Tadqiqot uz

ЎЗБЕКИСТОН ОЛИМЛАРИ ВА ЁШЛАРИНИНГ ИННОВАЦИОН ИЛМИЙ-АМАЛИЙ ТАДҚИҚОТЛАРИ

МАВЗУСИДАГИ КОНФЕРЕНЦИЯ МАТЕРИАЛЛАРИ

2021

» Ҳуқуқий тадқиқотлар
» Фалсафа ва ҳаёт соҳасидаги қарашлар
» Тарих саҳифаларидаги изланишлар
» Социология ва политологиянинг жамиятимизда тутган ўрни
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"ЎЗБЕКИСТОНДА ИЛМИЙ-АМАЛИЙ ТАДҚИҚОТЛАР" МАВЗУСИДАГИ РЕСПУБЛИКА 30-КЎП ТАРМОҚЛИ ИЛМИЙ МАСОФАВИЙ ОНЛАЙН КОНФЕРЕНЦИЯ МАТЕРИАЛЛАРИ
16-ҚИСМ

МАТЕРИАЛЫ РЕСПУБЛИКАНСКОЙ 30-МЕЖДИСЦИПЛИНАРНОЙ ДИСТАНЦИОННОЙ ОНЛАЙН КОНФЕРЕНЦИИ НА ТЕМУ "НАУЧНО-ПРАКТИЧЕСКИЕ ИССЛЕДОВАНИЯ В УЗБЕКИСТАНЕ"
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ТОШКЕНТ-2021

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"Ўзбекистонда илмий-амалий тадқиқотлар" [Тошкент; 2021]

"Ўзбекистонда илмий-амалий тадқиқотлар" мавзусидаги республика 30-кўп тармоқли илмий масофавий онлайн конференция материаллари тўплами, 31 июль 2021 йил. - Тошкент: «Tadqiqot», 2021. - 16 б.

Ушбу Республика-илмий онлайн конференция 2017-2021 йилларда Ўзбекистон Республикасини ривожлантиришнинг бешта устувор йўналишлари бўйича Ҳаракатлар стратегиясида кўзда тутилган вазифа - илмий изланиш ютуқларини амалиётга жорий этиш йўли билан фан соҳаларини ривожлантиришга бағишланган.

Ушбу Республика илмий конференцияси таълим соҳасида меҳнат қилиб келаётган профессор - ўқитувчи ва талаба-ўқувчилар томонидан тайёрланган илмий тезислар киритилган бўлиб, унда таълим тизимида илғор замонавий ютуқлар, натижалар, муаммолар, ечимини кутаётган вазифалар ва илм-фан тараққиётининг истиқболдаги режалари таҳлил қилинган конференцияси.

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ТЕХНИКА ВА ТЕХНОЛОГИЯ СОҲАСИДАГИ ИННОВАЦИЯЛАР

ТЕХНИКА ВА ТЕХНОЛОГИЯ СОҲАСИДАГИ ИННОВАЦИЯЛАР

THE BENEFITS OF BLOCKCHAIN IN E-GOVERNMENT OF UZBEKISTAN

O'ZBEKISTON ELEKTRON HUKUMAT TIZIMIDA BLOKCHEYNNING AFZALLIKLARI

ПРЕИМУЩЕСТВА БЛОКЧЕЙНА В ЭЛЕКТРОННОМ ПРАВИТЕЛЬСТВЕ УЗБЕКИСТАНА

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Abstract: Technology has been in existence for some time, and the government through the e-government platforms has found it useful in-service delivery. This paper aims to investigate the challenges and benefits of utilizing a relatively new concept to e-government which is Blockchain in Uzbekistan's e-government. This paper starts by defining the e-government concept, then introducing the concept of Blockchain and how the government uses it in its daily activities. The introduction part tries to create a connection between the internet and government services. Then, the paper focuses on reviewing previous studies about Blockchain technology. Our qualitative data have been analyzed using the thematic analysis technique. As a result of the paper, we come up with two themes which are the challenges and benefits of implementing Blockchain technology on e-government.

Keywords: *blockchain, e-Government, challenges, benefits.*

Introduction

This study concern about two concepts, e-government and Blockchain. "E-government is defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes"[1].while, Blockchain is simply a virtual series of blocks, not within the literally sense of these words. once we say the words "block" and "chain" during this context, we simply refer to digital information (the "block") hold on in a very public info (the "chain"). It consists of blocks store information regarding transactions, blocks store information regarding organization is taking part in transactions and blocks store information that distinguishes them from alternative blocks [2].

Governments have relied on their employees for safe storage and retrieval of information. Traditionally, the information was stored in paper files, which were then placed in safe wardrobes. Technology has advanced this to store the information in computers and cloud systems which have, for some time, been seen as secure. However, the same technology enables malicious elements to infuriate the systems and access the data, some of which are sensitive, leading to loss of money. Thus, in order to balance the usage of technology by securing the data and preventing malicious actions, blockchain can be seen as a solution to using technology especially in government who is responsible for all citizens.

Blockchain is increasingly becoming a necessity in daily life because it promises to solve some of the major world challenges. Blockchain entails the structuring of data such that the transactions and records are secure, transparent, and decentralized [2]. While using this technology, the records are stored in the form of blocks or chains, but under the authority of no single person such that every person concerned can see what is happening. Every person in the network can see the data, and once it is fed, it is challenging to alter or even change that information hence tamper-proof. The technology allows for the security of every transaction made since the user impends a signature as proof of authenticity where the data is then encrypted, further enhancing its security. Many researches showed that different organizations, including governments, have adopted technology into their systems. In this case, most of the services are provided online through the e-government platforms that supposed to reduce time, eliminates corruption, and enhance efficiency in service delivery [3]. The government has a lot of data in its possession, which requires retrieval either regularly or on-demand since it is the custodian of the citizens' information. Some of the data include births, death, employment, vehicle registration, debts, and everything that happens in and outside the country [4]. All the information is handled by people with the possibility of interference for personal benefits. It is for this reason, Blockchain technology proves to be important in storing and retrieval of the information. Now, the research studies of Blockchain technology will be reviewed in the next section.

Literature review

Different scholars have engaged in various studies that seek to explore the uses of Blockchain technology in e-government. The Blockchain system seeks to solve this challenge by ensuring that the information is not only secure but also inaccessible by unauthorized people [5]. Currently, the technology is profoundly embraced by the private sector since the people here feel at a higher risk of loss. The private sector is also profit conscious and seeks to protect information as much as possible hence embraced the technology

Some studies have revealed that governments experience a lot of challenges today related to dealing with data, which is sometimes sensitive and hence requires proper storage. Some of the data concerns the governments include data manipulation, integrity, breach, security, and privacy. These issues arise when the government cannot properly secure the information entrusted with it and which is consequently accessed by unwanted people. Some citizens fear of reaching the data by harmful people for malicious behavior or even committing crimes by using sensitive information such as using addresses to reach their victims. Blockchain technology addresses these fears and promises the government security of the information stored [4]. Although it is not fully embraced, in some of the countries, including the United States, China, Sweden, and the United Kingdom, are exploring the need to use the technology acts in the government sphere in the form of e-government.

Some of the soft data includes information on votes, healthcare, patents, and ideas [6]. In all these cases, multiple elements are involved which expose the information to unwanted people. For instance, a patent is sensitive and is shared between the government and the owner, and exposing this information can expose it to be stolen, especially with the increased theft of copyright data. Here, the role of blockchain technology appears, as it works in the form of nodes where the network has the full copy of the information recorded with limited access. Many pieces of research indicate that this is not an entirely new idea but has already been conceived and tested. Batubara et al., [7] describe the history of Blockchain technology by tracing it in 2008 with the inventions made by Satoshi Nakamoto. According to the researchers, one of the major uses of Blockchain in e-government is offering a secure, transparent, and auditable platform that allows government functions to go on without intermediaries. The study of Batubara et al., demonstrates that the technology act as the go-between the citizen and the people [7]. Instead of government employing individuals to act, Blockchain does this work and, at the same time, ensure everything is secured.

There are multiple government functions provided through the e-government platforms, and this increases the types of transactions hence the need for Blockchain technology. These include environments infested with corruption since technology allows everything to be transparent. Some countries have already activated the role of Blockchain technology, for example Blockchain in countries like Honduras has enabled the government to provide better and transparent services.

Blockchain technology important because it affects many sectors such as Education and agricultural sectors. In the field of Education, it is known that educational data is sensitive, and

some governments have employed Blockchain technology to trace the authenticity and origin of the academic documents [9]. says that some of the information that is essential in the educational setting includes student's certificates, student data, faculty information, and certificate number. The information is required by different stakeholders at different periods, including schools and employers, and hence checking their authenticity and origin is of utmost importance. Governments are using the technology by including all this information in the Blockchain and ensuring that the concerned persons can see the movement of the information [9]. In this case, it is difficult for one party to alter the contents for selfish gain. Defense and security are always at the forefront of any country's progress and hence requires proper safeguard. Failure to safeguard security data exposes the country to attacks, which can be catastrophic. In this case, the government uses its e-government option to gather information from the public and share it within the security agencies. In the future, the government can take advantage of this innovation and transmit data between the security agencies, citizens, and data centers. The information provided must be secure to avoid it, falling in the hands of malicious individuals.

The importance of Blockchain in the agricultural sector, especially in this era, appears where the government is keen on tracking production and quality. The world is increasingly turning to quality, and there are different government agencies keen on ensuring the implements used by farmers and food produced meets the set standards. In most cases, the food value chain is very long and involves different government agencies that put their information online for the customers and farmers to see.

For instance, pesticide manufacturers maintain a database with the government and the customer to ensure they are reachable if their products lead to negative impacts. Farmers, too, are stored in government databases to establish their quotas as well as buyers and manufacturers. Although these groups of people are well documented through the government's electronic system, there is no way they are connected. Blockchain can ship in here by ensuring that all the parties involved in the food value chain in one basket [4]. In this case, it will be possible for any person in the chain from the farmer to the consumer to trace the products. Keeping these records in a secure but accessible system will assist the government in monitoring production as well as quality.

Blockchain enables the government to facilitate the citizens' information through the online platform and hence facilitate easier retrieval. For instance, all the citizens' information, including educational qualification, home, car, job, and owner public records, are centralized, which provide one digital identity [9]. Although this has not been fully actualized, technology is playing a significant role in harnessing citizens' records. In the future, the bureaucracy experienced when dealing with governments, which will improve service delivery. If the technology fully rolled out, the citizens will experience reduced bias since every person will have equal access to government services.

Methodology

Methodology matters a lot in research since it validates the findings and enables the third party to follow the results and get similar conclusions. The methodology used must also be consistent with the type of research to come up with accurate information. As the technology of Blockchain is still relatively new, many people do not know about it, thus, we did not apply survey technique which normally targets many people, but we chose to review journal articles and made online interviews with a non-random purposeful sample of some of the experts in the field of technology. The methodology of the paper was chosen to answer what are the benefits and effects of Blockchain in e-governments. Applying the Blockchain technology in the public sector motivated the need to identify the potential effects on e-government services.

Regarding the secondary data, the sources used were products of research and documentation done by scholars in the field based on Blockchain and e-government. All the journal articles used for the research were published between 2016 and 2019, meaning they were fairly new and updated for the research in a field that is constantly changing. The few journal articles published before 2016 were included because they provided a history of the technology, which enabled the connection between the two. These resources provided firsthand or second-hand data on the issue.

Discussion

Data were collected from articles and focused on Blockchain and e-government issues, considering their coverage of different regions around the world. The Blockchain is a relatively new topic, and issues that have been used from recent sources. Although most governments have

not fully integrated technology into their e-government operations, they are slowly showing signs of doing so in the future. However, the study lacks data from demographic samples because it depends largely on the information recorded and not on statistics.

Although E-government is not fully embraced in many countries, some of them including the South Korea, Dania, Sweden, and the United Kingdom, are exploring the need to use the technology acts in the government sphere in the form of e-government. So, Blockchain technology is relatively new around the world in general and in the Central Asia countries in particular and most people need to know more about it. Therefore, the e-government services in Republic of Uzbekistan are still in the early stages of applying Blockchain.

As a result of our research we are presenting the role of Blockchain in e-government. In our two themes, we found six challenges and twelve benefits (including reducing some issues and increasing good things). Firstly, the challenges are centered around its nature as it considered as an emerging technology, lack of experts, lack of policies, and ambiguity of its scalability, interoperability and the management of personally identifiable information. Secondly, the theme of the benefits which on one hand, Blockchain can increase availability, security, trust, tractability, process efficiency, authentication, and accountability. On the other hand, Blockchain can reduce cost, fraud, tampering, labor-intensive processes, corruption, and abuse. Most of them can accrue by preventing the corruption of changing the information since in the Blockchain the records are stored in the form of blocks or chains, but under the authority of no single person such that every person concerned can see what is happening. Every person in the network can see the data, and once it is fed, it is challenging to alter or even change that information hence tamper-proof.

Conclusion

Overall, the benefits of Blockchain technology are heaps, thus, government leaders should consider Blockchain as a solution for reducing costs and improving efficiency in the long term as it has proven effective in reducing redundancy, streamline processes, decrease audit burden, increase security, and ensure data integrity after building trust with citizens and assuring that sensitive data are secured. With the rapid development of civilization in the Republic of Uzbekistan, e-government services seek to build confidence with citizens and ensure that their data is protected to provide reliable infrastructure to activate Blockchain services in the long term. Unfortunately, as mentioned above that Blockchain technology is profoundly embraced more by the private sector since they feel at a higher risk of loss and they are profit conscious and seeks to protect information as much as possible hence embraced the technology. However, the governmental sector needs to embrace technology more because they are responsible for all citizens. E-government platforms started to think about creating a more secure environment in order to reach many objectives such as reducing service time, eliminating corruption, and enhancing efficiency in service delivery.

It is anticipated that by adding Blockchain technology to the e-government, citizens will trust the governmental services more, and having such technology will protect data, reduce cost, and improve efficiency. Lastly, Blockchain technology could be the future of services provided by the government, industry, banks, academia, and business. In particular, egovernment using Blockchain can build trust, protect data, improve processes efficiency, and reduce costs in the long term. Applying Blockchain in e-government will be useful and data will be available at all times and especially at critical times, as the crisis, we are currently facing COVID-19.

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BLOCKCHAIN 3.0 IN E-GOVERNMENT SYSTEMS

ELEKTRON HUKUMAT TIZIMLARIDA BLOKCHEYN 3.0

BLOCKCHAIN 3.0 В СИСТЕМАХ ЭЛЕКТРОННОГО ПРАВИТЕЛЬСТВА

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Abstract: The adoption of ICT and Web 3.0 contributes to the government sector by transforming how public administrations provide innovative and advanced services to interact with citizens. Artificial Intelligence (AI) and Blockchain (BC) disruptive technologies will reshape how we work, live, and interact with government industries and sectors. This paper focuses how BC and AI enhance secure, robust, scalable, and authenticity provenance solutions.

Keywords: blockchain 3.0, smart contracts, e-government 3.0, artificial intelligence, IoT, web 3.0.

Introduction

Blockchain (BC) technology is recognized as a disruptive technology for lots of applications. Initially, Bitcoin [7], a finance-oriented extremely ingenious distributed shared ledger and peer-to-peer value transfer technology, BC established trust between unknown stakeholders and automated payments. Bitcoin reformed the finance and provide chain industry by shortening the time needed to finish time-consuming processes and removing nearly all intermediaries.

Blockchain technology for financial payments automation without intermediaries is understood as Blockchain 1.0. The technology acknowledged as Blockchain 2.0 followed with the Ethereum project [8], which differed from BC 1.0 with its support for smart contracts (SC). Other BC 2.0 technology projects include Hyper ledger's HL Fabric, Sawtooth, Iroha, and R3's Corda [9]. Smart contracts (SC) are computer programs written to run on a blockchain and supply security and automation systems, making it possible for participating parties to agree upon certain conditions and actions to be performed when the conditions are met. These features of SCs reshape supply chain processes by enabling additional on-chain actions such like assets tracking and, in parallel, equip BCs with necessary characteristics for business cases outside of the supply chain. Blockchain is now used in industries such as healthcare [1][2], education [3], government [4], charities [5], real estate [6], insurance, and banking. This expanded field of applications supported by BC is named Blockchain 3.0 because solutions aren't restricted to finance actions and assets transfer. With the increase of Blockchain 3.0 technology, supported Directed Acyclic Graph (DAG) data structures, BC systems are more efficient, scalable, highly interoperable, and offer a far better user experience. Among these sectors, government use cases are of special interest thanks to the implications they introduce when adopting a BC infrastructure. These implications may include internal issues associated with a government such like politicians' inaction and opposition, or external issues associated with digital transformation laws and sensitive citizens' and civil servants' personal data. The BC's characteristics of decentralization provide zero down-time, ensure tamperproof data and non-repudiation with immutability, implement security with cryptography to determine trust between participating parties, and utilize consensus algorithms for data integrity, verification, and scalability on private and permissioned blockchains.

This paper examines BC 3.0 and SC characteristics and features expected to contribute to EG 3.0 applications and offers selected best practices for a way to include BC 3.0 and SC into the planning and implementation of ICT Web 3.0 e-government solutions.

Blockchain

The two major types of blockchain implementations are public permissionless and personal permissioned. The following sections present their most vital characteristics regarding EG 3.0.

Permissionless Blockchains. Permissionless BCs were the primary generation of Distributed

Ledger Technology (DLT) to provide decentralized ledgers as opposed to centralized databases. Bitcoin and Ethereum are the most known representatives of permissionless BCs. Their premise is that all transactions are transparent to every participant and are written on the ledger only after a consensus of the majority of peers is achieved. Each participant shares an identical copy of this data, called state, that is formed of blacks connected to each other through cryptographic hashes. This architecture makes it almost impossible to change or trick others about the data state or take advantage of assets exchanged or discarded without notice by other peers. A disadvantage of permissionless blockchains is they do not support any control over who enters or leaves the network. This lack of control can be detrimental for security and may lead to energy-draining and time-consuming block generation techniques to enforce security. The potentials side effects of block generation include system scalability and speed.

Permissionless BCs can be ideal for EG 3.0 applications when data must be public and transparent. Such use cases may include the education sector verified and shared certificates, degrees, and diplomas issued by governmental organizations and academic institutions. Other use cases include publishing voting results and disseminating publicly available documents and copyrights.

Permissioned Blockchains. Due to BC's unique characteristics of immutability and decentralization, blockchain technology evolved beyond BC 1.0 to business priorities like asset tracking and logging, consent and agreement enforcement and monitoring, andidentity authentication and authorization. Permissionless blockchains achieve an excellent deal of decentralization; however, they will not guarantee the privacy and safety needed for sensitive citizen and government data. The lack of control over permissionless BCs and therefore the exit and entry of network participants make documents, records, historical data, and transactions containing citizens' data visible.

Permissioned blockchains, such as Hyperledger (HL) Fabric, answer the need for private, decentralized, secure, and verifiable transactions among governments, citizens, and businesses. Although all transactions are written through smart contracts to the ledger, as they're in BC 1.0, permission must tend to access any data. On permissioned BCs, participants are strictly controlled by a central authority. In an EG use case, this might be a ministry or an independent authority. Blockchain policies exist on the network to grant permission to stakeholders to perform specific actions. For example, a citizen must be told that a public administration organization requests specified data and therefore the citizen must consent for access to be granted. These requests and consent actions are written on the blockchain to supply transparency for participants. Permissioned BCs address the necessity for privacy, scalability, security, and speed, although compromises are made in decentralization.

Permissioned BCs are ideal for governmental applications that require a level of security such as an internal exchange of documents among public organizations for inventories, registries, or other private records.

Smart Contracts

Smart Contracts (SC) are computer programs immutably written on the blockchain and called by BC participants. SCs provide automation and control flow logic to any system BCs support. Smart contracts must be treated as software functions in every aspect and smart contract BC engines must be deterministic. The determinism of SCs is the characteristic that maintains the ledger at a stable, consistent state, enforces transaction finality, and avoids soft and hard forks. The determinism of SC's actions is usually left to the developer. Thus, she must ensure automated actions are executed as planned and the results of these actions leave the data in a consistent state, regardless of the node(s) they are executed on. SC's actions must achieve the same result each time the SC is executed. In the writers' opinions, derived from empiricism, smart contracts can be categorized into three major categories:

- Static
- Dynamic
- Oracle driven

Depending on the specific use case to be implemented, the developer designs either dynamic, static, or oracle driven smart contracts. A definition of each, below, explores their characteristics to assist researchers, architects, and developers as they determine which is appropriate per use case.

Static standard output. Static SCs do not call other smart contracts, do not reside on human interaction, take place in one-step, and never change their predefined number of actions. Static SCs perform primitive math operations such as addition, subtraction, multiplication, and division. Other SCs can call, retrieve, and consume the results of their operation. All SCs receive parameters to perform actions and are somehow dynamic. However, there are no additional conditions embedded in static SCs to change their path of action. Math operations consistently reach the same result and operators follow the same precedence rules every time. SCs can return a "yes/no" response to a specific question or return a standard image when an action is triggered. An EG 3.0 application example is a function that accepts a verification request for an academic diploma, looks to the ledger for the diploma holder, issues the institution name and date of issuance, and returns the result to the requester.

Dynamic non-standard output. Dynamic SCs embed various rules that allow them to perform different actions. Examples of dynamic SCs include functions that monitor certain conditions and trigger intended actions. For example, when a dynamic SC monitors electricity consumption and temperatures logged on the BC of an energy-smart building. The dynamic SC includes thresholds for heating and consumption measurements to adjust temperatures in an eco-friendly way designed to avoid excessive electricity consumption and cost.

This dynamic SC, although deterministic, follows a non-static conditioned flow that shows how a dynamic SC might be formed and how it can act. The code is simplistic and computer functions can be long and complex. Additionally, the example involves human interaction which, on occasion, may hinder or cancel the dynamic action feature of the SC. Human input is considered dynamic in terms of a non-standard, condition-driven final action. The dynamic nature of SCs may be controlled with machine-to-machine (M2M) actions. Unpredictable outcomes may occur if a developer’s design and implementation of the SC are erroneous, incomplete, or non-deterministic.

Another approach to dynamic SC EG 3.0 applications is to interconnect public administrations that request to exchange citizen data. For example, if a tax service requests access to citizen land titles held by a land registry service. A dynamic SC supplied with a tax service VAT number may access land titles tied to that VAT number, if appropriate citizen permissions are in place

Oracle driven. Both static and dynamic SCs handle data that resides on the BC. Oracle, the third major category of SC, is designed to work with data from sources external to the BC. Oracle SCs are dynamic and include information brought in by the so-called AI oracles, which are also smart contracts. OracleSCs act as AI agents with the ability to request information from the real world and write it on the blockchain for other smart contracts to consume. What is special about the oracle SC category is that SCs are generally not allowed to incorporate data external to the BC due to the determinism of BC functions. Determinism states the same result must be returned each time an SC function is called and external resources are often subject to change. Determinism is typically enforced by utilizing data that exists as the ledger’s state. An exception is made through oracles to write data on the BC that represents the ledger state at the exact time the data is written on the ledger.

E-Government 3.0

EG, by definition, is the use of ICT to provide a means for governments, citizens, and businesses to interact, communicate, share information, and deliver services to various stakeholders. EG 1.0 utilized the World Wide Web and available ICTs to strive toward efficiency. EG 2.0, through portal services supported by Web 2.0 technologies, became more citizen-centric, promoting citizen participation and enhancing e-democracy. The technological evolution shaping EG infers EG 3.0 will use Web 3.0 ICTs such as distributed ledger technology (DLT), AI, Semantic Web, and the World Wide Virtual Web.

Artificial Intelligence is a promising and disruptive technology. AI’s technological ability to equip machines with cognitive capabilities that learn, infer, and adapt per consumed data is reinforced by the amount of information produced by smart devices, social media, and web applications. One problem governments, organizations, and companies face in leveraging this amount of information is centralization and provenance, the latter related to information source legitimacy and authenticity. Data in AI projects are centrally controlled and can be tampered with. For example, Microsoft’s AI Twitter-based bot project was overwhelmed with racist remarks which, unfortunately, bots repeated to users.

Conclusion

We acknowledge restrictions apply in our research, mainly due to the different energy and e-health implementations among countries in Europe. Our research focuses on governments and citizens, and further research will include applications and results with public administrations and civil servants. The scenarios demonstrated focus on BC 3.0 support. Thus, EG scenarios that include additional Web 3.0 technologies must be designed, developed, and tested. We hope to contribute more on these subjects as our research projects progress.

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"ЎЗБЕКИСТОНДА ИЛМИЙ-АМАЛИЙ ТАДҚИҚОТЛАР" МАВЗУСИДАГИ РЕСПУБЛИКА 30-КЎП ТАРМОҚЛИ ИЛМИЙ МАСОФАВИЙ ОНЛАЙН КОНФЕРЕНЦИЯ МАТЕРИАЛЛАРИ

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