

Quality of Student Projects

Students work on at least two projects during the four years of bachelor's degree. First project is in the sixth semester (third year) and second project is major project which student has completed in the seventh and eighth semester.

- **Third year mini project:** A simple design statement is taken by the group of students, which is then modified or restructure by project guide.
- **Final year project:** During the seventh and eighth semesters students work on application and/or research based projects.

A. Project identification and allotment

- Students took projects according to current trends in various industries for the final year project statements and work on the same once it has been approved by the department project coordinator.
- These project statements are separated domain wise and distributed among the faculty members.

B. Types and relevance of the projects and contribution towards attainment of POs

- Final year projects are widely classified into application, design and research type.
- In Electronics and Telecommunication domain the projects are generally classified into Image Processing and Analysis, Signal Processing, VLSI, Embedded System, Internet of Things (IoT), Communication Engineering.
- Various tools and technology are used by the students for implementation of their projects such as- CADENCE, Octave, Matlab, LabVIEW, ARM, Arduino, PIC, GPS, GSM and other interfaces.
- Special attention is provided towards the attainment of program outcomes such as Engineering knowledge, Problem Analysis, Design, Modern tools usage, Ethics and Environmental issues.

C. Process of monitoring and evaluation

- **Continuous monitoring:** Every week student has to meet their respected guide and discuss difficulties related to project on a particular day.
- At the end of the month, students present the work done by them and progress is monitored based on work completed.
- By the end of semester final year students need to present their prototype, power point presentation and demonstration to the panel.

D. Process to assess individual and team performance

- **Evaluation:** For B. Tech projects, final evaluation is carried out in first and second semester as per the time table.
- At the end of the first semester students present their work to the external examiner, guide and other faculty from the department. Evaluation sheet is distributed by the project coordinator to all the judging teams. Judging is carried out based on various criteria's such as-
 - Project understanding
 - Completion of project
 - Presentation
 - Demonstration

- Documentation
- Evaluation is carried out on individual basis as well as on team performance.
- Evaluation done by judging team is communicated to the students for further improvement.
- At the end of the academic year students present and demonstrate their work to their project guide and the expert from an industry.

E. Quality of completed projects and working prototypes

- Every year 45-50 final year projects (application, design and research oriented) are completed.
- Students working on application or design oriented projects get acquainted with real life environment. It helps them to apply the classroom/theoretical knowledge on real life/actual systems.

F. Papers published and awards received by the projects

- The students of the department have published following papers at various places.
 - International conference on advances in civil and mechanical systems, held at Government College of Engineering, Amravati: Modular programmable matter based mechanical and electromagnetic system.
 - International bilingual conference on IT yesterday, today and tomorrow, held at DRDO, New Delhi: intelligent missile system based on cubcatomic system.
 - International bilingual conference on IT yesterday, today and tomorrow, held at DRDO, New Delhi: Smart Bullet System
 - International conference on CVIP (computer vision & image processing) at IIT Roorkee: Gesture recognition using Kinect sensor
- The Department of Electronics and Telecommunication Engineering has started the activity called “Design and Development of Home Appliances: A Project Competition”. This event provides platform for students to sharpen their technical knowledge, presentation skills and will boost their confidence to reach for higher goals.
- The Tata Consultancy Services (TCS) select the best project in institute and award Rs. 5000 every year. TCS best project award received by department is given in table 2.7.

Table 2.7 TCS Best Project Award

Sr. No.	Student Name	Project Name	Academic Year	Guide
1	Akshay Kharag Piyush Kothari	Blind Person Navigation System	2015-16	Dr. Y.V. Joshi

G. Departmental Best Project

Department selects best project every year at the departmental level with social constraints, environmental effects, communication and impact on the society.

Table 2.8: Departmental Best Project

Sr. No.	Student Name	Project Name	Guide
Academic Year (2016 – 17)			
1	Doye Hemangi		Dr. A. V. Nandedkar

	Bhutekar Deepak Kamble Takshita	Smart Classroom Attendance System	
2	Jadhav Aditi Mandali Pooja	Vehicle Accident Prevention Using Sensors	Dr. Y. V. Joshi
3	Hedaoo Nivedita Katkar Mayuri Biradar Pratiksha	Wound Assessment System For Patients	Dr. S. N. Talbar
4	Deshmukh Vaishnavi Jawalkar Vijayshree Sabde Pooja	Greenhouse Monitoring and Control	Dr. A. V. Nandedkar
5	Bhade Vijay Ragade Suprabha Kakani Nalin	Garbage Monitoring System Using IOT	Dr. S. S. Gajre
Academic Year (2015 – 16)			
1	Aniket Bonde Ajinkya Kodgire Shraddha Kharche	Smart Traffic Control Using Digital Image Processing	Dr. A. V. Nandedkar
2	Saurabh Bandewar Shivani Pohekar Megha Panchariya	Patient Monitoring System Using Iot	Dr. Ms. L.V. Birgale
3	Hitesh Shyamkuwar Ashish Chintalwar AkshayRaut	Home Automation And Face Recognition Using Rasberry Pi	Dr. Mrs. S.G. Kejgir
4	DhanajiPise Sunil Kamble Santosh Jakkulwar	Web Server Based Device Controller Using Arduino	Dr. S.S. Gajre
5	AkshayKharag Piyush Kothari	Blind Person Navigation System	Dr. Y.V. Joshi
Academic Year (2014 – 15)			
1	Shakti Wadekar Sonali Mane Vaibhav Lone	Glove Based Hand Gesture recognition Using Artificial Neural Network	Dr. A. V. Nandedkar
2	Rajurkar Shridharkumar Kale Prasad	Implementation of FFT and Radix 2 algorithm using FPGA	Dr. Y.V. Joshi
3	Vishnupurikar N. K. Billade P. B.	Excudates detection in retinal images	Dr. M.B. Kokare
4	Shreya Sakarkar Muktai Dhote	Thumb Print Recognition Using Image Processing	Dr. S.V. Bonde
5	Jayesh Dhaware Ghanshyam Malode Sunil Jiwane	Involuntary Railway Gate controlled system using ARM	Dr. S.N. Talbar
Academic Year (2013 – 14)			
1	Padgilwar Shankarrao Jamkar Parshuram Muttepawar Sunilrao	Braille language learning kit for visually impaired people	Dr. S.N. Talbar

2	Kshirsagar Suhas	Digital Image Processing Using C-Language on ARM Processor	Dr. R.R. Manthalkar
	Mamdi Renukadas		
3	Bokshe Omkar	Low Cost Automated Solar Tracker	Dr. D.D. Doye
	Agrawal Aman		
4	Choudhary Vedika	Drowsiness Detection System and Accident Prevention	Dr. M.B. Kokare
	Kolhe Neha		
	Sagar Sayali		
5	Mangrule	Biometric voting machine	Prof. M.V. Bhalerao
	Sangmeshwar		
	Bainwad Rankishanv		
	Mane Pratap		

The final year projects are classified in various domains like embedded system, signal processing, image processing, communication, VLSI, internet of things (IOT) etc. Percentage of projects from different domains and its trends for last four years is shown in figure 2.3-2.6. After getting licenses copy of cadence, projects in VLSI domain are constantly increasing. Embedded System has maintained top contribution because of demand of this subject in the industry. New set up of Center of Excellence (CoE) and Computer Vision and pattern Recognition (CVPR) Laboratory are beneficial to image and signal processing projects.

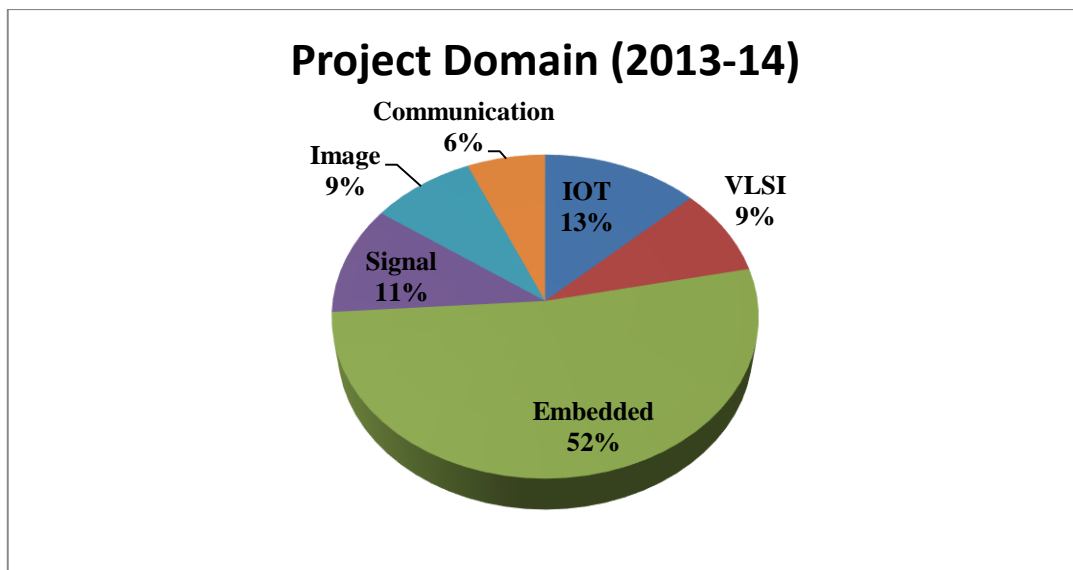


Figure 2.3: Classification of Project Domains for AY 2013-14

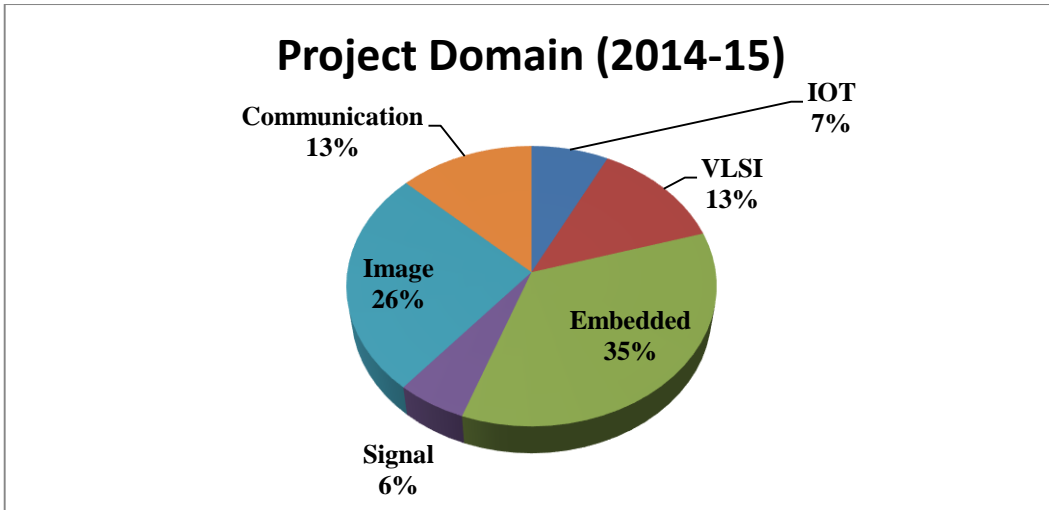


Figure 2.4: Classification of Project Domains for AY 2014-15

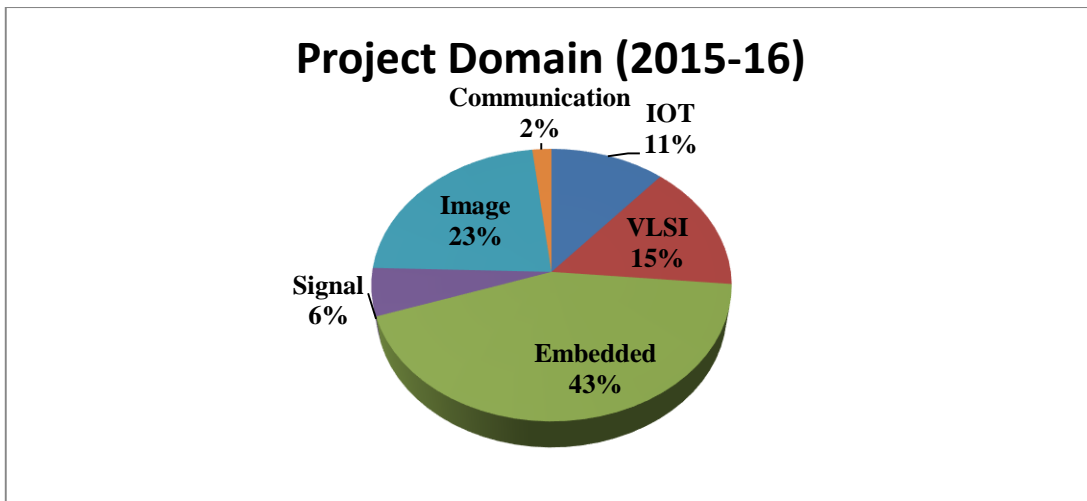


Figure 2.5: Classification of Project Domains for AY 2015-16

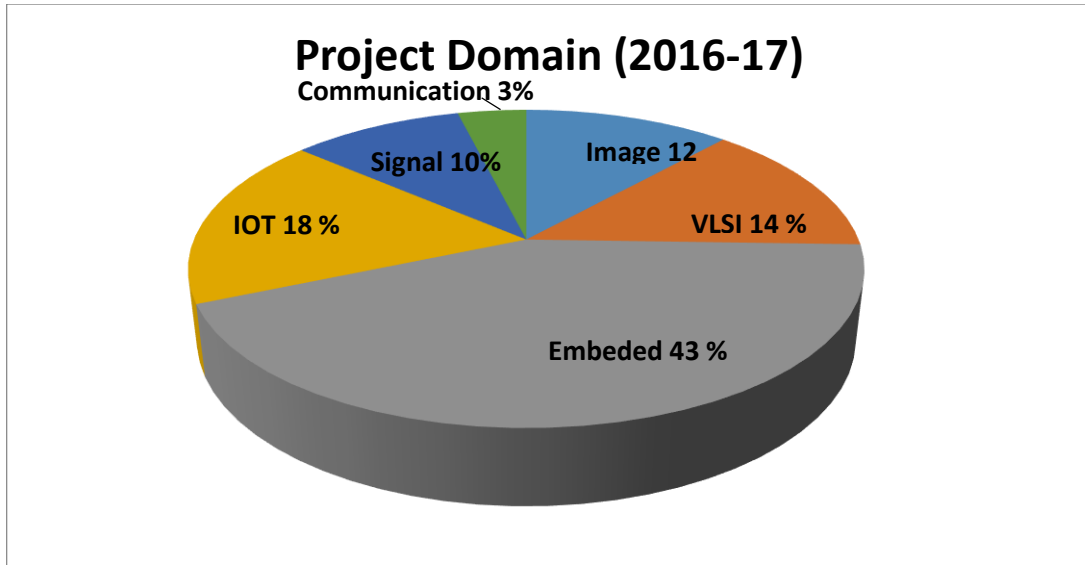


Figure 2.6: Classification of Project Domains for AY 2016-17