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INTRODUCTION TO COMPUTERS AND PROBLEM SOLVING



Dr. SUDHAKAR D. BHOITE
ABHIJEET D. MANKAR

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INTRODUCTION TO COMPUTERS AND PROBLEM SOLVING

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[Course Code CDS 111 : Credits - 4]

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As Per New Syllabus, Effective from June 2020

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A Comprehensive Guide to Bootstrap, AJAX, and jQuery Development for Crafting Cutting-Edge Web Experiences



DR. POORNIMA G. NAIK
DR. GIRISH R. NAIK

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A Comprehensive Step-by-Step Manual for Crafting Exquisite Angular Projects

Craft Angular Projects with Precision



Dr. Poornima G. Naik | Dr. Girish R. Naik

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Angular Unleashed

Igniting the Boundless Potential of Angular



DR. POORNIMA G. NAIK

DR. GIRISH R. NAIK

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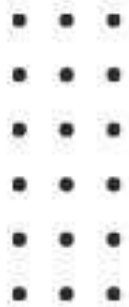
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Awesome React.js

(Unleash the Power of Modern
UI Building)



Dr. Poornima G. Naik
Dr. Kavita S. Oza

Awesome React.js

Awesome React.js
(Unleash the Power of Modern UI
Building)

Author(s): Dr. Poornima G. Naik, Dr. Kavita S. Oza

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(Covers Docker Desktop and Docker Compose)



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A Progressive Case Study
OF
DEVELOPING A WEB-BASED BOOK
CATALOG SYSTEM FROM CONCEPT TO
COMPLETION



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DR. GIRISH R. NAIK

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EXCEL IN MS-EXCEL BY **Unlocking the Power** **of Basic Data** **Analysis**

(Covers Excel 2016)

Dr. Poornima G. Naik
Mr. Mahantesh B. Patil
Dr. Girish R. Naik



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**Author(s): Dr. Poornima G. Naik, Mr. Mahantesh B. Patil,
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Harnessing Jenkins for Building Real World Automation Solutions

From Code to Deployment



Dr. Poornima G. Naik | Dr. Girish R. Naik
Mr. Rajendrakumar T. Thorat

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Mastering Bootstrap, AJAX, and jQuery for Elevating Web Experiences with Advanced Development Techniques

Covers DOM Manipulation



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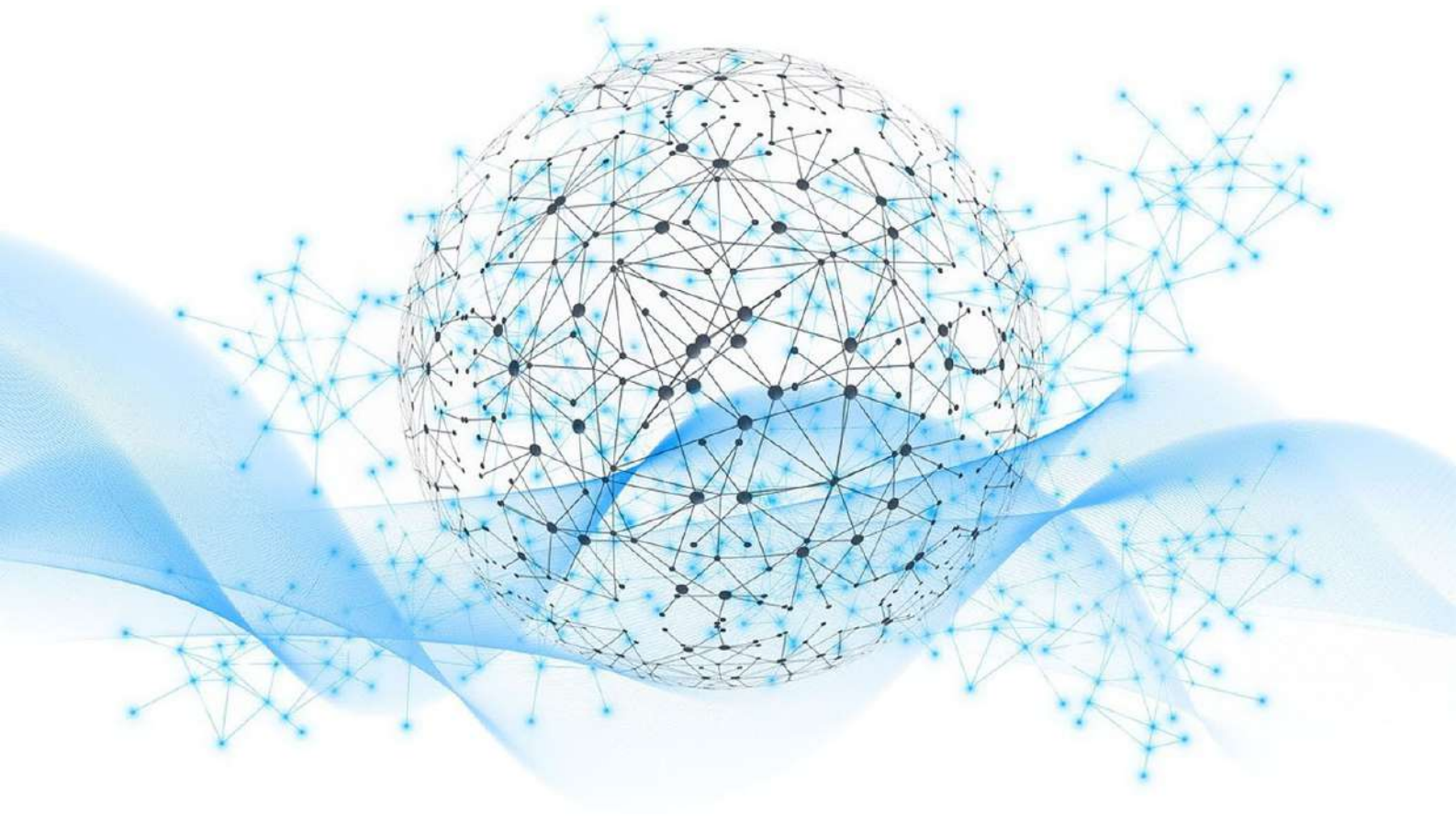
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Unlocking the Power of Bootstrap for Exploring the Basics and Beyond

Covers CSS Combinators and Mixins



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Role of Non Fungible Tokens in Transforming Academic Credentials for Trust and Transparency

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- I. Introduction
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- III. Conceptual Model Design
- IV. Model Implementation
- V. Experimental Result and Future Scope

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Abstract:

Blockchain technology in education offers immutable records of academic achievements, ensuring secure storage and verification of credentials. It enables transparent, decentralized systems for certification, fostering trust, eliminating fraud, and providing individuals with greater control over their educational data and achievements. Additionally, blockchain facilitates efficient and instant verification of qualifications, streamlining processes for educational institutions, employers, and learners. The current research explores the transformation of non-fungible items into Non-Fungible Tokens (NFTs) and their significance in authentication and verification within the blockchain realm. Addressing the limitations of traditional certificates, NFT certificates leverage blockchain technology to ensure trust, ownership proof, and enhanced transferability. The study extensively discusses the ERC721 standard for NFT implementation, the OpenZeppelin library for smart contract security, and tools like Hardhat, Alchemy, Pinata Cloud, and web3.js in NFT creation and deployment. The research demonstrates the practical implementation of NFT token minting, ownership verification, and transfer operations through smart contracts on different networks, highlighting the significance of NFTs in ensuring secure and transparent ownership in the digital landscape.

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- II. Literature Review
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- IV. Model Implementation
- V. Experimental Results

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Abstract:

In the contemporary landscape of education, the invaluable input provided by students through feedback is widely acknowledged as pivotal in elevating the quality of teaching and learning experiences. Yet, conventional feedback systems encounter notable constraints, notably in the realms of data security and transparency. Current research is dedicated to exploring the integration of blockchain technology as a robust and secure framework for collecting student feedback. Blockchain's distinct features, including its assurance of data integrity, transparency mechanisms, and the utilization of smart contracts, hold the promise of significantly refining the feedback process. This research meticulously outlines the academic significance of student feedback systems, defines essential components for effective feedback mechanisms, and elucidates the role of blockchain in constructing such a system. Moreover, it presents a conceptual model design, details the system's architecture, and elucidates the functionalities of smart contracts developed using Solidity. By leveraging blockchain, this innovative approach ensures the security, transparency, and streamlined efficiency of the feedback process, proclaiming unprecedented potential for transformative advancements in educational methodologies.

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III. Conceptual Model Design

IV. Experimental Results

V. Conclusion and Scope for Future Work

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Abstract:

Blockchain technology has emerged as a transformative and disruptive innovation, revolutionizing traditional systems by offering decentralized, transparent, and secure solutions across various industries and operational landscapes. This research delves into the integration of blockchain technology within bookstore systems, outlining its profound implications. The implementation of a blockchain-based bookstore system revolutionizes transparency, trust, and operational efficiency. It enhances customer confidence by providing an immutable view of inventory, book authenticity, and transaction history. Additionally, the system ensures data integrity and security, reduces costs through smart contracts, and optimizes supply chains, combating counterfeit book issues. However, challenges in technical complexity, scalability, integration, regulatory compliance, costs, user adoption, security, and interoperability exist in its implementation. Solutions proposed involve collaborations, strategic planning, education, security measures, and adherence to regulations. Various models detailing deployment strategies on Sepolia network with different approaches are presented, showcasing the integration of Inter Planetary File System (IPFS) and Pinata Software Development Kit (SDK). The study concludes by emphasizing the importance of meticulous planning, stakeholder engagement, and continuous adaptation for successful blockchain integration in bookstore systems.

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III. Research Methodology

IV. Experimental Results

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Abstract:

In today's digital age, the healthcare sector is experiencing a significant transformation due to the pervasive influence of Information Technology (IT). There is an abundance of sources for generating and accessing patients' health data, and safeguarding the management of this data has become of utmost importance. Blockchain technology, at the forefront of technological innovation, offers a promising solution for secure data storage within the healthcare domain. In the context of current research the authors, have developed a sophisticated smart contract designed specifically for the storage and management of patients' medical records. This smart contract incorporates a range of functionalities, including the creation of new records, authorization for newly generated records, and the ability to retrieve stored records. Uploading the test reports on IPFS server has been deferred for consideration in future scope. The smart contract is meticulously designed and rigorously tested on the Ethereum Blockchain framework. The research objective is to elucidate the pivotal role that blockchain technology plays in ensuring the security and integrity of healthcare recordkeeping, utilizing the robust Ethereum framework as authors' platform of choice. The research aims to shed light on the transformative potential of blockchain in enhancing the trustworthiness and privacy of patient data within the healthcare sector.

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Dr. Poornima G. Naik ^a , Dr. Kavita S. Oza ^b 

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REVOLUTIONIZING GENERIC ELECTIVE COURSE SELECTION WITH BLOCKCHAIN TO ENSURE TRANSPARENCY AND EFFICIENCY

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Abstract:

Blockchain technology is pivotal in the academic sector due to its capacity to ensure secure, transparent, and immutable record-keeping, thereby bolstering trust, minimizing fraud, and revolutionizing credential verification processes. Current research explores the transformative potential of blockchain technology in the education sector, focusing on its application in revolutionizing the process of General Education (GE) subject selection. The paper delves into the multifaceted implications of blockchain, emphasizing transparency, security, and efficiency in managing educational records, credentials, and selection processes. The study introduces a purpose-built smart contract tailored specifically for GE subject selection, underpinning an ecosystem where academic curricula, defaulters' reports, and GE selection records find a secure repository on the InterPlanetary File System (IPFS) server. Furthermore, the research elucidates the delineation of roles, meticulously mapped to Ethereum addresses, governing permissible tasks and functionalities within the system. Notably, the paper accentuates the empowerment of GE coordinators, enabling direct access to the IPFS-stored GE selection reports. Further, the research underscores forthcoming enhancements aimed at fortifying the system's scalability and security facets, charting a trajectory towards a robust and agile educational framework.

Keywords: Blockchain, Credentials, Decentralization, Education, Security, Transparency

1. Introduction

Blockchain technology holds substantial potential to revolutionize the education sector by introducing transparency, security, and efficiency into various educational processes. Here's a brief introduction to the relevance of blockchain in the education sector:

1. **Transparency and Trust** - Blockchain enables transparent and immutable record-keeping, ensuring that educational credentials, certifications, and achievements are securely stored and easily verifiable. This helps in reducing fraud and maintaining the authenticity of academic records.
2. **Credential Verification** - The decentralized nature of blockchain allows for the creation of tamper-proof digital certificates and transcripts. This ensures that credentials are easily accessible, verified in real-time, and cannot be falsified, simplifying the verification process for employers and educational institutions.
3. **Reducing Credential Fraud** - By storing educational records on a blockchain, the risk of credential fraud or misrepresentation is significantly reduced. Students have control over their records, and any modification or addition to the records can be traced back, ensuring their integrity.

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Dedication

To the Memory of Late Dr. A. D. Shinde,

As I pen down these words, I am filled with profound reverence and gratitude for the remarkable life and contributions of Late Dr. A. D. Shinde. A luminary in the realm of accountancy and academia, his legacy continues to inspire generations. As the esteemed Chartered Accountant, former Dean of the Commerce Faculty at Shivaji University, Kolhapur, and the visionary Founder Director of CSIBER, Kolhapur, his vision and dedication remain etched in the annals of time.

To Hon'ble Prof. Dr. R.A. Shinde,

Your unwavering commitment to the ideals and mission of CSIBER Trust, Kolhapur, resonates deeply within the hearts of all who have had the privilege to be touched by your leadership. Your guidance and steadfast support have been instrumental in shaping the institution's journey, propelling it towards excellence and innovation.

To Hon'ble CA H.R. Shinde,

As a trustee of CSIBER Trust, Kolhapur, your steadfast dedication to the institution's values and objectives serves as a beacon of inspiration. Your tireless efforts and unwavering commitment to nurturing talent and fostering academic excellence continue to enrich the lives of countless individuals within the community.

To Honorable Dr. S.P. Rath,

Your visionary leadership as the Director of CSIBER, Kolhapur, has been instrumental in steering the institution towards new horizons of success and distinction. Your profound insights and dedication to academic excellence have paved the way for countless achievements and milestones.

In honoring the legacies of these esteemed individuals, we pay homage to their invaluable contributions to the fields of academia, commerce, and beyond. Their enduring spirits continue to illuminate our path, guiding us towards the pursuit of knowledge, excellence, and service to society.

With deepest reverence and gratitude,

Editors:

Mrs. Sneha A. Nagaonkar

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We would like to express our sincere gratitude to all the authors of the CSBER case study Series - 1, for their valuable contribution & efforts in writing the cases and their work and ideas in varied domains are worth mentioning and deserve appreciations

We would like to express our deep gratitude to the **Management of Chhatrapati Shahu Institute of Business Education and Research (CSIBER), University Road, Kolhapur.** For their continuous support and motivation during the writing of this book. This endeavor has been made possible in a significant way by their dedication to supporting academic excellence.

We would like to express our profound gratitude to **The Director Prof. (Dr.) S. P. Rath,** whose inspiring leadership and consistent drive motivated the case writers to pursue excellence in their work. The substance of this book has been greatly influenced by their mentorship and advice.

We would also like to express our appreciation to the **IIM Indore Faculties** for their kindness and knowledge shared during the “Annual 5-week Faculty Development Programme” (FDP) -2023. The program's insights have increased our understanding, and the case studies in this volume are of a better grade.

Additionally, we would like to sincerely thank CSIBER Press for publishing this book and Editors for their careful editing and precious assistance in enhancing the contents of this book. Their commitment to maintaining coherence and clarity has improved the case studies' readability and impact significantly.

Our sincere gratitude goes out to all of the contributors and participants, whose combined efforts have resulted in this compilation of case studies. The endeavor has been propelled by their devotion for exchanging information and dedication to excellence.

Editors:

Mrs. Sneha A. Nagaonkar

Ms. Urmila Chavan

Editorial Note

Dear Readers,

It is our immense pleasure to publish our endeavor, a compilation of diverse and insightful case studies in the form of series. This book brings together a wealth of knowledge and real-world experiences, offering a comprehensive exploration of various disciplines Management, Environment and Psychology.

In This case studies book, we delve into the dynamic landscape of Maharashtra, India, where localized solutions emerge as powerful responses to a diverse array of challenges. Through a curated selection of case studies, we illuminate the ingenuity and resilience of Maharashtra's communities, offering insights that resonate far beyond its borders.

The case studies presented within these pages offer a mosaic of Maharashtra's pragmatic mechanisms in action. For example, from "Unlocking the Future of Retail" with Lucky Bazar's transformation to "Optimizing Pricing Strategy for a Sugar-Free Ayurvedic Cough Syrup" by TOSEBB SF., each narrative reflects the innovative spirit and adaptability of Maharashtra's entrepreneurs and businesses.

We also explore critical issues such as "Coping with ADHD" and "Healing Scars- a post-traumatic stress disorder," shedding light on Maharashtra's holistic approach to mental health care. Through these stories, we witness the compassionate interventions and community support systems that underpin Maharashtra's healthcare landscape.

Through the lens of "Chocolate of Choice," we witness the resilience and innovation inherent in Maharashtra's confectionery industry. This narrative encapsulates Maharashtra's entrepreneurial spirit and its ability to thrive amidst competitive markets and changing consumer preferences.

Beyond documentation, our case studies book serves as a catalyst for action and collaboration. We offer consulting services tailored to the needs of practitioners, policymakers, and development professionals, facilitating the translation of insights gleaned from Maharashtra's experiences into tangible initiatives.

Furthermore, our exploration extends to the industrial realm with "From Waste to Value," a strategic approach to implementing lean manufacturing in a Maharashtra-based firm. This case study underscores Maharashtra's commitment to sustainable practices and resource optimization in the manufacturing sector.

In addressing environmental challenges, we examine various issues like the "Challenge of Managing Municipal Solid Waste" and the complexities of the "Indian Sugarcane Crop." These case studies offer valuable insights into Maharashtra's efforts to balance economic growth with environmental stewardship, paving the way for sustainable development initiatives.

As we embark on this journey of discovery, we invite readers to immerse themselves in the narratives of Maharashtra's pragmatic mechanisms. Together, let us celebrate the triumphs, learn from the challenges. The diversity of perspectives represented within these pages reflects the dynamic nature of the specific discipline cases and underscores the importance of collaborative learning.

We extend our sincere gratitude to all the authors whose dedication and expertise have enriched this compilation. Their commitment to advancing knowledge is evident in the thought-provoking narratives shared within these pages.

As you embark on this intellectual journey, we hope you find inspiration, new perspectives, and practical takeaways that contribute to your understanding.

Thank you for being a part of this enriching exploration.

Warm regards,

Place: Kolhapur, India.

Editors:

Mrs. Sneha A. Nagaonkar

Ms. Urmila Chavan

Date: March, 2024

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