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Introduction

Welcome to the Indian Journal of Legal Affairs and Research (IJLAR), a distinguished platform dedicated to the dissemination of comprehensive legal scholarship and academic research. Our mission is to foster an environment where legal professionals, academics, and students can collaborate and contribute to the evolving discourse in the field of law. We strive to publish high-quality, peer-reviewed articles that provide insightful analysis, innovative perspectives, and practical solutions to contemporary legal challenges. The IJLAR is committed to advancing legal knowledge and practice by bridging the gap between theory and practice.

Preface

The Indian Journal of Legal Affairs and Research is a testament to our unwavering commitment to excellence in legal scholarship. This volume presents a curated selection of articles that reflect the diverse and dynamic nature of legal studies today. Our contributors, ranging from esteemed legal scholars to emerging academics, bring forward a rich tapestry of insights that address critical legal issues and offer novel contributions to the field. We are grateful to our editorial board, reviewers, and authors for their dedication and hard work, which have made this publication possible. It is our hope that this journal will serve as a valuable resource for researchers, practitioners, and policymakers, and will inspire further inquiry and debate within the legal community.

Description

The Indian Journal of Legal Affairs and Research is an academic journal that publishes peer-reviewed articles on a wide range of legal topics. Each issue is designed to provide a platform for legal scholars, practitioners, and students to share their research findings, theoretical explorations, and practical insights. Our journal covers various branches of law, including but not limited to constitutional law, international law, criminal law, commercial law, human rights, and environmental law. We are dedicated to ensuring that the articles published in our journal adhere to the highest standards of academic rigor and contribute meaningfully to the understanding and development of legal theories and practices.

OPTIMIZING AND STREAMLINING INDIA'S E-COURTS PHASE III: ENHANCING ACCESSIBILITY, ADVOCATE EFFICIENCY AND USER EXPERIENCE BY TECHNICAL REFORMS

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Abstract

Indian judiciary is overloaded by 5.14 crore pending cases (NJDG) 2025[1], and we are already started with e- Courts project phase 3(2023-2027) at this point. This phase 3 proposes a unified AI driven, paperless ecosystem with 4,400 e- Seva Kendra's and a 7210, crore budget to enhance accessibility and efficiency of the interface[2]. This paper evaluates the phase 3 lining up with user efficiency and needs like real time push notifications of e- Courts app, increase awareness of e-Courts and e-Seva Kendra, Advocate profiles, while addressing and tech driven solutions and Fixation's. It identifies ground level problems litigants as well as citizens, advocates face and gaps such as app instability poor UX, Rural exclusion, Digital Divide, absent advocate personalised profiles, proposing technical fixes like firebase-based notifications, mass media campaign and bar council integration of profiles for advocates, inspired by global benchmarks such as (Singapore's iCMS, Estonia's e-justice, Canada's CanLII Connect).Additionally reforms like AI analysis, WCAG 2.1 Access and UX improvements by upholding the right to equality, non- discrimination, and speedy justice (Article 14,15,21,39A constitution of India) which aims to reduce pendency of cases and enhance inclusivity.

[1] NJDG-National Judicial Data Grid, https://njdg.ecourts.gov.in/njdg_v3/ (last visited Aug. 4, 2025).
[2] Vision Document for Phase III of eCourts Project | Official Website of E-Committee, Supreme Court of India | India, https://ecommitteesci.gov.in/document/vision-document-for-phase-iii-of-ecourts-project/ (last visited Aug. 4, 2025).

Keywords

E-Courts Phase 3, Push Notification, Firebase Based, Digital Awareness, Rural Exclusion, Advocates Profiles, Poor UX, WCGA2.1, Digital Divide, Judicial Pendency.

Introduction

As we have always heard *"justice delayed is justice denied"* famously said by William E. Gladstone Former British Prime Minister[3], this phrase relates to Indian judiciary very much as there are 46 million plus pending cases in Indian courts and this number is excluding the number of pre-litigation and pre-trial matters and these numbers are grown substantially over these years. he Supreme Court has consistently emphasized the importance of speedy justice as a fundamental right under Article 21, notably in Hussainara Khatoon v. State of Bihar[4]. Similarly, procedural fairness and access to justice were expanded in Maneka Gandhi v. Union of India[5]. The judiciary has also recognized the role of technology in improving access, as seen in State of Maharashtra v. Dr. Praful B. Desai[6]. The Union Minister of Law and Justice Arjun Ram Meghwal also emphasised on these on 31 July 2025 in Rajya Sabha that over 4.6 crore cases pending in lower courts[7], on 28 March 2025 he showed concern on contempt cases in Hon'ble High Court and Supreme Court of

[3] Kshitiz Verma, E-Courts Project: A Giant Leap by Indian Judiciary, 6 JOURNAL OF OPEN ACCESS TO LAW (2018), https://ojs.law.cornell.edu/index.php/joal/article/view/77
This paper enumerates the efforts made by the Supreme Court of India and proposes a road map of how the existing Information and Communication Tech- nology (ICT) can help Indian judiciary to evolve as more technology driven with increased transparency. The main drive behind the efforts made by the Supreme Court is through e-Courts project. The Government of India has unleashed huge amount of funds to enhance the rate of justice and reduce the piling up of huge number of cases in the courts in India. Various steps have been taken to utilize the power of the Internet to ease the life of the litigant and all the other stakeholders in the process. The efforts are specially targeted to help the poor. The e-Courts project has led to scanning, digitization and digital preservation of case records, enabling video-conferencing for courts and jails, etc. A major outcome of the e- Courts project is the National Judicial Data Grid (NJDG). It provides an online, real time information on around 25 million pending cases in Indian courts are various levels. This paper also provides insights in the potential of ICT to be able to go far beyond than what is proposed in the e-Courts project. The e-Courts project has mainly provided a platform for the consolidation of the ICT infrastructure in the courts. In order to be able to use all this computing machinery efficiently, more services, beyond as envisaged in the e-Courts project have to be developed.
[4] Hussainara Khatoon v. State of Bihar, (1979) 3 S.C.C. 532 (India).
[5] Maneka Gandhi v. Union of India, (1978) 1 S.C.C. 248 (India).
[6] State of Maharashtra v. Dr. Praful B. Desai, (2003) 4 S.C.C. 601 (India).
[7] Ishita Mishra, Over 4.6 Crore Cases Pending in Lower Courts, Centre Tells Rajya Sabha, THE HINDU, July 31, 2025, https://www.thehindu.com/news/national/over-46-crore-cases-pending-in-lower-courts-centre-tells-rajya-sabha/article69879720.ece
Over 4.6 crore cases pending in Indian courts, with efforts to expedite justice through Fast Track and Gram Nyayalayas.

India[8]. In 2005, The Hon'ble Supreme Court, in order to increase use of ICT in the judiciary started the apex body, E- committee and started the e-Courts project in 2005 with the budget of 4.42 billion. India's e-Courts Project was implemented in 2007 as part of e-Governance plan of the National e-Governance Plan, to digitize judicial processes. Phase 3 (2023–2027) proposes a paperless judiciary, leveraging AI, cloud storage, and e-Seva Kendra's to ensure "access and inclusion" also with help desk for fixing digital divide though there are some gaps in accessibility and engagement, paper emphasis on gaps and fixation by in-app push notifications and UX improvements, Awareness of e-Courts and e-Seva Kendra's while addressing exclusion and counsel profiles on e-Courts app and Ai driven analytics in e-filings, inspired by global systems like Singapore's iCMS, Estonia's e-Justice, and Canada's CanLII Connects. It seeks to address challenges such as limited user engagement, accessibility gaps, and inefficiencies in case management in phase 3. However, emerging technologies like artificial intelligence (Ai), blockchain technologies for security and privacy which will offer unprecedented opportunities to revolutionize the Indian judiciary in future phases of e-courts project. This research paper critically evaluates user concerns, proposes technical fixation and actionable solution aligned with Phase 3 objectives and also envision futuristic upcoming phases using advance emerging technologies to achieve zero-pendency judicial system, ensuring inclusivity, efficiency, and equity for all stakeholders.

New emerging technologies and their role in e-court project

1. Artificial Intelligence:

   Artificial intelligence involves algorithms that mimics human intelligence, we are slowly getting introduced to it by lot of machines and gadgets in market nowadays. Artificial intelligence hereinafter will refer as "AI" includes Machine Learning (ML), Natural Language Processing (NLP) and predictive analytics. Machine learning is model which learn from data to identify upcoming patterns, natural language processing process legal texts for its understanding and gives summarization or translation and predictive AI

[8] The Hindu Bureau, Over 1,800 Contempt Cases in Supreme Court, 1.43 Lakh across High Courts Remain Pending: Law Minister, THE HINDU, Mar. 28, 2025, https://www.thehindu.com/news/national/over-1800-contempt-cases-in-supreme-court-143-lakh-across-high-courts-remain-pending-law-minister/article69386905.ece
Over 1,800 contempt cases pending in Supreme Court, 1.43 lakh in High Courts, Law Minister informs Lok Sabha.

forecasts future case specific outcomes or timelines using historical data and patterns. Reinforcement learning is machine learning technique where agent learns to make optimal decision making by interacting with the environment which optimizes user interactions. AI systems need training on large datasets and robust computing infrastructure, often cloud-based, to deliver real-time results where quantum computer can play crucial role for best output.

2. Blockchain Technology:

   Blockchain is decentralised immutable digital ledger that records transaction across the network of computers instead of working or relying on single central authority it works on decentralised networks. Each transaction here creates block cryptographically connected to previous one using hash method (unique digital fingerprint), which ensures tamper-proof records. It can also provide features like smart contracts which are self-executing agreement coded in blockchain and as soon as the pre-defined conditions are met it triggers and execute the contract. Which will make judiciary transparent and resistant to unauthorised access.

What is e-Courts Project?

E – Courts project in India initiated under "National Policy and Action Plan for Implementation of ICT in the Indian judiciary 2005" by the e-committee of the supreme court[9], for digitization of courts and its process the modernization of the Indian courts system through technology. The objective of the project is to service delivery to citizens, litigants as well as advocates such as status of the case, daily cause list, cases filed, cases registered which is CIS (case information system) based.

The objective of project is to Enhance judicial productivity by automating court process and reducing manual task, increase accessibility of citizens, Promote transparency of judicial information for litigants, advocates and citizens of India through National Judicial Data Grid

[9] Homepage | Official Website of E-Committee, Supreme Court of India | India, https://ecommitteesci.gov.in/ (last visited Aug. 4, 2025).

(NJDG), Reduce case pendency, Enabling paperless courts by implementing e-filling and e-payments systems to minimize the paper usage, Improve court management through developing decision support systems and digitize records. Provide citizen centric services by facilities like e-seva Kendra's, touch screen kiosks and mobile apps for convenient access to judicial services. Whereas there are some technological gaps for achieving the objective of e-courts project hereinafter this paper will address such gaps with solutions to bridge those gaps by technological optimization and enhancement which will also revolutionise Indian judiciary and digitization of courts.

Gaps in Phase 3 and Solution aligned with Phase 3 Vision

1. Enhancing In-App Push Notifications and UX improvement

1.1 The e-Courts app (1cr +) relies on SMS and email but as compared to today's users are more habitual with in-app push notifications as they are more engaging, Studies suggest that the push notifications are more effective overall in encouraging self-monitoring, but amongst frequent app users, push-notifications containing insights was associated with greater self-monitoring[10]. Nowadays app's that people use on their smartphones come with same push notifications and people are more friendly with it. Including these firebase-based push notification on e-Court app will increase engagement of users with their case updates as well as proceedings status etc. In-app push notifications would ensure real-time updates ultimately helping reducing missed hearings, can also add features like Whatsapp integration as Hon'ble Supreme Court has launched one way communication for automated messages foe case filling updates, Ca use list, Orders etc[11]. The study of UX models of "UPI" apps for development of real time notification can be done also the optimization of servers for 3 million daily hits which will fix crashes. It also aligns with phase 3 of e-courts project as respect to real time e-notification and AI driven case management align with timely updates. The global benchmark for this

[10] N. Bidargaddi et al., Predicting Which Type of Push Notification Content Motivates Users to Engage in a Self-Monitoring App, 11 PREV MED REP 267 (2018)

[11] Supreme Court Launches WhatsApp Service, Case Info Now Just a Ping Away, https://ddnews.gov.in/en/supreme-court-launches-whatsapp-service-case-info-now-just-a-ping-away/ (last visited Aug. 7, 2025).

feature is Singapore, Singapore's iCMS push notifications reduce missed hearings by 15% (Singapore Judiciary, 2023)[12].

1.2 The e-Courts mobile application suffers from instability, including frequent crashes and inefficient navigation. This directly impacts litigants' ability to access real-time case information, thereby undermining the constitutional guarantee of equal access to justice under Article 14, yet no improvements has been made or visioned in phase 3 also it has complex navigation and no user interaction or feedback option available although Phase 3 emphasise on user centric app but lacks the feedback mechanism. Feedback integration must be added as there are lots of complaints regarding it and regular UX testing with litigants and advocates, The app can be made simplified for navigation with dashboard, interface and design for more user engagement (case tracking, e-filling etc). examples and study of fintech apps can be considered for the improvements.

2 Awareness of e-Courts and e-Seva Kendra's and addressing exclusion

2.1 Limited awareness among tech-savvy and non-tech-savvy citizens (40% non-digital population, TRAI 2025)[13] restricts adoption, risking Article 14 (equality) and Article 15 (non-discrimination) violations. Phase 3 "access and inclusion" goal hits marginalised groups via 4,400 e-seva Kendra's and literacy programs in 11 languages, although these court-based e-seva Kendra's limit rural access and exclusion of rural areas undermining equality. As looking at Phase 3 alignment we can do mass media campaigns via TV, radio and social media (X, you tube, Facebook, etc.), The launch of campaigns can be started in different languages, by Ads as well as social media influencers promotional campaigns about our revolutionary project "e-Courts", And let the citizens know what e-services it provides. Video lectures or tutorials within app UX, and integrated AI chatbots in different languages for digital literacy for non-tech users can be added. Also mobile e-seva units or CSC e-Governance Kiosks can be deployed in the rural areas for

[12] Singapore Courts, DEFAULT, https://www.judiciary.gov.sg (last visited Aug. 4, 2025) Home page of Judiciary website.
[13] Microsoft Word - Consultation_Paper_on_Digital Inclusion in the Era of Emerging Technologies_NICI, https://www.trai.gov.in/sites/default/files/2024-11/NICI_23012024.pdf (last visited Aug. 4, 2025).

inclusion and thus everyone can have easy access for legal aid and there will be no need to travel long to courts for little information, Digital literacy program can be arranged such as Nasscom Foundation's DigiSakshar[14] and Capgemini's Digital Literacy Programs[15] which work for equipping the marginalized groups and communities with digital skills which will enhance their self-reliance and also empowering these communities and reducing inequality. Panchayat workshops can be started with the help of DLSAs for the purpose, we can take help of previously mentioned digital programs or study Digital India's Diksha's for outreach models or can team up with them for the training programs in rural areas[16]. Estonia's e-justice campaigns have achieved good percentage for adoption of e-filling[17].

2.2 The e-court app lacks accessibility features for visually impaired or hearing-impaired users risking amounting to exclusion, there no tactile or voice enabled features for disabled citizens. Can add screen reader compatibility (e.g., NVDA) and voice navigation to app also text-to-speech for case status updates. Compliance of Web Content Accessibility Guidelines (WCAG) 2.1[18] for e-Courts app improvements.

[14] National Digital Literacy Mission | Digital Skills Training Program, https://www.nasscomfoundation.org/ (last visited Aug. 6, 2025) NASSCOM Foundation empowers women through skill development programs, fostering entrepreneurship and enhancing employability for sustainable growth.

[15] Cultivating a Digital Literacy Mindset, CAPGEMINI INDIA, https://www.capgemini.com/in-en/news/inside-stories/cultivating-a-digital-literacy-mindset/ (last visited Aug. 6, 2025) Cultivating a digital literacy mindset FacebookTwitterLinkedinCapgemini's Digital Literacy training aims at bridging the digital divide and creating a.

[16] PM E-Vidya - DIKSHA, https://pmevidya.education.gov.in/diksha.html (last visited Aug. 4, 2025).

[17] Home | European E-Justice Portal, https://e-justice.europa.eu/home_en (last visited Aug. 4, 2025).

[18] W3C Web Accessibility Initiative (WAI), WCAG 2 Overview, WEB ACCESSIBILITY INITIATIVE (WAI), https://www.w3.org/WAI/standards-guidelines/wcag/ (last visited Aug. 4, 2025) Introduces the Web Content Accessibility Guidelines (WCAG) international standard, including WCAG 2.0, WCAG 2.1, and WCAG 2.2. WCAG documents explain how to make web content more accessible to people with disabilities.

Test the accessibility with disability NGOs in India, Cananda's e-courts portal[19] adheres to Web Content Accessibility Guidelines (WCAG) 2.1 we can adopt the same standards. In India Assam's Guwahati High Court's e-Court Services provide screen reader features[20].

3 Counsel's Profiles and AI driven analytics in e-filling

3.1 Advocates lack the verified profiles on e-courts app to manage their cases, viewing schedules and communication with clients, and rely on manual bar code searches which is inefficient for 1.7+ million advocates[21], Phase 3 aligns with this as it goals for Electronic Case Management Tools (ECMT) and unified platform prioritize advocate efficiency[22]. Bar code searches enable case tracking but do not include personalised profile systems in their goals, verified profiles can be created, linked to bar council enrolment number, with features like case portfolios, hearings dates with google calendar integration and bulk case adding via enrolment numbers and can also integrate e-filling (filing.ecourts.gov.in). For secured access can use Adhaar based OTP authentication. Canada's CanLII Connects provides feature myCANLIIlogin[23]. These profiles must balance efficiency with piracy, avoiding data over-collection, as seen in Phase 3 Interoperable Criminal Justice System (ICJS) risks.

3.2 There is high pendency of cases which requires AI to prioritize cases and detect fraud, in financial disputes and cybercrimes (e.g. Forged doc, falsified evidence) which requires AI driven tools for analysis and prevention. Phase 3[24] also aligns with its vision to use

[19] Canadian Legal Information Institute, https://www.canlii.org/#search/indexLang=en&searchId=2025-08-04T12%3A53%3A22%3A214%2F09f03a3320234b0da2464507be51884b (last visited Aug. 4, 2025) CanLII is a non-profit organization managed by the Federation of Law Societies of Canada. CanLII's goal is to make Canadian law accessible for free on the Internet. This website provides access to court judgments, tribunal decisions, statutes and regulations from all Canadian jurisdictions.

[20] E-Courts Services, https://ecourtsghc.assam.gov.in/ (last visited Aug. 4, 2025).

[21] Bar Council Seeks De-Recognition of 25 Law Colleges | Bar Council of India, https://www.barcouncilofindia.org/info/bar-counci-65tkrq (last visited Aug. 4, 2025).

[22] Vision document for Phase III of eCourts Project | Official Website of e-Committee, Supreme Court of India | India, supra note 2.

[23] Canadian Legal Information Institute, *supra* note 19 CanLII is a non-profit organization managed by the Federation of Law Societies of Canada. CanLII's goal is to make Canadian law accessible for free on the Internet. This website provides access to court judgments, tribunal decisions, statutes and regulations from all Canadian jurisdictions.

[24] Vision document for Phase III of eCourts Project | Official Website of e-Committee, Supreme Court of India | India, supra note 2.

the Artificial Intelligence (AI), Machine Learning (ML), Optical Character Recognition (OCR) and Natural Language Process (NLP) for case pendency analysis and forecasting litigation trends, but there no specific tool for fraud filling detection of particularly cybercrime cases and financial disputes. Fintech fraud detection systems can be studied (example. RBIs AI for banking fraud[25]), Cross database checks integration of e-courts with external database (e.g. Banks, UIADI) via secure APIs to verify evidence authenticity (e.g. digital signatures, bank statements), Singapore's iCMS[26] uses AI to detect filing errors, reducing case rejection we can adapt these for cybercrimes and financial cases.

Although implementing these solutions in this phase 3 we India as developing nation in this digital era need to take big leap in technological advancements in phase 4.

Revolutionizing and enhancing future e-court phases with Advance Technology

"Technology will integrate police, forensics, jails, and courts, and will speed up their work as well. We are moving towards a justice system that will be fully future-ready." - *Prime Minister, Shri Narendra Modi*[27]. As we know the phase 3 is planned for 2023-2027, the coming phase should be more advanced as India is heading towards revolution by flagship programs like Digital India which visions to change and transform India into digital empowered nation and knowledge economy. Digital India has 3 main vision[28] or components which includes addressing digital divide, providing high speed internet across the country and it has key initiatives like Unified Payment interface which transformed Indias payments system, Aadhar a unique 12 digit number for every citizen of India, Digilocker, UMANG (Unified Mobile Application for New-age Governance) for providing government services, e-Sanjeevani which is telemedicine platform, etc.

Make in India initiative started in 2014 for transforming nation into global manufacturing and design hub, and in different sectors with robust technological developments, to promoting

[25] MuleHunter.Ai™ - Reserve Bank Innovation Hub, https://rbihub.in/mule-hunter-ai/ (last visited Aug. 4, 2025).
[26] Integrated Case Management System, https://icms.judiciary.gov.sg/sop/ (last visited Aug. 30, 2025).
[27] Digital Transformation of Justice: Integrating AI in India's Judiciary and Law Enforcement, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=2106239 (last visited Aug. 31, 2025) "Technology will integrate police, forensics, jails, and courts, and will speed up.
[28] Introduction to Digital India | Digital Governance, https://egovernance.vikaspedia.in/viewcontent/e-governance/digital-india/introduction-to-digital-india?lgn=en (last visited Aug. 31, 2025).

innovations and technological advancements and government has also laid down goals for 2030 and 2047 to achieve these abovementioned initiatives. We have telesurgery in healthcare, we have AI powered unmanned ariel combat vehicle (UACV) in defence, UPI is our indigenous technological innovation which changed and transformed payments in India, We launched our first quantum computer "QpiAI-Indus" in April 2025[29], We are heading toward becoming a drone power hub by 2030[30] and implementing 6G network by 2030 in this fast developing sectors our judiciary should also take a leap in technological advancements and set a global benchmark.

Indian judiciary needs these technological reformation and integration to tackle problems like pendency of cases, management of over loaded data and optimizing working of judiciary, In coming future Indian judiciary shall aim for zero-pendency goal, we have technology like artificial intelligence, strong networks for powering them, we have genius engineers and advance IT sector for building advance mechanism, hereinafter I propose some technological reforms in future phases of e-courts project aligning with digital India and make in India vision as well as 2047 goals to make India a world class technological infrastructure and innovation hub as well as develop advanced artificial intelligence[31].

Artificial Intelligence (AI) and Blockchain Technology for optimization and management of judiciary

1. Ministry of law and justice has encouraged digital transformation of justice to implement AI in judiciary and law enforcement[32] in this scenario, deploying next generation enhanced AI such as "reinforcement learning, machine learning, predictive AI, Generative AI, natural language process" will play crucial role in implementing government's vision of

[29] Startup Selected under NQM Launches One of India's Most Powerful Quantum Computers, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=2121845 (last visited Aug. 30, 2025) Bangaluru based QpiAI, one of the 8 startups selected under the National Quantum Mission, coordinate.
[30] "India Is Aiming to Become a Drone Hub of the World," Says Rajnath Singh at Delhi Defence Dialogue, https://ddnews.gov.in/en/india-is-aiming-to-become-a-drone-hub-of-the-world-says-rajnath-singh-at-delhi-defence-dialogue/ (last visited Aug. 14, 2025).
[31] PM Modi's 79th I-Day Address: A Vision for a Viksit Bharat 2047, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=2156736 (last visited Sept. 4, 2025) On the 79th Independence Day, PM Modi delivered his longest and most decisive address from the Red F.
[32] Digital Transformation of Justice, *supra* note 27 "Technology will integrate police, forensics, jails, and courts, and will speed up.

digital India and make in India efficiently. Which can determine case complexity and its duration and then optimizing for scheduling with factors like prioritizing high pendency cases such as cases pending from more than 5 years and sensitive cases for example bail hearings and sexual assault cases and finance related cases.

Automated case summaries can be implemented via deploying advanced natural language processing (NLP) which can create concise case summaries and finding legal precedents which are case relevant and case specific and then draft a preliminary judgement for judges for understanding and analysis to reduce workload on judges. For legal research purposes for judges and advocates.

AI powered Alternative dispute resolution system (ADR) for pre-litigation purpose and reducing pendency, for the cases such as consumer and e-commerce disputes. Banking and financial cases such as loan and debt recovery, insurance claims, credit card frauds[33]. Disputes in sector of business and commercial matters such as contract breach, disputes regarding Intellectual property (IP) disputes. In these AI powered alternative dispute resolution system it would be conducted online as online mediation between the parties which can be called as AI mediation[34]. Which will divert cases from courts and will help reducing pendency.

2. Fraud detection with next generation AI can be done efficiently, AI algorithms models like Convolutional Neural Networks (CNNs) which does deep learning and can particularly for image analysis[35], Support Vector Machines (SVMs)[36] it is supervised learning algorithm in credit card fraud detection. These AI tools and algorithm can detect frauds in real time,

[33] Sushant Kumbhar et al., Support Vector Machine Based Credit Card Fraud Detection, 12 INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH & TECHNOLOGY (2023), https://www.ijert.org/research/support-vector-machine-based-credit-card-fraud-detection-IJERTV12IS030209.pdf, https://www.ijert.org/support-vector-machine-based-credit-card-fraud-detection
Support Vector Machine based Credit Card Fraud Detection - written by Sushant Kumbhar , Ashish Lade , Abhishek Patil published on 2023/04/07 download full article with reference data and citations.

[34] Undefined, INDIAAI, https://indiaai.gov.in/article/ai-and-alternative-dispute-resolution-adr-automating-arbitration-and-mediation (last visited Sept. 4, 2025)
In an era where traditional court systems are increasingly burdened by extensive caseloads.

[35] Zhaohui Zhang et al., A Model Based on Convolutional Neural Network for Online Transaction Fraud Detection, 2018 SECURITY AND COMMUNICATION NETWORKS 5680264 (2018)

[36] Kumbhar et al., *supra* note 33
Support Vector Machine based Credit Card Fraud Detection - written by Sushant Kumbhar , Ashish Lade , Abhishek Patil published on 2023/04/07 download full article with reference data and citations.

for financial and cybercrimes disputes (falsified evidence, forged document, forged digital signature, false bank statements), to reduce false cases filling and pendency.

Similarly in criminal and civil cases the evidence like documents such as verified government papers, digital records(fingerprints), police and medical reports (FIR, chargesheet, medical reports), photos and videos can also be detected through AI weather they are false or not at initial stage to reduce pendency. It will create real-time detecting and hyper-automated e-filling.

3. Using blockchain technology to enhance security in app concerned to payments and documents (evidence, digital case files, judgments) with "cryptographic hash" a unique digital fingerprint for tamper proof fingerprint security for data user feed on e-filing portals, National information centre has centre of excellence in blockchain technology which suggests this application of blockchain[37].

   Blockchain can be also used in tamper-proof secure evidence management where blockchain can create cryptographic trail of record of evidence from day evidence collected. Also transfer of FIR, chargesheet, traffic challan data from police. Issuing court bail orders and summons and notices from police to parties[38].

   This integration of blockchain technology can create interface more trusted and similarly the judges, advocates and litigants personalised profiles be connected to blockchain authentication fingerprint for secure and private access.

4. Personalised AI- assisted profiles for judges, counsel as well as litigants where the smart management of cases would be done with google calendar sync and predictive AI for predictive timelines for the cases where Ai can give tentative analysis for cases users are engaged with also automated scheduling for hearings and personalised notification for status of the cases. AI chatbots for contextual legal advice with predictive AI which can

[37] CENTRE OF EXCELLENCE IN BLOCKCHAIN TECHNOLOGY, https://blockchain.gov.in/Home/Product?product=JudiciaryChain (last visited Aug. 31, 2025).
[38] Id.

help users get real time understanding and help with understanding context and legal advices[39].

5. Generative AI powered multilanguage interface which will help in real time translation and transcription for different languages in India ensuring access of every language including regional to official language[40].

   The advance accessibility features like AI powered assistive technologies for differently abled users, AI- powered screen reader for visually impaired users which will read all on screen text for user including complex legal terms and things on screen. Intelligent document assistant which describes the image particularly, and enhanced voice command navigation.

   For hearing impaired person's real time transcription with captions in different languages all over India and also sign language in avatars on screen which can be included while virtual hearing, Ai online dispute resolution for the users and litigants.

   Simple interface option for cognitive disabled users and simplified UX and AI powered task manager to manage hearings and case management and deploying reinforcement learning where AI will help such users to navigate and use the app efficiently. We have SUVAS (supreme court vidhik anuvaad software) it software that translate english e-SCR (electronic supreme court reports) and supreme court judgements into ten different vernacular languages[41].

Conclusion

India's e-Courts Phase 3 (2023–2027) is a revolutionary step toward a digitized, accessible, and efficient judicial system, addressing the serious issue of 5.14 crore pending cases (NJDG, 2025) through a unified AI-driven, paperless system. This paper evaluates Phase 3 alignment with user-

[39] Artificial Intelligence in Judiciary, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=2043476 (last visited Sept. 4, 2025) The Supreme Court of India has adopted the use of Artificial Intelligence (AI) language technology i.

[40] ACTION PLAN FOR SIMPLE, ACCESSIBLE, AFFORDABLE AND SPEEDY JUSTICE, https://www.pib.gov.in/www.pib.gov.in/Pressreleaseshare.aspx?PRID=1947490 (last visited Sept. 4, 2025) Article 348(1)(a) of the Constitution of India states that all proceedings in the Supreme Court and.

[41] Id.

Article 348(1)(a) of the Constitution of India states that all proceedings in the Supreme Court and.

centric goals, such as in-app push notifications, awareness of e-Courts and e-Seva Kendra's, and Counsel's or advocates profiles, while advancing with additional reforms like AI-driven analytics for case pendency and AI fraud detection specially for financial and cybercrimes disputes, WCAG 2.1-complience accessibility within the e-Courts app, and enhanced UX with in-app feedback features. These reforms aim to bridge gaps such as e-Courts app instability, rural exclusion, digital divide, and lack of advocate customizable profiles, taking inspiration from global benchmarks like Singapore's iCMS, Estonia's e-Justice, and Canada's CanLII Connect.

This can be done by implementing firebase-based in app push notifications, mass media campaigns, mobile e-Seva units, and verified advocate profiles linked to Bar Council enrolment numbers or IDs. AI-driven fraud detection (RBI's MuleHunter.AI), cross-database integration.

Vision for future phase's, powered by next generation AI as well as blockchain technology, can promises a revolutionary leap toward a zero-pendency judiciary. By implementing AI algorithms for case management, blockchain for secure evidence and secure database. AI for predictive analysis and accessibility, Indian judiciary can achieve exceptional efficiency, trust and equity. Indian judiciary must embrace these advancements to upholding justice, speedy trial and ensuring no citizen is left behind by backing article 14 of Indian constitution. Through strategic implementation and collaboration, the e-Courts Project can set a global benchmark for judicial transformation, delivering justice that is swift, inclusive, and technologically empowered.

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