Role of Blockchain in Banking Sector: An Overview

Dr. Ranjan Kumar Mishra

Associate Professor, Department of IT

Netaji Subhas Uiversity, Jamshedpur, Jharlhand, India

Abstract:

"Any financial operation that has low transparency and limited traceability is vulnerable to disruption by blockchain applications."

Bruce Weber and Andrew Novocin

Banking sector has been always acting as an intermediary to perform different type of financial transactions. They have been also providing the trust required for flow of funds. Technology has always be an integral part of banking system. With the advancement in information and technology, banks have consistently adapted their working style. So, banking industry is fully dependent on technologies to perform their day to day operations. Thus, blockchain could be the significant catalyst to help banking industry

Recent advances in Blockchain technology has opened up a vast array of decentralized and distributed systems. The roots of Blockchain originated from cryptocurrency exchange.

The most significant contribution of this technology is it gets rid of the third-party functioning as a mediator in systems that requires trust for any kind of transaction. From this perspective, transaction of money is fundamentally an authorized third-party mediating trade of goods or services. It is a distributed ledger technology which stores all the information in chronological order. This information is present in the ledger in the form of blocks, and each block is attached to the other.

First I will review the conventional applications of Blockchain and next propose a novel economic system in which such value-added items are exchanged without using money and without going through a third party. In the long history of economics from ancient times, the monetized economy system today has a very short record, and it is essentially based on the existence of trustworthy central banks, governments, and organizations. However in line with the recent growing sense of decentralized systems and in keeping with unstable international affairs including the recent money crisis, it is meaningful to consider alternative economic system which can exist without going through any third party.

Keywords: Blockchain, Cryptocurrency, Distributed Ledger.

Introduction:

Traditional financial systems operate with a centralised database, usually with a single point of authority. Blockchain technology, on the other hand, allows for a distributed database that holds a growing number of records. Instead of existing in one place, the ledger is continually updated and synchronised across multiple computers in a network. Therefore, any participant in the network with the proper authorisation can view the entire ledger – without relying on an intermediary or any one authority.

Another key feature of blockchain technology is a "smart contract," which is a self-executing protocol that enforces a previously agreed arrangement. For example, a smart contract could trigger an automatic refund under certain conditions

Copyright©2021Authors

Impact of Computer Applications in Education

Dr. Ranjan Kumar Mishra

Associate Professor,

Department of IT, NetajiSubhas University Jamshedpur, Jharkhand

Abstract: The present instructive approaches are to a great extent given to encouraging the advancement and usage of computer applications in training. This paper examinations the abilities and skills required for the information based society and uncover the part and effect of utilizing computer applications to the educating and learning forms. Additionally, the point of this paper is to uncover the results of an examination led with a specific end goal to decide the effect of utilizing computer applications in educating and learning Management and to propose new open doors for the procedure change. The discoveries of this examination identified with the educators' and understudies' discernments about utilizing computer applications for instructing and learning could open further inquires about on computer applications in training and their instructive and financial ramifications.

Computers have changed the way we work, be it any calling. Along these lines, it is just yet characteristic the part of computers in training has been given a great deal of unmistakable quality in the current years. Computers assume a key part in each field. They help mechanical procedures; they discover applications in prescription; they are the core of the product business; they assume an indispensable part in training. The employments of computers in instruction are complex. Here, we should talk about the vital features of the part of computers in instruction.

Key words: computer applications, education, educational policy, teaching-learning Management, effects.

Dr. Ranjan Kr. Mishra Impact of Computer Applications in Education

Introduction:

Formal education, preparing and long lasting learning suppliers confront these days a quickly changing Societal and monetary condition. There is an expanding interest to discover better approaches to prepare instructors, understudies and specialists with the capabilities and abilities they requirement for the information based society and economy. Huge parts of the current workforce require re-skilling to guarantee employability because of fast innovative change and an inexorably benefit situated economy. In this specific circumstance, education infers today not just a solitary, computational utilization of new innovations, however the advancement of drew in peer collaborations with a common computer action. The association of informative collaboration, new advancements, the improvement of computer applications, the outline of computer-based undertakings and centered action for students to end up plainly basic scholars and makers of learning is a reality of the new educational model.

College's and other advanced education establishments are exceedingly required into learning creation, dissemination and learning. College's aggressive capacity relies upon establishment chance to share, spread and adjust information and also it is made. Present day understudies will require normal refreshing of their insight, aptitudes and skills. Along these lines, educators ought to scrupulously overhaul their courses and receive new instructional techniques and suitable innovations to completely misuse the advantages of online learning conditions, and computer applications in education. Adaptable and creative instructing and learning in light of computer applications will grow and will change the educational procedure. Inside a learning based society the teachers and their associations have an evolving part, in any case, in a similar time, they have to deal with the procedures related with the making of their insight resources and to profit by the utilization of computer applications. In this regard, the aptitudes and abilities required for the information based society and the effect of utilizing computer applications to the educating and learning forms are getting to be plainly essential issues to break down.

Implementation of Artificial Intelligence in the IT Industry and Its Role in Learning

Dr. Ranjan Kumar Mishra, Associate Professor(IT), Notaji Subhas University Jamshedpur, Jharkhand

Etia Jha (Research Scholar), Netaji Subhas University, Jamshedpur, Jharkhand

ABSTRACT

This research paper explores the implementation of artificial intelligence (AI) in the IT industry and its significant role in learning. It investigates how AI technology is being integrated into various aspects of the IT industry and analyzes its impact on learning processes. By examining current trends, case studies, and research findings, the paper aims to provide insights into the benefits, challenges, and potential future developments of AI-based learning within the IT industry.

The implementation of AI in the IT industry has brought about transformative changes, revolutionizing traditional practices and offering new opportunities for efficiency and innovation. This paper examines specific areas where AI is being successfully implemented in the IT industry, such as software development, cyber security, data analysis, infrastructure management, and customer support. To show how effective AI technologies are in these fields, real-world case studies and examples are provided. To show how effective AI technologies are in these fields, real-world case studies and examples are provided.

Furthermore, the paper delves into the role of AI in enhancing learning processes. It explores how AI is reshaping traditional learning methods and introducing novel approaches. The focus is on AI-powered educational platforms, intelligent tutoring systems, personalized learning experiences, and adaptive assessments. The impact of AI on continuous learning and up-skilling within the IT industry is also examined.

The benefits of AI in learning are discussed, highlighting how it enables personalized and adaptive learning experiences, improves knowledge retention, promotes active engagement, and provides real-time feedback. However, the study also discusses the difficulties and moral issues related to the application of AI, such as algorithmic prejudice, data privacy, and potential effects on employment. Strategies to address these challenges and ensure responsible AI implementation are explored.



Annals of the Bhandarkar Oriental Research Institute ISSN: 0378-1143

SUSTAINABLE DEVELOPMENT AND THE PART THAT TECHNOLOGY PLAYS

Hurmat Shahin¹, Dr. Ranjan Kumar Mishra^{2*} and Prof.(Dr.)Rajkumar Nayak³

¹Assistant Professor, Department of IT, Netaji Subhas University, Jamshedpur, India

²Assistant Professor, Department of IT, Netaji Subhas University, Jamshedpur, India

³Professor, Department of Education, Netaji Subhas University, Jamshedpur, India

* Corresponding Author: <ranjan@nsuniv.ac.in>

ABSTRACT

Technology is relied on to solve environmental issues worldwide because governments and their advisors are unwilling to make the social and political reforms needed to reduce output and consumption. To counteract the environmental damage caused by increased output and consumption, technology would need to change drastically. Technology has failed. However, without a political reevaluation, such a drastic technological revolution is unlikely. Technology and society are inextricably linked. The dispute over sustainable development hinges on whether technical advancement, even if accomplished, can mitigate economic development enough to avoid other changes. Sustainable development policies aim to transform economic growth. They believe that technology will allow us to find new resources or create alternatives if one runs out. Technology will help us maximize what remains. Sustainable development's economic tools, legislative measures, and consumer pressures target recycling, waste minimization, material substitution, improved industrial methods, pollution control, and resource efficiency. The British Pearce Report recommends recycling and rubbish reduction to reduce resource consumption and environmental damage."The major feature of a sustainable development path of economic progress is the ability to interrupt the flow of wastes to these resources through recycling, product redesign, conservation, and low-waste technology."

Key words: Sustainable Development, Technology

INTRODUCTION

Because governments and their advisors are almost universally unwilling to make the social and political reforms that would be necessary to decrease growth in production and consumption, there is a huge reliance on technology to solve environmental concerns around the world today. However, very drastic shifts in technology would be required to keep up with and mitigate the mounting environmental damage brought on by rising output and consumption. Previous technological solutions are not adequate. However, it is still unclear if such a dramatic and radical reform of our technological systems is possible or even likely without a reevaluation of political priorities. Neither the development nor the impact of technology can be separated from the larger social context. The question of whether technical progress, even if achieved, can lessen the impact of economic development sufficiently to assure other types of change will not be necessary lies at the heart of the debate over the possible success of sustainable development.

FIRST, LET'S DEFINE SUSTAINABLE DEVELOPMENT.

The ability of future generations to satisfy their own requirements must not be sacrificed for the needs of the present, and this is what is meant by "sustainable development."

Role of Data Mining Techniques in Investment Decision Making

Jayant Kumar 1 and Dr. Ranjan Kumar Mishra1*

¹Department of IT, Netaji Subhas University, Jamshedpur

*Corresponding Author: ranjan@nsuniv.ac.in

Abstract:

In today's intricate financial landscape, traditional investment methods grapple with mounting complexities and the deluge of information. To address these challenges, financial data mining has emerged as a focal point of academic inquiry in investment realms. This study aims to comprehensively review the varied applications of financial data mining in investment decision-making. It synthesizes existing research while proposing future avenues for advancement. By delving into this scholarly pursuit, the paper seeks to refine methodologies crucial for navigating modern investments adeptly. As the financial terrain evolves, this research aims to offer insights that not only bolster investment strategies but also deepen our understanding of how data mining techniques intersect with decision-making processes. Through blending empirical evidence with theoretical insights, the paper underscores the importance of employing data-driven approaches in investment practices, ultimately fostering a more sophisticated and informed investment environment.

In the ever-evolving financial landscape, traditional investment methods face growing challenges amidst a surge of information. This study investigates the pivotal role of data mining in informing investment decisions. Through a comprehensive analysis of existing research and future prospects, we explore how data mining techniques can enhance decision-making processes in the investment domain.

Keywords: Data mining, investment decision-making, financial analysis, predictive modelling, risk management.

1. Background of the Study:

@Tver State University

An Agile Approach to the Software Testing Process

- 1. Dr. Ranjan Kumar Mishra, Associate Professor(IT), Netaji Subhas University, Jamshedpur, Jharkhand
- 2. Manjari Jha (Research Scholar), Netaji Subhas University, Jamshedpur, Jharkhand, Jamshedpur, Jharkhand

ABSTRACT

In the dynamic landscape of software development, traditional testing methodologies often struggle to keep pace with rapidly evolving requirements and market demands. The agile approach to software testing has emerged as a promising solution to address these challenges. This paper explores the principles and practices of the agile testing process, highlighting its benefits, challenges, and best practices.

The agile approach to software testing emphasizes collaboration, flexibility, and iterative development. It promotes continuous feedback and adaptation throughout the testing lifecycle, enabling teams to respond swiftly to changing requirements. By incorporating testing activities into every stage of development, from initial planning to final delivery, organizations can ensure high-quality software products that meet user expectations.

This paper delves into the core principles of agile testing, such as early and frequent testing, test automation, and cross-functional team collaboration. It discusses the various techniques and tools used in agile testing, including user stories, acceptance criteria, and exploratory testing. Additionally, it explores the integration of agile testing with other agile methodologies, such as Scrum and Kanban, and discusses the role of testers in agile teams.

While the agile approach to software testing offers numerous advantages, it also presents unique challenges. This paper explores potential obstacles and provides insights into overcoming them, such as managing the balance between speed and quality, addressing resource constraints, and maintaining effective communication within the team.

Keywords: Scrum, Integration, Adaption, Kanban

BACKGROUND OF THE STUDY

In the realm of software development, delivering high-quality software products within tight timelines has always been a challenge. Traditional software testing methodologies, often characterized by sequential and rigid processes, struggled to keep up with the increasing pace of development and evolving customer requirements. This led to a demand for a more flexible and iterative approach to software testing.

Different Correctness Testing Techniques to Find Errors

Ranjan Kumar Mishra, Scholor Dr. Dharmendra Chahar Shri JJT University, Churela, Jhunjhunu

ABSTRACT: Software testing is a mechanism which is designed for assessing anaspect or capability of a program and certifies that it encounters the requisite result. There are many methods to software testing, but real testing of complex product is fundamentally a procedure of examination, not purely a matter of creating and following route method. It is often incredible to find all theerrors in the program. This major problem in testing thus chucks open question, as to what would be the approach that we should approve for testing. Thus, the choice of right approach at the right time will make the software testing competent and active. In this paper I have tried to describe software testing techniques which are classified as per our requirement. Here we discuss that the software testing techniques and which is best suited for the particular context.

Keywords: Correctness Testing, Performance Testing, Reliability Testing, Security Testing.

INTRODUCTION: Software testing is a set of actions lead with the determined of finding errors in software. It also authenticates and confirms whether the program is working correctly with no bugs or not. It examines the software for finding bugs. Software testing is not just used for finding and fixing of bugs but it also guarantees that the system is working according to the specifications. Software testing is a series of procedure which is intended to make sure that the computer code does what it was designed to do. Software testing is a disparaging process of exasperating to find the errors. The main tenacity of testing can be quality assurance, reliability estimation, validation or verification. The other objectives or software testing includes

- · The improved it works the more efficiently it can be tested.
- · Better the software can be measured more the testing can be programmed and optimized.
- · The fewer the changes, the fewer the interruption to testing.
- · A successful test is the one that uncovers an undiscovered error
- · Testing is a process to identify the exactnessand comprehensiveness of the software.
- · The general objective of software testing is toaffirm the quality of software system by systematically exercising the software in carefully controlled circumstances.

According to the purpose of software testing can be divided into four ways

- · Correctness Testing
- · Performance Testing
- · Reliability Testing

· Security Testing SOFTWARE TESTING TECHNIQUES: Software testing is a process which is used to degree the quality of software developed. It is also a process of finding errors in a program and makes it a reasonable task. It is useful process of executing program with the committed of finding bugs. The diagram below represents some of the most predominant techniques of software testing which are classified as per the requirement.

Software Process Models: A Critical Review

Srimanta Santra 1 and Dr. Ranjan Kumar Mishra2*

¹Reserach Scholar, Department of IT, Netaji Subhas University, Jamshedpur

²Associate Professor, Department of IT, Netaji Subhas University, Jamshedpur

*Corresponding Author: ranjan@nsuniv.ac.in

Abstract:

Software process models are fundamental frameworks that guide the development and management of software projects. This paper presents a critical review of various software process models, analysing their strengths, weaknesses, and applicability in contemporary software engineering practices. The review encompasses traditional models such as the Waterfall model, Incremental model, and Spiral model, as well as modern agile methodologies like Scrum and Kanban.

The complexity of the software development process, which involves not only technical knowledge and skills but also a wide range of other factors like human, managerial, quality assessment, and financial considerations, has made modelling software processes an extremely difficult problem that has been the subject of constant debate in the software development community for the past 30+ years. Even yet, the circumstances of producing. Although software varies widely from case to case, many of the scenarios have certain similar characteristics, which have led to the development of different software process models to handle these common themes. This paper reviews the most widely used software process models in practice, ranging from traditional to agile, and evaluates them using metrics and case studies.

Keywords: Software Process; Software Development Life Cycle; Traditional Models; Agile Models, Process Metrics.

1. Introduction:

Software process models serve as guiding frameworks for organizing and executing software development projects. With the ever-increasing complexity and diversity of software applications, the selection of an appropriate process model is critical for ensuring project success. This introduction provides a comprehensive overview of software process models,

Machine Learning: A Solution of Real World Problems

MD. Safat Alam and 1 Dr. Ranjan Kumar Mishra*

Abstract:

Machine learning (ML) stands at the forefront of technological innovation, offering promising solutions to a myriad of real-world problems across diverse domains. In today's data-driven world, the ability to extract meaningful insights from vast amounts of data has become paramount, and ML algorithms excel in this endeavour. From healthcare to finance, transportation to manufacturing, the applications of machine learning are virtually limitless. In healthcare, ML algorithms analyze medical imaging data to detect diseases early, assist in drug discovery, and personalize treatment plans for patients. Similarly, in finance, ML models sift through massive datasets to detect fraudulent activities, optimize investment strategies, and predict market trends with remarkable accuracy. Transportation systems leverage ML to enhance safety and efficiency, powering autonomous vehicles that navigate complex environments, predict traffic patterns, and optimize routes in real time. Moreover, ML plays a pivotal role in manufacturing, streamlining production processes, optimizing supply chains, and reducing operational costs. The methodologies of machine learning, including supervised learning, unsupervised learning, and reinforcement learning, provide versatile tools for tackling various real-world challenges. Despite its transformative potential, machine learning encounters several challenges, including data quality issues, algorithm bias, and ethical concerns. Biased datasets can lead to skewed predictions, exacerbating social inequalities and perpetuating discrimination. Ensuring fairness, transparency, and accountability in ML systems is imperative for fostering trust and mitigating potential risks. However, with continuous advancements in deep learning, natural language processing, and explainable AI techniques, the future of machine learning appears bright. As ML continues to evolve, its integration with other emerging technologies such as block chain and IoT will unlock new opportunities for solving complex real-world problems and driving societal progress. Machine learning represents a powerful tool for addressing real-world challenges, empowering organizations to leverage data-driven insights, make informed decisions, and drive positive societal impact.

Department of IT, Netaji Subhas University, Jamshedpur

^{*}Corresponding Author: ranjan@nsuniv.ac.in

Selection of Software Testing Methods depends upon the Software Projects

Mr. Ranjan Kumar Mishra, Scholar Shri JJT University Dr. Dharmendra Chahar

Abstract: Software testing is the process to uncover requirement, design and coding errors in the program. It is used to identify the correctness, completeness, security and quality of software products against a specification. Software testing is the process used to measure the quality of developed Computer Software. Software is becoming a key factor in most of the modern systems and devices that support important business processes in our modern society. It is an essential component of many embedded applications that control various sensitive applications such as air traffic control systems, rockets, automated banking systems, security systems and so many other applications. The failure of those systems can result into severe damage. It obvious that software testing technologies are essential for software testers. Even though there are several software testing methodologies and techniques to support the quality of software but to find relevant parameters for their applicability conditions remains an open question. We can define software testing as an activity aimed at evaluating an attribute, or capability of a program to determine, that it meets its required specification. Software testing can provide an independent view of the software to allow the business to appreciate and understand the risk of software implementation. This paper attempts to shed light on decision criteria, by describing various software testing techniques and their distinctions. The finding shows that these methodologies and techniques do not have direct influence on the quality of software but the choices we make on selecting relevant procedure for the application.

Keywords:- Software testing, software quality and standards, agile methodologies, software development, Software implementation.

INTRODUCTION: Software testing identifies defects, flaws or errors in the application code that must be fixed. We can also define software testing as a process of accessing the functionality and correctness of a software through analysis. The main purpose of testing can be quality assurance, reliability estimation, validation and verification. Software testing is a fundamental component of software quality assurance and represents a review of specification, design and coding. The main objective of software testing is to affirm the quality of software system by systematically testing the software in carefully controlled circumstances, another objective is to identify the completeness and correctness of the software, and finally it uncovers undiscovered errors.

In recent years software development has become a great field of interest due to its role in the technological innovation. Software development industries are very good at adopting the latest technology trends and development practices so as to cope with rapid growing technology. All large organizations are now integrating their systems and as a result the need of real-time systems and regular software improvement is growing dramatically. The main challenge remains to software development industries is to find a proper software development methodology and testing techniques that can sustain the existing situation in market. The traditional software development methodologies seemed to slow down software development processes due to existing time constraint situation. This study attempts to tackle the existing problem in the software development market ("Selection of relevant software development methodology and testing technique") and propose some solutions. We believe that choice of software

Applications of Emerging Technologies in Digital Libraries

Anjoo kumari 1, Lovely Patel 1 & Dr. Ranjan Kumar Mishra 1 *

Department of IT, Netaji Subhas University

ABSTRACT

The emergence of digital libraries has profoundly transformed the landscape of information management, access, and preservation. In this era of digital transformation, the integration of emerging technologies has played a pivotal role in enhancing the capabilities and utility of digital libraries. This abstract explores the multifaceted applications of emerging technologies, including Artificial Intelligence (Al), Machine Learning (ML), Natural Language Processing (NLP), Augmented Reality (AR), Virtual Reality (VR), and blockchain, within the realm of digital libraries. By examining case studies and discussing current trends, this abstract elucidates how these technologies are revolutionizing information retrieval, content curation, user experiences, preservation, security, and inclusivity in digital libraries. Digital libraries have evolved into dynamic and interactive platforms that serve as repositories of vast digital collections, accessible to users worldwide. They have become indispensable tools for knowledge dissemination and retrieval in the digital age. The integration of emerging technologies, including AI, ML, NLP, AR, VR, and blockchain, has redefined the landscape of digital libraries. These technologies have enhanced information retrieval, content curation, user experiences, preservation, security, and inclusivity. However, it is essential to address challenges such as data privacy, bias, and technological barriers, while ensuring that ethical considerations remain at the forefront of digital library development. As digital libraries continue to evolve, these emerging technologies hold the potential to create more dynamic, inclusive, and user-centric knowledge repositories, shaping the future of information access and management. The synergy between digital libraries and emerging technologies promises to usher in a new era of knowledge dissemination and exploration, benefiting users across the globe.

Keywords: Digital Libraries, Emerging Technologies, AI, ML, NLP, AR, VR, Blockchain

@Tver State University



Annals of the Bhandarkar Oriental Research Institute ISSN: 0378-1143

ANALYZING SOFTWARE PROCESS MODELS IN SOFTWARE DEVELOPMENT: A COMPARATIVE STUDY

¹ Anjoo Kumari, ²Kunal Hazra, ^{*3} Dr. Ranjan Kumar Mishra ¹Asst. Professor, Department of IT, Netaji Subhas University, Jamshedpur, India. ²Asst. Professor, Department of IT, Netaji Subhas University, Jamshedpur, India. *3 Associate Professor, Department of IT, Netaji Subhas University, Jamshedpur, India.

*3Corresponding Author: ranjan@nsuniv.ac.in

The success or failure of software development hinges on the choice of software process models, which serve as crucial factors in the entire development process. These models encompass multiple stages, including requirement gathering, designing, development, testing, and implementation. This paper provides a comprehensive survey of commonly used process models, aiming to serve as a guiding resource for researchers to explore potential future research directions. The analysis delves into each of the five process models, highlighting their distinct factors and parameters in a concise manner for the convenience of researchers.

This comparative study examines different software process models in the context of software development. The analysis aims to provide valuable insights for software developers and project managers in making informed decisions. The study focuses on popular models including the Waterfall model, Spiral model, Agile methodologies (Scrum, Kanban, and Extreme Programming), and the Rational Unified Process (RUP). Key factors considered include project requirements, flexibility, adaptability, risk management, team collaboration, and overall project success. The findings highlight the strengths and weaknesses of each model, emphasizing the importance of aligning the selected model with project characteristics. The study contributes to the understanding of software process models, software development, comparative analysis, Waterfall model, Spiral model, Agile methodologies, Scrum, Kanban, Extreme Programming, Rational Unified Process (RUP), project requirements, flexibility, adaptability, risk management, team collaboration, and project success.

Key words: Software Process Models; Development, Software Development Life Cycle (SDLC)

BACKGROUND OF THE STUDY

The study on "Analyzing Software Process Models in Software Development: A Comparative Study" aims to address the importance of selecting appropriate software process models in the field of software development. The choice of a suitable process model greatly influences the success and efficiency of software projects. This background section provides an overview of the factors that make software process models significant and the motivation behind conducting a comparative analysis.

Software development involves a systematic approach to create, maintain, and enhance software products. To ensure the successful completion of projects, organizations adopt different software process models that outline the steps and activities involved in the development lifecycle. These models provide structure, guidance, and control throughout the software development process.

Various software process models have been proposed over the years, each with its unique characteristics, strengths, and limitations. Examples of widely recognized models include the Waterfall model, Spiral

Vol. CIV, Issue-7, 2023 UGC Care Group 1 Journal

A Comparative Study of Different Software Process Models

Dr. Ranjan Kumar Mishra¹ and Madhu Kumari²

¹Assistant Professor, Deptt. of IT, International School of Management, Patna, Bihar, India.

²Assistant Professor, Deptt. of IT, International School of Management, Patna, Bihar, India.

ranjaninmi4u@gmail.com, 2madhuksinha123@gmail.com

Abstract: Software Development Life Cycle (SDLC) is used in the software industry to design, develop and produce high-quality, reliable, cost-effective and timely software products. This is also known as the software development process model. Various SDLC process models are available. In this paper we have tried to describe the different SDLC models according to their best use. Many research papers have been written in this regard. We will also use his knowledge or conclusions in this paper. The main purpose of this paper is to clarify some important SDLC models such as Waterfall Model, Iterative Model, and Spiral Model. The main purpose of this paper is to explain the advantages and disadvantages of these SDLC models. We will also explain what kind of software application is most suitable for the SDLC model.

Key Words: Waterfall Model, Iterative Model, Spiral model.

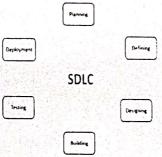
Article History

Received: 13/07/2020; Accepted: 20/08/2020

Corresponding author: Dr. Ranjan Kumar Mishra, Email id: ranjaninmi4u@gmail.com

Introduction

All SDLC processes have a limited set of functions that can be used to develop software products. The SDLC process has a complete plan to explain how to design, develop, maintain and enhance the capabilities of a software product. The SDLC process describes methods that improve the overall software quality and development process. The following figure shows the different stages of the life cycle of a typical software development.



FUNDAMENTALS OF SOFTWARE TESTING: A STUDY

Dr. Ranjan Kumar Mishra¹, Dr. Indiwatsal Singh²

1,2</sup>Assistant Professor, International School of Management, Patna, Bihar

Abstract

The software provides complete sets of enhancements for the development of a standalone system, a client server, and Internet-enabled applications. Software testing has three main objectives: verification, validation, and defect detection. Test software works with software under controlled conditions; to (1) ensure that it works "as defined" (2) to detect errors (3) and to ensure that what is specified is exactly what the user really wanted. This paper discusses various issues related to software testing basics.

I. INTRODUCTION

Software testing is more than just finding fault. Test software works with software under controlled conditions, verifying, detecting errors, and verifying that what is specified is exactly what the user actually wanted. Ensuring inspection or testing of items, including software, compliance and compliance by evaluating results in accordance with previously defined requirements. Error Detection, Inspection should deliberately try to make things go wrong to find out if things happen when they should or things do not happen when they should. Verification looks at system configurations — i.e. the process of checking what is defined is what the user really wanted. In other words, authenticity checks to see if we are building what the customer wants / needs, and checks to see if we are building the right app. Both verification and validation are required, but different elements of any test function. The definition of testing in accordance with the ANSI / IEEE 1059 standard is to test the process of analyzing a software object to determine the differences between existing and required conditions (i.e. errors / bugs / bugs) and to evaluate the features of the software object.

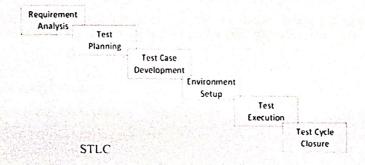
Testing helps to verify and verify if the Software is working as intended. This includes using Static and Dynamic methods to test the application. Software testing should not be confused with error detection. Troubleshooting is the process of analyzing and detecting bugs when the software is not performing as expected. Although the identification of other bugs will be clarified by playing with software, the software testing method used is a comprehensive way to identify bugs. So debugging is a test-based operation, but you can't replace the test.

However, there is no guaranteed test number for all bed bugs. Other common tasks associated with software testing are statistical analysis and power analysis. Sharp analysis examines software source code, detects problems and collects metrics without actually creating the code. Power analysis monitors the performance of the software during the process, providing information such as tracking, time profiles, and coverage information.

II. SOFTWARE TESTING FUNDAMENTAL

Testing is the process of making a plan with the intention of finding fault. A good test case is one that has a higher chance of finding an undisclosed error. A successful test is one that finds an undisclosed error. Reduce the risk of product failure. The test should systematically open various categories of errors with a minimum amount of time and a small amount of effort.

The second advantage of testing is that it shows that the software appears to be operating as specified in the specification. Information collected through testing may also provide an indication of the reliability of the software and its quality. However, testing may not indicate a defect - it may only indicate that there are software issues Software Testing Life Cycle (STLC). Software Testing is not a just a single activity. It consists of series of activities carried out methodologically to help certify software product. These activities (stages) constitute the Software Testing Life Cycle (STLC) as shown in figure 1.



Overall Impact of Computer Applications in Education Sector

Dr. Ranjan Kumar Mishra

Assistant Professor, Department of Computer Science, International School of Management, Patna

Abstract: The present instructive approaches are to a great extent given to encouraging the advancement and usage of computer applications in training. This paper examinations the abilities and skills required for the information based society and uncover the part and effect of utilizing computer applications to the educating and learning forms. Additionally, the point of this paper is to uncover the results of an examination led with a specific end goal to decide the effect of utilizing computer applications in educating and learning Management and to propose new open doors for the procedure change. The discoveries of this examination identified with the educators' and understudies' discernments about utilizing computer applications for instructing and learning could open further inquires about on computer applications in training and their instructive and financial ramifications.

Computers have changed the way we work, be it any calling. Along these lines, it is just yet characteristic the part of computers in training has been given a great deal of unmistakable quality in the current years. Computers assume a key part in each field. They help mechanical procedures; they discover applications in prescription; they are the core of the product business; they assume an indispensable part in training. The employments of computers in instruction are complex. Here, we should talk about the vital features of the part of computers in instruction.

Key words: computer applications, education, educational policy, teaching-learning Management, effects.

Selection of Software Testing Methods depends upon the Software Projects

Mr. Ranjan Kumar Mishra, Scholar Shri JJT University Dr. Dharmendra Chahar

Abstract: Software testing is the process to uncover requirement, design and coding errors in the program. It is used to identify the correctness, completeness, security and quality of software products against a specification. Software testing is the process used to measure the quality of developed Computer Software. Software is becoming a key factor in most of the modern systems and devices that support important business processes in our modern society. It is an essential component of many embedded applications that control various sensitive applications such as air traffic control systems, rockets, automated banking systems, security systems and so many other applications. The failure of those systems can result into severe damage. It obvious that software testing technologies are essential for software testers. Even though there are several software testing methodologies and techniques to support the quality of software but to find relevant parameters for their applicability conditions remains an open question. We can define software testing as an activity aimed at evaluating an attribute, or capability of a program to determine, that it meets its required specification. Software testing can provide an independent view of the software to allow the business to appreciate and understand the risk of software implementation. This paper attempts to shed light on decision criteria, by describing various software testing techniques and their distinctions. The finding shows that these methodologies and techniques do not have direct influence on the quality of software but the choices we make on selecting relevant procedure for the application.

Keywords:- Software testing, software quality and standards, agile methodologies, software development, Software implementation.

INTRODUCTION: Software testing identifies defects, flaws or errors in the application code that must be fixed. We can also define software testing as a process of accessing the functionality and correctness of a software through analysis. The main purpose of testing can be quality assurance, reliability estimation, validation and verification. Software testing is a fundamental component of software quality assurance and represents a review of specification, design and coding. The main objective of software testing is to affirm the quality of software system by systematically testing the software in carefully controlled circumstances, another objective is to identify the completeness and correctness of the software, and finally it uncovers undiscovered errors.

In recent years software development has become a great field of interest due to its role in the technological innovation. Software development industries are very good at adopting the latest technology trends and development practices so as to cope with rapid growing technology. All large organizations are now integrating their systems and as a result the need of real-time systems and regular software improvement is growing dramatically. The main challenge remains to software development industries is to find a proper software development methodology and testing techniques that can sustain the existing situation in market. The traditional software development methodologies seemed to slow down software development processes due to existing time constraint situation. This study attempts to tackle the existing problem in the software development market ("Selection of relevant software development methodology and testing technique") and propose some solutions. We believe that choice of software

Impact of Blockchain in Higher Education

Dr. Ranjan Kumar Mishra¹, Er. Manish Bhanot ²

Assistant Professor, Department of Computer Science International School of Management, Patna, Bihar, India

Assistant Professor, School of Engineering & Technology RNB Global University, Bikaner, Rajasthan, India²

ABSTRACT:

The Blockchain is undoubtedly one of the most transforming technologies of the current scenario. Since the time it surfaced till date we have seen its applications grow multiple folds. The prime reason for this success rate it the multitude of benefits that Blockchain has to offer. The roots of Blockchain originated from cryptocurrency exchange.

"The Blockchain is a whole new world in itself. It has many things to offer us, from development to innovations. Every industry is undergoing this change, and many of these changes are triggered by Blockchain"

Earlier, digital money transaction was the only application of Blockchain, however, over the period, it has transformed, and now we see myriads of application in the fields of healthcare, medicine, politics, academics and many more. Blockchain is a distributed ledger technology which stores all the information in chronological order. This information is present in the ledger in the form of blocks, and each block is attached to the other. Thus, if anyone wants to alter or change the information, it becomes almost impossible. This feature of Blockchain makes it find application in almost all the areas where there is any kind of exchange. This can be monetary or information or data.

"The Blockchain is a whole new world in itself. It has many things to offer us, from development to innovations. Every industry is undergoing this change, and many of these changes are triggered by Blockchain"

Keywords:

Blockchain, Cryptocurrency, Distributed Ledger

Different Correctness Testing Techniques to Find Errors

Ranjan Kumar Mishra, Scholor Dr. Dharmendra Chahar Shri JJT University, Churela, Jhunjhunu

ABSTRACT: Software testing is a mechanism which is designed for assessing anaspect or capability of a program and certifies that it encounters the requisite result. There are many methods to software testing, but real testing of complex product is fundamentally a procedure of examination, not purely a matter of creating and following route method. It is often incredible to find all theerrors in the program. This major problem in testing thus chucks open question, as to what would be the approach that we should approve for testing. Thus, the choice of right approach at the right time will make the software testing competent and active. In this paper I have tried to describe software testing techniques which are classified as per our requirement. Here we discuss that the software testing techniques and which is best suited for the particular context.

Keywords: Correctness Testing, Performance Testing, Reliability Testing, Security Testing

INTRODUCTION: Software testing is a set of actions lead with the determined of finding errors in software. It also authenticates and confirms whether the program is working correctly with no bugs or not. It examines the software for finding bugs. Software testing is not just used for finding and fixing of bugs but it also guarantees that the system is working according to the specifications. Software testing is a series of procedure which is intended to make sure that the computer code does what it was designed to do. Software testing is a disparaging process of exasperating to find the errors. The main tenacity of testing can be quality assurance, reliability estimation, validation or verification. The other objectives or software testing includes

- The improved it works the more efficiently it can be tested.
- Better the software can be measured more the testing can be programmed and optimized
- The fewer the changes, the fewer the interruption to testing
- A successful test is the one that uncovers an undiscovered error
- Testing is a process to identify the exactnessand comprehensiveness of the software.
- The general objective of software testing is toaffirm the quality of software system by systematically exercising the software in carefully controlled circumstances.

According to the purpose of software testing can be divided into four ways

- Correctness Testing
- Performance Testing
- Reliability Testing
- Security Testing

SOFTWARE TESTING TECHNIQUES: Software testing is a process which is used to degree the quality of software developed. It is also a process of finding errors in a program and makes it a reasonable task. It is useful process of executing program with the committed of finding bugs. The diagram below represents some of the most predominant techniques of software testing which are classified as per the requirement.