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SPIRO
Solutions Pvt. Ltd

- Research & Development Program (RDP)
- Final Year Academic Project (FAP) in software and Embedded Technologies
- Application Development Program (ADP)

PROJECT TITLES GUIDE
2011-2012

AN ISO 9001:2008 CERTIFIED R&D COMPANY

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About Spiro

Spiro Solutions South India's leading Research & Development Organization. Over a decade, we are furnishing individuals in all technologies and domains by fulfilling their desires in Research & Development sector through efficient training methodologies. All our efforts are focused on students to meet industry requirements.

The global presence and reach attained by Spiro is not only substantiated by its presence, but also by the environment provided for the students. Since our environment is encapsulated with doctorates, professionals and other experts. Accordingly, we created a setting which enables student to recover from the existing learning processes and making them to be an intellect.

In our increasing globalization, Spiro moves forward to unite the desires of students and challenges of the future in R & D sector by improving the agility and enabling students to achieve sustainable growth over their rivalry. For future enhancement, industry based knowledge's are provided for students in various levels. To sum up, we are filling student necessities in all possible ways to make career brighter in their desired field.

SPIRO-Professional Student Process Academy is Subsidiary of Spiro solutions Pvt. Ltd . Over a decade, we are furnishing individuals in all technologies and domains by fulfilling their desires in Research & Development and IT Training sector through efficient training methodologies. All our efforts are focused on students to meet industry requirements. SPIRO-Professional Student Process Academy is a premier provider of IT Training, Research and Development ,Project Training skills across The India ,Singapore and the Malaysia We offer true competency-based programs, we guarantee quality, and we guarantee to lower your costs, all at the same time. SPIRO offers on-site training at your college location as well as a regular schedule of open-enrollment classes at frequent intervals in more than 25 cities Across India. Our courses cover over 60 different subject areas, including programming, Domain Training, Project Training and system administration skills. We offer stand-alone classes in addition to all-inclusive certification training tracks.

We believe that when it comes to training, you need to develop true competence in new skills, not just receive an overview of syntax and techniques. The best way to assure competence is through facilitated hands on practice. Our students spend at least 50% of their time in class performing structured hands on lab exercises that build competence, confidence, and clarity. Founded in 2005 by experienced professionals, SPIRO has served thousands of Institutes and Lakhs of individuals over the six years.

MATLAB

Technology : MATLAB
Domain : IEEE TRANSACTIONS ON IMAGE PROCESSING

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
1.	ITIMP01	On the Selection of Optimal Feature Region Set for Robust Digital Image Watermarking	Anovel feature region selection method for robust digital image watermarking is proposed in this paper. This method aims to select a nonoverlapping feature region set, which has the greatest robustness against various attacks and can preserve image quality as much as possible after watermarked.	2011
2.	ITIMP02	Blind Deconvolution Using Generalized Cross-Validation Approach to Regularization Parameter Estimation	In this paper, we propose and present an algorithm for total variation (TV)-based blind deconvolution. Both the unknown image and blur can be estimated within an alternating minimization framework. With the generalized cross-validation (GCV) method, the regularization parameters associated with the unknown image and blur can be updated in alternating minimization steps.	2011
3.	ITIMP03	An Optimal Data Hiding Scheme With Tree-Based Parity Check	In this paper we propose a majority vote strategy that results in least distortion for finding a stego object. The lower embedding efficiency of our method is better than that of previous works when the hidden message length is relatively large.	2011
4.	ITIMP04	IMAGE Resolution Enhancement by Using Discrete and Stationary Wavelet Decomposition	In this work, we are proposing an image resolution enhancement technique which generates sharper high resolution image. The proposed technique uses DWT to decompose a low resolution image into different subbands. Then the three high frequency subband images have been interpolated using bicubic interpolation.	2011
5.	ITIMP05	HAIRIS: A Method for Automatic Image Registration Through Histogram-Based Image Segmentation	In this paper, a method for automatic image registration through histogram-based image segmentation (HAIRIS) is proposed, which allows for a more detailed histogram based segmentation rather than the traditional methods, and consequently to an accurate image registration.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
6.	ITIMP06	Fine-Granularity and Spatially-Adaptive Regularization for Projection-Based Image Deblurring	This paper studies two classes of regularization strategies to achieve an improved tradeoff between image recovery and noise suppression in projection-based image deblurring	2011
7.	ITIMP07	A Generalized Unsharp Masking Algorithm	We propose a generalized unsharp masking algorithm using the exploratory data model as a unified framework The proposed algorithm is designed to address three issues 1. Simultaneously enhancing contrast and sharpness by means of individual treatment of the model component and the residual, 2. Reducing the halo effect by means of an edge-preserving filter 3. Solving the out-of-range problem by means of log-ratio and tangent operations.	2011
8.	ITIMP08	Real time artifact-free image up scaling	This project proposes the solution to the problem, often referred to also as ”single image Super - resolution”, is related both to the statistical relationship between low resolution and high resolution image sampling and to the human perception of image quality.	2011
9.	ITIMP09	Boundary Detection in Medical Images Using Edge Following Algorithm Based on Intensity Gradient and Texture Gradient Features	We compare the proposed segmentation technique with the active contour models (ACM), geodesic active contourmodels, active contours without edges, gradient vector flow snake models, and ACMs based on vector field convolution, by using the skilled doctors’ opinions as the ground truths.	2011
10.	ITIMP10	MRF-Based Intensity Invariant Elastic Registration of Cardiac Perfusion Images Using Saliency Information	In this paper, we propose a Markov random fieldbased method that uses saliency and gradient information for elastic registration of dynamic contrast enhanced (DCE) magnetic resonance (MR) images of the heart. DCE-MR images are characterized by rapid intensity changes over time, thus posing challenges for conventional intensity-based registration methods.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
11.	ITIMP11	Multichannel Image Registration by Feature-Based Information Fusion	This paper proposes a novel nonrigid inter-subject multichannel image registration method which combines information from different modalities/ channels to produce a unified joint registration. Multichannel images are created using co-registered multimodality images of the same subject to utilize information across modalities comprehensively.	2011
12	ITIMP12	Optimal Threshold Selection for Segmentation of Dense Homogeneous Objects in Tomographic Reconstructions	In this paper, we present a novel approach to segment dense, homogeneous objects in a tomographic reconstruction (or Tomogram). A popular method to extract such objects from a tomogram is global thresholding, in which the threshold value is determined from the image histogram.	2011
13.	ITIMP13	High Resolution Cerebral Blood Flow Imaging by Registered Laser Speckle Contrast Analysis	This project enhances and analyses the Laser speckle images (LSI) which has been widely used for detecting cerebral blood flow (CBF) under various physiological and pathological conditions.	2010
14.	ITIMP14	Green Noise Digital Halftoning With Multiscale Error Diffusion	This project proposes a Multiscale error diffusion (MED) algorithm to produce halftones which is a technique used to turn a gray-level image into a bi-level image and has been widely used in printing applications.	2010
15.	ITIMP15	Fast cartoon + texture image filters	This project decomposes the geometric part and a textural part thereby modifies the image into segmented cartoon like form.	2010
16.	ITIMP16	Automatic Parameter Selection for Denoising Algorithms Using a No-Reference Measure of Image Content	This paper, proposes a no-reference metric Q which is based on singular value decomposition of local image gradient matrix, and provides a quantitative measure of true image content in the presence of noise.	2010
17.	ITIMP17	Generalized Probabilistic Scale Space for Image Restoration	This project proposes a novel generalized sampling-based probabilistic scale space *theory* for image restoration even in the conditions of low signal-to-noise ratios and image degradation.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
18.	ITIMP18	A Statistical Pixel Intensity Model for Segmentation of Confocal Laser Scanning Microscopy Images	This project proposes a model to be used for statistical unsupervised Confocal Laser Scanning Microscopy (CLSM) images which solves the complexity of recorded cellular structures.	2010
19.	ITIMP19	Multiscale AM-FM Demodulation and Image Reconstruction Methods With Improved Accuracy	This project develops a new multiscale amplitude-modulation frequency-modulation (AM-FM) demodulation method for image processing by designing a new multiscale filter bank.	2010
20.	ITIMP20	Phase Adaptive Super Resolution Of Mammography Images Using Complex Wavelets	The proposed method exploits the structural characteristics of breast tissues being imaged and produces higher resolution mammography images with sufficient visual Fidelity that fine image details can be discriminated more easily	2009
21.	ITIMP21	A hybrid geometric–statistical deformable model for automated 3-d segmentation in brain MRI	The project is a novel 3-D deformable model-based approach for accurate, robust, and automated tissue segmentation of brain MRI data of single as well as multiple magnetic resonance sequences. The main contribution of this study is that we employ an edge-based geodesic active contour for the segmentation task	2009
22.	ITIMP22	Morphological Background Detection And Enhancement Of Images With Poor Lighting	In this project, morphological transformations are used to detect the background in images characterized by poor lighting. The performance of the proposed operators is illustrated through the processing of images with different backgrounds, the majority of them with poor lighting conditions.	2009
23.	ITIMP23	Fingerprint enhancement and recognition using Back Propagation Algorithm.	Using Back Propagation Technique the Enhancement and Recognition of a Fingerprint is implemented in MATLAB	2008
24.	ITIMP24	Digital Image Steganography in Spatial & Frequency Domain	We use human skin tone detection in color images to form an adaptive context for an edge operator which will provide an excellent secure location for data hiding.	2008
25.	ITIMP25	Upper surface of the diaphragm estimate using 3D CT Images	We describe a fully automated method by which the position of the diaphragm surface can be estimated by deforming a thin-plate model to match the bottom surface of the lung in CT images.	2008

Technology : MATLAB
Domain : IEEE –DIGITAL SIGNAL PROCESSING

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
26.	ITDSP01	QR Decomposition-Based Matrix Inversion for High Performance Embedded MIMO Receivers	In this project A matrix inversion approach based on modified squared Givens rotations (MSGR). This is a new QR decomposition algorithm which overcomes critical limitations in other QR algorithms that prohibits their application to MIMO systems. A novel modification that further reduces the complexity of MSGR by almost 20%. This enables real-time implementation with negligible reduction in the accuracy of the inversion operation, or the BER of a MIMO receiver based on this algorithm.	2011
27.	ITDSP02	Subspace SNR Maximization: The Constrained Stochastic Matched Filter	Constrained stochastic matched filter (CSMF), is an extension of the stochastic matched filter itself derived from the matched filter. In this project the CSMF that is optimal in the sense maximizes the signal-to-noise ratio in a subspace whose dimension is fixed *a* priori. Evaluation of the algorithm's performance is completed through estimation of receiver operating characteristic curves.	2011
28.	ITDSP03	Optimal Wideband Spectrum Sensing Framework for Cognitive Radio Systems	Considering a periodic sensing scheme, the detection problem is formulated as a joint optimization problem to maximize the aggregate achievable secondary throughput capacity given a bound on the aggregate interference imposed on the primary network. In this project it is demonstrated that the problem can be solved by convex optimization if certain practical constraints are applied.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
29.	ITDSP04	Algorithms and Bounds for Distributed TDOA-Based Positioning Using OFDM Signals	In this project a blind estimation of the location of a cyclic prefix (CP) in an orthogonal frequency division multiplexing (OFDM) signal, enables distributed TDOA computation up to an integer ambiguity. Development of an algorithm for simultaneously resolving the integer ambiguities and obtaining a position estimate; and derivation of the Cramér–Rao lower bound (CRLB) on locating the CP, and hence, on the underlying source localization and navigation problems	2011
30.	ITDSP05	Diversity Gain for MIMO Neyman–Pearson Signal Detection	In this project, a MIMO radar system with M transmit and N receive antennas, used to detect a target composed of Q random scatterers with possibly non-Gaussian reflection coefficients in the presence of possibly non-Gaussian clutter-plus-noise. It is shown that the maximum possible diversity gain in any given scenario can be achieved without employing orthogonal waveforms.	2011

Technology : MATLAB
Domain : IEEE TRANSACTIONS ON COMMUNICATION

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
31.	ITCM01	On Adaptive Lattice Reduction over Correlated Fading Channels	In this project a multiple-input multiple-output (MIMO) systems, lattice reduction significantly improves the performance of approximate detection techniques. Taking advantage of the temporal correlation of a Rayleigh fading channel, low complexity lattice reduction is investigated in this work by adaptively updating the reduced lattice basis	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
32.	ITCM02	Relay Selection from a Battery Energy Efficiency Perspective	In this paper, we adopt the realistic nonlinear battery model, apply the battery energy consumption results in to general relay networks, investigate the optimum and suboptimum energy allocation solutions for relaying transmission, and establish the relay selection criterion from the battery energy efficiency perspective	2011
33.	ITCM03	Symbol-Level Synchronization and LDPC Code Design for Insertion/Deletion Channels	In this project, we investigate a promising coding scheme over channels impaired by insertion, deletion, and substitution errors, i.e., interleaved concatenation of an outer low density parity check (LDPC) code with error-correction capabilities and an inner marker code for synchronization purposes	2011
34.	ITCM04	Optimized Differential GFSK Demodulator	Gaussian frequency shift keying (GFSK) is a promising digital modulation scheme. The design of simple and high-performance receivers for GFSK systems is a challenging task. In this paper, we develop an optimized differential GFSK demodulator and investigate the phase wrapping issue in its implementation.	2011
35.	ITCM05	Interference Cancellation and Detection for More than Two Users	In this paper, we extend the scheme to more than 2 users. In other words, we propose a system to achieve interference cancellation and full diversity with low complexity for any number of users. Then, we extend the results to any number of users with any number of transmit and receive antennas.	2011
36.	ITCM06	Coded Free-Space Optical Links over Strong Turbulence and Misalignment Fading Channels	In this paper investigates the error performance for convolutional coded on-off keying free-space optical systems through symbol by symbol interleaved channels characterized by strong turbulence and/or pointing error effects. We consider several channel types and derive exact analytical expressions for the pair wise error probability	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
37.	ITCM07	Maximum-Likelihood FFH/MFSK Receiver over Rayleigh-Fading Channels with Composite Effects of MTJ and PBNJ	In this paper a Maximum-likelihood (ML) receiver structure is proposed for fast frequency-hopped *M*-ary frequency-shift keying communication systems over Rayleigh-fading channels with the composite effects of multitone jamming (MTJ) and partial band noise jamming (PBNJ). The corresponding semi-analytical bit-error rate (BER) expressions of the proposed ML receiver are also presented and validated by simulation results	2011
38.	ITCM08	Space-Time Block Coded Spatial Modulation	In this project, a novel multiple-input multiple-output (MIMO) transmission scheme, called space-time block coded spatial modulation (STBC-SM), is proposed. It combines spatial modulation (SM) and space-time block coding (STBC) to take advantage of the benefits of both while avoiding their drawbacks.	2011
39.	ITCM09	Cooperative Diversity for Free-Space Optical Communications: Transceiver Design and Performance Analysis	In this paper, we investigate the cooperative diversity technique as a candidate solution for combating turbulence induced fading over Free-Space Optical (FSO) links. In particular, a one-relay cooperative diversity scheme is proposed and analyzed for non-coherent FSO communications with intensity modulation and direct detection.	2011
40.	ITCM10	Single-Relay Cooperative Diversity with Scaled Selection Combining	In this paper a single-relay cooperative diversity system employing the decode-and-forward protocol in Rayleigh fading, a scaled signal-to-noise ratio-based selection combining scheme, which uses a deterministic scale factor for link selection to incorporate the effect of the source-to-relay link, is presented. Its error probability for binary phase-shift keying is derived in closed-form.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
41.	ITCM11	Novel Overlay/ Underlay Cognitive Radio Waveforms Using SD-SMSE Framework to Enhance Spectrum Efficiency– Part II: Analysis in Fading Channels	In this project extends the original Spectrally Modulated Spectrally Encoded (SMSE) framework to enable soft decision CR (Cognitive Radio) implementations that exploit both unused (white) and underused (gray) spectral areas.	2010
42.	ITCM12	Information Theoretic Capacity of Cellular Multiple Access Channel with Shadow Fading	In this paper extends the original well-known model for the Gaussian Cellular Multiple Access Channel. It overcomes the problem of distance-dependent path loss and the log-normal shadow fading variations.	2010
43.	ITCM13	Joint Estimation of I/Q Imbalance, CFO and Channel Response for MIMO OFDM Systems	In this project studies the joint estimation of in phase and quadrature-phase (I/Q) imbalance, carrier frequency offset (CFO), and channel response for multiple-input multiple output (MIMO) orthogonal frequency division multiplexing (OFDM) systems using training sequences.	2010
44.	ITCM14	Asymptotic Error Analysis of Diversity Schemes on Arbitrarily Correlated Rayleigh Channels	In this project derives the asymptotic error rate expressions for multi-branch equal gain combining and selection combining operating on arbitrarily correlated Rayleigh fading channels. It is valid for both coherent and non coherent signalings.	2010
45.	ITCM15	Efficient detection ordering scheme for MIMO Transmission using power control	In this project, an efficient ordering scheme for an ordered successive interference cancellation detector is determined under the bit error rate minimization criterion for multiple antenna systems using transmission power control.	2009

Technology : MATLAB–POWER ELECTRONICS
Domain :AC-DC CONVERTER

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
46.	ITPW01	Modelling and Control of a Three-Phase Four-Switch PWM Voltage-Source Rectifier in d-q Synchronous Frame	This paper introduces a control design approach in rotating *d-q* frame for the four-switch PWM VSRs. For this purpose, a mathematical model of the four-switch PWM VSR in rotating *d-q* frame is first derived. Its success is relied on performing a so-called "reduced Park Transformation" on switching functions	2011
47.	ITPW02	Improved Asymmetric Space Vector Modulation for Voltage Source Converters with Low Carrier Ratio	This paper presents an improved asymmetric space vector modulation (ASVM) for two level voltage source converters (VSCs) when the switching frequency is as low as 9 times of line frequency. By adding two pulses in each line cycle when the fundamental voltage crosses zero, the total harmonic distortion (THD) of output current can be reduced significantly.	2011
48.	ITPW03	A Single-Phase High Power Factor Rectifier, Based on a Two-Quadrant Shunt Active Filter	This paper presents a new technique to improve the input power factor of a single-phase rectifier followed by an inductive filter. It consists in the employment of a two-quadrant active power filter, based on a conventional bidirectional DC-DC converter, connected to the output side of the diode bridge	2011
49.	ITPW04	An Efficient AC-DC Step-up Converter for Low Voltage Energy Harvesting	This project presents an efficient ac-to-dc power converter which avoids the bridge rectification and directly converts the low ac input voltage to the required high dc output voltage at a higher efficiency. The proposed converter consists of a boost converter in parallel with a buck-boost converter.	2010

Technology : MATLAB–POWER ELECTRONICS
Domain : DC-AC INVERTER

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
50.	ITPW05	Single-Phase Z-Source Inverter	This paper proposes a novel single-phase Z-source inverter topology with input and output sharing the same ground. It is simple in structure and only utilizes two switches while keeping the voltage transfer ratio the same as for the full-bridge inverter. One-cycle control is adopted. Highly efficient constant frequency control can be achieved without an accurate model of the converter	2011
51.	ITPW06	Design and Analysis of a Grid-Connected Photovoltaic Power System	This project deals with grid connected photovoltaic (PV) power system with high voltage gain is proposed. The proposed PV system employs a ZVT-interleaved boost converter with winding coupled inductors and active clamp circuits as the first power processing stage, which can boost a low voltage of the PV array up to a high dc-bus voltage.	2010
52.	ITPW07	High-Density EMI Filter Design for DC-Fed Motor Drives	This project presents strategies to reduce both differential mode (DM) and common mode (CM) noise using a passive filter in a dc-fed motor drive. This project concentrates on the type of grounding and the components to optimize filter size and performance.	2010

Technology : MATLAB–POWER ELECTRONICS
Domain : DC-AC MULTILEVEL INVERTER

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
53.	ITPW08	Diode-Clamped Three Level Inverter Based Battery/ Super capacitor Direct Integration Scheme for Renewable Energy Systems	This paper describes a diode clamped three level inverter based battery/super capacitor direct integration scheme for renewable energy systems. The study is carried out for three different cases. These topologies eliminate the need for interfacing dc-dc converters and thus considerably improve the overall system efficiency. The major issue in above systems is the Unavoidable imbalance in dc-link voltages.	2011
54.	ITPW09	Efficient Sequential Switching Hybrid Modulation Techniques for Cascaded Multilevel Inverters	This paper presents four different sequentialswitchinghybridmodulation strategies and compared for cascaded multilevel inverters The main characteristic of these modulations are the reduction of switching losses with good harmonic performance, balanced power loss dissipation among the devices with in a cell, and among the series connected cells.	2011

Technology : MATLAB–POWER ELECTRONICS
Domain : DC-DC CONVERTER

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
55.	ITPW10	High-Efficiency Regulation Method for a Zero-Current and Zero-Voltage Current-Fed Push–Pull Converter	In this project a new high-efficiency regulation method for a zero current and zero-voltage current-fed push–pull converter is presented. The method proposed is based on the use of a controlled transformer as a post regulator, which adds or subtracts an additional voltage to the output filter of the converter.	2011
56.	ITPW11	Performance of a High-Efficiency Switched- Capacitor-Based Resonant Converter With Phase-Shift Control	This paper presents operating performance of a switched-capacitor-based resonant converter (SCRC) using a phase-shift control method. The proposed phase-shift control realizes zero-voltage switching operation, and thus achieves high conversion efficiency.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
57.	ITPW12	A Modified SEPIC Converter for High Power Factor Rectifier and Universal Input Voltage Applications	This project presents high power factor rectifier suitable for universal line base on a modified version of the single-ended primary inductance converter (SEPIC). The voltage multiplier technique is applied to the classical SEPIC circuit, obtaining new operation characteristics as low switch voltage operation and high static gain at low line voltage. The new configuration allows the reduction of the losses associated to the diode reverse recovery current.	2010
58.	ITPW13	Soft Switched CCM Boost Converters With High Voltage Gain for High Power Applications	This project proposes a new soft-switched continuous conduction mode (CCM) boost converter suitable for high power applications such as power factor correction, hybrid electric vehicles, and fuel cell power conversion systems. The components voltage ratings and energy volumes of passive components of the proposed converter are greatly reduced compared to the conventional zero voltage transition converter.	2010

Technology : MATLAB–POWER ELECTRONICS
Domain : AC-AC CONVERTER

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
59.	ITPW14	A Modified Single-Phase Quasi-Z-Source AC-AC Converter	In this paper, a modified single-phase quasi-Z-source ac-ac converter without input or output filters is presented. The proposed converter inherits all of the advantages of the traditional single-phase Z-source ac-ac converter; it has buck-boost capabilities and can maintain or reverse the output phase angle all the while sharing the same ground.	2011
60.	ITPW15	UPQC-S: A Novel Concept of Simultaneous Voltage Sag/Swell and Load Reactive Power Compensations Utilizing Series Inverter of UPQC	This paper introduces a new concept of optimal utilization of a unified power quality conditioner (UPQC). The series inverter of UPQC is controlled to perform simultaneous (i) voltage sag/swell compensation and (ii) load reactive power sharing with the shunt inverter.	2011

VLSI

Technology : VLSI
Domain : CORE VLSI (AREA EFFICIENT)

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
1.	ITVL01	Accumulator Based 3-Weight Pattern Generation(Testing)	In this paper, Weighted pseudorandom built-in self test (BIST) schemes have been utilized in order to drive down the number of vectors to achieve complete fault coverage in BIST applications.	2011
2.	ITVL02	A Probabilistic Estimation Bias Circuit for Fixed-Width Booth Multiplier and Its DCT Applications	This paper proposes PEB circuit is derived from theoretical computation, instead of exhaustive simulations and heuristic compensation strategies that tend to introduce curve-fitting errors and exponential-grown simulation time.	2011
3	ITVL03	High-Accuracy Fixed-Width Modified Booth Multipliers for Lossy Applications	This paper presents the design of high-accuracy fixed-width modified Booth multipliers.To reduce the truncation error, we first slightly modify the partial product matrix of Booth multiplication and then derive an effective error compensation function that makes the error distribution be more symmetric.	2011
4.	ITVL04	High Throughput DA-Based DCT With High Accuracy Error-Compensated Adder Tree	In this paper,operating the shifting and addition in parallel, an(ECAT) is proposed to deal with the truncation errors and to achieve low-error and high-throughput discrete cosine transform (DCT) design.	2011
5.	ITVL05	A Multibank Memory-Based VLSI Architecture of DVB Symbol Deinterleaver	In this paper, efficient symbol-deinterleaver architecture compliant with the digital-video-broadcasting (DVB) standard is proposed.	2010
6.	ITVL06	Low Complexity Digit Serial Systolic Montgomery Multipliers for Special Class of GF(2m)	This paper presents digit serial systolic multiplication architecture for all-one polynomials (AOP) over $GF(2^m)$ for efficient implementation of Montgomery Multiplication (MM) Algorithm suitable for cryptosystem.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
7.	ITVL07	LUT Optimization for Memory-Based Computation.	This paper presents LUT-based multiplier involves comparable area and time complexity for a word size of 8 bits, but for higher word sizes, it involves significantly less area and less multiplication time than the canonical-signed-digit (CSD)-based multipliers.	2010

Technology : VLSI
Domain : LOW POWER (POWER REDUCTION)

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
08.	ITVL08	Bus Matrix Synthesis Based on Steiner Graphs for Power Efficient System-on-Chip Communications	This paper proposes a physical synthesis scheme for on chip buses and bus matrices to minimize the power consumption, without changing the interface or arbitration protocols. By using a bus gating technique, data transactions can take shortest paths on chip, reducing the power consumption of bus wires to minimal.	2011
09.	ITVL09	Low-Power and Area-Efficient Carry Select Adder	This paper proposes a Carry Select Adder (CSLA) is one of the fastest adders used in many data-processing processors to perform fast arithmetic functions. From the structure of the CSLA, it is clear that there is scope for reducing the area and power consumption in the CSLA. This work uses a simple and efficient gate-level modification to significantly reduce the area and power of the CSLA.	2011
10.	ITVL10	A Low-Power Single-Phase Clock Multiband Flexible Divider.	This paper proposes a low-power single-phase clock multiband flexible divider for Bluetooth, Zigbee, and IEEE 802.15.4 and 802.11 a/b/g WLAN frequency synthesizers is proposed.	2011
11.	ITVL11	Fixed-State Tests for Delay Faults in Scan Designs	This paper proposes fixed-state tests for delay faults in scan designs to reduce power during scan shifting is based on holding the state inputs to the combinational logic of a circuit constant for the duration of a scan operation.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
12.	ITVL12	On Reducing Scan Shift Activity at RTL.	This paper proposes a DFT-based approach for reducing circuit switching activity during scan shift is proposed. Instead of inserting additional logic at the gate level that may introduce additional delay on critical paths, the proposed method modifies the design at the register transfer level (RTL) and uses the synthesis tools to automatically deal with timing analysis and optimization.	2010

Technology : VLSI
Domain : HIGH SPEED (FPGA OPTIMIZATION)

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
13.	ITVL13	Mapping Multi-Domain Applications onto Coarse-Grained Reconfigurable Architectures.	This paper introduces approaches to mapping applications onto CGRAs supporting both integer and floating point arithmetic. After presenting an optimal formulation using integer linear programming, we present a fast heuristic mapping algorithm.	2011
14.	ITVL14	An On-Chip Delay Measurement Technique Using Signature Registers for Small-Delay Defect Detection.	This paper presents a delay measurement technique using signature analysis, and a scan design for the proposed delay measurement technique to detect small-delay defects	2011
15.	ITVL15	Period Extension and Randomness Enhancement Using High-Throughput Reseeding-Mixing PRNG.	This paper introduces a new reseeding-mixing method to extend the system period length and to enhance the statistical properties of a chaos-based logistic map pseudo random number generator (PRNG).It removes the short periods of the digitized logistic map and the mixing method extends the system period length to 2^253 by "XOring" with a DX generator.	2011
16.	ITVL16	Single Cycle Access Structure for Logic Test	This research proposes a new single cycle access test structure for logic test. It eliminates the peak power consumption problem of conventional shift-based scan chains and reduces the activity during shift and capture cycles.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
17.	ITVL17	Implementation of a Self-Motivated Arbitration Scheme for the Multilayer AHB Bus matrix.	This paper propose the design and implementation of a flexible arbiter for the ML-AHB bus matrix to support three priority policies—fixed priority, round robin, and dynamic priority and three data multiplexing modes—transfer, transaction, and desired transfer length.	2010
18.	ITVL18	Improved Area-Efficient Weighted Modulo $2n + 1$ Adder Design With Simple Correction Schemes.	This paper presents adders that can produce modulo sums within the range $\{0,2^n\}$, which is more than the range $\{0, 2^n - 1\}$ produced by existing diminished-1 modulo 2n + 1 adders	2010
19.	ITVL19	Field programmable gate array prototyping of end-around carry parallel prefix tree architectures.	In this paper, complete designed EAC adders that can work independently as a regular adder is proposed and present a comparative study on different parallel prefix trees which are used in the design of our new EAC adder targeting fieldprogramm-able gate array (FPGA) technology.	2010

Technology : VLSI
Domain : COMMUNICATION (ERROR CORRECTION)

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
20.	ITVL20	Design of an Error Detection and Data Recovery Architecture for Motion Estimation Testing Applications.	This paper presents EDDR architecture for detecting the errors and recovering the data of PEs in a ME. Based on the RQ code, a RQCG-based TCG design is developed to generate the corresponding test codes to detect errors and recover data.	2011
21.	ITVL21	A Robust FSM Watermarking Scheme for IP Protection of Sequential Circuit Design.	This paper, a new FSM watermarking scheme is proposed by making the authorship information a nonredundant property of the FSM To overcome the vulnerability to state removal attack and minimize the design overhead.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
22.	ITVL22	High-Throughput Interpolator Architecture for Low-Complexity Chase Decoding of RS Codes.	In this paper, high-throughput interpolator architecture for soft-decision decoding of (RS) codes based on low-complexity chase (LCC) decoding is presented The proposed algorithm works with a different scheduling, takes care of the limited growth of the polynomials, and shares the common interpolation points, for reducing the latency of interpolation.	2011
23	ITVL23	A Lightweight High-Performance Fault Detection Scheme for the Advanced Encryption Standard Using Composite Fields	This paper presents a lightweight concurrent fault detection scheme for the AES. In the proposed approach, the composite field S-box and inverse S-box are divided into blocks and the predicted parities of these blocks are obtained.	2011
24	ITVL24	New Approach to Look-Up-Table Design and Memory-Based Realization of FIR Digital Filter.	In this paper, we show that the look-up-table (LUT)-multiplier-based approach, where the memory elements store all the possible values of products of the filter coefficients could be an area-efficient alternative to DA-based design of FIR filter with the same throughput of implementation.	2010
25	ITVL25	Pseudorandom Bit Generation Using Coupled Congruential Generators.	This paper proposes the generation of a pseudorandom bit sequence (PRBS) using a comparative linear congruen- tial generator (CLCG) as follows. A bit "1" is output if the first linear congruential generator (LCG) produces an output that is greater than the output of the second LCG, and a bit "0"is output otherwise.	2010
26	ITVL26	Design Space Exploration of Hard-Decision Viterbi Decoding: Algorithm and VLSI Implementation.	This work analyzes the design complexity by applying most of the known VLSI implementation techniques for hard-decision Viterbi decoding to a different set of code parameters. The conclusions are based on real designs for which actual synthesis and layouts were obtained.	2010
27	ITVL27	New Architectural Design of CA-Based Codec.	This paper proposes a codec which requires significantly less hardware and power for decoding compared to the existing techniques employed for Reed–Solomon (RS) Codes. Also it has been shown that the CA-based scheme can easily be extended for correcting more than two byte Errors.	2010
28	ITVL28	An Efficient 4-D 8PSK TCM Decoder Architecture	This paper presents an efficient architecture for a 4-D eight-phase-shift-keying trellis-coded-modulation (TCM) decoder. TCM encoders usually employ high rate convolutional codes that yield many more transition paths per state than low-rate codes do.	2010

Technology : VLSI
Domain : APPLICATION

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
29	ITVL29	An Efficient Architecture Design for VGA Monitor Controller	This research presents the design and implementation of efficient hardware architecture for VGA monitor controllers based on FPGA technology. The design is compatible with PLB bus and has a high potential to be used in Xilinx FPGA-based systems.	2011
30	ITVL30	The Communication Interface Design of AT89C51 Preparation Robot Based on Serial	In this research we present a MAX232 chip using AT89C51 Microcontroller to RS-232 Serial Communication, And RS- 232 communication interface design can give about preparation robot of Xi'an Aeronautical applications.	2011

EMBEDDED

Technology : EMBEDDED
Domain : ROBOTICS

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
1.	ITROB01	Solar Power System for Experimental Unmanned Aerial Vehicle (UAV); Design and Fabrication	In this paper, solar cells were used to increase the endurance of the aircraft. Obtaining this goal, an electrical Circuit was developed to measure the output power of the batteries of the aircraft during the flight.	2011
2.	ITROB02	Construction of an Obstacle Map and its Real-time Implementation on an Unmanned Ground Vehicle	The objective of this paper is to develop and implement a UGV control system utilizing embedded micro-controllers. This control system must enable the UGV to navigate using GPS to the specified waypoints while avoiding obstacles discovered in its path.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
3.	ITROB03	A Hierarchical Algorithm for Indoor Mobile Robot	In this paper, high-throughput interpolator architecture for soft-decision decoding of (RS) codes based on low-complexity chase (LCC) decoding is presented The proposed algorithm works with a different scheduling, takes care of the limited growth of the polynomials, and shares the common interpolation points, for reducing the latency of interpolation.	2011
4.	ITROB04	Imirok: Real-Time Imitative Robotic Arm Control for Home Robot Applications	In this paper, we have presented the design, implementation, and Evaluation of an imitative robotic arm control system using MATLAB and embedded system.	2011
5.	ITROB05	Automated Voice based Home Navigation System for the Elderly and the Physically Challenged	In this paper, we propose an Intelligent Home Navigation System (IHNS) which comprises of a wheelchair and voice recognition module. It can be used by an elderly or physically challenged person to move inside the home without any difficulty.	2011
6.	ITROB06	Hazardous Gas Detecting Method Applied in Coal Mine Detection Robot	Coal Mine Detection Robot is required to detect hazardous gas. The explorative robot uses improved infrared ray absorption prospecting instrument to detect CO and temperature of environmental group data, it has strong integration and micro-miniaturization.	2011
7.	ITROB07	The Application of Adaptive PID Control in the Spray Robot	The objective of this paper is to control the robotic spray mechanism using a PID controller for agricultural and green house maintenance. Here, we develop a PID control using Microcontroller.	2011
8.	ITROB08	Weighing System of Fruit-Transportation Gyro car Based on ARM	The automatic fruit transportation gyro car uses weight sensor to measure the load. The gyro car moves automatically to the destination when the measured load reaches the set load.	2011
9.	ITROB09	Zigbee based Wireless Sensor Networks for Service Robot Intelligent Space	The Zigbee based wireless sensor networks has been implemented in our service robot intelligent space successfully, which greatly improve the perception of service Robot. Here, the robot monitors and controls the devices according to the received data from the sensor networks.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
10.	ITROB10	Design and Implementation of a Mini-Size Search Robot	This paper represents a design and implementation of a mini-size search robot, which is mainly used to search the chassis of vehicle and some narrow areas of city for detection of dangerous materials.	2011
11.	ITROB11	Situation-Driven Control of a Robotic Wheelchair to Follow a Caregiver	We have proposed a robotic wheelchair that can move with a caregiver collaboratively depending on the situation. In an Open space, it moves with the caregiver side by side using MATLAB. This enables easy communication between the wheelchair user and the caregiver.	2010
12.	ITROB12	Indoor autonomous hovering control for a small unmanned coaxial helicopter	This paper constructs an indoor Autonomous flight control platform for a small coaxial helicopter, which is convenient for data collection and monitoring in remote area.	2010
13.	ITROB13	Design of a Wall-Climbing Robot with Passive Suction Cups	In this paper, a wall-climbing robot which attaches to a Wall by passive suction cups has been proposed. It has motors, which not only rotates crawler belts but also can be used to attach and detach a suction cup from a surface.	2010
14.	ITROB14	Design and Implementation of Multi-sensor Based Autonomous Minesweeping Robot	The small handful of landmines that remain undiscovered, can actually lead to an increase in civilian mine casualties. Wireless connection is established between the local controller on the robot and general controller that is installed at the outside of the minefield to handle the whole navigation procedure.	2010
15.	ITROB15	Autonomous Agricultural Robot and Its Row Guidance	It is used to guide a robot platform which is designed independently to drive through the row crops in a field according to the design concept of open architecture.	2010
16.	ITROB16	Individual Plant Recognition Using the RGB Color Model	To create an individual plants recognition method, that can be efficient at variable lighting conditions where plant discrimination is realized using the RGB color model	2010
17.	ITROB17	Head Motion Controlled Power Wheelchair	The objective of this project is to design a power wheel chair with a novel control system for quadriplegics with head and neck mobility.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
18.	ITROB18	Wireless Image Communication System for Fire-Fighting Robots	Fire-fighting robots can be useful for extinguishing a fire, and they are controlled by remote operators. In order to help these operators wireless	2010
19.	ITROB19	7TH Sense. A Multipurpose Robot for Military	This project's aim is to provide a robotic system that can combat in wars and other military purposes. Also we are going to control the robot from remote location.	2009
20.	ITROB20	Designing and Implementing an Intelligent Bluetooth-Enabled Robot Car	The robot car is wirelessly remote controlled via Bluetooth. In addition, comparative analyses of the different Kinds of sensors, which are useful in robot cars, are provided.	2009

Technology : EMBEDDED
Domain : AUTOMATION

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
21.	ITAM01	A Thermally Actuated Micro electromechanical MEMS) Device for Measuring Viscosity	Changes in oil viscosity in vehicles result in major breakdowns and repairs. The proposed MEMS device is able to measure the viscosity variation of heated motor oil by the change in natural vibration frequency in the oil.	2011
22.	ITAM02	Implementation of CAN bus in an autonomous All-Terrain Vehicle	This paper describes about implementing the CAN bus on Automated vehicles. The proposed system uses multiple node of CAN bus to control and monitor the all terrain vehicle.	2011
23.	ITAM03	Measurement and Control System of Soil Moisture of Large Greenhouse Group Based on Double CAN Bus	The measurement and control system of soil moisture of large greenhouse group based on double CAN bus is introduced in this paper. According to the soil moisture level of various nodes the water is fed to the field automatically using motor.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
24.	ITAM04	Research of Roots Flow Meter Based on ARM Cortex-M3	This paper introduces an intelligent roots flow meter to measure the gas flow in industries. It uses temperature and pressure sensors to measure the gas flow.	2011
25.	ITAM05	The intelligent embedded control warning system for car reversing	This research tries to design a set of embedded intelligent car backup warning system so as to Promote the safety of the walkers or the other drivers on the Road. It uses ultrasonic sensor and light sensor to detect the rear vehicles and pedestrians. A warning lamp is used to alert the pedestrians.	2011
26.	ITAM06	Combined Capacitive and Ultrasonic Distance Measurement for Automotive Applications	For the safety applications, the Electronic Control Unit (ECU) of an automotive requires accurate information about size and position of an approaching object. A capacitive and ultrasonic sensor was used to measure the size and position of an obstacle.	2011
27.	ITAM07	Eye Tracking based Driver Fatigue Monitoring and Warning System	This system uses MATLAB based eye movement and measures steering gripping pressure using grip sensor to detect the fatigue state of the driver. The microcontroller warns the driver when he is in fatigue state to prevent accident.	2011
28.	ITAM08	Temperature gathering and Fuzzy control system of electric furnace based on the ARM	An electric furnace temperature is measured and controlled using ARM processor. The system is controlled based on the fuzzy control, which can make the system more accurate and Quickly.	2011
29.	ITAM09	A Hybrid Wired/ Wireless Networking Infrastructure for Greenhouse Management	This paper has presented a communication system for the Monitoring and control of greenhouses. Multi protocol system based on Zigbee and CAN were used to monitor and control the greenhouses.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
30.	ITAM10	Design of the Measurement Node of the Grain Quantity Monitoring System Based on the CAN-bus	According to the pressure sensor values, quantity of grain is calculated. This value is sent through CAN bus to receiver section.	2010
31.	ITAM11	Design of Automatic Meteorological Data Acquisition System Based on ARM and CAN Bus	Using ARM processors and CAN protocol, we will intimate the weather condition of environment. Weather condition is monitored by metrological sensors.	2010
32.	ITAM12	An Automated Remote Messaging System using GSM Communications	Using this project, any occurrences of road construction, repairs, changing lanes, motorists can be alert via GSM modem.	2009
33.	ITAM13	Research on Embedded Data Display Unit Based on CAN Bus	The application development of embedded display terminal based on ARM microprocessor is studied, by applying 32 bit RISC key microprocessor technique and CAN bus communication technology.	2009
34.	ITAM14	Implementation of Interface between Vehicle Bus Network and On-vehicle Information System	Here we introduce two new protocols (i.e.) LIN, CAN. Using these protocols vehicle parameters will be monitored and controlled.	2009

Technology : EMBEDDED
Domain : WIRELESS

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
35.	ITWI01	More Efficient Home Energy Management System Based on Zigbee Communication and Infrared Remote Controls	The objective of this project is to control the home devices using infrared remote controller and Zigbee communication. This proposed architecture gives more efficient energy-saving architecture and home energy management.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
36.	ITWI02	Digital control for Home Lighting Systems with Zigbee Communication	This paper presents various method of controlling the lighting system. Here, we use scheduled control, automatic control and manual control. It also uses dimming circuit to reduce the lighting illumination.	2011
37.	ITWI03	Real Time Paddy Crop Field Monitoring Using Zigbee Network	In this paper we are going to utilize the sensor in the paddy crop field area and gives proposed architecture for real time paddy crop field monitoring with Zigbee wireless sensor network.	2011
38.	ITWI04	The Design of Tiered Pricing Meter Based on Zigbee Wireless Meter Reading System	The tiered pricing meter based on ZIGBEE technology can record electricity consumption used by customers. After accumulation of a month, the monthly consumption of every period and the total energy will be transmitted through Zigbee to electricity board for billing.	2011
39.	ITWI05	Elder Care Based on Cognitive Sensor Network	The objective of this paper is to alarm an elderly person living alone in a panic condition. ZIGBEE is used as a wireless medium to get data from current sensor, weight sensor and water flow sensor. The controller receives the data from those sensors and data's are updated in PC.	2011
40.	ITWI06	Low Power RC5 Cipher for Zigbee Portable Biomedical Systems	This paper presents RC5 chiper architecture for low power dissipation for transmission of secured biomedical data. RC5 chiper is an encryption and decryption based architecture for secured wireless communication.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
41.	ITWI07	Traffic Information Service Based on Vehicle Ad-Hoc Network	We propose a traffic information service simply relying on the GPS systems in vehicles and wireless communication devices for vehicle-to-vehicle communication. Here, the Ad-Hoc network is an multichannel wireless communication system	2011
42.	ITWI08	Monitoring and Alarming System Based on Zigbee Technology	This paper presents a GPRS and ZIGBEE integrated monitoring and alarming system. The GPRS technology is used to complete data exchanging between remote monitoring center and wireless sensor subnets.	2011
43.	ITWI09	A Forest Fire Monitoring System Based on GPRS and Zigbee Wireless Sensor Network	In this paper, a forest fire monitoring system is built based On ZIGBEE wireless sensor network and GPRS wireless communication. The objective of this paper is prevention and monitoring of large forest area using wireless communication.	2010
44.	ITWI10	CAN Bus Network Design based on Bluetooth Technology	This paper is an integration of Bluetooth technology and CAN bus. The fusion of short distance wireless communication technology and the CAN bus extends the application of field bus in the special industry environment, which makes effectively extend the field bus network.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
45.	ITWI11	LED lighting Control System Based on the Zigbee Wireless Network	A method of LED intelligent lighting control based on ZIGBEE wireless communication technology is introduced in this paper. Here, we use PWM based LED lighting control according to light illumination from the photo electricity sensor.	2010
46.	ITWI12	Smart Home Energy Management System using IEEE 802.15.4 and Zigbee	This paper proposes a Zigbee based energy management. It utilizes various sensor networks for energy conservation and device control in smart home.	2010
47.	ITWI13	Zigbee - based Vehicle Access Control System	In this paper, a set of vehicle access control system based on Zigbee wireless technology. Zigbee coordinator and its terminal nodes installed respectively in the entrance of the district and the vehicles, to form a Zigbee wireless sensor network.	2010
48.	ITWI14	Wireless Measurement and Control System for Environmental Parameters in Greenhouse	In this project we can control and adjust the environmental parameters in every greenhouse, using temperature and humidity sensor through RF technology.	2010
49.	ITWI15	Remote Control of Smart Household Based on DTMF	This paper mainly introduces the smart household control system realization procedure based on DTMF remote transmission.	2010

Technology : EMBEDDED
Domain : GSM AND GPS

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
50.	ITGP01	Design of Auto-guard System Based on RFID and Network	The auto-guard system combines the advantages of RFID and GSM together. It is the very effective method to reduce the theft rate of vehicle; it effectively utilizes the usage of GSM and RFID to avoid vehicle theft.	2011
51.	ITGP02	The Flexible Bus Systems Using Zigbee as a Communication Medium	This project is combined of the effective usage of the Zigbee, GPS, and RFID. It maintain and regulates the Bus system effectively and how to make it more reliable using short range wireless technology Zigbee	2011
52.	ITGP03	Position Matching Based Autonomous Speed Regulation System for Vehicles	This paper deals with creating an onboard speed regulation module for vehicles which can monitor as well as control their instantaneous speed in comparison with the maximum permissible speed of that location. The location is obtained using position tracking technology of GPS and GSM system.	2011
53.	ITGP04	Research on Communication link of Remote Wireless Monitoring System Based on GPRS and MCU	This paper briefly describes the design of remote wireless monitoring hazardous parameters through sensors using MCU and updated the values in the internet through GPRS (General Packet Radio Service).	2011
54.	ITGP05	Smart Parking Reservation System using Short Message Services (SMS)	In this paper a smart parking system is proposed in commercial car park areas. A parking reservation is done in such a way that users book their parking slots through short message services (SMS). The conformation will also be responded.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
55.	ITGP06	RFID and GSM Technology Building Intelligent Relief Supplies Distribution and Monitoring System	This paper proposes a system using sensors, RFID system and GPS positioning chips collecting data and coordinate data, which is transmitted to data processing center server through GSM wireless communication network real-timely.	2010
56.	ITGP07	Pipeline Damage Locating Based on GPS Fiducial Clock Synchronization and Clock Subdivision Technology	This paper designed the pipeline prevention monitoring and leak detecting system to recognize damage acoustic signal and locate the damage position using GPS.	2010
57.	ITGP08	Electronic Energy Meter With Instant Billing	In this project automated billing of energy meter with postpaid mobile connection is proposed. It utilizes the usage of GSM, to know our due bill instantly and can even pay for it.	2010
58.	ITGP09	Car Monitoring, Alerting and Tracking Model	This project combines the integration between monitoring and tracking system. This system effectively utilizes the usage of GSM Modem for monitoring and tracking system.	2010
59.	ITGP10	Electronic Toll Collection System based on Global Positioning System Technology	In this project, the disadvantage of DSRC (dedicated short range communication)-based ETC is avoided. To implement this flexible system of GPS-based ETC system, along with its charging zone and charging mode are all provided.	2010
60.	ITGP11	Design of A Hybrid RFID/ GPS-Based Terminal System in Vehicular Communications	A new solution that integrates RFID identifying and GPS tracking was proposed and implemented, which can enhance Automatic management, information security, real-time trace and location, and anti-theft in digital logistics management.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
61.	ITGP12	Identifying Objects Using RF Transmitters and Receivers, and Retrieving Data Using GSM.	In this project we can identify the lost objects through RF technology using GSM modem.	2010
62.	ITGP13	Design Of Intelligent Traffic Light Controller Using Embedded System.	In this project we can control the heavy traffic from remote place through wireless technology (GSM). Hence it is very efficient than the conventional traffic control.	2010
63.	ITGP14	Remote Monitoring Intelligent System Based on Fingerprint Door Lock	Fingerprint identification with a unique, reliable, in the security field has been widely used. The system can accurately identify lively fingerprint, and sent unlock ID information, the illegal burglary information to the owner by the GSM network	2010
64.	ITGP15	A Multi-Channel Remote Controller For Home and Office Appliances	This project presents the design and implementation of a multi-channel remote controller (MCRC) for home and office appliances. The aim of this work is to integrate several existing remote controller channels in a common platform.	2009

Technology : EMBEDDED
Domain : CONSUMER ELECTRONICS

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
65.	ITCE01	Large Scale Active RFID System Utilizing Zigbee Networks	This paper proposes a large scale active RFID system in order to extend a reader's radio coverage and use of wireless technology.	2011
66.	ITCE02	A Power Saving Jamming System for E-GSM900 and DCS1800 Cellular Phone Networks for Search and Rescue Applications	In this paper, the mobile signal is identified and controlled by white noise signal generated to produce noise signal in order to avoid mobile communication.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
67.	ITCE03	An RFID-Based Reminder System for Smart Home	In this paper, we present a prototype reminder system based on RFID and wireless technologies. The RFID makes it easy to detect and record the objects that the user takes out. Through the analysis on these records, the system would know what the user should bring along every day and what objects the system should put in the reminder list.	2011
68.	ITCE04	RFID and Zigbee Based Manufacturing Monitoring System	In this paper, the RFID and Zigbee based manufacturing monitoring system is a good approach to improve monitoring efficiency so as to improve management efficiency in enterprises.	2011
69.	ITCE05	Mechanism with Four Degrees of Freedom, Design and Construct with Controller for Increasing the Power Output of Solar Cell	In this paper, to increase the power of solar cell in industry and makes a system for getting maximum rate of sunlight in day and seasons which will help to get maximum power from panel . The mechanic part which has been designed so simple and can install in anywhere, by very low power electric motor.	2011
70.	ITCE06	Design of Sensor Modules of Active & Intelligent Energy-saving System	In this paper, we propose new method of intelligent energy-saving system to accomplish the goal of real energy-saving from the view-point of system-orient strategy. In this system included sensors and wireless protocol to achieve intelligent energy saving system.	2011
71.	ITCE07	An Integrative Model of Consumer's Adoption of RFID Credit Card Service	In this paper, Different approaches to consumer's adoption of new technology-based service into an integrative model. The model is tested with data from RFID credit card adoption technique.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
72.	ITCE08	A Wireless Sensor Node SoC with a Profiled Power Management Unit for IR Controllable Digital Consumer Devices	In this paper, we introduce a wireless sensor node including the power management unit for universal remote controller. We have newly applied a profiled power management technique that incorporates the selective power supplying scheme for dynamic power management.	2010
73.	ITCE09	Real-Time Atomization Of Agricultural Environment for Social Modernization of Indian Agricultural System	In this paper, using ARM7 and GSM is focused on atomizing the irrigation system for social welfare of Indian agricultural system and also to provide adequate irrigation in particular area.	2010
74.	ITCE10	ATM terminal design is based on fingerprint recognition	For the traditional ATM terminal customer recognition systems only rely on bank cards, passwords, and such identity verification methods which measures are not perfect and functions are too single. Here we add fingerprint image to increase the security.	2010
75.	ITCE11	Wireless Fingerprint Attendance System Based on Zigbee Technology	Aiming at the disadvantages of traditional wire attendance system, a design method of wireless fingerprint attendance system based on Zigbee technology is proposed.	2010
76.	ITCE12	Smart Digital Door Lock for the Home Automation	We propose a digital door lock based home automation system, which exploits the full capacity of Zigbee sensor network by integrating home security with home automation.	2009

Technology : EMBEDDED
Domain : WEB BASED

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
77.	ITWB01	Design of On-line Interactive Data Acquisition and Control System for Embedded Real Time Applications	Embedded web server is used to collect the data with clients in online. In this system data can be collected with help of ARM processor.	2011
78.	ITWB02	Research on water-saving irrigation automatic control system based on Internet of things	In this paper, the design of wireless sensor network and Internet technology of farm-land automatic Irrigation control method. The different farm parameter is updated with internet using Embedded technology.	2011
79.	ITWB03	Next Generation System for Real-Time Monitoring of Rainfall, Soil Moisture, and Soil Temperature	In this paper, we propose wireless technology to measure rainfall, soil moisture, and soil temperature and updated with web server.	2011
80.	ITWB04	Development of On-line Monitoring System of Substation Power Equipment Based on IEEE1588 Standard	With the development of digitization of substation, the on-line monitoring system of substation power equipment is adopting the IEC61850 standard to realize substation parameter using wireless communication.	2011
81.	ITWB05	Intelligent online Measurement and Management of energy Meter Data Through Advanced Wireless Network	In this paper, we design an embedded intelligent electric meter based on advanced wireless data acquisition system in view of the complicated cables and accident potential in the process of data acquisition of electric meter.	2011
82.	ITWB06	Web-based Real-time Remote Monitoring for Pervasive Healthcare	This system can continuously measure physiological signals of patient and the data are transferred to remote location in real-time using wireless protocol.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
83.	ITWB07	The Application of Stolen Radioactive Source Tracking System Based on Internet of Things Technology	The design and implementation of radioactive source control management system based on Internet of things technology. The stolen Radioactive Source Tracking is done help of GSM and GPS technology.	2011
84.	ITWB08	Design and Implementation of the Lab Remote Monitoring System Based on Embedded Web Technology	In this paper, Embedded web-based remote monitoring system for the environment in the laboratories is monitored using multiple sensors and RS232 protocol.	2010
85.	ITWB09	Design of ARM-based Embedded Ethernet Interface	In this paper, an embedded Ethernet interface based on ARM processor is designed. The data transfer between ARM processor to PC using Ethernet	2010
86.	ITWB10	Distributed Remote Temperature Monitoring and Acquisition System Based on CAN Bus	According to temperature monitoring needs in the actual Production, the design of distributed CAN bus remote temperature monitoring system is done in this paper, and the system design method is described.	2010
87.	ITWB11	Design of Wireless Embedded Thin Web Server Based on Zigbee	This paper introduces the hardware and software structure of an embedded thin web server. Different from other wired embed web servers, this embedded thin web server is build on Zigbee, a wireless ad hoc network communication technology.	2010
88.	ITWB12	A Design of Bi-verification Vehicle Access Intelligent Control System Based on RFID.	In this paper, an improvement design to the current widely-used vehicle monitoring systems, which utilize the RFID technology to carry on is presented in details.	2009

Technology : EMBEDDED
Domain : ELECTRICAL

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
89.	ITEEE01	An on-line distributed induction motor monitoring system based-on ARM and CAN bus	This paper presents an on-line distributed induction motor monitoring system based-on the ARM, which is integrated with the Embedded and CAN bus technologies. Current and voltage of the motor from different fields of motors are measured in this system.	2011
90.	ITEEE02	Self-Powered Wireless Sensor for Air Temperature and Velocity Measurements With Energy Harvesting Capability	The system has been designed for measuring the air temperature and velocity of an airflow and transmits the measured data, with 2.4Ghz point-to-point communication, to a receiving unit. The receiving unit works with a power-harvesting module using a prototype wind mill.	2011
91.	ITEEE03	Implementation of an Embedded Induction Motor Test and Analysis System	With the high processing speed of the ARM microcontroller, the induction motor test and analysis system constructed with the ARM7 Processor and graphical LCD make the system more reliable.	2011
92.	ITEEE04	High-voltage Pulse Power Supply Controller based on ARM7	This proposed system describes the implementation of high-voltage Pulse power controller base on the ARM7, the pulse parameters can be regulated and operate with the high Power electronic devices and specified driver modules for stable and reliable work.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
93.	ITEEE05	The Design and Implementation of Power Earth-Line Monitoring System	This paper describes the power earth-line monitoring system for the planning, design and implementation process. Ground state data of the power lines are collected by the monitor, and then the data are transmitted to monitoring platform through the GSM short message system.	2011
94.	ITEEE06	Supervisory Predictive Control of Standalone Wind/Solar Energy Generation Systems	In this Paper, we design the supervisory control system via model predictive control which computes the power references for the wind and solar subsystems. The maximum power generated by the renewable resources is utilized by the load	2011
95.	ITEEE07	Real Time Control of DC Motor Drive using Speech Recognition	This paper introduces a new approach to control and drive the DC motor, using speech recognition. The speech signal can be provided through microphone that is connected to computer. Using MATLAB process the speech is recognized and PC gives control commands to the microcontroller to drive the DC motor.	2011
96.	ITEEE08	A Robust, Adaptive, Solar-Powered WSN Framework for Aquatic Environmental Monitoring	The objective of this paper is to monitor aquatic environment using solar powered wireless sensor network. The measured data's are transmitted continuously to local monitoring system for data storage and visualization.	2011
97.	ITEEE09	A Reinforcement-Learning-Based Fuzzy Compensator for a Microcontroller-Based Frequency Synthesizer/Vector Voltmeter	This paper presents a frequency synthesizer and a voltmeter using microcontroller. We can increase or decrease the frequency and amplitude of an input voltage.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
98.	ITEEE10	An Energy-Autonomous Self-Tunable Piezoelectric Vibration Energy Harvesting System	An energy autonomous frequency-tunable piezoelectric energy harvester has been presented. The actuation required for the tuning mechanism has been done with the same piezo ceramic material as the one used for the energy generation.	2011
99.	ITEEE11	360° Sun Tracking With Automated Cleaning System For Solar PV Modules	A novel mechanism of sun tracking with automatic cleaning of PV modules is presented and cleaning Mechanism of the PV modules consists of sliding brushes, which slides over module and cleans it twice a day, wherein PV panel makes a rotation of 360o in a day.	2010
100.	ITEEE12	A New Intelligent Remote Control System for Home Automation and Reduce Energy Consumption.	This paper presents the design and implementation of an internet-based smart remote control system for home automation, dedicated to power management that adapts power consumption to available power resources according to user comfort and cost criteria.	2010
101.	ITEEE13	An Embedded Electric Meter Based On Bluetooth Data Acquisition System.	We design an embedded electric meter based on Bluetooth data acquisition system in view of the complicated cables and accident potential in the process of data acquisition of electric meter.	2010
102.	ITEEE14	Design of Substation Temperature Monitoring System Based on Wireless Sensor Networks.	Using the features and technology of wireless sensor networks such as distributed and self-organization to build substation temperature monitoring, which can monitor the temperature and transmitted using Zigbee.	2010

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
103.	ITEEE15	A Novel Technique for Preventing Current Method Electricity-stealing.	In this project we can recognize the normal, opened or shorted state of current transformer secondary side circuit correctly and we can prevent current method electricity-stealing effectively.	2010
104.	ITEEE16	A web-based distributed measurement system for electrical Power Quality monitoring	Power Quality (PQ) analysis is getting importance for the economy because this Equipment is highly sensitive to PQ events. Control and supervision of an industrial process has mainly been focused on the electrical protection.	2009

Technology : EMBEDDED
Domain : BIO MEDICAL

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
105.	ITBIO01	A Zigbee-Based Tele cardiology System for Remote Healthcare Service Delivery	In this paper, this system provides doctors with the ability to monitor ECG level of patients over the Internet with help of Zigbee protocol.	2011
106.	ITBIO 02	Design of Wireless Sensor System for Neonatal Monitoring	We propose the application of wireless transmission technology for neonatal monitoring at NICU. To demonstrate the design concept a prototype wireless transmission system is built using the microcontroller and wireless technology.	2011
107.	ITBIO 03	Wireless Sensor Networks for Monitoring Physiological Signals of Multiple Patients	In this paper, a novel wireless sensor network structure to monitor patients ECG in their own home through a remote monitoring system of physiological signals was presented.	2011
108.	ITBIO 04	Monitoring of Posture Allocations and Activities by a Shoe-Based Wearable Sensor	In this paper, we propose wearable shoe-based device and related pattern recognition methodology for automatic recognition of different postures and activities using bionic sensor and wireless technology.	2011

S.NO	PROJECT CODE	PROJECT TITLES	DESCRIPTION	YEAR
109.	ITBIO 05	The intelligent blood collecting apparatus based on internetworking	The blood collect apparatus uses the advanced technology ofMCU,fingerprintidentifying and RFID. It controls the operator of collect-blood strictly to prevent the errors caused by man.	2011
110.	ITBIO06	Secure Remote Patient Monitoring System	In this paper, we propose wireless technology to get physical parameters of patient in hospital server. GSM is also used to pass SMS to remote doctor at emergency condition.	2011
111.	ITBIO07	A Real-Time Wireless Brain–Computer Interface System for Drowsiness Detection	In this paper, wireless EEG-based BCI system was proposed for drowsiness detection in car applications. It consists of a wireless transceiver and EEG sensor which helps to avoid accident.	2010
112.	ITBIO08	A Novel MEMS Respiratory Flow Sensor	The sensor was demonstrated to be sensitive enough to detect the respiratory flow rate, and the relationship between flow rate and sensed voltage is quite linear. If one can integrate the sensor with its sensing circuit into a single chip, the cost of a pneumatic system can be greatly reduced	2010
113.	ITBIO09	Wireless Wearable Pulse Oximeter for Health Monitoring using Zigbee Wireless Sensor Network	In this project, we are going to monitor and measures the oxygen saturation of a patient's blood using sensor. If any abnormality occurs then the data transferred through wirelessly.	2009
114.	ITBIO10	Drug Management: How to Provide Drug on Assigned Time?	In this paper, with the use of microcontroller (PIC16F877A), we designed the system which delivers drugs to the patient on assigned time and the other is by sending radio frequencies from control center and receiving them in drug delivery system.	2009

Technology : EMBEDDED
Domain : NON-IEEE-ROBOTICS

S.NO	CODE	PROJECT TITLE	DESCRIPTION
1.	NIROB01	Crack Detection Robot for Railway Track Inspection	This Robot has crack sensor which could be able to detect the Crack in the Railway Track
2.	NIROB02	Coal Mine Detect and Rescue Robot	It is composed of mechanism, control system, communication system and sensors, etc. It can run in explosion environment, check gas, and carry some food and medicine to the miners in disaster.
3.	NIROB03	Design and Implementation Of Stair –Climbing Robot	In the project, a robot is designed to move up and-down stairs to provide service for the elders. The robot consists of a main body for moving, a front arm and a rear arm for moving up and down stairs.
4.	NIROB04	Wireless Border Security Robot.	The Robot is wirelessly controlled through which could be used in Military purpose. It has the facility to shoot Automatically
5.	NIROB05	DTMF based mobile operated industrial spy robot using 3G enabled mobile.	The spy Robot is wirelessly remote controlled via 3G enabled mobile phone using DTMF technology. We are able to view the remote areas using video call.

Technology : EMBEDDED
Domain : NON-IEEE-AUTOMATION

S.NO	CODE	PROJECT TITLE	DESCRIPTION
6.	NIA01	A Novel Approach on The Hydrologic Remote Measurement System in Coalmining Industries.	In this project, the temperature and water level information of the ground water around the coal mine could be gathered efficiently. The gathered information is transmitted through a GSM Modem.
7.	NIA02	The Integrated Unit for MEMS Based Pressure Measurement	The sensor to calculate the pressure and is connected to the microcontroller through ADC using I2C protocol. The pressure values can be monitored in a PC via UART.
8.	NIA03	Ticket Vending Machine Based on Coin Sensor.	In this project we using a coin sensor and is connected to microcontroller through ADC and display the coin price.

S.NO	CODE	PROJECT TITLE	DESCRIPTION
9.	NIA04	The Blind Audio Guidance System Using RFID	In this project, we using a RFID Reader to attached with microcontroller and reads a secreat number and used for annoncing a path to destination.
10.	NIA05	Cursor Position Movement Using Eye Ball Sensor	In this project we using a eyeball sensor is attached with microcontroller through a ADC and varying a voltage using the way to position.

Technology : EMBEDDED
Domain : NON-IEEE-BIOMEDICAL

S.NO	CODE	PROJECT TITLE	DESCRIPTION
11.	NIBIO01	RFID Based Medicine Reminder With RTC	This project has helpful to patient to identify the medicine with help of microcontroller and RTC
12.	NIBIO02	Epilepsy (Fits) Sensing and Sending Message to The Emergency Centre	Epilespy identified by microcontroller and fits sensor which is helpful to the society and to avoid dangerous problem.
13.	NIBIO03	ECG Tele Alert System Using GSM	In this paper, the health parameters such as ECG are monitored using sensor. If any abnormality occurs a message is send to corresponding person through GSM
14.	NIBIO04	Patient Health Monitoring of Cough and Heart Beat Rate Using GSM	This paper helps to doctor to remote monitoring the cough and heartbeat of patient using sensors & microcontroller.
15.	NIBIO05	Wirless Health Monitring at Neonatal Intensive Care Units	We propose the application of wireless transmission technology for neonatal monitoring at NICU. To demonstrate the design concept a prototype wireless transmission system is built using the microcontroller and wireless technology.

Technology : EMBEDDED
Domain : GSM & GPS

S.NO	CODE	PROJECT TITLE	DESCRIPTION
16.	NIGSM01	Intelligent Remote Metering System Using GSM	In this project, a technique for remotely reading the electricity meter readings using SMS. Existing global system for mobile communications (GSM) used for sending and receiving text.
17.	NIGSM02	GPS Based Taxi Management System.	In this project, we can employ a GPS modem attached with to microcontrollers which monitor the path. Avoiding error corrections in path then display in PC.
18.	NIGSM03	Vehicle Accident Intimation And Location Finder Using GSM And GPS	In this project, we can employ Sensor, GSM Modem and GPS Modem attached with to a microcontroller through ADC which controls the engine. If we have any abnormal send a SMS in GPS value with the help of modem.
19.	NIGSM04	GSM And GPS Based Vehicle Location Tracking System.	In this project, we can employ a GSM Modem and GPS Modem attached with to a microcontroller and monitor a GPS value from the vehicle to controls the engine. If we send a SMS to modem we can control the vehicle and receive a present vehicle position.
20.	NIGSM05	Design And Development Of A GSM Based Vehicle Theft Control System.	In this project, we can employ a GSM modem attached with to a microcontroller which controls the engine. If we send a SMS to modem we can control the vehicle.

Technology : EMBEDDED
Domain : NON-IEEE-WIRE LESS

S.NO	CODE	PROJECT TITLE	DESCRIPTION
21.	NIWI01	Intruder tracking and Auto Dialing using wireless sensor network (WSN).	This project uses a RF which transmits the data regarding the Intruder to the receiver unit. The receiver make auto dial to the owner with APR Voice.
22.	NIWI02	Eye blink sensor based device control using RF	This project uses eyeblink sensor to count the eye blink rate. It controls the device accordingly through wireless communication RF.

S.NO	CODE	PROJECT TITLE	DESCRIPTION
23.	NIWI03	Industrial Multi-parameter monitoring and alerting through Landline	This project uses a RF which transmits the data regarding the Electrical parameters like Current and Voltage to the receiver unit. The receiver make auto dial to the owner with APR Voice.
24.	NIWI04	RF technology based Incoming/ Outgoing vehicle alert from Main gate	In this paper, a set of vehicle access control system based on RF wireless technology. It tells the status of the vehicle getting In and Out of the campus
25.	NIWI05	Remote controllable and energy saving room architecture based on Zigbee communication	This project uses a ZigBee controller which transmits the data regarding the people availability in a room, to a switch which controls the devices n that room. The presence of people room in determined by IR sensors.

Technology : EMBEDDED
Domain : NON-IEEE-CONSUMER ELECTRONICS

S.NO	CODE	PROJECT TITLE	DESCRIPTION
26.	NCE01	Unmanned petrol bunk system using RFID	Here, we use RFID based petrol bunk automation. The driver shows the tag and enters the quantity of petrol that has to be filled. The corresponding amount is calculated & deducted from the RFID Card
27.	NCE02	ATM security system based on random password generation and intimation via GSM	Using credit card and password cannot verify the client's identity exactly. To overcome this problem the algorithm Random Password is continuously generated and provided to the customer using GSM.
28.	NCE03	Image processing based automatic money depositor.	In this project, we are going to deposit money in ATM itself. The deposited amount is recognized using MATLAB process and amount will be added to the user account automatically.
29.	NCE04	Automated paid car parking in shopping complex using coin vending sensor.	This project uses coin vending and IR sensors for automated parking. The coin sensor detects the coins and IR is used to detect in and out of vehicles.
30.	NCE05	Development of solar power based automatic sunlight adjusting	This paper has proposed an automatic sunlight adjusting system (ASAS) using stepper motor to track sunlight position. The proposed system can keep power moderate.

Technology : EMBEDDED
Domain : NON-IEEE- PC - BASED

S.NO	CODE	PROJECT TITLE	DESCRIPTION
31.	NPC01	GSM based instantaneous vehicle registration details extraction system	This project helps to traffic police to identify the vehicle registration details with help of embedded microprocessor and GSM technology.
32.	NPC02	Bluetooth based talking energy meter	In this project, after particular unit of power the voice intimation about power consumption will be invoked for the consumer
33.	NPC03	Student status identification using GSM	This project helps to student's parent can know about their child attendance and feedback with help of GSM technology.
34.	NPC04	Multipurpose card with unique Identification.	In this project single card and finger print scanned have used for the multiple application which helps to society with the use of single card.
35.	NPC05	RFID Based library database management and search tool implementations.	Maintaining the database in the library using RFID and microcontroller for easy and secured accessing of books in the library.

Technology : EMBEDDED
Domain : NON-IEEE-ELECTRICAL BASED

S.NO	CODE	PROJECT TITLE	DESCRIPTION
36.	NIEEE01	DTMF Based Interfacing and Control of Induction Motor using TRIAC.	Here the DTMF signal is used to control the motor from remote place. The speed of the induction motor is controlled using Opto coupler and TRIAC drivers.
37.	NIEEE02	Automatic active phase selectors for uninterrupted load run in rural areas.	This project uses PIC microcontroller and voltage sensors, to detect the live phase. This project is more useful for rural areas, where the phase absence is more. In this case, the load selects the active phase automatically.
38.	NIEEE03	Power Cut Indication To EB In The Transmission Line Using GSM	If power failure occurred in a region, the controller detects and sends a alert message to the appropriate person using GSM Modem.
39.	NIEEE04	Microcontroller based smart charge controller for standalone solar photovoltaic power systems.	This project presents a cost efficient PV charge controller with the function to disconnect and reconnect battery and load during battery over charging or under discharging.
40.	NIEEE05	Design and implementation of a RFID based power meter and outage recording system.	In this project we integrate RFID based power meter and outage recorder, the controller records the power data in an external EEPROM.

For Enquire Contact : Spiro - Professional Student Academy Training Division Unit of
Spiro Solution Pvt Ltd
#78, 3rd Floor, Usman Road, T. Nagar,
Chennai - 17. (Upstairs of Hotal Saravana Bhavan)
Mobile : 9791 044 044, 9176 644 044.
E-Mail : projects@stupros.com.
Website : www.stupros.com