.G.
59	4AL14EC056	Nikkil Aarya M
60	4AL16EC032	Krishna Swetha
61	4AL15EC095	Vanashree
62	4AL16EC042	Nayanashree K S
63	4AL15EC058	Pooja Parameshwar H
64	4AL15EC056	Pavithra.G.K
65	4AL14CS019	Chandana.C
66	4AL16EC063	Samarth Jain N
67	4AL16CV079	Sangamesh S Kajagar
68	4AL16EC083	Thanuja D
69	4AL16CS073	G.Ravi Teja
70	4AL16IS030	Moulya.M
71	4AL16EC056	Rashmi Kb
72	4AL16EC051	Rachana
73	4AL15EC022	Divyashree A K
74	4AL16EC098	Yashaswini.C
75	4AL16EC009	Ashwini.P.Pattar

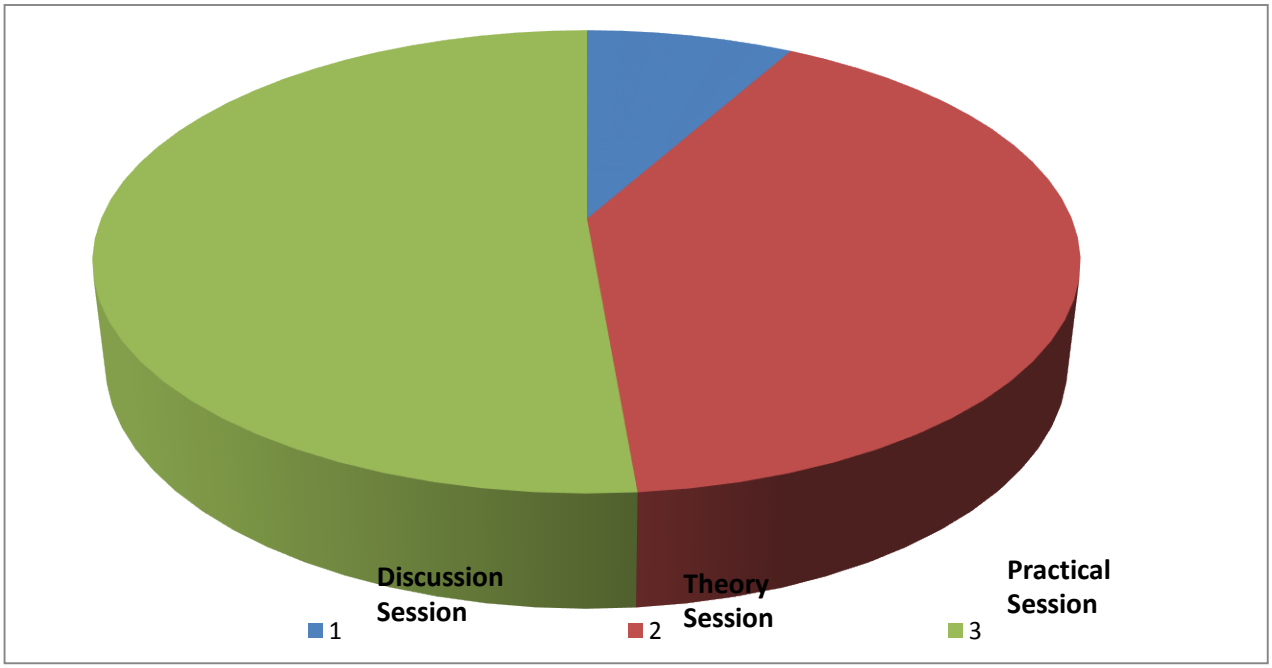
76	4AL16EC402	Ganesh Arasikeri
77	4AL15EC100	Vijay.C.H
78	4AL15EC081	Shivraj Navade
79	4AL16EC002	Anand Kumar.K
80	4AL16EC012	Bhanupriya H K

5. STATISTICS OF COURSE:

Attendance was taken regularly and attendance chart is shown below.

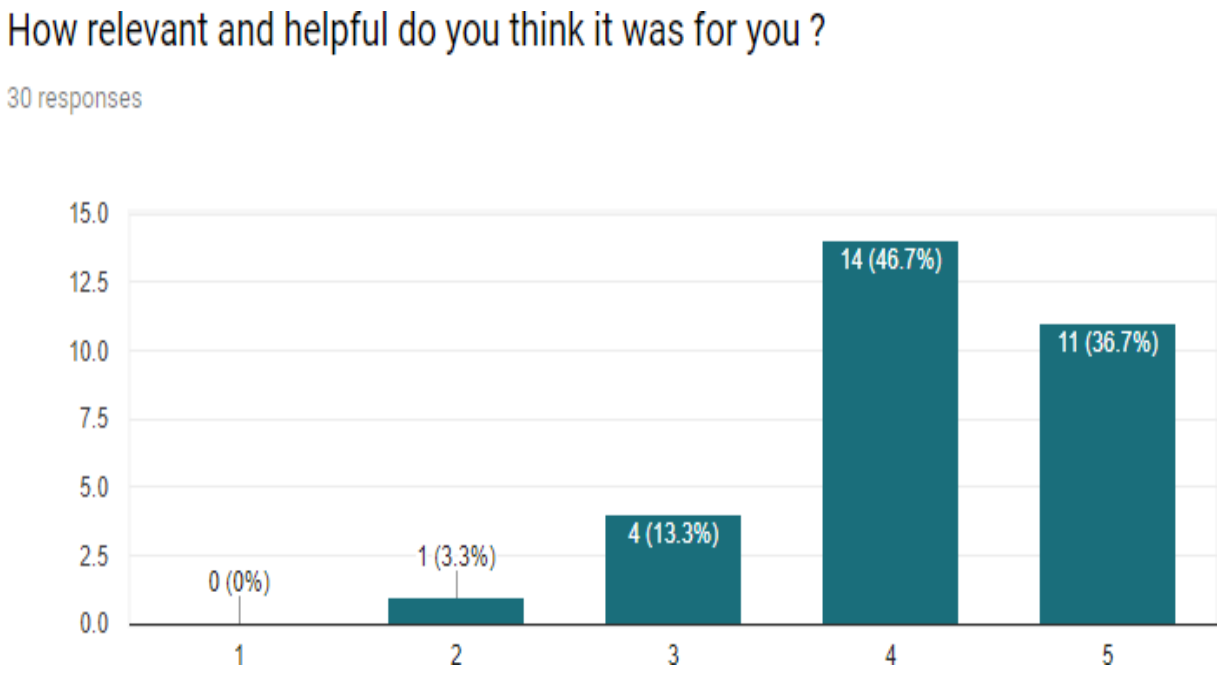


Considering the college timings, the PCB certificate course was drafted for 2 hours a day. Total hours of utilization during the course is mentioned below.



6. STUDENTS FEEDBACK:

Feedback was collected from few of the students. The students were asked how relevant was the course to their curriculum and helpful for their carrier. Some responses are mentioned below.



Student feedback was collected through online platform. Some of the feedbacks are mentioned below.

What were your key take aways from this event?

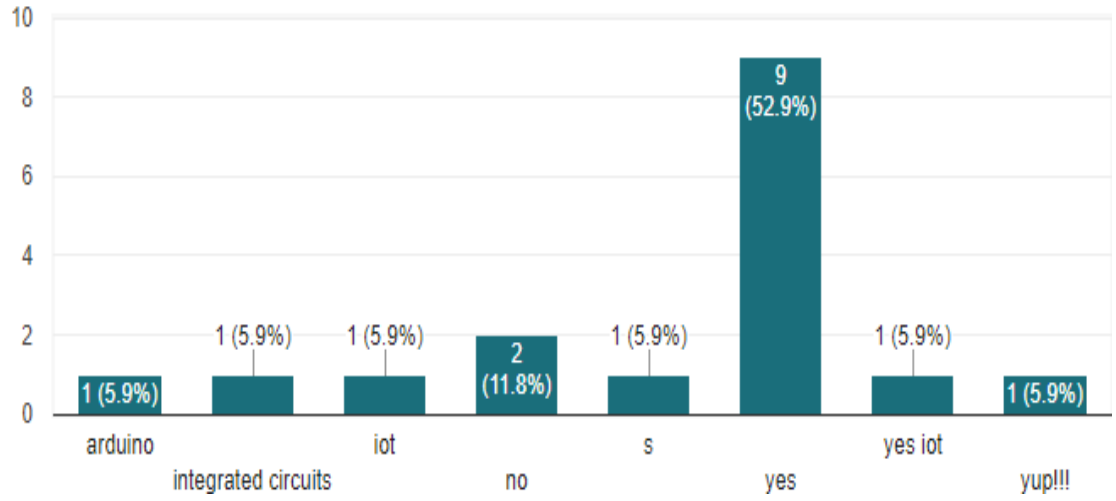
10 responses

came to know about pcb more
pcb design
knowledge about pcb design
time
came to know how to design a circuit
learing PCB design
we got new idea of using is this software from the basics.
BE CRAZY
course was really helpful
knowledge and wisdom

Student's feedback was collected about upcoming course on "advanced level of PCB course". Some of the feedbacks for advanced level course are mentioned below.

would you be interested to attend the Advanced Level PCB courses?

17 responses



7. REPORT BY THE INSTRUCTOR'S

a. Report by Mr Himanshu Rangadhol. CTO, Oscki Labs

The whole intention of the structure of this course was to get the students out of the traditional learning methods. Students struggled for few days for this method as there was no notes given and they could search for any answers at any time during the teaching hours on their individual PC's.

The first week was drafted mostly on the learning the basic tools and getting to know the EDA and CAD tools which constitutes the PCB designing. Assignments were challenging and marks was rewarded based in ingenuity and creativity.

Open text book exam was announced and students were allowed to exam halls with any reference text books and it was a whole new level of experience for the students.

The time span for the course was not enough and the time allocated was broken. But still the student's interest and curiosity kept the course going and students have done well the examinations too.

b. Report by Mr Uday. Lead Prototype Developer, Oscki Labs

The aim of this course was to make the student's learn the designing and manufacturing of a printed circuit board using open source Ki-Cad design software. The overall development objective of the workshop was to introduce students to industry level of PCB design. For a technical student apart from there theoretical knowledge, a good practical exposure towards the subject is also essential. This was accomplished through the PCB course.

Initially students experienced difficulty in relating their theoretical concept with practicality with respect to designs, but over the course they were able to cope up. In-between the workshop an assignment was given to students, in which lot of creative designs were witnessed, which indicated every student is an artist. Overall it was a very good worldliness for both trainer and trainee.

Almost 80 students had taken part in the workshop. Most the students responded that they have learned and had hands on experience in designing a PCB. They were very excited about their participation in this workshop and requested for more workshops in similar way so that they can simultaneously gain the practical knowledge. However, with the completion of the workshop students were familiar with PCB Design software (Ki-Cad).

8. RESULTS OF THE PCB EXAMINATION COURSE:

The students had both theory and practical examination (Circuit design). The theory examination was held on 12th October between 5:15PM to 7:15PM and for practical (designing the circuit), the students were given a time period of 1 week starting from 12th October to submit their circuits.

Marks for Theory 200

Marks for Circuit Design 300

Marks for Assignment 150

Total PCB Course Marks 650

Total Number of Students who registered: 80

Number of Students who took theory exam: 67

Number of Students who passed the exam: 50

Number of Students who have not submitted PCB Design: 15

Number of Students absent for theory and practical exam: 10

Number of students to pay course fee: 3

(1 Student to take exam (NCC Cadet))

(1 Student left the college)

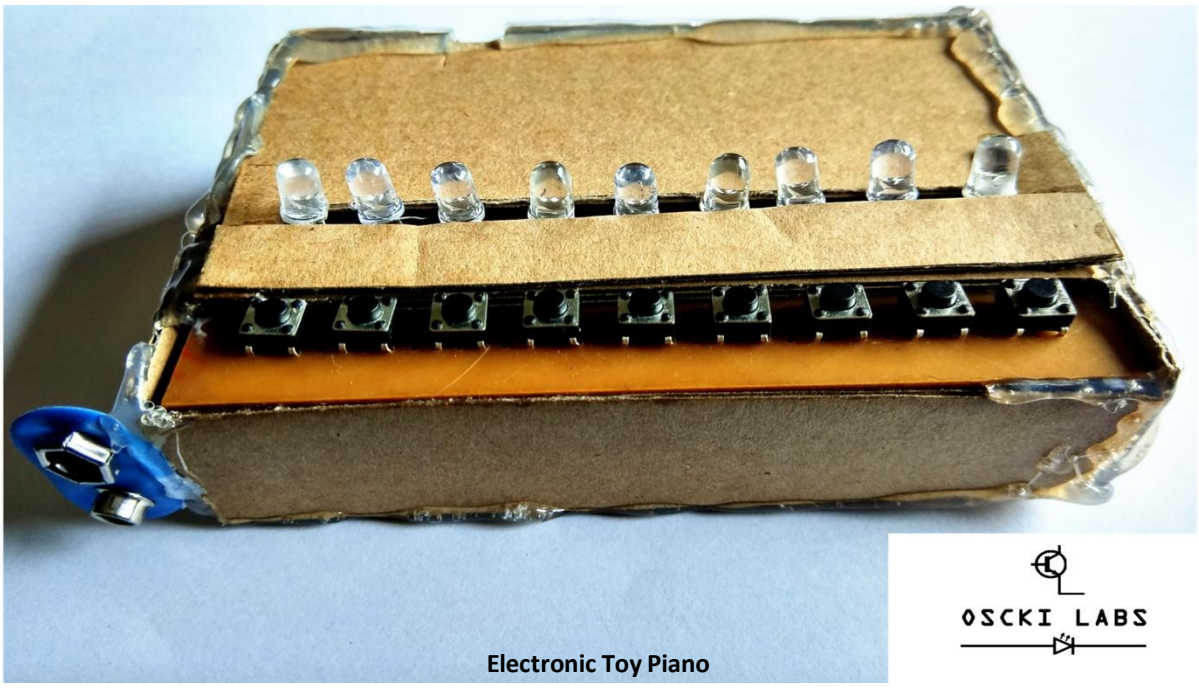
Sl. No	Name	USN	PCB Design	Theory	Assignment	Grand Total	Percentage
1	Gouthami K	4AL15EC027	280	174	135	589	90.61%
2	Nikkil Aarya M	4AL14EC056	265	174	130	569	87.54%
3	Rahul G Itnal	4AL15EC067	265	142	140	547	84.15%

4	Vasanth Kumar M	4AL15EC099	250	172	120	542	83.38%
5	Vivek A Bharadwaj	4AL16EC096	275	121	140	536	82.46%
6	Ananya M	4AL15EC008	270	134	130	534	82.15%
7	Rahul Jattennavar	4AL16EC052	265	147	120	532	81.84%
8	Vidya LS	4AL16EC093	250	150	120	520	80%
9	Yashaswini C	4AL16EC098	235	155	135	515	79.23%
10	Deepika N Karanth	4AL15EC018	255	168	90	513	78.92%
11	Harshitha N P	4AL15EC030	255	154	100	509	78.30%
12	Anjali HR	4AL15EC009	240	166	100	506	77.84%
13	Charan Raj S	4AL15EC017	210	172	120	502	77.23%
14	Ramanath Vishwanath Naik	4AL16EC054	260	101	140	501	77.07%
15	Vinaya Nagesh Naik	4AL15EC102	255	125	120	500	76.92%
16	Vidhyashree G	4AL16EC092	240	140	115	495	76.15%
17	Ashritha	4AL15EC012	230	138	125	493	75.84%
18	Moulya M	4AL16IS030	270	122	90	482	74.15%
19	Chandana C	4AL14CS019	235	144	100	479	73.69%
20	Shruthi I T	4AL15EC083	230	143	100	473	72.76%
21	A Shreya	4AL15EC001	250	112	105	467	71.84%
22	Rohini Halloli	4AL16EC060	263	70	130	463	71.15%
23	Priyanka H G	4AL15EC066	235	109	110	454	69.84%
24	Joel Crasta B	4AL15EC034	260	80	110	450	69.23%
25	MB Chinnappa	4AL15EC042	220	148	80	448	68.92%
26	Bhanupriya H K	4AL16EC012	225	103	120	448	68.92%
27	Srinidhi J C	4AL16EC078	235	126	85	446	68.61%
28	Heema Rubab	4AL16EC023	250	70	125	445	68.46%
29	Chanadana R	4AL16EC017	225	77	140	442	68%
30	Poonam M G	4AL15EC060	235	105	100	440	67.69%
31	Devika H S	4AL15EC019	265	84	90	439	67.53%
32	Vanashree	4AL15EC095	245	115	75	435	66.92%

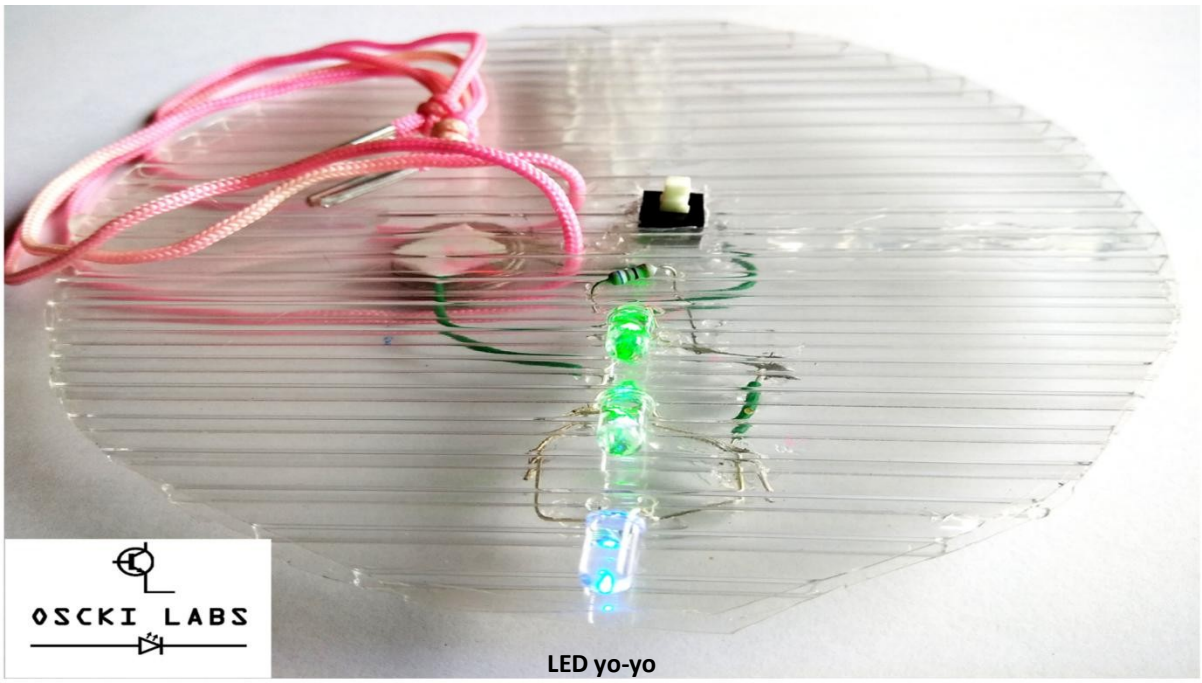
33	Samarth Jain N	4AL16EC063	275	159	0	434	66.76%
34	Sushmitha S	4AL15EC091	215	77	125	417	64.15%
35	Priyanka U	4AL16EC049	230	77	100	407	62.61%
36	Varshitha P J	4AL15EC098	220	82	100	402	61.84%
37	Dilip Kumar V	LATERAL	250	134	0	384	59.07%
38	Nayanashree K S	4AL16EC042	240	134	0	374	57.53%
39	Mayur Shikhare	4AL15EC048	230	111	0	341	52.46%
40	Pooja M	4AL15EC057	220	93	0	313	48.15%
41	Akshatha S Patil	4AL16EC001	190	70	0	260	40%
42	Ganesh Arasikere	4AL16EC402	255	111	100	466	71.69%
43	Vidya N	4AL16EC094	255	132	125	512	78.76%
44	Karthik J	4AL16EC030	245	157	105	507	78%
45	Challa Meghana	4AL15EC016	270	144	135	549	84.46%
46	Poojary Manish	4AL15EC059	196	73	100	369	56.74%
47	Shilpa N	4AL16EC071	213	111	85	409	62.84%
48	Bhuvanesh M	4AL16EC015	209	70	100	379	58.2%
49	B S Nagarakshitha	4AL16EC011	188	55	130	373	57.3%
50	Sangeetha S V	4AL16EC064	255	78	0	333	51.23%

Projects selected for Prototyping:

Few of the projects were selected from the PCB course and are currently under prototyping. The students were selected based on their idea, creativity and their technical knowledge on PCB. The students will be offered to etch their circuits once the prototyping is completed, which will be used in the version 2.0 of their projects. The details of the students and their prototyping projects are shown below:



Electronic Toy Piano

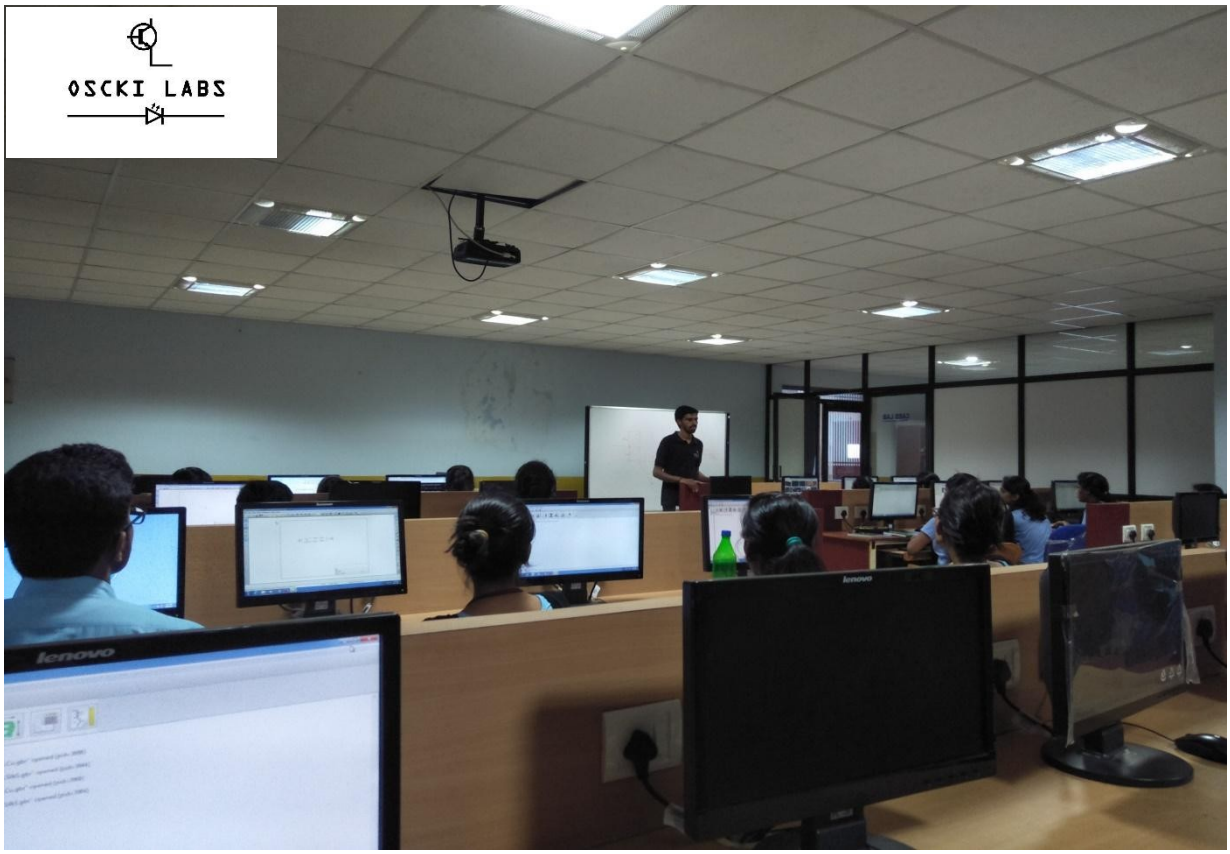


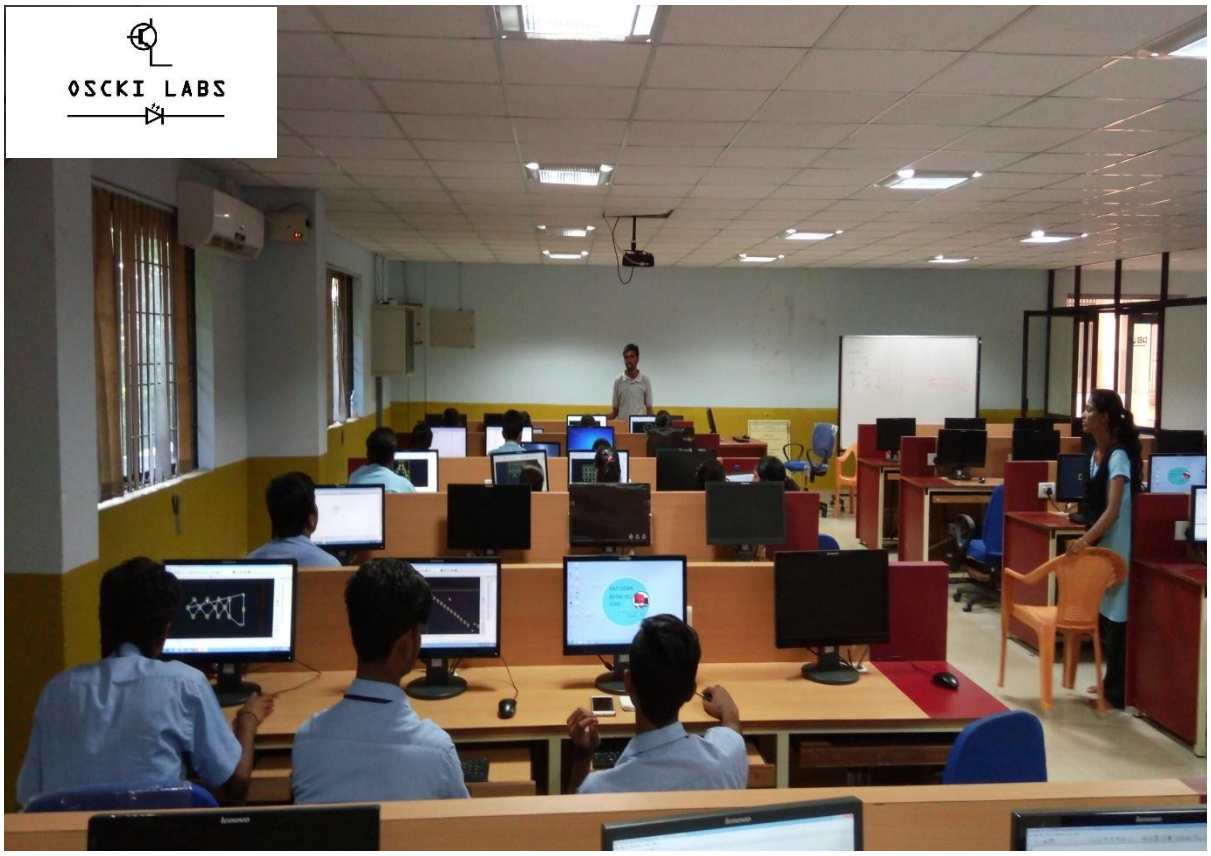
LED yo-yo

Sl. No	Student Name	Project Name	Project Details	Project Status
1	Vivek A Bharadwaj Ramanath	Electronic Toy Piano	A piano which is developed with electronic	Prototyping under progress

	Vishwanath Naik		components	
2	Karthik J	LED Yo-yo	A yo-yo which has LED's and glows while spinning	Prototyping under progress
3	Vasanth Kumar M	LED Fidget Spinner	This LED fidget spinner which glows LED's while spinning	Prototyping under progress
4	Rahul G Itnal	LED spinning watch	This LED toy watch glows while spinning	Prototyping under progress

Pictures taken during the course period.





10. CONCLUSION:

This PCB certificate course has been a reality only because of continuous support and guidance by Mr.Vivek Alva, Managing Trustee, AEF. We thank all the HOD's and other faculty members who supported us throughout the course. Our special thanks to the networking team for their support in setting up computers for the course. The student's effort and their dedication towards the learning made this course more successful.

Students came up with different designs and were very interested to learn more during the course period. Within 19 days most of the students started designing complex circuits to which, we were able to assess the overall aptitude of a large group of students was higher.

The written feedback from the student's points, suggests for an Intermediate/advanced PCB course in upcoming semester. The intermediate/advanced PCB course will be focussed on multi-layer PCB's, routing, via's and in house etching of a PCB which can help them take forward their ideas for developing own customised boards.

The completion of this course has opened up a new path to the students in the field of PCB and few of them have been selected for prototyping based on their ideas, interest and technical knowledge on PCB to work in Envision Lab. The selected students will be guided to work on their prototype into a real working product and a paper on the same can be published which can provide them a stable platform in their career.

With continuous monitoring and guidance we can strive to help students achieve great heights in the PCB development.

Report made by:

Oscki Labs®

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VIJNANA SIRI - ALVA'S NUDISIRI - 2017 - REPORT

The concept of having a science exhibition with the projects done by engineering students was really good. That too in the honour of Dr. Harish Bhat was the best part.

From Envision Lab we took 11 projects. All the projects were working and were at the final stages of prototyping.

The projects displayed were

1. KidZ
2. 3D LED Cube
3. Rocker Bogie
4. Smart Alarm
5. Automatic vehicle speed control at accident prone zones
6. Smart follower
7. Voice controlled robot
8. Solar detection robot
9. LED spinner
10. Yo-Yo
11. Piano

Highlighted points:

1. People loved the projects and were so happy to know that students developed all these products from scratch.
2. Most of the students and children were interested in playing with models just to see how they work.
3. They loved the joy of experiencing the products in real life.
4. Many students from the high school and primary school were very interested in the process and were curious to know how to build them.
5. Lot of people came with requirements for the product.
6. There were few industrial people who wanted to buy the products and were asking for brochure.
7. A person from **Deshapande foundation** approached for funding details for these projects.
8. **An industrialist from Chikkamangaluru** wanted to get some **agro products** done from the Lab.

What all we can do for next year:

1. Making more posters in both Kannada and English.
2. Providing technical brochures of the products.
3. Batch wise demo for effective showcasing and propaganda of the product.
4. Proper batches of students for demo.

The collected feedbacks and photos:


CURIOSITY


NO.1 PROTECTION

Rocker bogie suspension Robot Demonstration in Vijnana Siri

Report made by:

Himanshu Rangadhol

CTO

Oscki Labs

PRINCIPAL
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Mijar, MOODBIDRI - 574 225, D.K.