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# A Critical Analysis of Technology's Role in the Modern Criminal Justice System

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## ABSTRACT

*In contemporary criminal investigations, technology has become essential. The application of data analysis, forensics, artificial intelligence (AI), and surveillance has profoundly altered law enforcement operations. This has resulted in investigations becoming more efficient, accurate, and expedient. This essay will examine various technical advancements, their applications, and the obstacles they provide to contemporary criminal investigations. Technology has fundamentally altered the processes of evidence collection, evaluation, and presentation in criminal investigations. Contemporary techniques and apparatus have significantly enhanced the efficacy and rapidity with which law enforcement agencies can investigate offenses and apprehend offenders. Technological innovations have significantly influenced the field of criminal investigation.*

*One example of technology's impact on society is the utilization of digital evidence in legal procedures. As the digital era progresses, criminals are increasingly perpetrating offenses via technology and digital platforms. This has unleashed a multitude of digital evidence that law enforcement authorities may utilize in their quest to apprehend offenders. Digital evidence resides in data recorded on computers, smartphones, social media platforms, and various electronic gadgets. **Rakesh Kumar v. State of Haryana (2020)** The court affirmed the criteria for the admissibility of electronic evidence obtained through phone tapping and monitoring during its assessment of such evidence. Conversation logs, geolocation data, and bank transactions constitute this evidence, which aids police in constructing an incident timeline and identifying suspects.*

**Keywords:** Artificial intelligence, Digital Forensics, DNA Technology.

## I. INTRODUCTION

In contemporary criminal investigations, technology has become essential. The application of data analysis, forensics, artificial intelligence (AI), and surveillance has profoundly altered law enforcement operations. This has resulted in investigations becoming more efficient, accurate, and expedient. This essay will examine various technical advancements, their applications, and the obstacles they provide to contemporary criminal investigations. Technology has

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fundamentally altered the processes of evidence collection, evaluation, and presentation in criminal investigations. Contemporary techniques and apparatus have significantly enhanced the efficacy and rapidity with which law enforcement agencies can investigate offenses and apprehend offenders. Technological innovations have significantly influenced the field of criminal investigation.<sup>3</sup>

One example of technology's impact on society is the utilization of digital evidence in legal procedures. As the digital era progresses, criminals are increasingly perpetrating offenses via technology and digital platforms. This has unleashed a multitude of digital evidence that law enforcement authorities may utilize in their quest to apprehend offenders. Digital evidence resides in data recorded on computers, smartphones, social media platforms, and various electronic gadgets. *Rakesh Kumar v. State of Haryana (2020<sup>4</sup>)* The court affirmed the criteria for the admissibility of electronic evidence obtained through phone tapping and monitoring during its assessment of such evidence. Conversation logs, geolocation data, and bank transactions constitute this evidence, which aids police in constructing an incident timeline and identifying suspects.

Forensic instruments are crucial in criminal investigations. Forensic technology analyzes physical evidence located at crime scenes through the utilization of specialized software and hardware. By examining data derived from physical evidence such as DNA and fingerprints, these devices can identify and associate suspects with the crime. Forensic technology enables investigators to assess evidence with more accuracy and speed, resulting in more reliable conclusions. Forensic tools serve as a fundamental application of technology in criminal investigations. Forensic technology employs advanced software and hardware to examine physical evidence collected at crime sites. Digital evidence, including DNA and fingerprints, can be extracted utilizing these instruments.<sup>5</sup> The Supreme Court's ruling in *Suresh Kumar v. State of Haryana* underscores the importance of employing technology in criminal investigations, highlighting the role of digital records and forensic evidence in establishing the culpability of the accused. Utilize the data to identify the culprits of the crime. Forensic technology has enabled investigators to analyze evidence with greater speed and precision, resulting in more efficient and precise outcomes. Technology has not only streamlined investigations but has also facilitated the collecting and storage of evidence. The emergence of

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<sup>3</sup> Gabriel Hallevy, *The Criminal Liability of Artificial Intelligence Entities: From Science Fiction to Legal Social Control*, 4 AKRON INTELL. PROP. J. 179 (2010).

<sup>4</sup> Criminal Appeal No. 39 of 1984.

<sup>5</sup> Yash pal Singh and Mohd. Hasan Zaidi, *Narco-Analysis, Brain Mapping, Hypnosis and Lie Detector Test 2* (Allia Law Agency edn.2019).

digital databases has enabled law enforcement organizations to keep and access extensive data, facilitating the cross-referencing and association of evidence with suspected individuals. Consequently, the inquiry has become more efficient and less susceptible to errors or overlooked evidence.<sup>6</sup>

## II. DIGITAL FORENSICS: REVEALING THE HIDDEN

Digital forensics is a crucial improvement in criminal investigations. As an increasing number of persons engage online, digital evidence is becoming increasingly significant in contemporary investigations. Digital forensics involves the recovery and analysis of data from devices including computers, mobile phones, and cloud storage systems. The ample information this evidence offers enables investigators to resolve crimes. Emails, text messages, computer browsing history, and even deleted files can exemplify this form of evidence. Investigators utilize computer forensics to uncover evidence of fraud, cybercrime, or other illicit activities on computers or digital storage devices. Software for virus detection, file analysis, and data recovery is essential for revealing hidden evidence. The proliferation of smartphone usage necessitates the incorporation of forensic examination of these devices in criminal investigations. The location, email communications, text messages, and call records of a suspect can be revealed by examining their mobile devices. Case Number: 2018-6, *State of Punjab v. Ranjit Singh*<sup>7</sup> This case addressed the admissibility of retrieved data as evidence and the analysis of electronic devices, focusing on the application of digital forensics in criminal investigations. Investigators can extract data from failing devices by utilizing data recovery technologies. Advanced analytical algorithms can then analyze vast quantities of data to identify significant correlations and trends for ongoing research. Digital forensics and cybercrime investigations require several essential stages. Multiple methodologies are initially used to identify possible cybercrimes, encompassing automated methods, reports from people or collectives, and the examination of dubious conduct. Creating forensic duplicates of recognized digital evidence is a standard procedure for its preservation. This evidence, including diverse digital artifacts including files, logs, metadata, and system images, is then meticulously gathered utilizing designated tools and methodologies. Forensic investigation is utilized to determine the degree of the harm, identify the culprit, and reconstruct the sequence of events.

Employing cutting-edge forensic instruments, scrutinizing the chronological sequence of

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<sup>6</sup> B.B Nanda and R.K. Tiwari, *Forensic Science in India, A Vision for The Twenty- First Century*1 (Select Publishers, New Delhi, 2012).

<sup>7</sup> *Ranjit Singh vs State Of Punjab And Ors* CWP-7277-2018 (O&M)

events, and contrasting various pieces of evidence will produce substantial insights from this investigation. Conclusions regarding the characteristics and effects of cybercrime are derived from the analyzed data. Legal proceedings depend on detailed reports that delineate the processes, conclusions, and ancillary documents. Courts may solicit testimony from digital forensics professionals to enhance convictions and furnish contextual information for their conclusions. The inquiry ultimately produces data that can enhance cyber defenses and reduce the probability of attacks. This encompasses enhancing security protocols, educating personnel, and refining incident response strategies. Digital forensics is crucial for preventing cybercrime, protecting digital environments, and enforcing justice in the digital realm, owing to its systematic approach. Digital forensics includes the acquisition, analysis, and preservation of data from electronic devices. Considering the omnipresence of technology in contemporary life, it is unsurprising that the majority of criminal investigations now concentrate on it. Investigators utilize it to recover deleted texts, browsing history, and other digital evidence that may incriminate perpetrators in a case.<sup>8</sup>

### **III. TECHNOLOGY FOR SURVEILLANCE IN LAW ENFORCEMENT**

The utilization of monitoring devices has surged significantly in recent years. Criminal investigations frequently utilize high-definition cameras, facial recognition technology, and drones. These technologies facilitate real-time surveillance and evidence acquisition, aiding in suspect monitoring, criminal deterrence, and critical evidence collection. The utilization of face recognition technologies has notably increased. It can analyze extensive quantities of footage and recognize suspects, frequently at a pace surpassing that of human investigators. The acknowledgment of biometric data, such as fingerprints and iris scans, has improved and expedited identification processes. Public spaces, commercial establishments, and urban areas frequently employ closed-circuit television (CCTV) systems to collect evidence and discourage illegal behavior. Advancements in video analytics, such as facial recognition and behavioral analysis, enhance the use of surveillance footage for apprehending potential perpetrators in the act. Drones are increasingly utilized in law enforcement for search and rescue operations, crowd surveillance, and monitoring activities. In emergencies, drones outfitted with infrared sensors and high-definition cameras can provide essential aerial viewpoints. The adoption of body-worn cameras (BWCs) is increasing as a method for law enforcement to enhance transparency and accountability to the public. These cameras document interactions between the public and law enforcement, providing an impartial account of events that can be employed in

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<sup>8</sup> Gabriel Hallevy, *The Criminal Liability of Artificial Intelligence Entities: From Science Fiction to Legal Social Control*, 4 AKRON INTELL. PROP. J. 179 (2010).

investigations and legal proceedings. Surveillance technology has seen significant evolution since the advent of facial recognition software, closed-circuit television (CCTV), and drones.

By employing these techniques, law enforcement agencies can surveil public areas, detect potential offenders, and gather essential evidence from the analysis of extensive video footage, all while leveraging artificial intelligence-driven facial recognition technology for rapid offender identification. It is beneficial in densely populated areas, such as airports, train stations, and public gathering spaces, where monitoring individuals is nearly unfeasible. **K. Raghavan v. State of Karnataka** (2016).

In a particular instance, the prosecution utilized cellular phone data as evidence. The Supreme Court underscored the importance of digital evidence in linking criminal defendants to illicit activities. The sophisticated monitoring, evidence-collection, and public-safety functions of surveillance technology render it an essential instrument for law enforcement. Although wiretapping and stakeouts were once prevalent in surveillance, contemporary technology has introduced a plethora of new opportunities. Law enforcement agencies employ several modern surveillance tools. This encompasses drones, automatic license plate readers (ALPRs), closed-circuit television (CCTV) cameras, facial recognition software, and advanced data processing technologies. Public areas frequently feature closed-circuit television cameras. They assist in both crime investigation and prevention by documenting and monitoring actions in real-time. Automobiles of interest or stolen vehicles can be swiftly identified with ALPRs, which scan license plates and promptly cross-reference them with databases. Facial recognition software utilizes biometric data to identify individuals in photos or videos, enabling the location of missing persons or suspects in criminal activities. Drones equipped with cameras can enhance tactical operations, traffic surveillance, and search and rescue missions. Furthermore, they facilitate the execution of aerial surveillance. Moreover, sophisticated data analysis algorithms examine extensive surveillance data to identify trends and patterns that might assist law enforcement and provide valuable insight. Concerns have been expressed over potential misuse, privacy infringements, and violations of civil liberties, notwithstanding the good impacts of contemporary surveillance technologies on public safety and crime reduction. Implementing it generally necessitates stringent restrictions, oversight protocols, and compliance with legal frameworks to attain equilibrium between security requirements and individual freedoms and rights. To remain contemporary, maintain ethical standards, and protect individuals' privacy rights, law enforcement agencies must continuously modify their surveillance methods in

response to emerging technologies.<sup>9</sup>

#### **IV. DNA TECHNOLOGY: ACCURATE IDENTIFICATION**

The application of DNA technology represents one of the most inventive advancements in criminal investigations. In cold cases, DNA profiling can offer law enforcement an unparalleled degree of precision. Even the smallest organisms can have their DNA extracted in contemporary times. Innovative techniques, such as Next Generation Sequencing (NGS), have enhanced the speed and precision of DNA testing, hence increasing the likelihood of identifying or associating suspects with crime scenes. Recent discoveries have underscored the importance of DNA analysis, a longstanding instrument in criminal investigations. The capacity to extract and analyze DNA from increasingly minuscule amounts is transforming cold case investigations, enabling law enforcement to resolve crimes that previously seemed insurmountable. Contemporary DNA technology enable the creation of detailed genetic profiles that may be matched to databases of persons with documented criminal records. This technology facilitated the identification and subsequent apprehension of individuals who may have eluded arrest. The capability to identify relatives of alleged offenders via familial DNA searches has introduced new possibilities in instances where a direct match is unattainable. DNA profiling is based on the idea that, except for identical twins, every individual has a unique genetic composition. Although 99.9 percent of human DNA is identical among individuals, the 0.1 percent that varies consists of variances in base pair sequences that can be employed to distinguish specific traits. Forensic laboratories create a DNA profile by examining variable areas, commonly referred to as short tandem repeats (STRs). Detectives collect biological samples such as blood, saliva, skin cells, and hair follicles from crime scenes to extract DNA. Forensic professionals may employ the polymerase chain reaction (PCR) technique to amplify the acquired DNA until adequate material is available for analysis. DNA evidence can directly connect a suspect, victim, or crime scene.<sup>10</sup> For example, DNA samples from potential suspects can be compared to those of a murder victim found beneath their fingernails. The discovery of a match offers compelling evidence connecting the suspect to the crime. DNA evidence has been significant in the exoneration of wrongfully condemned individuals. Capacity for Rebuttal DNA evidence has frequently exonerated individuals unfairly imprisoned owing to falsified forensic evidence, pressured confessions, or errors made by trial witnesses in identifying the accused. Since the inaugural exoneration in the United States in 1989, numerous individuals

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<sup>9</sup> Weston Kowert, *The Foreseeability of Human- Artificial Intelligence Interactions*, 96 *TEX. L. REV.* 181 (2017).

<sup>10</sup> Mindaugas Naucius, *Should Fully Autonomous Artificial Intelligence Systems Be Granted Legal Capacity*, 17 *TEISES APZVALGA L. REV.* 113 (2018).

have been liberated due to DNA testing. The application of DNA technology has resolved cold cases that have been unsolved for decades. Advancements in DNA testing have enabled scientists to retrieve DNA from previously disregarded historical records. In 2018, DNA analysis and genealogical research facilitated the identification of the Golden State Killer, a serial murderer active during the 1970s and 1980s. DNA technology is essential for identifying victims of mass atrocities or natural disasters. Following terrorist acts or natural disasters such as tsunamis, DNA testing can be employed to identify unidentified dead by matching them with relatives or existing profiles in databases. The application of DNA technology in forensic investigations has significantly increased recently due to advancements in technology. One notable improvement is the development of Next-Generation Sequencing (NGS), which allows researchers to rapidly and thoroughly sequence DNA. Next-generation sequencing (NGS) is more efficient than traditional approaches as it can analyze several samples concurrently. The presence of multiple victims or perpetrators in a complex case proves to be advantageous. A significant advancement is the utilization of methodologies for family DNA investigations.<sup>11</sup>

## V. BLOCKCHAIN TECHNOLOGY FOR EVIDENCE HANDLING

Blockchain technology, sometimes linked to bitcoin, has other applications beyond law enforcement and criminal investigations. The most compelling application of blockchain technology is in evidence management, as its inherent characteristics—security, immutability, and transparency—can resolve persistent challenges related to evidence tampering, integrity, and chain of custody. To enhance the integrity of criminal investigations, law enforcement agencies can employ blockchain technology to securely preserve evidence, ensure its verifiability, and prevent unauthorized alterations. The chain of custody guarantees that evidence is managed and transferred according to a defined protocol from the time it is obtained at a crime scene until it is presented in court. A safe and reliable chain of custody is crucial for generating trustworthy and admissible evidence. Erroneous convictions or the exclusion of vital evidence may arise from a disruption in this process, such as inadequate recordkeeping, unauthorized access, or tampering. Prevalent techniques for monitoring assets across the chain of custody encompass physical documentation and centralized digital systems. The matter of *Anvar P.V. v. P.K. Basheer* (2015).

In accordance with Section 65B of the Indian Evidence Act, 1872, a certificate must accompany electronic recordings, as mandated by the Supreme Court's decision regarding the admissibility

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<sup>11</sup> Prakash R, Mohanty T, Gupta R, Jain V. ICT in Indian court challenges & solution. International Journal of Internet Computing, 2011;(1):2231-6965.



of electronic evidence. This case underscores the significance of appropriate standards and documentation in the contemporary digital age. These tactics facilitate hacking, ineffective management, and human error. The integrity of the investigation may be jeopardized through various means, including unauthorized system access, erroneous evidence documentation, and similar issues. At this juncture, the transformative solution offered by block chain technology becomes pertinent. A blockchain is a form of distributed ledger that records transactions occurring across multiple nodes within a network. All data units are interconnected to create an immutable chain. Once published to the blockchain, data becomes exceedingly difficult to modify or remove due to encryption and its distribution across all nodes. The persistent challenge of evidence management in criminal investigations may be addressed by blockchain technology. Block chain technology enhances the integrity of the chain of custody and reduces the risk of incorrect handling or manipulation due to its immutable, transparent, and secure ledger. Blockchain technology represents a promising advancement for the criminal justice system, offering potential advantages for law enforcement. Nonetheless, numerous inquiries remain unresolved.<sup>12</sup>

#### **(A) AI in investigation**

Artificial intelligence (AI) has the potential to improve the effectiveness of investigations by revealing complex patterns and connections that would be difficult for people to find on their own. Massive amounts of data can be analyzed by AI. Law enforcement may find it simpler to identify suspects and gather evidence more precisely and effectively as a result.

Artificial intelligence can assist in forensic analysis, which is crucial to the resolution of many criminal cases. Artificial intelligence can analyze DNA samples, fingerprints, and other types of evidence to identify suspects or establish links between crimes and previous incidents. By integrating AI into prosecution, it is possible to ensure the timely and effective administration of justice, reduce delays, and enhance the judicial system's overall efficacy. The development of a legal argument can be bolstered by the examination of the available data and the facilitation of significant information discovery by artificial intelligence. Artificial intelligence can assist prosecutors in identifying patterns and trends in criminal behavior, which can aid them in reaching plea agreements and determining the appropriate sentencing. Through the analysis of historical case data, including outcomes, artificial intelligence can help prosecutors build stronger cases and achieve better outcomes.<sup>13</sup>

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<sup>12</sup> Harshul Gupta, "Scope of Artificial Intelligence as a Judge in Judicial Sector", *Indian Journal of Law, Polity and Administration*.

<sup>13</sup> S. Suparkar, *Law of Procedure and Justice in Ancient India*, National Book Agency, Delhi, 1986, p.78.

In April 2021, the Supreme Court of India revealed the first artificial intelligence platform in the country, called SUPACE (Supreme Court Portal for Assistance in Courts Efficiency). S. During the opening ceremony, A. Bobde, the former Chief Justice of India, announced that artificial intelligence will be incorporated into the Supreme Court's daily operations. During the talk about artificial intelligence becoming more accessible, the speaker brought up the notable occasion of Grandmaster Garry Kasparov's 1997 defeat by Deep Blue. During the launch of SUPACE, Chief Justice S. A. Bobde made it abundantly evident that the AI site would be exclusively dedicated to data collection and analysis, and would not be utilized for decision-making. According to a research released by the National Judicial Data Grid in May 2021, there were over 3.81 crore cases waiting in Indian district and taluka courts.

For nearly thirty years, over a lakh of these cases have remained unsolved. Furthermore, AI has shown to be extremely helpful in a number of industries, including climate change mitigation, farming and agriculture, natural catastrophe predicting, good governance, and healthcare. But the application of AI has also raised questions about its potential for broad monitoring, which might lead to a loss of privacy and security as well as the dissemination of misleading information. The criminal justice system is the foundation of a democratic society because it upholds the rule of law, ensures justice, and protects individual rights.

E-filing platforms and case management systems assist speed court proceedings, save paperwork, and enhance productivity. The effectiveness of the system for addressing disputes can be strengthened by financing the hiring and education of judges and legal specialists. In addition, it is vital to emphasize guaranteeing the accessibility of justice for marginalized and economically disadvantaged sectors within society.<sup>14</sup>

By putting this policy into action, you can ensure that everyone has fair access to the legal system and help reestablish public trust in it. There are seven basic concepts that guide the criminal justice system. The first one is An individual is considered innocent until and unless they are shown to be guilty. In order to determine someone's guilt, it is necessary to provide strong evidence that leaves no room for doubt. It may be legally required of a person to provide evidence that could be used against them in a criminal prosecution;<sup>15</sup>

A person who has been found not guilty of the same crime cannot be put on trial again under the protection against double jeopardy. Within the framework of the right to a fair trial, the presumption of innocence is a fundamental concept. It says that until someone is proven guilty

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<sup>14</sup> Venugopal Roa, *Criminal Justice*, Konark Publications Pvt. Ltd., Delhi, 1991, p.21.

<sup>15</sup> Samuel Barkar, "Origin of the Contemporary Criminal Justice Paradigm", American Bar Foundation Survey, 1992, *Justice Quarterly*, America, 1992

beyond a reasonable doubt, they should all be considered innocent.

The *Woolmington v. DPP*<sup>16</sup> case upheld the presumption of innocent premise. The "golden thread" of criminal law refers to the basic principle that the burden of proof is with the prosecution to prove beyond a reasonable doubt that a crime has been committed. It is not necessary for the accused to present proof of their innocence. The judge participates in the criminal trial process rather than just watching from the sidelines. It is the responsibility of both the defense and the prosecution to carefully consider and analyze each individual case before presenting their client's case.

Similarly, the primary duty of the judge or other judicial officer is to decide each case according to its own set of facts and circumstances. Hon'ble Mr. Justice P. Sathasivam cited the remarks made by former Chief Justice Ranganath Mishra in a writ petition regarding the conditions of the lower judiciary in the case of *All India Judges' Association v. Union of India*<sup>17</sup> in his speech titled "role of judicial officers in criminal justice administration" on January 5, 2013, at the Tamil Nadu State Judicial Academy for the Newly Recruited Civil Judges. Ranganath Mishra, the Chief Justice, emphasized the trial judge's key role in the hierarchical structure of the administration of justice. He interacts directly with the litigant at every stage of the legal process. It is his duty to provide a truthful case, and the pursuit of justice is contingent upon his comprehension of the matter. The Court's capacity to function effectively depends on a number of factors, such as the personalities, backgrounds, and judicial restraint and decorum of the individual members.<sup>18</sup>

He adds, "A judge should have the discernment to acknowledge their own fallibility and, as a result, remain receptive to learning and courageous enough to acknowledge their errors." Section 165 of the Indian Evidence Act grants judges significant authority to conduct investigations. This speaks to the increased societal demands placed on judges. It is justified to grant such broad jurisdiction in order to ascertain the truth and present strong proof. The primary goal of the attorney is to ensure that their client wins, while the judge's job is to make sure that justice is done. The specific obligations and tasks of judicial magistrates at every stage, including the pre-trial, trial, and post-trial phases, are delineated in the Code of Criminal Procedure.

The basic tenet of criminal law is that everyone is deemed innocent until and until they are

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<sup>16</sup> Woolmington v DPP (1935) AC 462.

<sup>17</sup> All India Judges' Association vs. Union of India (1992) 1 SCC 119.

<sup>18</sup> R.P. Sethi, "Criminal Justice: Problems and Challenges", The Indian Journal of Parliamentary Affair, Bangalore, January 2001, p.23.

proven guilty beyond a reasonable doubt in a trial that is presided over by a fair and competent court. As required by the principles of justice, the judiciary is in charge of making sure that no one is punished without first receiving a fair trial.

The Supreme Court held in the *Dhananjay Chatterjee v. West Bengal*<sup>19</sup> case that the degree of severity of the penalty should be determined by the extreme cruelty of the offense, the actions of the offender, and the victim's vulnerability. Consequently, the Criminal Code's Section 235 was put into effect. Process control, or PC, is a methodical process that requires careful consideration, with adjustments depending on the specifics and setting.

The Criminal Procedure Code, Section 167. The Police and Criminal Evidence (PC) Act is a necessary tool for accelerating police inquiries. If, as previously stated, the police are unable to finish their investigation in the allotted 24-hour period. The provisions listed in section 57 of the Criminal Procedure Code take effect upon an individual's arrest. In compliance with legislative regulations, the Police may ask the court for an extension of the accused's imprisonment of no more than 15 days.

The legal procedure known as a "Remand Order" prolongs the defendant's custody for a maximum of 15 days. This detention may take the form of judicial or police custody. In addition, as per section 167, the Judicial Magistrate is empowered to extend the period of custody beyond 15 days in the event that they consider it necessary for the sake of justice and a thorough inquiry. The court magistrate has the power to authorize further detention beyond the first 15-day extension; however, this additional detention must now take place in court rather than in police custody. The total length of incarceration, including previous stints, cannot be more than 90 days or 60 days, depending on the circumstances.

It is not possible for the decision to grant remand in police custody to be entirely automated, nevertheless. The magistrate's judicial acumen must be used in determining whether the accused should be held in custody at all. When the police ask for remand, the custody order should not be issued automatically or routinely. Some courts have placed a great deal of stress on the requirement that the case diary be turned in to the magistrate before they decide whether to grant custody or remand. The judiciary has placed a strong emphasis on the role of judges and their duty to assess the criminal justice system in its whole. Judge Bhagwati made it clear in the *Khatri II v. State of Bihar*<sup>20</sup> decision that magistrates have the power to supervise police investigations under Article 22(2). It is imperative that magistrates enforce this directive and

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<sup>19</sup> Dhananjay Chatterjee v. State of West Bengal, 1994 SCR (1) 37.

<sup>20</sup> Khatri II v. State of Bihar, (1981) 1 SCC 627.

take firm action against any police noncompliance.

However, magistrates are not obliged to always grant remand. To prove that the information is true, the police must provide supporting documentation. Order automation is not practical. The Honorable Supreme Court held in the *Sheela Barse v. State of Maharashtra case*<sup>21</sup> that the arresting officer must inform the suspect of their entitlement to a medical examination under section 54. In this case, the magistrates were directed by the High Court to inquire with the person in detention about any allegations of torture or other forms of maltreatment that they may have experienced while under police custody. The magistrate must notify the accused of their right to request release on bail following a specified waiting period of either 90 or 60 days, depending on the circumstances, as per the verdict in *the Hussainara Khatoon case*.<sup>22</sup>

From this, it follows that the magistrates are the most qualified to guarantee that the accused does not lose their rights. The significance of trial courts was underscored by the Supreme Court in the recent case of *Ghulam Hassan Beigh v. Mohammad Maqbool Magrey*<sup>23</sup> (decided on July 26, 2022) when it was noted that these courts have a responsibility to fully evaluate and establish the charges, instead of acting as mere middlemen. It is not legally supported to present the charge sheet without conducting adequate research and without providing convincing evidence to support the position.

## VI. CONCLUSION

Technology's application in modern criminal investigations has revolutionized the techniques utilized by law enforcement. This is attributable to technology improvements that have augmented investigators' capabilities and rendered crime-solving endeavors more efficient. In various domains, including digital forensics, forensic analysis, and surveillance, technology is essential for data collection, identification of individuals, and the maintenance of legal standards. The emergence of new technology presents law enforcement agencies with ethical and legal challenges that must be addressed to ensure the safeguarding of citizens' rights and freedoms. Technology presents significant benefits and considerable drawbacks in modern criminal investigations. In navigating this intricate world, it is essential for legislators, legal professionals, and law enforcement agencies to prioritize transparency, accountability, and ethics in their technological applications. Implementing this will enable us to leverage innovation to establish a safer society while preserving the fundamental rights and dignity of

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<sup>21</sup> *Sheela Barse v. State of Maharashtra*, (1983) 2 SCC 96.

<sup>22</sup> *Hussainara Khatoon & Ors vs Home Secretary, State Of Bihar* (1980) 1 SCC 108

<sup>23</sup> *Ghulam Hassan Beigh v. Mohammad Maqbool Magrey*, 2022 SCC Online SC 913

every human.

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