سمینار

تمرین اول

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سوال 1:

مقاله‌ی 1

سطرهای زیر از مقاله مربوط به مرحله اول مقدمه یعنی معرفی اهمیت موضوع هستند:

I. INTRODUCTION

The online world is dominated by big-tech monopolies. These companies hold a relatively large amount of power in relation to citizens. As a result, citizens have difficulty protecting their data. The WhatsApp messaging platform is a motivating example of market failure as it violates terms of service over a long period [3]. An update of their terms of service [4], providing mother company Facebook access to more user data, initiated a migration to other platforms. Competitors focused on privacy and openness have barriers to market entry, no network effect, and compete against long existent closed protocols. Citizens and small(er) competitors [5] are powerless in this uncompetitive market.

Digitization generally weakens the privacy of citizens. The European Union started an ongoing effort into the General Data Protection Regulation (GDPR) [6] in 2016, targeting the misuse of privacy-sensitive data by companies. Many companies and platforms failed to comply to personal data protection,

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resulting in over 900 filed cases of GDPR complaints, with a total value over 1.3 billion euros [7]. Due to such efforts, citizens have become more privacy-aware of their online data and identities [8]. Commercial entities have an incentive to minimize spending on cybersecurity [9]. The storage of personal data and weak security mechanisms of platforms are both at the expense of the user. These companies often gain revenue and value by selling user data for personalized advertisements. Users have no other option but to rely on the best intentions of the platform owner on their data.

In many situations, personally identifiable information of

قسمت شکاف:

In many situations, personally identifiable information of citizens is unnecessarily exposed. Government-issued documents are often required for institutions or organizations like banks, insurance companies, hotels, and employers, but lack secure handling and storage. Online governmental authentication mechanisms for digital identities are widely deployed by authorized institutions but have equal concerns. The owners of these identities are forced to accept and transfer all personal information. Both citizens and governments could benefit from the use of self-sovereign identities (SSI). As a result, citizens will be given the control over their own identities. Furthermore, external dependencies on authentication and storage can be eliminated. Offline identity authentication and identity attestations in a user-centric fashion can still offer the required identity authenticity. The possibilities of the SSI are additionally suited to a wide range of applications. We can profit from the self-sovereign identity within our societal infrastructure for the enforcement of authentic trust between identities in online conversations with the goal to reduce phishing or impersonating attacks. Other applications may include authenticated signing of digital documents, and validated storage of diplomas and COVID vaccination certificates.

Governments, banks, and tax offices have general insight into the bank accounts and transactions of citizens, often using big-tech cloud services. Not only is this a violation of citizens' privacy, but these banking services also have several deficits. The transaction costs are disproportional as debit card transactions range from €0,05 to €0,20 per transaction [10], and even bigger numbers for external payment services like iDEAL [11]. Cross-border payments even have increased costs and settlements. Cash is only applicable in offline payments and still serves as a store of value for some. It offers respectable privacy but is (slowly) fading away [12]. The current financial system can benefit from the adoption of blockchain technology. Central Bank Digital Currencies (CBDC) aims to provide a faster, more efficient, and cheaper alternative to electronic payments. With

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characteristics as privacy-awareness, pseudo-anonymity, and

unrestricted cross-border payments, CBDC can transform the financial system into a sustainable and frictionless system.

This research contributes the following: (I) design of a novel decentralized infrastructure that incorporates a self-sovereign identity, (II) applicance of the self-sovereign identity for identity attestations and authentic trust enforcement between participants of communication, (III) generic transfer of money, (IV) generic transfer of data using a custom-designed P2P data transfer protocol.

قسمت ساختار مقاله:

ساختار مقاله آورده نشده است.

مقاله 2:

قسمت اهمیت موضوع:

1 INTRODUCTION

In the past few years, the keyword *Web3.0* is ubiquitous, driven by the hyper-enthusiasm for cryptocurrency and Blockchain. Although Web3.0 is often cited to drastically shape our lives, few literatures have discussed the crucial differentiators that separate Web3.0 from the era we are currently living in. As a result, our perception of Web3.0 is still preliminary, obfuscated by a list of endless fancy words and terms such as cryptocurrency, Bitcoin, blockchain, decentralization, ICOs, anti-monopoly, data-ownership, “software is eating law”, etc.

Defining Web3.0 meaningfully is non-trivial. Over the past few years, we had numerous conversations and interviews with experts and practitioners in various Web3.0-related industry sectors, including layer-one blockchain infrastructures, layer-two (off-chain) protocols, consortium (or enterprise) blockchain service providers, and decentralized applications (*e.g.*, decentralized finance and gaming), hoping to understand (i) what are the fundamental and defining characteristics of Web3.0 and (ii) what are the key enablers of Web3.0. We observed that although they all claim their infrastructures or/and applications are indeed Web3.0 products by enumerating various advantages

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protocols mostly in the context of interoperating heterogeneous blockchains and extend interoperability to include federated or centralized state publishers in § 5.7. Existing interoperability proposals [2–5] mostly focus on atomic token exchange between two blockchains without centralized exchanges. However, since smart contracts executing on blockchains have transformed blockchains from append-only distributed ledgers developers' perspective, it is desirable that cross-chain dApps could preserve the same state-machine-based programming abstraction as single-chain contracts [6]. This, however, raises a virtualization challenge to abstract away the heterogeneity of smart contracts and accounts on different blockchains so that the interactions and operations among those contracts and accounts can be *uniformly* specified when writing dApps.

Second, existing token-exchange oriented interoperability protocols, such as atomic cross-chain swaps (ACCS) [7], are not generic enough to realize cross-chain dApps. This is because the "executables" of those dApps could contain more complex operations than token transfers. For instance, our example dApp

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In this paper, we lay out our observations about Web3.0 (partially shaped by the aforementioned industrial study) and the reasoning on those findings, to provide the first academic

protocols mostly in the context of interoperating heterogeneous blockchains and extend interoperability to include federated or centralized state publishers in § 5.7. Existing interoperability proposals [2–5] mostly focus on atomic token exchange between two blockchains without centralized exchanges. However, since smart contracts executing on blockchains have transformed blockchains from append-only distributed ledgers into programmable state machines, *token exchange is not the complete scope of blockchain interoperability*. Instead, blockchain interoperability is complete only with *programmability*, allowing developers to write Web3.0 applications executable across those disconnected state machines.

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tralized applications (or dApps) is unclear. In general, from

developers' perspective, it is desirable that cross-chain dApps could preserve the same state-machine-based programming abstraction as single-chain contracts [6]. This, however, raises a virtualization challenge to abstract away the heterogeneity of smart contracts and accounts on different blockchains so that the interactions and operations among those contracts and accounts can be *uniformly* specified when writing dApps.

Second, existing token-exchange oriented interoperability protocols, such as atomic cross-chain swaps (ACCS) [7], are not generic enough to realize cross-chain dApps. This is because the "executables" of those dApps could contain more complex operations than token transfers. For instance, our example dApp in § 3.3 invokes a smart contract using parameters obtained from smart contracts deployed on different blockchains, and meanwhile the condition of an invocation may even depend

قسمت هدف:

In this paper, we lay out our observations about Web3.0 (partially shaped by the aforementioned industrial study) and the reasoning on those findings, to provide the first academic

definition for Web3.0. We do not claim that our definition is the only way of understanding Web3.0, yet it has two desirable properties: generic and measurable. It is generic since it is not limited to any overarching applications or underlying infrastructures; it is measurable because all stakeholders can determine an application's eligibility for the Web3.0 era using a fundamental and defining trait of Web3.0 that we captured via a thorough analysis of the recent blockchain infrastructure evolution. Under this Web3.0 definition, we articulate three concrete key infrastructural enablers for Web3.0: (i) individual blockchains with enhanced performance and security properties to serve as the ideal platforms to support verifiable computing; (ii) federated or centralized platforms, capable of publishing verifiable states, to compensate for the functionality that is difficult or infeasible to realize on-chain; and (iii) a secure interoperability platform to hyperconnect these distributed and isolated state publishers (*i.e.*, both blockchains and federated / centralized platforms) to provide a unified and connected computing platform for Web3.0 applications.

While innovations in all three key enablers are necessary to fully enable Web3.0, in this paper, we present in detail a design for the third key enabler, *i.e.*, the first interoperability platform for Web3.0. Throughout the paper, we describe our protocols mostly in the context of interoperating heterogeneous blockchains and extend interoperability to include federated or centralized state publishers in § 5.7. Existing interoperability proposals [2–5] mostly focus on atomic token exchange be-

قسمت ساختار مقاله:

این مقاله نیز ساختار نیاورده است.

مقاله 3:

قسمت اهمیت موضوع:

The growing demand for telecommunications services is stimulating the development of new call-handling technologies. Each generation of mobile technologies has brought with it an increase in the data transmission speed along with improved connection quality and new functionalities. The fourth generation (4G) technology, which is currently in use, has been available worldwide since 2009. The fifth generation (5G) network will enable a number of new services, including those related to the Internet of Things (IoT) and the concept of smart cities. The new technology will make use of low, medium, and high frequency bands, all of which have their advantages and limitations. However, wide-scale deployment of a 5G network requires preparation of antenna infrastructure and implementation of new technological solutions. A significant number of antennas (apart from antennas used for mobile devices) will be to be installed inside buildings, especially public utility buildings, including stadiums, railway stations, and shopping centers. It should be noted, at this point, that antennas installed in locations close to crowds would be smaller than those used in current macrocell transmitters. This is a fundamental

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would be smaller than those used in current macrocell transmitters. This is a fundamental difference and a common misunderstanding in public discussion. In a traditional antenna system, the power is radiated according to the established spatial characteristics. Therefore, the area in which users can be located, is predefined. In contrast, the power in a 5G antenna is radiated directionally, and focused on individual users or groups of users. Antenna radiation directions can change almost automatically, to focus on mobile users [1–3].

In this article, we describe the design process and a model of a microstrip antenna designed in FEKO software by Altair. The antenna's main assumption is its frequency of

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In this article, we describe the design process and a model of a microstrip antenna designed in FEKO software by Altair. The antenna's main assumption is its frequency of operation in the 28 GHz band, i.e., in one of the frequency bands designed for operation of the 5G system [4]. Other important assumptions for the antenna model include a small size and the widest possible bandwidth. The antenna design process has been optimized

to minimize dimensions and weight, thereby enabling the use of the designed antenna in mobile terminals, as well as facilitating integration with electronic devices.

قسمت ساختار مقاله:

در مقدمه این مقاله ساختار آن آورده نشده است.

مقاله 4:

قسمت اهمیت موضوع:

مقدمه

یادگیری الکترونیکی، ابزار نوین آموزشی است که به ارائه فرصت‌های یادگیری به شیوه‌ای جدید از طریق اینترنت و شبکه می‌پردازد[۱۴]. این تکنولوژی با ادعای بهتر برآوردن نیازهای آموزشی مخاطبان، در فضایی به‌مراتب گسترده‌تر، با محدودیتی بسیار کمتر و با امکانات بیشتر وارد حوزه‌های آموزشی شده است و سبب ایجاد تحولی در مفاهیمی مانند آموزش، استاد، دانشجو و کلاس از یک‌طرف و تغییر در ساختار ارتباطات، تعاملات و فرایند یاددهی- یادگیری از طرف دیگر شده است. در این میان دغدغه اصلی متخصصان امر آموزشی و یادگیری تحقق فرایند یاددهی- یادگیری با استفاده از همه روش‌های الکترونیکی و با لحاظ ویژگی‌های فنی و عوامل انسانی است[۳].

قسمت مرور متون:

ایشان در فرآیند یاددهی- یادگیری به‌شدت احساس می‌شود. در این بررسی با تحلیل ردپای اساتید در سامانه یادگیری الکترونیکی و براساس معیارهای پنج‌گانه انتوناندو و آلنسو (۲۰۰۶)، مشخص شد تنها ۲/۵۳ درصد مدرسان الکترونیکی درک صحیحی از نقش و وظایف خود در دوره برگزاری داشته، عملکرد متناسب با محیط داشته‌اند. به‌بیان دیگر بیشتر مدرسان با همان ذهنیت و نگرش معلم سنتی در محیط الکترونیکی، فعالیت می‌کنند[۹].

همچنین ادبیات پژوهش بیان می‌کند، با ورود فناوی اطلاعات، مفهوم "آموزش" در رویکرد سنتی به "یادگیری" در رویکرد الکترونیکی تبدیل و به‌تبع آن، سبب ایجاد تحول در نقش " مدرس" نیز، شده است؛ به‌طوری‌که او را از سخنگوی صرف به راهنما و مربی و تسهیل‌گر تبدیل کرده است[۲۳، ۲۸]. اما با وجود این تغییرات ساختاری و ماهیتی در مفاهیم و مؤلفه‌های آموزشی به‌ویژه استاد، در عمل مشاهده می‌شود مدرسانی که وارد

عرصه الکترونیکی می‌شوند بیشتر همان ذهنیت سنتی از نقش استاد را در این محیط نیز وارد می‌کنند[۲۴] که این امر بر عملکرد آن‌ها و به‌تبع آن بر موفقیت دوره‌های الکترونیکی تأثیر می‌گذارد. با لحاظ مطالب مطرح‌شده و با فرض این‌که دانش سبب ایجاد نگرش و نگرش منشأ رفتار و عملکرد است [۲۲]، پس چرا اساتید الکترونیکی با وجود اطلاع از تغییر محیط و نقش خود، رفتار و عملکرد متناسب با محیط الکترونیکی را ندارند؟ ازاین‌رو مطالعه حاضر به‌دنبال شناسایی و تفسیر حلقه‌ی میان "دانستن" و "عمل کردن" یعنی "نگرش " است و سؤال اصلی آن عبارت است از: "الگوهای ذهنی اساتید یادگیری الکترونیکی دانشگاه تهران در نقش یاددهنده، چیست؟"

قسمت شکاف:

در ایران از اواخر دهه‌ی هفتاد همسو با تحولات جهانی، پدیده‌ی یادگیری الکترونیکی جایگاهی در آموزش عالی پیدا کرده، برخی دانشگاه‌ها مانند دانشگاه تهران، اقدام به برگزاری دوره‌های الکترونیکی کرده‌اند. گزارش وب‌کاوی دوره‌های الکترونیکی دانشگاه تهران در سال ۸۹، حاکی از آن است که لزوم تغییر نگرش اساتید و بازتعریف مفهوم نقش ایشان در فرآیند یاددهی- یادگیری به‌شدت احساس می‌شود. در این بررسی با تحلیل ردپای اساتید در سامانه یادگیری الکترونیکی و براساس معیارهای پنج‌گانه انتوناندو و آلنسو (۲۰۰۶)، مشخص شد تنها ۲/۵۳ درصد مدرسان الکترونیکی درک صحیحی از نقش و وظایف خود در دوره برگزاری داشته، عملکرد متناسب با محیط داشته‌اند. به‌بیان دیگر

وارد می‌کنند[۲۴] که این امر بر عملکرد آن‌ها و به‌تبع آن بر موفقیت دوره‌های الکترونیکی تأثیر می‌گذارد. با لحاظ مطالب مطرح‌شده و با فرض این‌که دانش سبب ایجاد نگرش و نگرش منشأ رفتار و عملکرد است [۲۲]، پس چرا اساتید الکترونیکی با وجود اطلاع از تغییر محیط و نقش خود، رفتار و عملکرد متناسب با محیط الکترونیکی را ندارند؟ ازاین‌رو مطالعه حاضر به‌دنبال شناسایی و تفسیر حلقه‌ی میان "دانستن" و "عمل کردن" یعنی "نگرش" است و سؤال اصلی آن عبارت است از: "الگوهای ذهنی اساتید یادگیری الکترونیکی دانشگاه تهران در نقش یاددهنده، چیست؟"

قسمت هدف:

عرصه الکترونیکی می‌شوند بیشتر همان ذهنیت سنتی از نقش استاد را در این محیط نیز وارد می‌کنند[۲۴] که این امر بر عملکرد آن‌ها و به‌تبع آن بر موفقیت دوره‌های الکترونیکی تأثیر می‌گذارد. با لحاظ مطالب مطرح‌شده و با فرض این‌که دانش سبب ایجاد نگرش و نگرش منشأ رفتار و عملکرد است [۲۲]، پس چرا اساتید الکترونیکی با وجود اطلاع از تغییر محیط و نقش خود، رفتار و عملکرد متناسب با محیط الکترونیکی را ندارند؟ ازاین‌رو مطالعه حاضر به‌دنبال شناسایی و تفسیر حلقه‌ی میان "دانستن" و "عمل کردن" یعنی "نگرش" است و سؤال اصلی آن عبارت است از: "الگوهای ذهنی اساتید یادگیری الکترونیکی دانشگاه تهران در نقش یاددهنده، چیست؟"

قسمت ساختار مقاله:

ساختار مقاله شرح داده نشده است.

مقاله 5:

قسمت اهمیت موضوع:

فناوری‌های جدید مزایا و معایبی را به همراه دارند که باید توسط سازمان‌ها مورد توجه قرار گیرد تا بتوانند در اقتصاد نوین موفق باشند. به عنوان مثال اگر اینترنت را که یکی از تأثیرگذارترین فناوری‌هایی بوده که در چند سال اخیر پا به عرصه ظهور گذاشته است در نظر بگیریم، مزایا و معایبی را به دنبال داشته است. یکی از این مزایا افزایش اندازه بازار بوده است. اما این مزیت در یک لحظه می‌تواند یک فرصت و یا یک تهدید برای سازمان باشد. اگر سازمان بتواند مشتریان بیشتری از سراسر دنیا جذب کند، مزیت و اگر

قسمت مرور متون:

در این مقاله قسمت مرور متون وجود ندارد.

قسمت شکاف:

مشتریان فعلی سازمان هم توسط سازمان‌های رقیب جذب شوند یک تهدید خواهد بود.
در این شرایط، پارک‌های علم و فناوری باید با دقت وظایف خود و فناوری‌های موجود را مشخص کنند و با انجام مهندسی مجدد در داخل پارک و بهره‌گیری از فناوری‌های جدید، تغییرات لازم برای باقی ماندن در عرصه رقابت را ایجاد نمایند.

قسمت هدف:

مطالب مورد بررسی در این مقاله را می‌توان به دو بخش اصلی تقسیم‌بندی نمود. ابتدا به بررسی تأثیرات فناوری‌های نوین بر پارک‌های علمی ایران پرداخته می‌شود. در میان تمام این فناوری‌ها تمرکز بیشتر روی اینترنت خواهد بود که تأثیرگذارترین فناوری در چند سال اخیر بوده است. در نهایت نقاط قوت، نقاط ضعف، فرصت‌ها و تهدیدهایی را که پارک‌های علمی ایران امروزه در نتیجه پیدایش فناوری‌های جدید با آن مواجه هستند را مورد بررسی قرار خواهیم داد. اعتقاد ما بر این است که این اطلاعات در برنامه‌ریزی کوتاه‌مدت و بلندمدت راهبردهای داخل کشور بسیار سودمند خواهد بود.

قسمت ساختار مقاله:

در بخش ۲ به بررسی تأثیرات فناوری‌های جدید در صنعت پرداخته می‌شود. در بخش ۳ تأثیرات فناوری‌های جدید روی پارک‌های علمی و فناوری مورد بررسی قرار خواهد گرفت. نقاط قوت، نقاط ضعف، فرصت‌ها و تهدیدهایی که پارک‌های کشور با آن مواجه هستند، مطالبی است که در بخش ۴ به آنها پرداخته شده است. در پایان نیز جمع‌بندی نتایج در بخش ۵ گردآوری شده‌اند.

سوال 2:

برای قسمت‌های اهداف و ساختار مقاله در این مقدمه توضیحی نیامده است. این دو قسمت در ادامه آورده شده و سایر قسمت‌ها بصورت هایلایت مشخص شده است.

تکمیل این قسمت‌ها:

اهداف:

In this paper, we will use AI in finding personalized reputation scores and we create a decentralized reputation solution for Web3 services which uses on-chain data to derive metrics for computation of reputation scores. Furthermore, the system should be accurate, quickly converging, secure, and lightweight.

ساختار مقاله:

The structure of the paper is as follows, first in part 2 we will explain about web3 system and in part 3 artificial intelligence will be introduced. In part 4 some practical examples for how the model can work will be explained. Finally there is a discussion in part 5 to summarize the paper and propose future works.

قسمت اهمیت موضوع:

Over the past decade, there have been increasing calls for a decentralized Web3 which aims to address the disadvantages of the current centralized infrastructure, including a single point-of-failure, censorship, and data privacy.

An important aspect of a decentralized Web3 is the ability to outsource tasks to spare resources, creating network resource sharing (NRS) services. This is essential as central servers (e.g. the Cloud) should not be blindly trusted. NRS services can broadly be classified as storage, computation, or band- width sharing services. A service may also target all of these, as is the case for decentralized content delivery networks. Sharing network resources in a decentralized network isn't a new concept, but what makes Web3 initiatives unique is their integration with blockchains to create an incentive layer. Classical peer-to-peer (P2P) systems suffered from a number of problems, rendering them useless in the long term, including, free-riding, instability due to churn, and security

قسمت مرور متون:

One prominent example of a NRS service is Filecoin, a decentralized storage market. A blockchain is used as an incentive layer, allowing clients and sellers to create storage deals on a public ledger and reward the storage node accordingly. As storage on blockchain is highly inefficient, data is stored locally at storage nodes.

قسمت شکاف های موجود:

blockchains to create an incentive layer. Classical peer-to-peer (P2P) systems suffered from a number of problems, rendering them useless in the long term, including, free-riding, instability due to churn, and security vulnerabilities. By providing a fair exchange for performed work in the form of cryptocurrency rewards, blockchain-based NRS services add incentives, security, and robustness.

While the blockchain can be used to establish trust for transactions on-chain, the actual NRS service is provided off- chain and occurs directly between two parties. This means that we cannot rely solely on an honest majority of the network for security. A simple illustration is a provider node which promises a service, but is not able to complete the service. While it does not gain extra rewards, the client may experience additional negative consequences. As any node in the network is potentially malicious there is a risk with every deal.