



TCET

Vision

Thakur College of Engineering and Technology will excel in Technical Education to become an internationally renowned premier Institute of Engineering and Technology.

Mission

To provide state-of-the-art infrastructure and right academic ambience for developing professional skills as well as an environment for growth of leadership and managerial skills to students which will make them competent engineers to deliver quality results in industry.



Department of Information Technology

Vision

The department of IT will strive to be the top among the renowned providers of IT education.

Mission

The I.T department is committed to rigorously impart quality education and prepare our students to be industry ready & research oriented, imbining in them professional ethics and social values to become responsible citizens.

Principal's Message

I would like to begin by congratulating the faculty and students of the editorial team for their efforts in bringing out the third issue of the annual departmental technical magazine 'Ezine'. Their hard work and toil is reflected across the pages.



**Dr. B.K.Mishra
(Principal)**

This magazine is a step towards technical awareness which in turn will develop communication skills and is designed exclusively for churning out the technical writing skills among students. Since challenges and opportunities are the two sides of the same coin, this magazine challenges students to bring latest technical topics and opportunity to share their knowledge in technical field.

This magazine motivates students to grab more knowledge about current trends in field of computer engineering, thereby preparing them for global employment.

Dr. B. K. Mishra

Editorial Message

From the Desk of Editor

I acknowledge the efforts of students and staff of IT department who have taken forward Ezine for 3 consecutive years.



**Dr. Kamal Shah
(Dean R&D)**

This is a platform provided to students and staff where they can express their creative thoughts through technical and non technical sections.

It provides opportunity for all students to write various technical articles in five technical domains defined by the department. Students and staff achievements will be also documented here which will be a motivational factor for all other students to achieve standard of excellence.

The vision and mission of IT department is to make students technically sound and ethical citizens of nation. Let the “learning attitude” develop in each one of us and may all of us contribute for the betterment of our society.

Let's go invent tomorrow instead of worrying about what happened yesterday - Steve Jobs.

Head of Department's Message

Welcome to e-Zine, the third issue of Technical magazine of IT department of TCET. This magazine is a platform for the students and faculty for presenting their technical writing skill along with a space for non-technical content also.



**Dr. Vinayak A. Bharadi
(HOD IT)**

I Congratulate all the students and faculty members involved in the publication of this issue and wish a very best of luck for the coming editions of the magazine.

“A man who sees action in Inaction and Inaction in action has understanding among men and discipline in all action he performs.”

-Bhagavad Gita

Message from Ezine Faculty Incharge

This is the third issue of “E-Zine”- the E-Magazine which aims to provide a channel for faculty and students to share their valuable experiences, intellectual resources and information.



**Mr. Rahul Neve
(Assitant Prof-IT)**

I take this privilege to thanks Our Principal Dr. B K Mishra for his continuous support and valuable guidance for the E-Magazine of Department of Information technology; I also would like to extend my gratitude to our mentor Dean Dr. Kamal Shah for her motivational words to entire “E-Zine” team.

And above all, thanks to our writers for throwing in with us—and to you, our first readers, for making it all real.

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ANDROID BRIDGE COURSE



Bridge Course on Android Application Development

Introduction

Department of information technology of TCET had taken initiative to conduct bridge course on Android Application development under the ACM Chapter. This course was started parallel with MULTICON — W on 28/02/2014 in lab 315 .This courses will be conducted for 36 hrs in which basics of Android Application development is focused as per men-tioned syllabus. In all 40 interested student where shortlist-ed for the course (details of these 40 stu-dents is attached with this copy).

Details of the course

1. To understand concept of OOP for Android.
2. Application Development for Android Course Objective.
3. Testing and deploying Android Application.

Course Outcome

1. Student will able to implement concept of OOP for App Development .
2. Student can program Database and Internet related apps for Android Devices .
3. Design rich GUI Application.
4. Commercial aspect of Android App Development on Google play store.

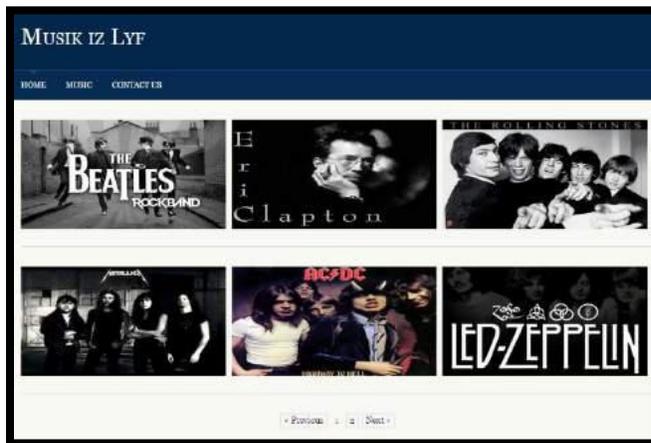


Website Development Competition

1. Muzik is Lyf

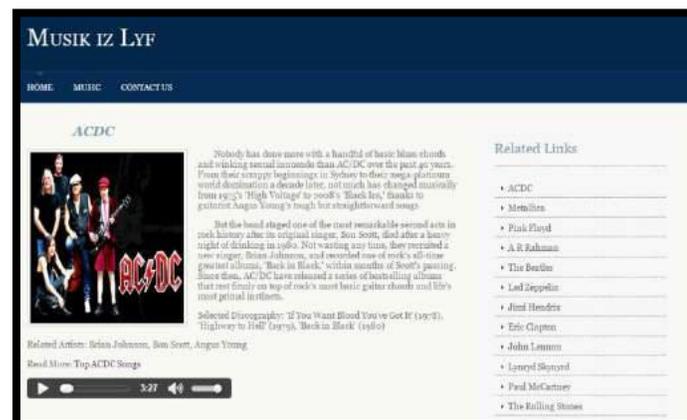
Introduction

This website is for all the Music lovers. It gives a detailed description about the famous Rock bands from ACDC to Metallica. It also features a key song of each band. It has information about various artists such as A R Rahman, John Lennon etc.



Group Members:

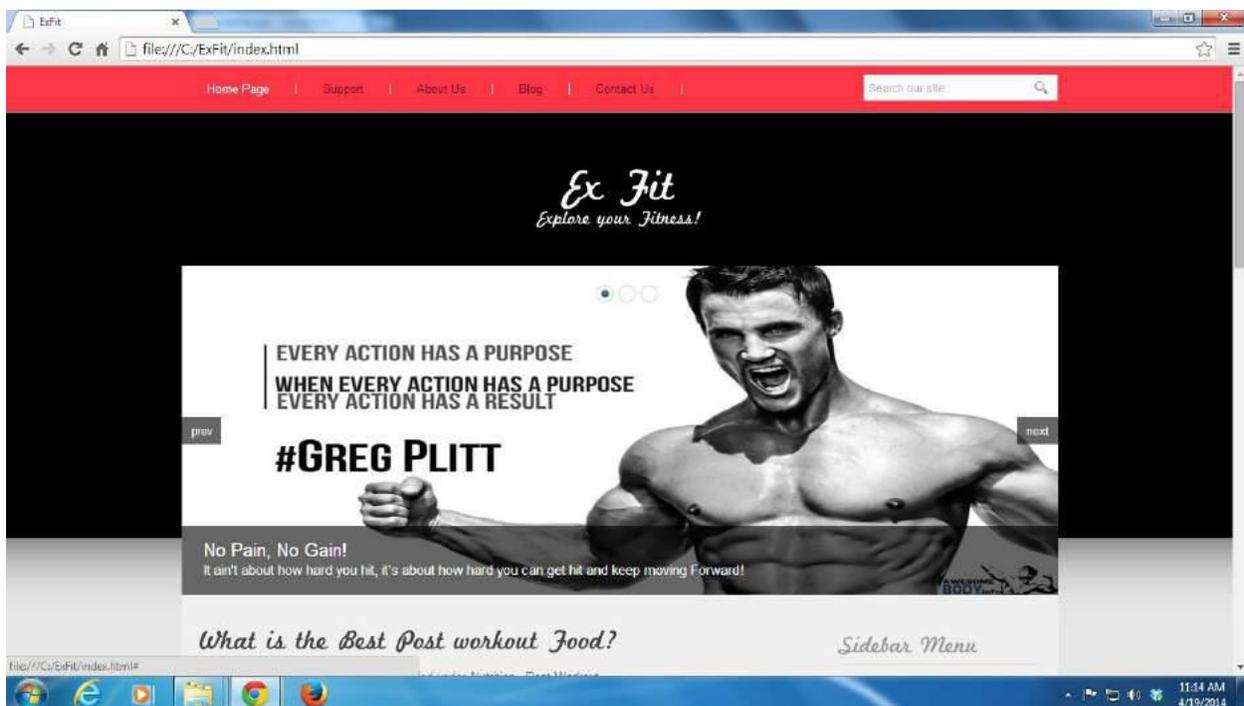
- Sagar Chettiyar – TE/IT/B/07
- Sunny Jha – TE/IT/B/10
- Riddhesh Desai – TE/IT/B/77
- Karan Chaudhary - TE/IT/B/05



2. Ex-Fit

Introduction

This website is for all the Music lovers. It gives a detailed description about the famous Rock bands from ACDC to Metallica. It also features a key song of each band. It has information about various artists such as A R Rahman, John Lennon etc.



Group Members:

Ravi Sharma – TE/IT/B/23

Kavan Shukla – TE/IT/B/22

Milan Patel – TE/IT/B/17

Shivam Modi - TE/IT/B/16

2.TIMSR:

Technology advances day by day and so does the internet technology, hence an update is prominent. This gave an inspiration to WeSoAI a startup company under the guidance of TCET-Research and Development cell along with our mentors Anil Vasoya and Neha Kapadia. The old website was html based which was non-responsive and outdated; the new website was dynamic and developed using PHP technology. Validated using W3C standards. Feedback received from TIMSR was also good and were highly satisfied by the product delivered.



Group Members:

Varun Pandey (WeSoAi) TE/IT/A/50

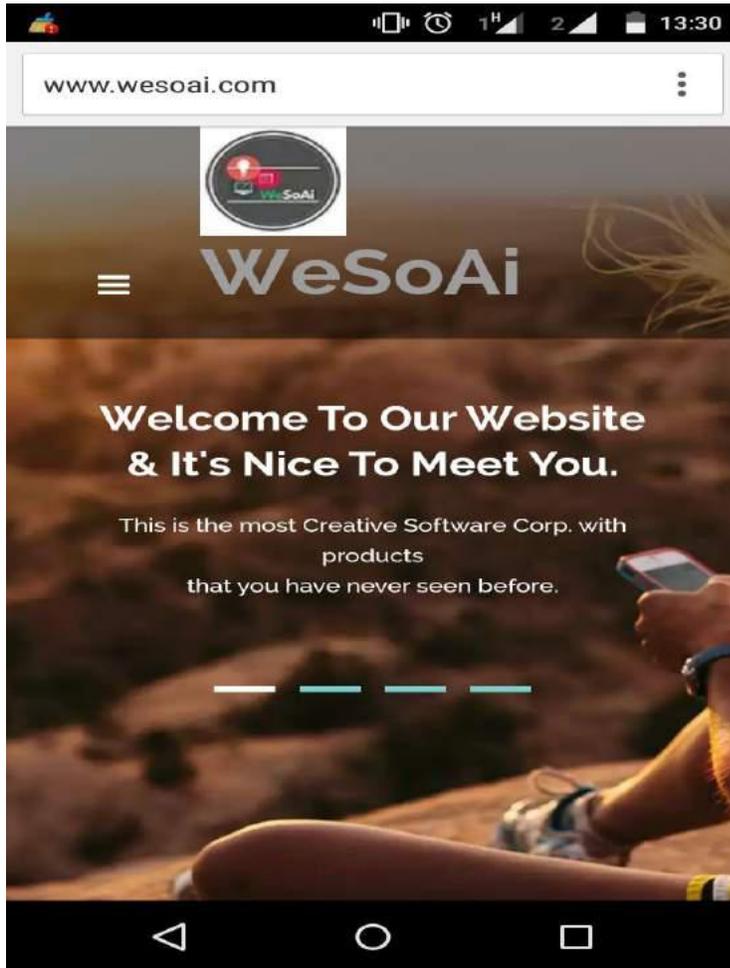
Anirudh Palaskar (WeSoAi) TE/IT/A/50

Rajendra Mehra (WeSoAi) TE/IT/A/50

Shubham Jha (WeSoAi) TE/IT/A/50

Siddesh Rao (WeSoAi) TE/IT/A/50

4.) WeSoAi



Group Members:

Varun Pandey (WeSoAi) TE/IT/A/50

Anirudh Palaskar (WeSoAi) TE/IT/A/50

Rajendra Mehra (WeSoAi) TE/IT/A/50

Shubham Jha (WeSoAi) TE/IT/A/50

Siddesh Rao (WeSoAi) TE/IT/A/50



Android Application Development Competition

1. Manchester united

Introduction

This project aims at development of an informative application based on the football club Manchester united. It symbolizes the great winning history and achievements of the team.



Group Members:

Sagar Chettiyar – TE/IT/B/07
Sunny Jha – TE/IT/B/10
Riddhesh Desai – TE/IT/B/77
Karan Chaudhary - TE/IT/B/05

Introduction:

Always worried about your write ups, worried about the assignments and all you experiments. Don't know what all write ups have you completed, or which of your write ups are checked, unchecked, or remaining to start, or don't know its with which friend of yours. So, this is MISSION SUBMISSION, a simple ANDROID APP, to keep a record of all your write ups.

Main Features :

- 1.) An advance version to store you records of your assignments along with DATE and TIME features.
- 2.) Online Group of members upto 100 for sharing the assignments related resources.
- 3.) Auto remainder options for upcoming important dates and events like Date of Submission, etc.

Group Members :

Anirudh Palaskar : TE/IT/A/45

Varun Palaskar : TE/IT/A/45



Mission Submission

3.)Tcet Time Table

Introduction:

Always worried about next day lectures.Don't know what all lectures are upcoming. So, this is TCET TIME TABLE , a simple ANDROID APP, to inform you about your upcoming lectures or changes in timetable maintained by your own Class representative so no worries about it being authentic or not.

Main Features :

- 1.)Status of the current lecture in terms of percentage bars based on the progress of the lecture.
- 2.)Real Time Notifications on changes in lecture.
- 3.) Auto update regarrding the time table of next semesters.
- 4.) Also gives notification regarding any college related social events, seminars, webinars.

Group Member :

Rajendra Mehra : TE/IT/A/35

Shubham Jha : TE/IT/A/26

Siddesh Rao : TE/IT/A/50

tcet
time
table

Domain Articles

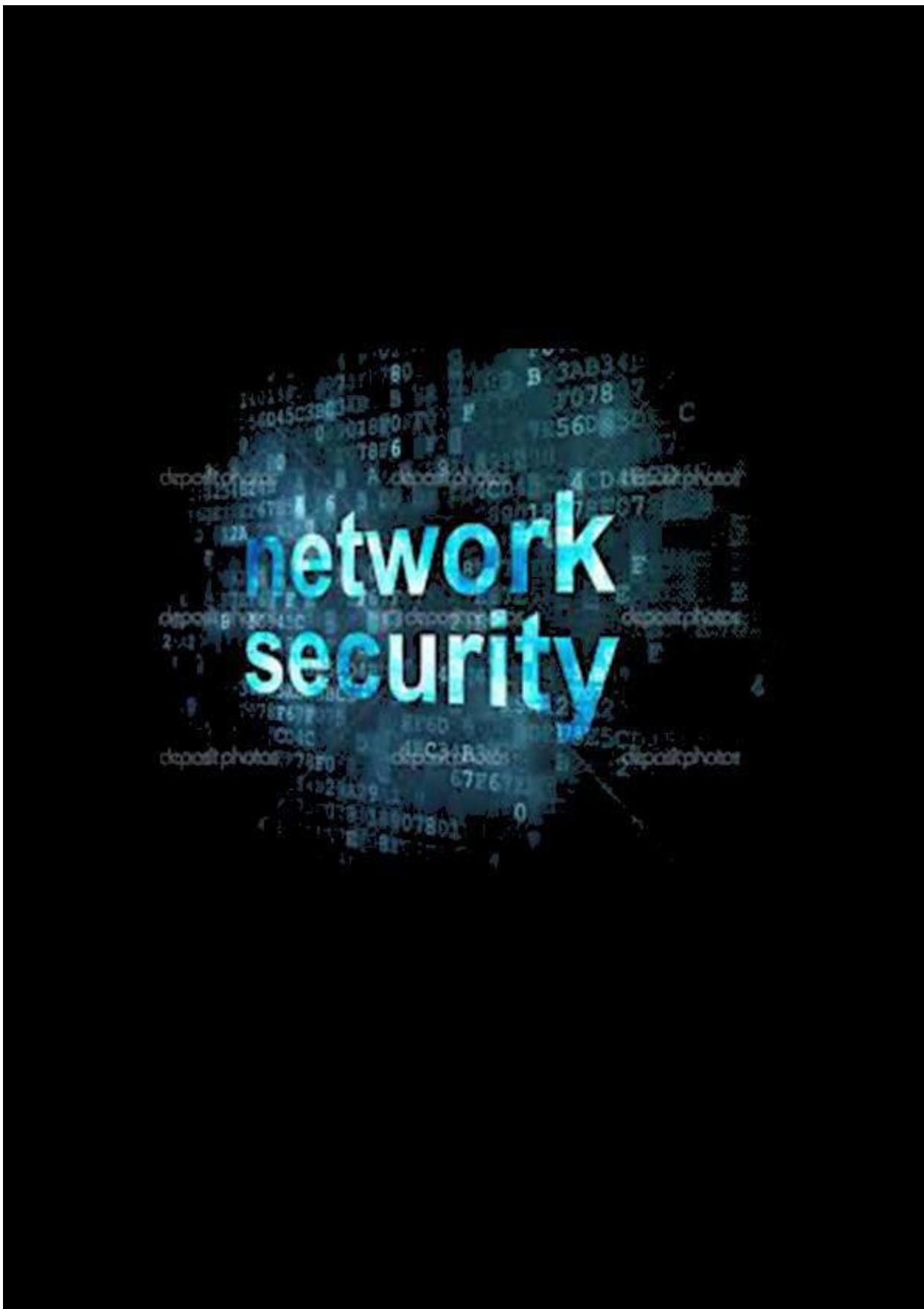
1. OPERATING SYSTEM
2. DATABASE MANAGEMENT
3. NETWORK SECURITY
4. SOFTWARE ENGINEERING
5. ELECTRONICS



OPERATING SYSTEM

A photograph of a server room with rows of server racks. The racks are filled with equipment and have many small, colorful lights (red, green, blue) glowing. The room is dimly lit, with a blueish tint. The perspective is looking down a long aisle between the racks.

Database Management Systems



The image features a dark, textured globe centered on a black background. The globe is overlaid with a complex digital data visualization consisting of numerous small, semi-transparent text elements. These elements include alphanumeric strings such as '1A01AF', '5045C3B01A3B', '07018F0', '78F6', 'B 3AB34', '7078', '56D', 'C', 'deposit/photos', '4-D 4B522/photos', '39/18 75/07', 'deposit/photos', '78F6', '704C', '17825CT', 'deposit/photos', '1421A29', '67E72', '0781107801', and '0'. The text 'network security' is prominently displayed in the center of the globe in a large, bold, light blue font with a slight glow effect.

network security

BACKGROUND ON NETWORK SECURITY **(BASICS)**

Information of a company is as valuable as company asset as money in the bank. In fact, some information can be even more valuable than cash. So protecting the company's information with appropriate security is critical to business success. This backgrounder will provide a basic introduction to data and network security; however, it is only intended as an introductory primer so business owners and managers can begin to understand the complexity of managing security.

Security exists on many layers. Network security considerations begin with (but are not limited to) a range of considerations including:

- How company office facilities are selected and maintained,
- How potential employees are screened,
 - The remote access policy to the company's systems and information, and
- What kind of encryption and firewalls are provided in the corporate network.

Best-practice security isn't just good business - in some cases, it's also the law. And the legal requirements are different for specific industries and between different jurisdictions.

For example, the Health Insurance Portability and Accountability Act (HIPAA) sets requirements for patient privacy in the United States. In California, privacy laws prohibit financial institutions from sharing personal financial information with unaffiliated third party partners without the consumer's consent. And in Europe, privacy laws protect certain employee information-even to the point where inappropriately sharing an employee's name and location in a company directory can be considered a violation. So when considering security, it is important to consider business policy and practices, legal requirements, and technology. This technology background will introduce some of the technical aspects to consider in network security, with a particular focus on network security for small and medium-sized business.

The network security problem

The first building block of any network that is connected to the outside world is the virtual private network, or VPN. Virtual private networks (VPNs) permit users to share the public network infrastructure, using a variety of devices and protocols both inside and outside the network to protect users against outside intrusion for voice and data sessions.

This broad definition of a VPN may seem a bit strange to people who tend to think of a VPN in the rather narrow context of using the Internet for connectivity. In reality, essentially all networks are shared and the concept of a "private network" is a myth.

Even a "private line" service is actually part of a "Layer 1 VPN." While the private line local loop may be dedicated to a particular site, eventually the local loops are bundled into larger cables, and the lines share time division multiplexed (TDM) public facilities in the service provider's core network.

Frame relay and ATM services can be considered a "Layer 2 VPN" since they statistically multiplex users' data on packet

Statistically multiplex users' data on packet switches at the customer location or in the carrier's core network. IP-

VPNs are a Layer 3 VPN service; they can be provided on a "private" IP connection, or they can use the very public Internet for wide area connections.

Each VPN should address layer specific security precautions. Layer 1, the private line, relies principally on physical security, since the copper loops are separated by physical barriers, and the core TDM network doesn't allow "sharing" of unreserved time slots between users. Layer 2 VPNs, like those based on Frame Relay and Asynchronous Transfer Mode (ATM) services enjoy certain built-in protection. Even though layer 2 VPNs use statistical multiplexing, their connection-oriented switching protocols don't permit easy diversion of user data to the wrong recipient.

As a connectionless protocol, IP is the least secure protocol compared to TDM, Frame Relay, or ATM; therefore, IP-VPNs can be more susceptible to security breaches than a layer 1

Layer 2 VPN. The most susceptible VPN can be an IP-VPN that uses the Internet as a wide area network, since there's nothing inherently private about the Internet or its core infrastructure.

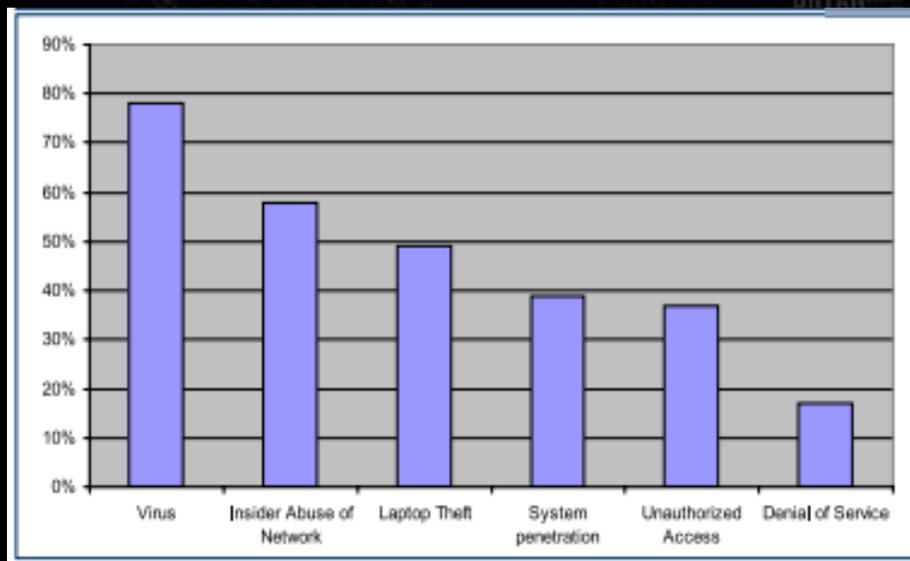
Remote access to any VPN, including dial access or remote connectivity using the Internet, also adds security holes to the network.

Protecting your network

For this discussion, computing devices like personal computers and servers are defined as part of the network. As shown in Figure 1, according to a 2004 survey of U. S. businesses and organizations by the Computer Security Institute (CSI) and the US Federal Bureau of Investigation (FBI), the biggest experienced threat to information security is the computer virus.

Another noteworthy finding of the survey: while denial of service attacks accounted for only 17% of attacks or misuse by category, they cost the survey's respondents over \$50,000 in losses per incident. The most common way for viruses to enter the network is through email

Attachments or files sent to employee. However, more sophisticated viruses can also be “caught” by browsing the Internet and looking at a web page.



Anti-virus software:

To protect against a computer virus, every computer in the company’s network must have anti-virus software, and the software must be kept current. Company IT managers should, as a minimum, configure computers for auto scan and auto update for their anti-virus protection software. Some companies have also installed software in their network that disallows a

computer from gaining network access unless the network first verifies that the anti-virus software is installed and current.

Firewalls:

Network firewalls are commonly used to protect against unauthorized access, system penetration, and denial of service attacks. A firewall provides “stateful inspection” of packets as they enter the network, allowing or preventing access to and from the network. Firewalls can also track and report on intrusion detection and denial of service attacks; reporting thresholds can be customized based on business requirements. Firewalls can either be a separate hardware device or special software within a server or computer. Firewalls can be located on the business premise, they can be included as part of a service provider’s network, or they can be used as a system of hybrid public and private firewalls. Firewalls are especially important when the company’s network is connected to the Internet, and when remote access is allowed by either dial access or by an Internet-based VPN. Firewalls should also be supplemented with additional measures to secure remote access.

Secure VPN:

VPN Tunnels, IPsec, SSL, and Encryption the first added measure is to include “secure tunnels” when using the Internet for wide area connections or for remote access. These “VPN tunnels” establish a secure session between the user’s computer and the company’s network router.

A secure VPN connection across the Internet is provided by using either Internet Protocol- (IPsec) or Secure Socket Layer (SSL) protocols. IPsec and SSL both encrypt session data to “scramble” information on one end of the session and “unscramble” it on the other end. By adding encryption, any intercepted data will be meaningless to unauthorized recipients.

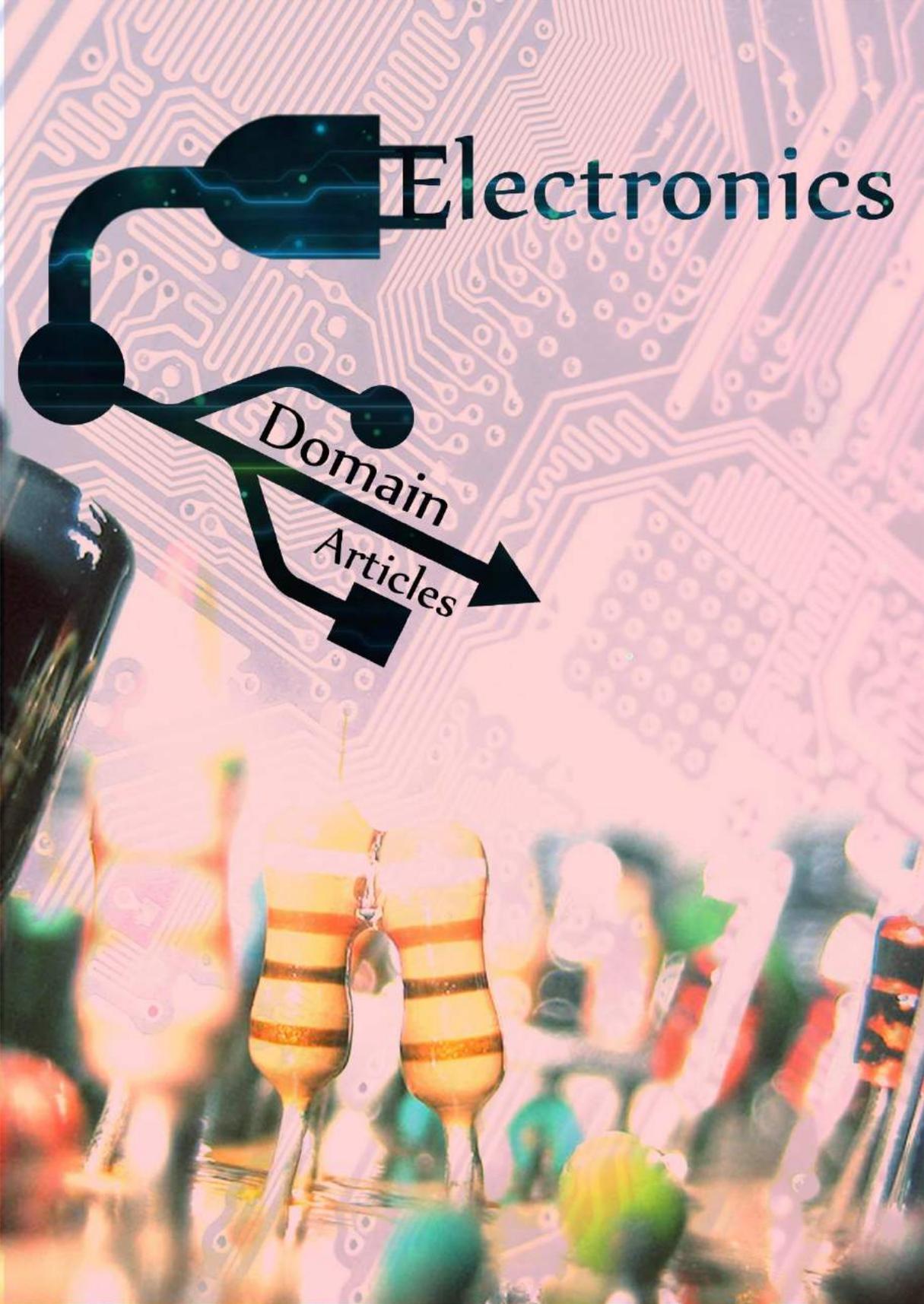
IPsec runs in two modes. The first mode, called the transport mode, encrypts only the user’s payload. The second mode also encrypts the routing information, and then it adds new routing information; therefore it provides additional routing functions by encapsulating the entire IP frame. In doing so, it hides original addresses from detection but adds more overhead and processing. IPsec can be created and

Maintained within software (for example, between a user's PC and the application's server); however, for heavy VPN users, a hardware-based VPN appliance can be deployed.

SSL was designed to offer application-level encryption specifically for web browsers. In addition to offering encryption, SSL can allow a server to authenticate itself to a client, and it allows a client to authenticate itself to a server. Similar to VPN appliances, an SSL accelerator is hardware-based and provides the intensive processing required maintaining SSL sessions.

Security Audits, Assessments and Policies:

Professional security assessments are recommended. Systems integrators, value added resellers, equipment suppliers, service providers, and professional services firms with security practices are all available to help businesses understand their company's vulnerabilities and alternative solutions. As with all business practices, proper assessment and recommendations should include comprehensive business policies - policies that must be enforced.



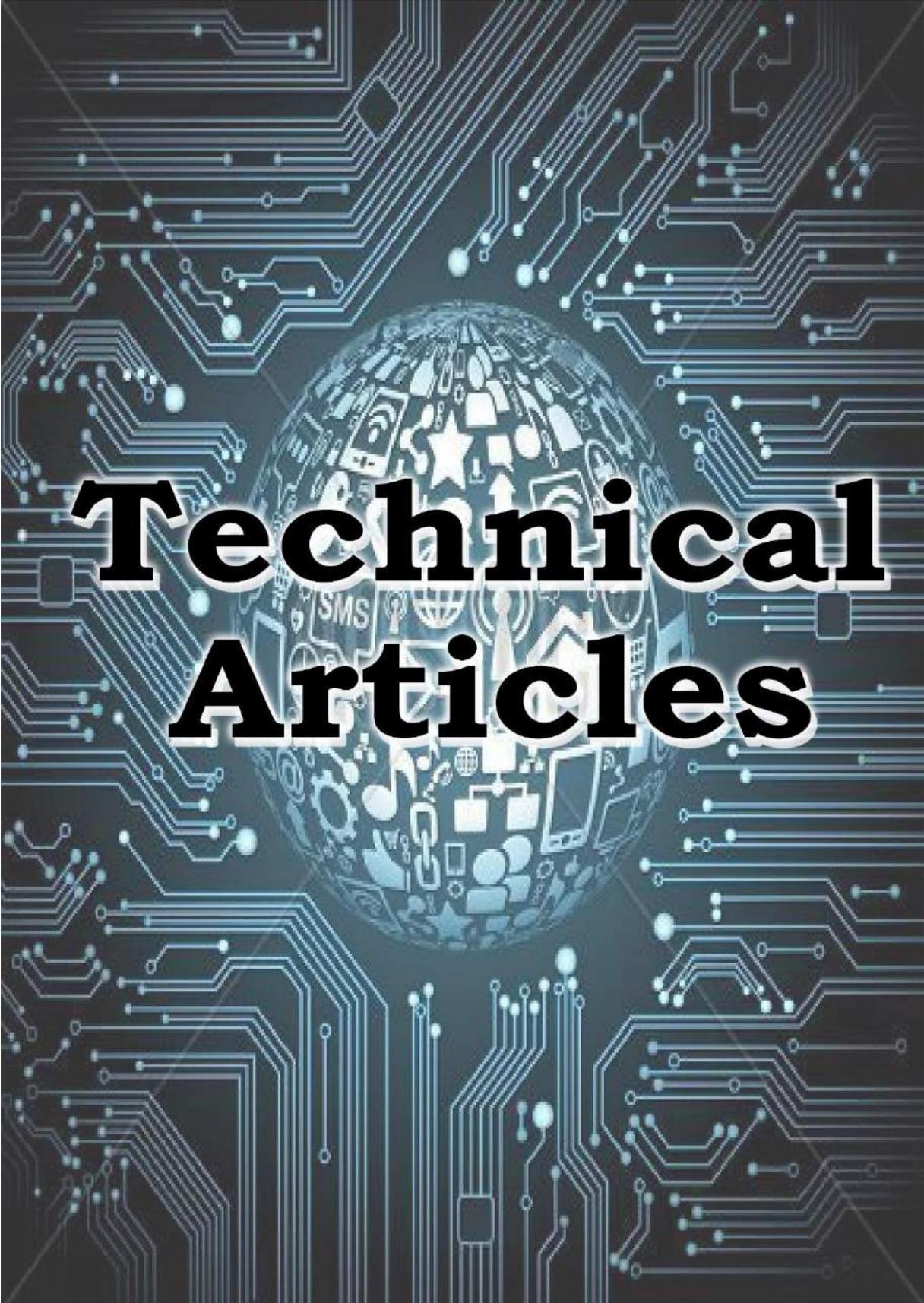
Electronics

Domain

Articles

TEACHER'S
CORNER

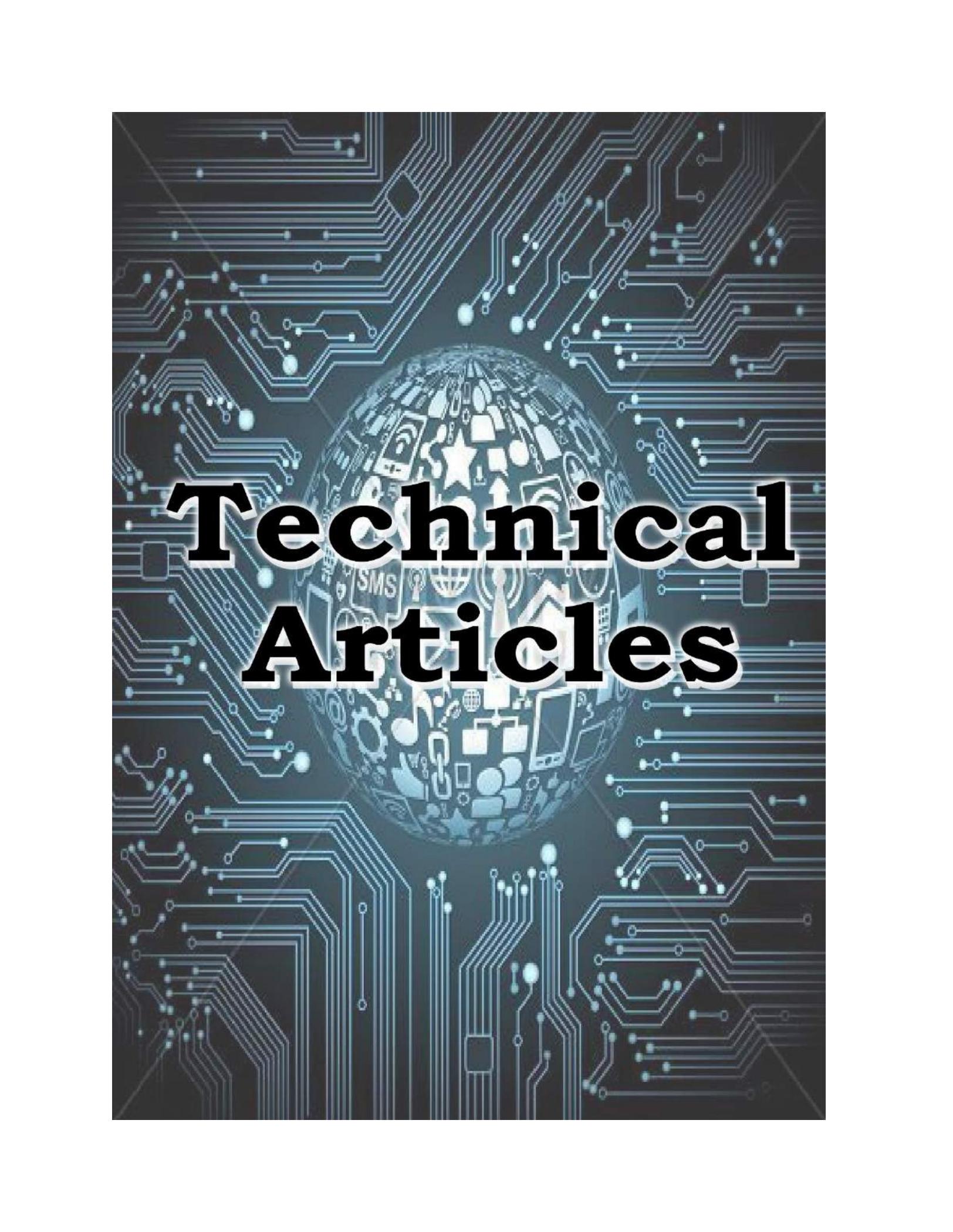


The image features a dark blue background with a complex network of glowing white and light blue circuit traces. In the center, a globe is depicted, its surface composed of various white icons representing technology and communication, such as a smartphone, a star, a gear, a lightbulb, and a document. The text "Technical Articles" is prominently displayed in the center, rendered in a bold, black, sans-serif font with a white outline and a subtle drop shadow.

Technical Articles

Student Corner



The background of the cover features a dark blue, almost black, field filled with intricate, glowing white and light blue circuit board traces. These traces form a complex network of lines and nodes, reminiscent of a microchip or a data network. In the center of this circuitry is a semi-transparent globe. The globe is not a simple sphere; it is composed of various white and light blue icons and symbols, including a star, a gear, a smartphone, a document, a lightbulb, and a person silhouette. The overall aesthetic is high-tech and digital.

Technical Articles

POEMS



The World is Mine

-Joy Lovelet Crawford

**Today on a bus, I saw a lovely girl with silken hair
I envied her, she seemed so gay, and I wished I was so fair
When suddenly she rose to leave, I saw her hobble down the
isle**

**O God, forgive me when I whine
I have two legs, the world is mine**

**And then I stopped to buy some sweets
The lad who sold them had such charm
I talked with him, he seemed so calm, and if I were late it
would do no harm,**

**And as I left he said to me "I thank you, you have been so
kind"**

**It's nice to talk with folks like you. You see, I'm blind
O God forgive me when I whine
I have two eyes, the world is mine**

**Later walking down the street, I saw a child with eyes of blue
He stood and watched the others play; it seemed he knew not
what to do**

**I stopped a moment, then I said, why don't you join the others
dear"**

**He looked ahead without a word, and then I knew he could
not hear**

**O God forgive me when I whine
I have two ears, the world is mine**

**With legs to take me where I'll go
With eyes to see the sunsets glow
With ears to hear what I would know
O God forgive me when I whine
I'm blessed, indeed, the world is mine**

Invictus

- William Ernest Henley

**Out of the night that covers me,
Black as the Pit from pole to pole,
I thank whatever gods may be
For my unconquerable soul.**

**In the fell clutch of circumstance
I have not winced nor cried aloud.
Under the bludgeonings of chance
My head is bloody, but unbowed.**

**Beyond this place of wrath and tears
Looms but the Horror of the shade,
And yet the menace of the years
Finds, and shall find, me unafraid.**

**It matters not how strait the gate,
How charged with punishments the scroll.
I am the master of my fate:
I am the captain of my soul.**

A Psalm of Life

- Henry Wadsworth Longfellow

**Tell me not in mournful numbers,
Life is but an empty dream!
For the soul is dead that slumbers,
And things are not what they seem.**

**Life is real! Life is earnest!
And the grave is not its goal;
Dust thou art, to dust thou returnest,
Was not spoken of the soul.**

**Not enjoyment, and not sorrow,
Is our destined end or way;
But to act, that each tomorrow
Find us farther than today.**

**Art is long, and Time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave.**

**In the world's broad field of battle,
In the bivouac of Life,
Be not like dumb, driven cattle!
Be a hero in the strife!**

Arise

- Ella Wheeler Wilcox

**Why sit ye idly dreaming all the day,
While the golden, precious hours flit away?
See you not the day is waning, waning fast?
That the morn's already vanished in the past?**

**When the glowing noon approaches, we will
rest
Who have worked through all the morning;
but at best,
If you work with zeal and ardor till the night,
You can only make the wasted moments right.**

**Think you life was made for dreaming, nothing
more,
When God's work lies all unfinished at your
door? v
Souls to save and hearts to strengthen—ah!
such work,
Such a richly freighted labor, who would shirk?**

**Then arise, O idle dreamer! Dreams are sweet,
But better flowers are growing at your feet.
If you crush, or pass unheeding, idle friend,
You shall answer for their ruin in the end.**

ACHIEVEMENTS



Students Achievement

NEN

Varun Pande
Anirudh Palaskar
Rajendra Mehra
Shubham Jha
Siddesh Rao

CØDEUNCØDE
Finalist

(TE IT A)

Rajendra Mehra
Shubham Jha
Anirudh Palaskar

Poster Making
Winner

Aakansha Tiwari
Shruti Panday
Khushbu Singh

E-Zine Working Committee

Creative Team

1. Anirudh Palaskar TE/IT/A/45
2. Siddhesh Rao TE/IT/A/50
3. Varun Pande TE/IT/A/46
4. Ravi Sharma TE/IT/B/07
5. Amol Shandiliya TE/IT/B/72

Content Team

1. Anmol Kaur Bagga TE/IT/A/03
2. Kanan Poyekar TE/IT/B/21
3. Ekta Shetty TE/IT/B/25
4. Hayat Rajani
5. Karan Shukla

E-Zine Student Working Team 2014-15





Code of Ethics

The department of Information Technology of TCET believes that IT engineers make a direct impact on almost all aspects of human life for its betterment. I.T engineers should strictly adhere to the highest principles of ethical conduct. In order to inculcate high standards in professional behavior. The department advocates the following code of ethics for all students ,faculty members and staff of the department :

- 1) Strive to be professionally competent to provide high quality products and services.
- 2) To responsibly make decisions avoiding / minimizing hazards to society and to disclose potential factors that may be a threat to health and safety.
- 3) Be fair to all individuals and not discriminate between individuals based on religion, race, sex, age, disability, national origin etc.
- 4) Give credit to contributions of others viz. copyright, patents, intellectual property.
- 5) Protect and respect privacy and ensure confidentiality of information wherever appropriate.
- 6) The knowledge gained during the course of study will not be misused for carrying out any illegal activities including intruding and hacking of networks.