DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Govt College of Engineering Kalahandi

Cyber Law & Ethics

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Cyber Laws and Ethics

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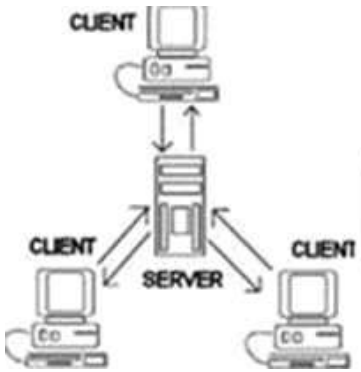
Evolution of computer Technology

The computer was born not for entertainment or email but out of a need to solve a serious number-crunching crisis. By 1880, the U.S. population had grown so large that it took more than seven years to tabulate the U.S. Census results.

- The government sought a faster way to get the job done, giving rise to punch-card based computers that took up entire rooms.

Evolution of computer Technology



ENIAC{ZłecbOoiC auzoezicałiotegrator And Computer)

IBM Mażafzame

Microsoft Office, OS

World-Wide-Web Googłe

SocialMedia

First computer

Mainframe-based

Client Server

Internet-based

Social-computing

Evolution of computer Technology

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- The government sought a faster way to get the job done, giving rise to punch-card based computers that took up entire rooms.
- Although computers have technically been in use since the abacus approximately 5000 years ago, it is modern computers that have had the greatest and most profound effect on society.

  The first full-sized digital computer in history was developed in 1944. Called the Mark I, this computer was used only for calculations and weighed five tons.

First Generation Computers

- First generation computers bore little resemblance to computers of today, either in appearance or performance. The first generation of computers took place from 1940 to 1956 and was extremely large in size.

° The inner workings of the computers at that time were unsophisticated. These early machines required magnetic drums for memory and vacuum tubes that worked as switches and amplifiers.

It was the vacuum tubes that were mainly responsible for the large size of the machines and the massive amounts of heat that they released.

° These computers produced so much heat that they regularly overheated despite large cooling units. First generation computers also used a very basic programming language that is referred to as machine language.

Second Generation Computers

- The second generation (from 1956 to 1963) of computers managed to do away with vacuum tubes in lieu of transistors. This allowed them to use less electricity and generate less heat.
- Second generation computers were also significantly faster than their predecessors.
- Another significant change was in the size of the computers, which were smaller. Transistor computers also developed core memory which they used alongside magnetic storage.

Third Generation Computers

- From 1964 to 1971 computers went through a significant change in terms of speed, courtesy of integrated circuits. Integrated circuits, or semiconductor chips, were large numbers of miniature transistors packed on silicon chips.
- This not only increased the speed of computers but also made them smaller, more powerful, and less expensive.
- In addition, instead of the punch cards and the printouts of previous systems, keyboards and monitors were now allowing people to interact with computing machines.

Fourth Generation Computers

- The changes with the greatest impact occurred in the years from 1971 to 2010. During this time technology developed to a point where manufacturers could place millions of transistors on a single circuit chip.

° This was called monolithic integrated circuit technology. It also heralded the invention of the Intel 4004 chip which was the first microprocessor to become commercially available in 1971.

By the mid-70s, personal computers such as the Altair 8800 became available to the public in the form of kits and required assembly. By the late 70s and early 80s assembled personal computers for home use, such as the Commodore Pet, Apple II and the first IBM computer, were making their way onto the market.

° The fourth generation of computers also saw the creation of even smaller computers including laptops and hand-held devices.

The Fikh Generation of Computers

- In the future, computer users can expect even faster and more advanced computer technology. Computers continue to develop into advanced forms of technology.
- Fifth generation computing has yet to be truly defined, as there are numerous paths that technology is taking toward the future of computer development.
- For instance, research is ongoing in the fields of nanotechnology, artificial intelligence, as well as quantum computation.

Emergence of Cyber Space

- Although it may seem like a new idea, the net has actually been around for over 40 years. It all began in the United States during the Cold War, as a university experiment in military communications. The decision was made to link lots of computers together in a network instead of serially (in a straight line).
- The Pentagon thought that if there was a nuclear attack on the United States, it was unlikely that the entire network would be damaged, and therefore they would still be able to send and receive intelligence.

  At first each computer was physically linked by cable to the next computer, but this method had obvious limitations. The problem was corrected by the development of networks utilizing the telephone system.

Emergence of Cyber Space

- Predictably, people found that nuclear strike or not, they could talk to each other using this computer network. Eventually, some university students started using this network to do their homework together.
- It seems a natural human characteristic to want to communicate, and once people realized that they could talk to other people using this computer network they began to demand access.
- At first, the users were only from the university and government sectors. But more and more people could see the possiblities of computer networks, and various community groups developed networks separate from the official networks to be used in their local communities.

Emergence of Cyber Space

- Add all of these various local, regional and national networks together and you have the Internet as we experience it today - an ever expanding network of people, computers and information.
- Today the Internet is being used in ways the Pentagon never dreamed of 40 years ago. What began as an exercise in military paranoia or suspicion has become a method of global communication.
- "Cyberspace" is a term coined by William Gibson in his fantasy novel Neuromancer to describe the "world" of computers, and the society that gathers around them. Gibson's fantasy of a world of connected computers has moved into a present reality in the form of the Internet. In cyberspace people "exist" in the ether--you meet them electronically, in a disembodied, faceless form.

Cyber Jurisprudence

Jus and prudential is a Latin words which being mutated as jurisprudence. The English meaning of jurisprudence is “knowledge of law”.

Cyber jurisprudence is the study of laws which is directly related to cyber crimes. Cyber jurisprudence also describes the principles of legal issue, which exclusively regulates the cyberspace and internet. Cyber jurisprudence gives us to analysis of the law where there is no land and even there is no border, where all things may be different from the physical world, they may be virtual from origin and nature.

- In short cyber jurisprudence deals with the composite idea of cyber jurisdiction.

Jurisprudence and Law

- Law
- Law is a system of rules that are created and enforced through social or governmental institutions to regulate behavior. Law is a system that regulates and ensures that individuals or a community adhere to the will of the state.
- State-enforced laws can be made by a collective legislature or by a single legislator, resulting in statutes, by the executive through decrees and regulations, or established by judges through precedent, normally in common law jurisdictions.
- Law provides a source of scholarly inquiry into legal history, philosophy, economic analysis and sociology. Law also raises important and complex issues concerning equality, fairness, and justice.

Jurisprudence and Law

- Jurisprudence
- Jurisprudence or legal theory is the theoretical study of law, principally by philosophers but, from the twentieth century, also by social scientists. Scholars of jurisprudence, also known as JUrists or legal theorists, hope to obtain a deeper understanding of legal reasoning, legal systems, legal institutions, and the role of law in society.
  - Modern jurisprudence began in the 18th century and was focused on the first principles of the natural law, civil law, and the law of nations. General jurisprudence can be divided into categories both by the type of question scholars seek to answer and by the theories of jurisprudence, or schools of thought, regarding how those questions are best answered.
  - Contemporary philosophy of law, which deals with general jurisprudence, addresses problems internal to law and legal systems, and problems of law as a particular social institution as law relates to the larger political and social situation in which it exists.

Doctrinal approach

- Doctrinal (or “black letter”) methodology refers to a way of conducting research which is usually thought of as “typical legal research”.
- A doctrinal approach to research will focus on case-law, statutes and other legal sources.
- It differs from other methodologies in that it looks at the law within itself; a pure doctrinal approach makes no ahempt to look at the effect of the law or how it is applied, but instead examines law as a written body of principles which can be discerned and analysed using only legal sources.

Consensual approach

- A consensual crime is a public-order crime that involves more than one participant, all of whom give their consent as willing participants in an activity that is unlawful.

  Legislative bodies and interest groups sometimes rationalize the criminalization of consensual activity because they feel it offends cultural norms, or because one of the parties to the activity is considered a "victim" despite their informed consent.

  Consensual crimes can be described as crimes in which the victim is the state, the judicial system, or society at large and so aPect the general (sometimes ideological or cultural) interests of the system, such as common sexual morality.

Real Approach

- In its general sense, natural law theory may be compared to both state-of-nature law and general law understood on the basis of being analogous to the laws of physical science. Natural law is often contrasted to positive law which asserts law as the product of human activity and human volition.
- Another approach to natural-law jurisprudence generally asserts that human law must be in response to compelling reasons for action. There are two readings of the natural-law jurisprudential stance.
- **The strong natural law** thesis holds that if a human law fails to be in response to compelling reasons, then it is not properly a "law" at all. This is captured, imperfectly, in the famous maxim: lex iniusta non-est lex (an unjust law is no law at all).
- The weak natural law thesis holds that if a human law fails to be in response to compelling reasons, then it can still be called a "law", but it must be recognised as a defective law.

Cyber Ethics

Cyber ethics is the study of ethics pertaining to computers, covering user behavior and what computers are programmed to do, and how this affects individuals and society. For years, various governments have enacted regulations while organizations have explained policies about cyber ethics.

- With the increase of young children using the internet, it is now very essential than ever to tell children about how to properly operate the internet and its dangers. It is especially hard to talk to teens because they do not want to be lectured about what is right and wrong.

Cyber ethics concerns to the code of responsible behavior on the Internet. Just as we are taught to act responsibly in everyday life. The responsible behavior on the internet in many ways aligns with all the right behavior in everyday life, but the results can be significantly different.

Cyber Jurisdiction

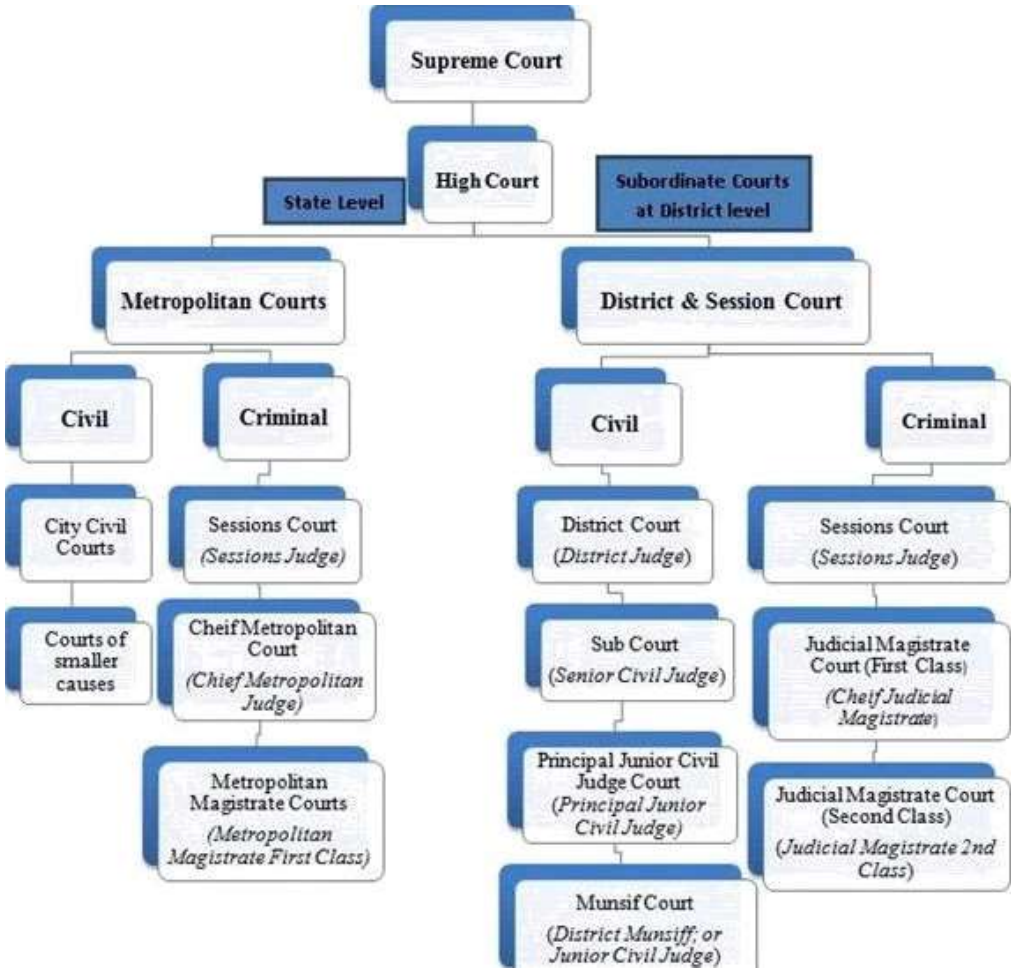
- Jurisdiction is the territorial area of authority to hear and judge cases. The internet, however, has no territorial boundaries: it is a virtual world of interconnected computer networks, known as cyberspace.
- Consider an example. Company A purchases online payment software delivered as a down load. The software corrupts A's server. The seller, company B does not have a physical store in any particular country. B sells its software exclusively as a web service. Questions immediately arise about jurisdiction. Is it:

  Where the software download was receipted?

° Where the software was downloaded?

° The location of B's Internet Protocol (IP) address?

Hierarchy of courts



What Does Criminal Jurisdiction Cover?

- Criminal cases are offenses that are considered to be against the state or society. They are held in courts that can sentence punishment, like prison time or fines. The three kinds of jurisdictions are at the federal level, state level, and concurrent level.

° These courts have jurisdiction over federal offenses. This includes situations where crimes took place on government land, government ships, or if the crime eKtended over multiple states.

An offense against the state will fall under the state's jurisdiction. Crimes that occurred in the state typically fall under this jurisdiction.

Sometimes there are situations where a case can be claimed by more than one court. This could be if there was a crime that took place on federal land and also on state land, giving the federal court and state court jurisdiction for the case. Usually, the first to come forward with the case and has arraigned the defendant gets jurisdiction.

What Does Civil Jurisdiction Cover?

- There are several ways for the courts to settle civil disputes. The type of court depends on the details of the case. The following are courts and their corresponding jurisdictions.
- Unlimited Jurisdiction Courts: This type of court has jurisdiction over cases primarily dealing with large financial disputes. The amount of money or property value is higher than $25,000 in these cases.
- Limited Jurisdiction Courts: In a limited jurisdiction court, the dollar amount or property value is not higher than $25,000.
- Small Claims Courts: There are two major distinctions for jurisdiction in a small claims court. In these courts, attorneys do not represent the parties involved in the dispute. In addition, the dollar amount of the dispute isn't over $10,000.

Different between Criminal and Civil Jurisdiction

- One main distinction between a case under criminal jurisdiction and a case under civil jurisdiction is how the verdict is decided.

  Criminal courts typically have a judge and jury. The burden of proof to decide guilty has to be beyond a reasonable doubt.

- Civil courts usually have a judge and the burden of proof isn't as high.

Cyberspace

- Cyberspace refers to the virtual computer world, and more specifically, an electronic medium that is used to facilitate online communication.
- Cyberspace typically involves a large computer network made up of many worldwide computer subnetworks that employ TCP/IP protocol to aid in communication and data exchange activities.
- Cyberspace's core feature is an interactive and virtual environment for a broad range of participants.
- Cyberspace allows users to share information, interact, swap ideas, play games, engage in discussions or social forums, conduct business and create intuitive media, among many other activities.

Web space

- The web space, also known as storage space or disk space, generally refers to the amount of space on a web server that is allocated to website owners by the web hosting companies.
- It is made up of the total quantity of all text files, images, scripts, databases, emails and other files related to your website.

Website Hosting Agreement

- Although web hosting contracts differ, and you must always pay careful attention to your specific terms, most agreements cover the same basic issues:
- Timing: the len@h of the contract (usually yearly, though sometimes monthly) and the date your service begins.
- Cost: the cost of your service, what that service includes, any setup fees, and the types of payments the company accepts.
- Renewal: usually automatic, and often with a notice that fees may change, so pay attention to those come renewal time.
- Dispute resolution: the venue and/or state law that applies to any disputes under the contract as well as what costs the prevailing party may recover, which may include legal fees

Website Hosting Agreement

- Intellectual property: your assurance that you have the right to use the copyrights and trademarks associated with your site.
- Termination: the specific steps to take when you want to change providers, such as notifying your current provider within a certain time period to avoid incurring additional fees.

We Development Agreement

- Developer's Responsibilities
- Website Design
  - Design

    I 1ateri Is Pro»iñe* by Uwner
  - Accessibility During Development
  - Delivery of Deliverables
- Domain Name
- Fees
- Expenses
- Future Development and Enhancements and License
- Confidential Information of Owner
- Ownership of Owner Content
- Trademarks
- Copyright Notices

What is a Domain Name?

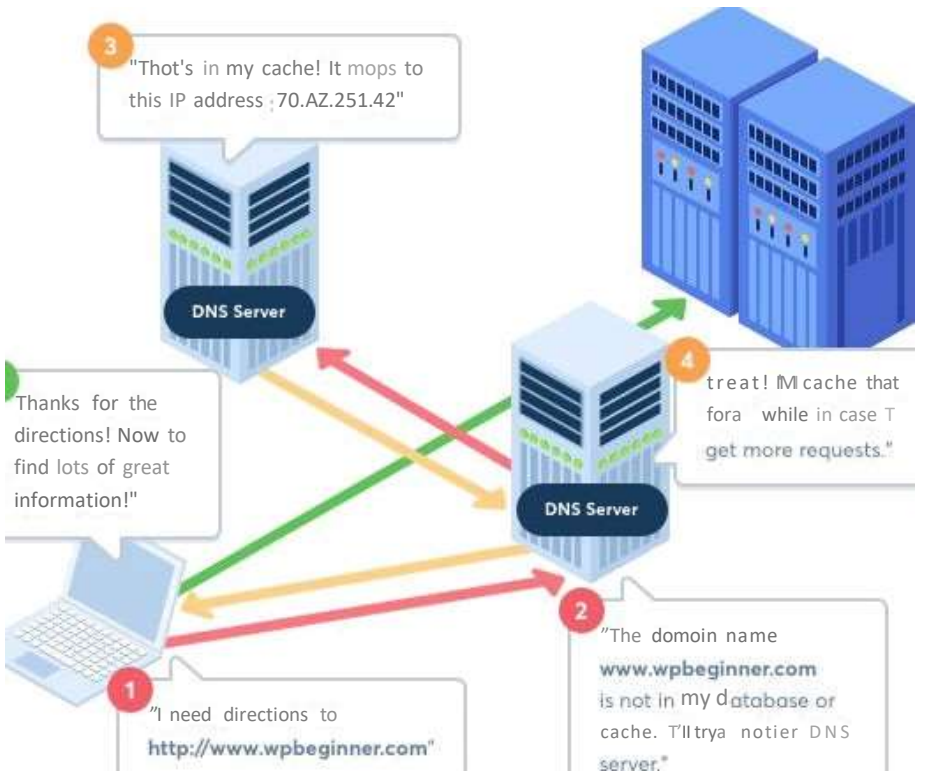
- Domain name is the address of your website that people type in the browser URL bar to visit your website.
- In simple terms, if your website was a house, then your domain name will be its address.
- A more detailed explanation:
- The Internet is a giant network of computers connected to each other through a global network of cables. Each computer on this network can communicate with other computers.
- To identify them, each computer is assigned an IP address. It is a series of numbers that identify a particular computer on the internet. A typical IP address looks like this:
- 66.249.66.1

What is a Domain Name?

- Now an IP address like this is quite difficult to remember. Imagine if you had to use such numbers to visit your favorite websites.
- Domain names were invented to solve this problem.
- Now if you want to visit a website, then you don't need to enter a long string of numbers. Instead, you can visit it by typing an easy to remember domain name in your browser's address bar. For example, wpbeginner.com.

How Domain Names Actually Work?

How Domain Nome Works



Different Types of Domain Names

- Domain names are available in many different extensions. The most popular one is .com. There are many other options like .org, .net, .tv, .info, .io, and more. However we always recommend using .com domain extension.

° Top Level Domain - TLD

- Top level domain or TLD are generic domain extensions that are listed at the highest level in the domain name system.

  There are hundreds of TLDs, but the most popular ones are .com, .org, and .net. Other TLDs are lesser known and we don't recommend using them. For example, .biz, .club, .info, .agency, and many more.

DiPerent Types of Domain Names

° Country Code Top Level Domain - ccTLD

- Country code top-level domain or ccTLD are country specific domain names which end with country code extension like .uk for the United Kingdom, .de for Germany, .in for India.
- They are used by websites that want to target audiences in a specific country.

° Sponsored Top Level Domain - sTLD

- Sponsored top-level domain or sTLD is a category of TLDs that has a sponsor representing a specific community served by the domain extension.
- For example, .edu for education-related organizations, .gov for the United States government, .mil for the United States military, and more.

Legal and TechnologicalSignificance of domain Names

- On a basic level, domain names are important because the Internet's addressing scheme is not very effective without them.
  - domain names are much more than just a technical shortcut. A short, memorable domain name can make the difference between creating a successful Web presence and getting lost in cyberspace.
  - A domain name adds credibility to your small business. Having your own domain name makes your company look professional. If you publish your site through an ISP or a free Web hosting site, you'll end up with a URL such as www.yourisp.com/-yourbusiness. This generic address does not inspire confidence in a customer like a www.yourcompany.com domain name does.

Legal and TechnologicalSignificance of domain Names

- A domain name says you're forward-thinking. Having your own domain name indicates you're part of the Digital Revolution, and it implies that you're up-to-date on emerging technologies. Whether this is true or not, having your own domain name might just put you ahead of your competitors.
- A domain name adds mobility to your Internet presence. Owning your own domain name lets you take that name with you if you transfer Web hosts or switch to your own in-house server. If you don't own your domain name, you'll have to take a new URL, which will destroy the branding that you built up with your first address.

Legal and TechnologicalSignificance of domain Names

- The right domain name can attract walk-in business. If you decide to register a domain name that matches the concept of your business (instead of your exact business name), you might draw Web surfers in search of that topic. For instance, a hardware store that registered Hammers.com might get visitors looking for hammers on the Internet. Also, although search engine results are hard to predict, Hammers.com could show up more frequently in search results when someone searches for information about hammers.
- A domain name builds your brand. More than anything else, a domain name can increase awareness of your brand. If your domain name matches your company name, it reinforces your brand, making it easier for customers to remember and return. It will also be easier to win business via word of mouth because customers will remember your name and pass it along to friends.

Internet as a tool for global access

- The internet has become unavoidable in our daily life. Appropriate use of the internet makes our life easy, fast and simple.

  The internet helps us with facts and figures, information and knowledge for personal, social and economic development. There are many uses of the internet, however, the use of the internet in our daily life depends on individual requirements and goals.

1. Uses of the Internet in Education

   The Internet is a great platform for students to learn throughout their lifetime. They can use the internet to learn new things and even acquire degrees through online education programs. Teachers can also use the internet to teach students around the world.

Internet as a tool for global access

2. Internet Use to Speed Up Daily Tasks

- The Internet is very much useful in our daily routine tasks. For example, it helps us to see our notifications and emails. Apart from this, people can use the internet for money transfers, shopping order online food, etc.

3. Use of the Internet for Shopping

- With the help of the internet, anybody can order products online. The increase in online shopping has also resulted in companies offering a huge discount for their customers.

4. Internet for Research & Development

- The Internet plays a pivotal role in research and development as it is propelled through internet research. The benefit of the internet is enjoyed by small businessmen to big universities.

Internet as a tool for global access

5. Business Promotion and Innovation

- The Internet is also used to sell products by using various e-Commerce solutions. The result is new services and businesses starting every day thereby creating job opportunities and reducing unemployment.

6. Communication

- Without a doubt, the internet is the most powerful medium of communication at present. It connects people across different parts of the world free and fast.

7. Digital Transactions

- The internet facilitates internet banking, mobile banking, and e-wallets. Since all digital transactions are stored in a database, it helps the government to track income tax details or income reports in the ITR.

Internet as a tool for global access

8. Money Management

The internet can also be used to manage money. Now, there are many websites, applications, and other tools that help us in daily transactions, transfers, management, budget, etc.

9. Tour & Travel

During tour and travel, the use of the internet is highly effective as it serves as a guide. People browse the internet before they start visiting the places. Tour bookings can also be done using the internet.

- The influence of the internet in our daily life is huge. It has opened us a magical world of information and we would have never seen the world as it is without the internet. Considering its scope and importance, it would be hard to imagine a world without the internet.