



Understanding the Security Risks of Web 3.0

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Agenda

Introductions about Web 3.0

Web 3.0 Security Risk

Smart Contract Hacking

Metaverse Risk

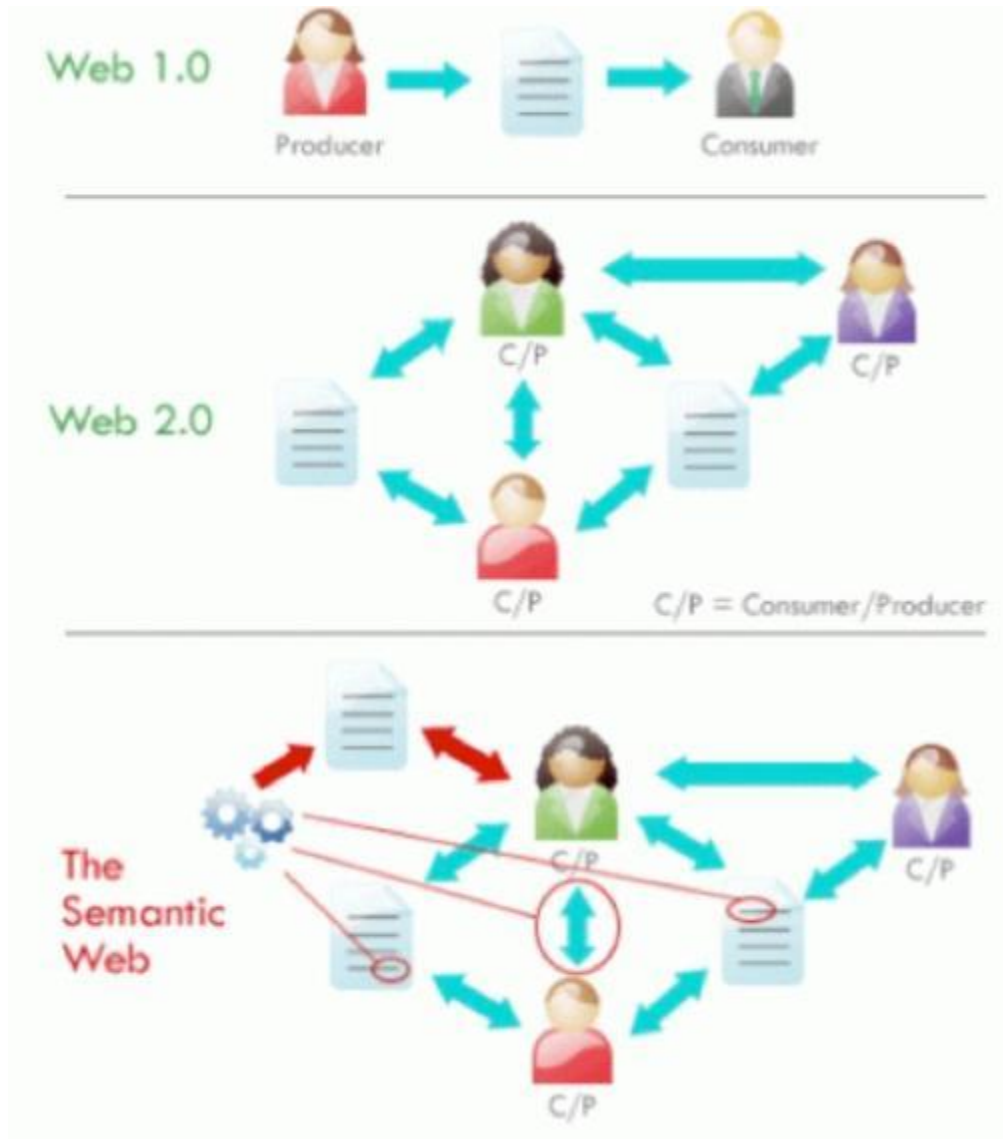
Blockchain and Microsoft

Distributed Identity

Responsible AI

Web 3.0 Infrastructure

Web 3.0 – an evolution of the Internet

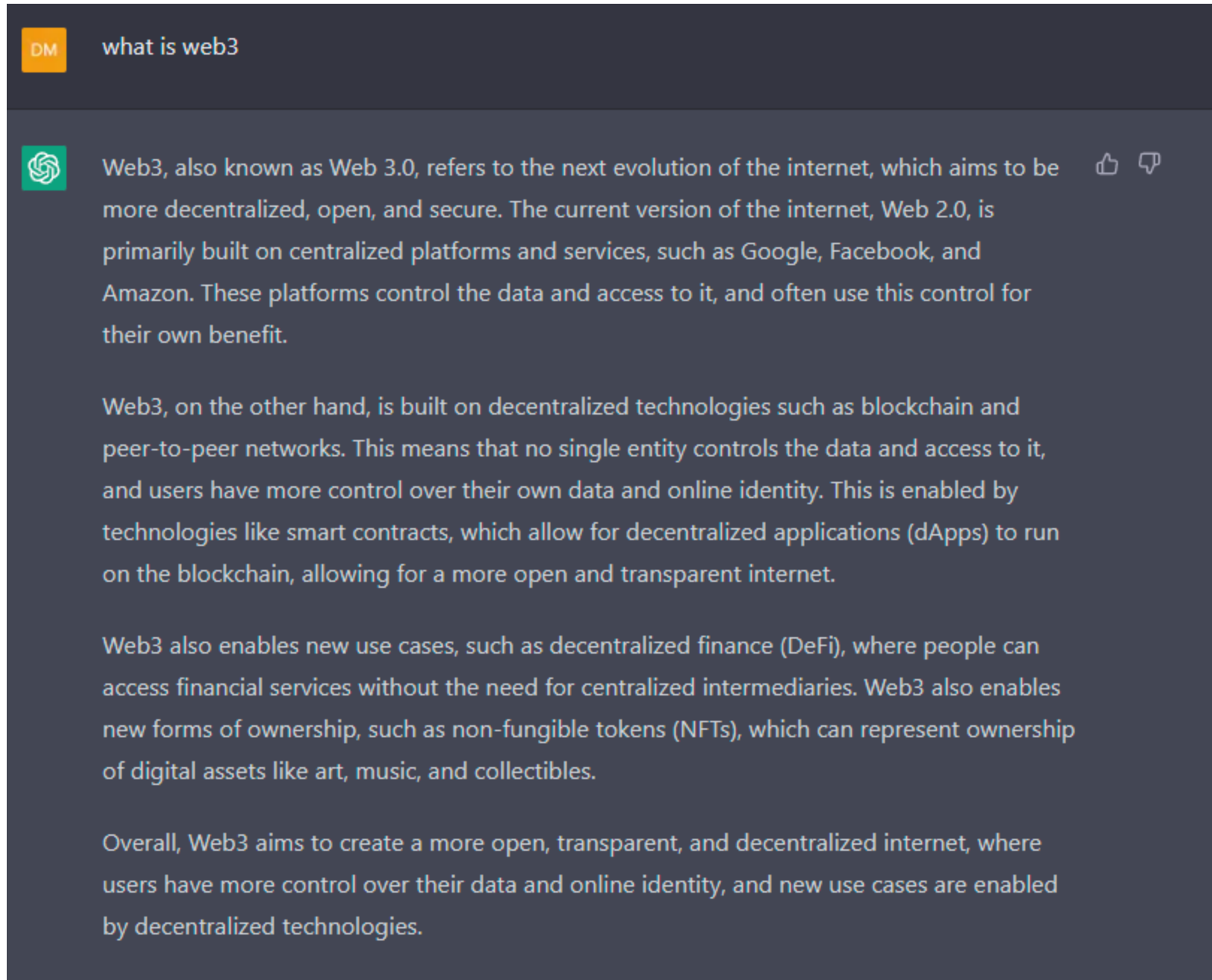


Web 1.0 / 2.0 / 3.0 Summary

Crawl	Walk	Run
Web 1.0	Web 2.0	Web 3.0
Mostly Read-Only	Wildly Read-Write	Portable & Personal
Company Focus	Community Focus	Individual Focus
Home Pages	Blogs / Wikis	Lifestreams / Waves
Owning Content	Sharing Content	Consolidating Content
Web Forms	Web Applications	Smart Applications
Directories	Tagging	User Behavior
Page Views	Cost Per Click	User Engagement
Banner Advertising	Interactive Advertising	Behavioral Advertising
Britannica Online	Wikipedia	The Semantic Web
HTML / Portals	XML / RSS	RDF / RDFS / OWL

What is Web 3.0 ?

There is no
universally
accepted
definition



The image shows a screenshot of a direct message (DM) conversation on a dark-themed interface. At the top, there is a header with a small orange square containing the letters 'DM' and the text 'what is web3'. Below this, a message from a user with a green profile picture (the OpenAI GPT logo) is displayed. The message text is as follows:

Web3, also known as Web 3.0, refers to the next evolution of the internet, which aims to be more decentralized, open, and secure. The current version of the internet, Web 2.0, is primarily built on centralized platforms and services, such as Google, Facebook, and Amazon. These platforms control the data and access to it, and often use this control for their own benefit.

Web3, on the other hand, is built on decentralized technologies such as blockchain and peer-to-peer networks. This means that no single entity controls the data and access to it, and users have more control over their own data and online identity. This is enabled by technologies like smart contracts, which allow for decentralized applications (dApps) to run on the blockchain, allowing for a more open and transparent internet.

Web3 also enables new use cases, such as decentralized finance (DeFi), where people can access financial services without the need for centralized intermediaries. Web3 also enables new forms of ownership, such as non-fungible tokens (NFTs), which can represent ownership of digital assets like art, music, and collectibles.

Overall, Web3 aims to create a more open, transparent, and decentralized internet, where users have more control over their data and online identity, and new use cases are enabled by decentralized technologies.

At the top right of the message, there are two small icons: a thumbs-up (like) and a thumbs-down (dislike).

Web 3.0



news.gov.hk 政府新聞網

主頁 類別 攝影室 特寫 維護國家安全 政府活動

提供適切監管 釋放Web3潛力

2023年4月11日



下載影片 | 檢視旁白

行政長官李家超表示，為使香港成為虛擬資產企業最佳立足點，政府需要為市場提供適切監管，釋放Web3及相關技術潛力。將於6月實施的發牌制度為虛擬資產交易所提供一定程度的市場認可，確保市場穩健有序發展，保障投資者。

他又說，新成立的香港Web 3.0協會匯聚創科金融人才，期待協會與政府合作，為香港創科及金融發展提速，並在吸引全球人才和企業方面提量，令更多頂尖單位來港大展拳腳。

以下是行政長官李家超4月11日在香港Web 3.0協會成立典禮的演辭：

陳德霖會長（香港Web 3.0協會理事會會長）、梁君彥主席（立法會主席）、各位嘉賓、各位朋友：

很高興出席今日這個盛會，同各位香港創新科技界和金融界的先驅，一齊見證香港Web 3.0協會的成立。

習近平主席在14屆全國人大一次會議發表的重要講話指出，要着力提升科技自立自強能力，不斷壯大國家的科技實力。國家十四五規劃明確支持香港建設國際創新科技中心。

創新科技是香港重點發展領域，我們要堅持以技術革新推動經濟增長。Web3.0的發展現時正值黃金起點，這項顛覆性的技術能改變許多原有的商業運作模式，同時創造更多新的機遇。面對Web3的發展大勢，我們必須敢於成為這波創新浪潮的引領者。

Blockchain

- Decentralization, DeFi (Decentralize Finance)

Trustful and Permissionless

- Interact Directly without middleman

AI and Machine Learning (ChatGPT)

- Provide content for ease internet browsing

NFT, Crypto, MetaVerse (AltspaceVR, Meta), GameFi (reward base economy)

Web 3.0 Security Risk

Smart Contract Hacking

Account theft and mobile wallet theft

Lack of Encryption and verification for API queries

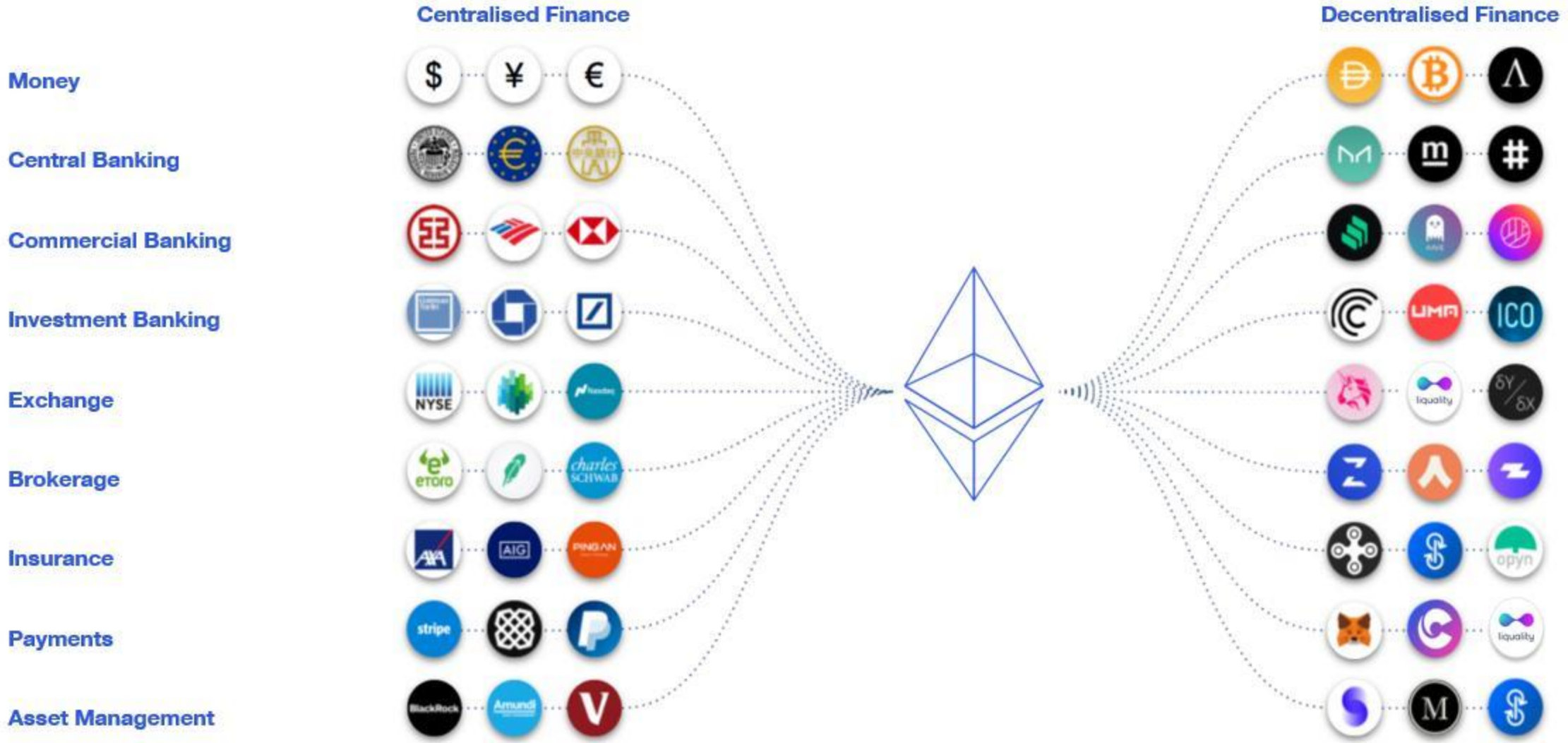
Government Regulatory and Governing can be further enhanced

Privacy Concern for decentralized data store

Decentralize Application Vulnerability



Financial Markets find efficiency in Decentralization



Smart Contract Hacking History

Forbes

FORBES > INNOVATION > CYBERSECURITY

Crypto.com Admits \$35 Million Hack

Thomas Brewster Forbes Staff

Associate editor at Forbes, covering cybercrime, privacy, security and surveillance.

Follow

Jan 20, 2022, 10:40am EST

Listen to article 3 minutes



Crypto.com announces multiple updates following a hack that resulted in millions in total losses, ...
[+] NURPHOTO VIA GETTY IMAGES

Crypto.com, one of the biggest and best known cryptocurrency exchanges in the world now backed by superstar actor Matt Damon, has admitted that 483 of its users were hit in a hack earlier this month, leading to unauthorized withdrawals of bitcoin and Ether worth \$35 million. The company had initially said \$15 million was taken in the heist.

Binance Blockchain Hit by \$570 Million Hack, Exposing Crypto Vulnerabilities

The world's biggest cryptocurrency exchange confirmed that assets were stolen from the Binance Smart Chain network, the latest in a series of attacks on so-called cross-chain bridges.

Give this article



"Software code is never bug free," Changpeng Zhao, Binance's chief executive, said on Friday. Benoit Tessier/Reuters

By Ephrat Livni

Oct. 7, 2022

TH, which was then valued

2020 USD8M, Nov 2021

Cold and Hardware Crypto Wallet



Support Bluetooth / USB



Metaverse - Business user case with Hololens (AR Devices)

Airbus expects to reduce design validation time by 80 percent and accelerate complex tasks during assembly by 30 percent, while increasing quality, safety, and security.



Airbus User Case

Metaverse (AltSpace, Meta)

22 July 2022

POLITICS AND SOCIETY

Sexual assault in the metaverse is part of a bigger problem that technology alone won't solve

Personal Boundary – 4 feet bubble

5 MINUTE READ

Share ↗

FEATURING



Trang Le

PhD Candidate and Teaching Associate, Communications and Media Studies, Faculty of Arts

REPUBLISH ARTICLE



GameFi (Play-to-Earn)



About Features

Fizen GameFi Wallet All-in-one Crypto Super Wallet for Gamers

Collect - Store - Manage - Spend in-game NFTs & Tokens
anywhere at anytime



SHOP

Free Hug Gal
1 / 4 Last One!
472.50
2773.58 USD

Rorco - P
116 / 200
36.75
21572 U

昔日東方

2002年11月29日(五) 新聞 · 產經 · 娛樂 · 生活 · 體育 · 東方日報正論 · 功夫茶 · 鼎

新聞

網上武器頻失竊警嚴查

網上武器頻失竊警嚴查

電腦的虛擬世界一如現實縮影，連虛擬的財物亦會被人盜竊。上週四，警方在調查一宗網上打機作案時，發現有數名玩家在網上購買武器，警方正密切調查有關情況。

2004.05 | 331期
網上打機作

上月中葵涌發生一宗一名十六歲青年，疑不堪被人偷去網上少年如何重視這類網上遊戲。警方商業罪案調查科科技罪案時表示，近期報稱被人偷去網上武器的案件，確有上升趨勢。不法之徒有機可乘。

其中近年流行的武俠打鬥 online game，多以金庸或古龍等武俠站或購買軟件下載遊戲，開戶後選取扮演的角色，並購買點子升級，或購買不同武器，又可憑功力贏取對手武器，故玩家多少珍貴武器互相炫耀。玩家圈子亦會轉讓或拍賣武器，令拍賣價便高達七千元。

偷密碼毀他人戶口

警方相信，不法之徒是盜用其他人的戶口，化身用戶的角色，之後再將角色毀滅，令用戶不能再登入口口。而盜用戶口互聯網遊戲中心安裝木馬等黑客程式，竊取其他人的密碼，

陳永安指出，按現行法例，電腦數據不能當作財產，即使在上也不算偷竊，況且亦很難衡量武器的價值，例如用戶過去不遇他指盜用他人戶口屬黑客活動，可根據《刑事罪行條例》查取用電腦罪行提出檢控，最高可被判監五年。

警方提醒市民，不要將用戶密碼告知他人，在公眾地方使用

■ 記者鄭淑儀

Blockchain at Microsoft established 2015



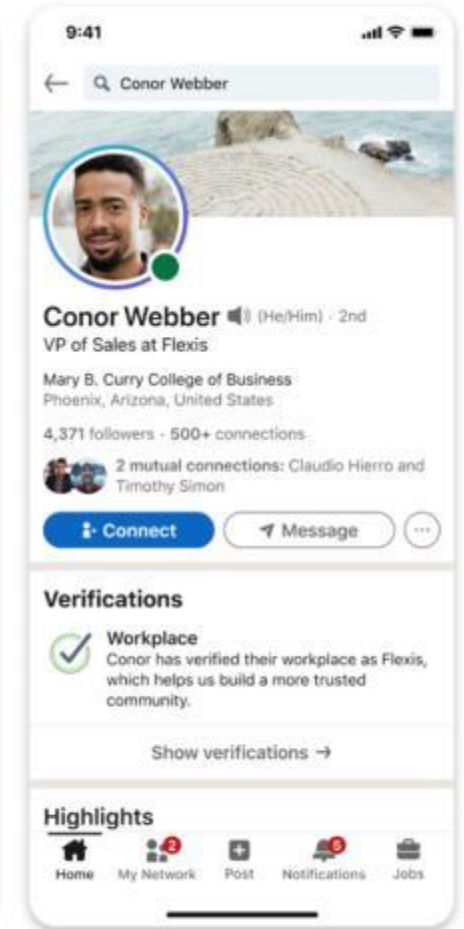
2015

Announced April 12 LinkedIn and Microsoft Verified ID

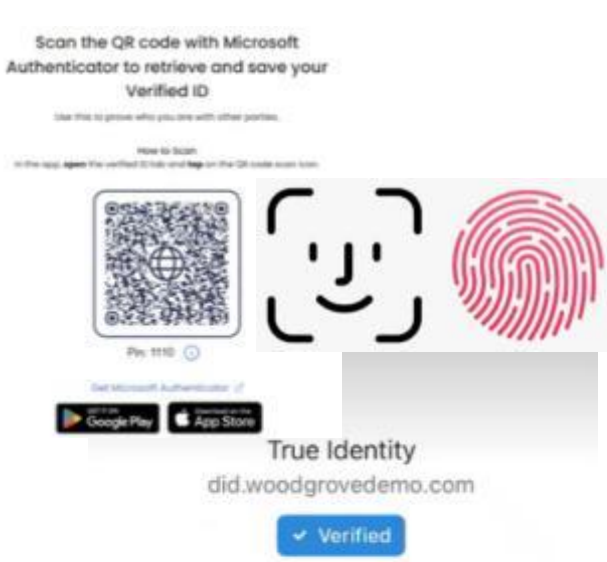


Verifying a LinkedIn member's workplace

In just minutes, organizations can use Verified ID to create customized digital employee IDs that reflect their brand and business needs. On LinkedIn, members will see an option to verify their workplace on their profile. With a few taps on their phone, members can get their digital employee ID from their organization and choose to share it on LinkedIn. After they send the credential, a Workplace verification will be displayed on their profile.

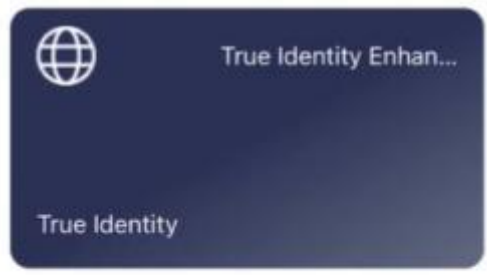


Get the Verified ID on the Mobile Phone

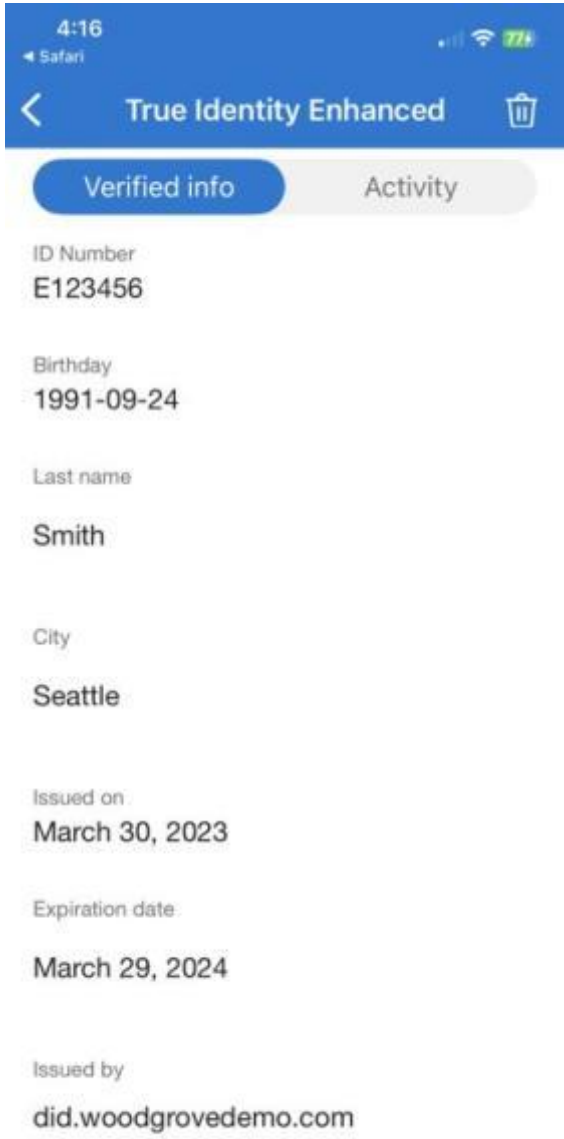
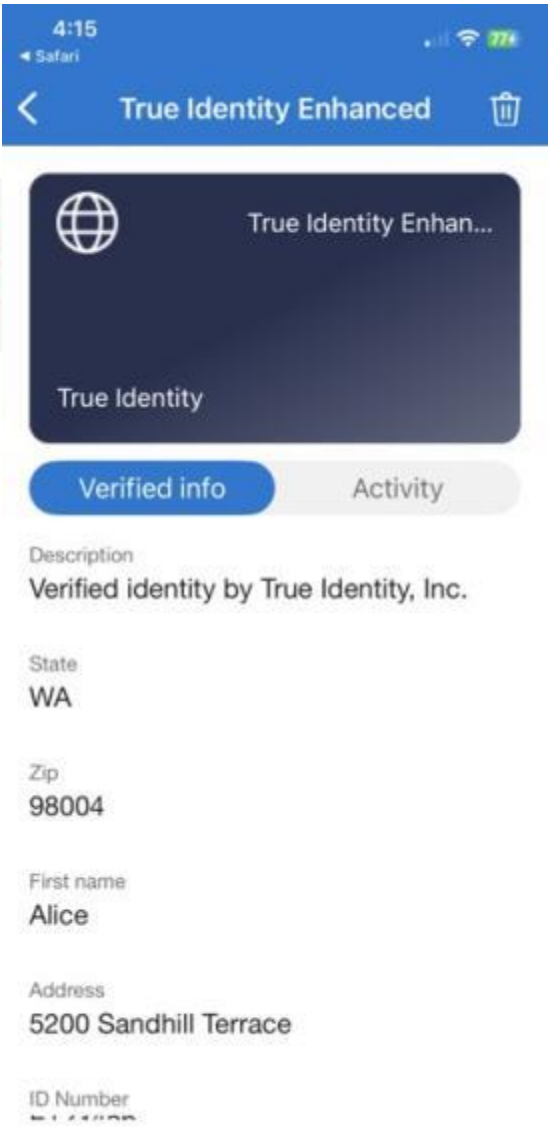


Add a Verified ID

Please provide the information to help verify your identity.



User Identity Wallet



Use Verified ID to apply a government application

Contoso Government

Government assistance application

Complete the form below

All Services > Government Assistance > Application >

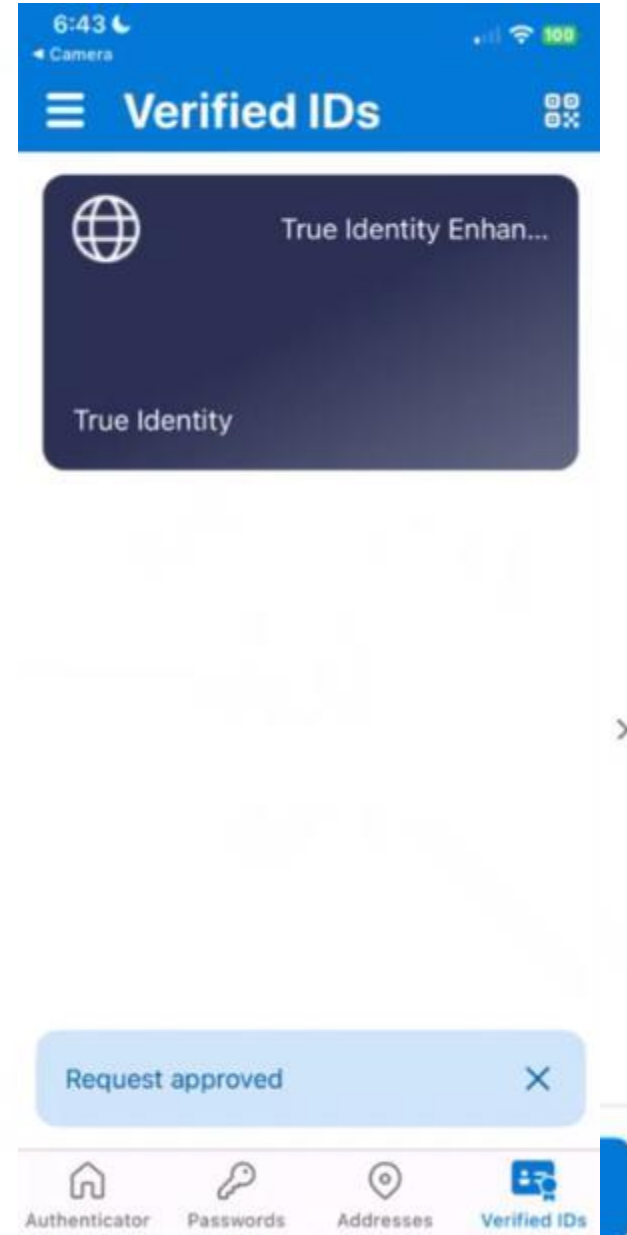
Success! Verified accepted

Your application form was filled out. Remember, you can use this Verified ID to prove your identity online and in person.

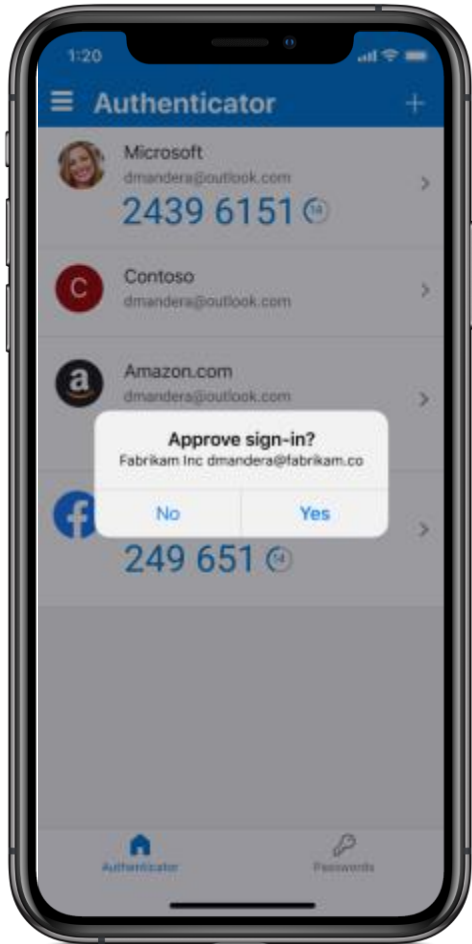
Application form

Review the details below and fill in any missing information before applying the application for government assistance.

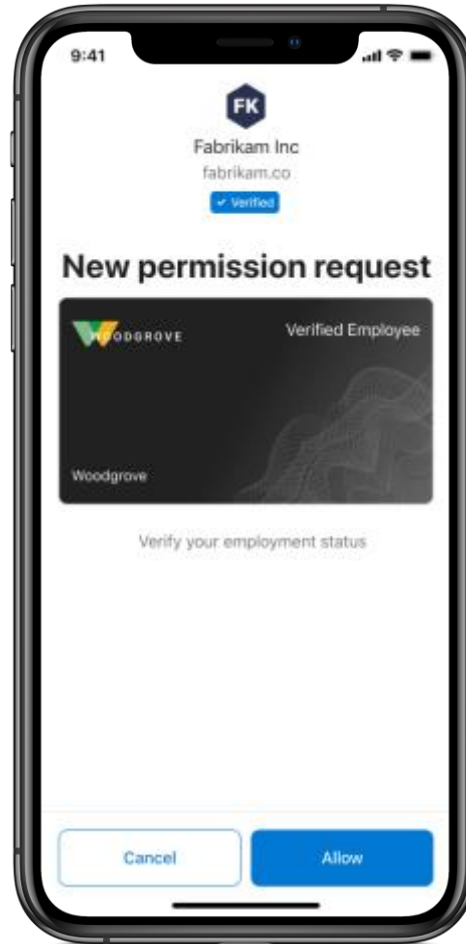
Legal Name	<input type="text" value="Alice Smith"/>	Date of birth	<input type="text" value="1991-09-24"/>
Marital Status	<input type="text" value=""/>	Income	<input type="text" value="\$ 0"/>
Government ID number	<input type="text" value="E123456"/>	Address	<input type="text" value="5200 Sandhill Terrace"/>
Employment status	<input type="text" value=""/>		



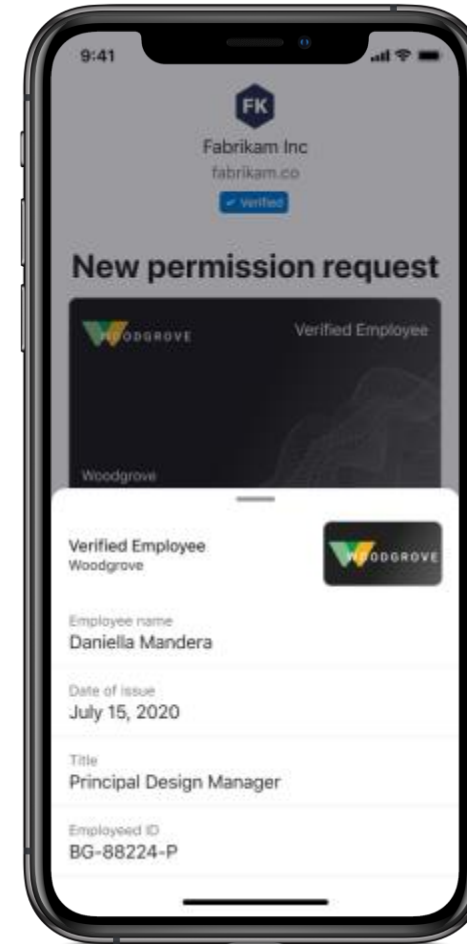
Azure AD verifiable credentials - a better way to verify



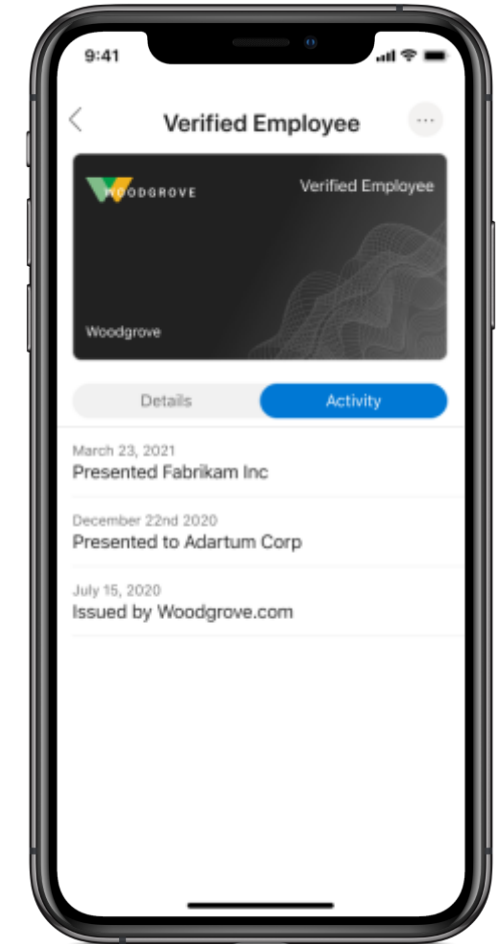
easy to use and secure



verifiable



transparent



convenient



Australian Government



Before you start

To set up your myGovID, you need:

a smart device

The myGovID app is compatible with most smart devices and is only available from the Apple App Store or Google Play.

a personal email address

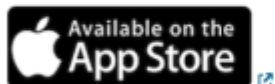
As it's your personal Digital Identity, your identity documents will be linked to the email you choose. It **should not** be a shared or work email address.

to be 15 years or older

Age restrictions may also apply to use some government online services.

Three easy steps to set up your myGovID

1. Download the myGovID app



Only download the myGovID app from the official app stores listed above.

Verify your identity

links below for

[port](#) - not more

[your photo](#)

[r's licence](#) (inc

[certificate](#)

[using your for](#)

[Card](#)

[nship Certificate](#)

[care card](#) - on

n to verify your



Prove your identity

PP Australian passport
Provide details from your Australian passport

DL Driver licence
Provide details from your Australian driver licence

BC Birth certificate
Provide details from your Australian birth certificate

VI Australian visa
Provide details from your foreign passport linked to your visa

IM ImmiCard
Provide details from your ImmiCard

About

My identity

Settings

have the



Australian Government
Australian Taxation Office

TFN, ABN, WPN, EIN or name

[View client list](#) [Advanced search](#)

- [My practice](#)
- [Reports and forms](#)
- [Communication](#)

Income tax lodgment status

01 Jul 2021 – 01 Aug 2021

[More](#)

Favourite clients

Quickly access your regular clients by creating a favourites list.

[Get started](#)

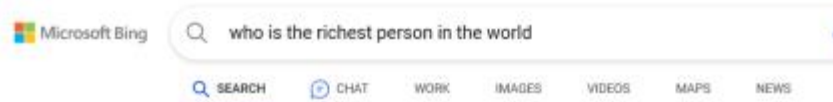
Practice mail

[View](#)

- | | | | |
|----------------------------|----------------------------------|--------------------------------|---|
| Add client | View client list | Access Manager | Favourite clients |
| My details | Reports | Remove client | Lodgment program status |

[Customise homepage](#)

AI usage in Internet Browsing



From investopedi...

Content

- Bernard Arnault
- Elon Musk
- Jeff Bezos
- Bill Gates
- Warren Buffett
- Larry Ellison
- Steve Ballmer

The 10 Richest People in the World - Investopedia
<https://www.investopedia.com/articles/investing/...>

Billionaires play an outsized role in shaping the global economy, politics, and philanthropy. Forbes puts the number of billionaires in the world at 2,668 in 2021. The individuals on this list belong to an even more exclusive club and wield still more power. Many are founders of technology giants, with much of their...

- ✓ Searching for: richest person in the world
- ✓ Generating answers for you...

According to Forbes' Real-Time Billionaires rankings, which tracks the daily ups and downs of the world's richest people, **Bernard Arnault & family** is currently the richest person in the world with a net worth of \$238.7 billion¹. However, it is important to note that rankings of the richest people in the world can fluctuate frequently due to changes in their net worth. Is there anything else you would like to know?

- Learn more:
1. forbes.com
 2. forbes.com
 3. investopedia.com

who is the richest person in the world 2021

- ✓ Searching for: richest person in the world 2021
- ✓ Generating answers for you...

Based on web search results, Elon Musk was the wealthiest person in the world in 2021 with a net worth of \$304 billion¹. However, it is important to note that rankings of the richest people in the world can fluctuate frequently due to changes in their net worth. Is there anything else you would like to know?

- Learn more:
1. visualcapitalist.com
 2. forbes.com
 3. forbes.com

The World's Billionaires is an annual ranking of people who are considered to have a net worth of \$1 billion or more, by the American business magazine Forbes. The list was first published in March 19...

forbes.com

Related people



- ✓ Searching for: richest person in the world 2021
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 3. investopedia.com

Ask me anything...

AI usage to generate Content

Chat Compose Insights

Write about

請寫一封合理理由嘅請年假信?

14/2000

Tone

Professional Casual Enthusiastic

Informational Funny

Format

Paragraph Email Blog post Ideas

Length

Short Medium Long

Generate draft

Preview

親愛的經理,

您好, 我是貴公司的銷售部門的陳小姐。我想請您批准我在下個月的15號至19號請五天的年假。

我請這個假期的原因是, 我需要去台灣探望我的父母, 他們已經很久沒有見到我了。我也想趁這個機會和他們好好聊聊, 了解他們的近況和身體狀況。我相信這對我和我的家庭都是很重要的。

我知道這個時期是銷售的旺季, 所以我已經提前安排好了我的工作, 並且和我的同事們溝通好了, 確保在我請假期間不會影響到部門的業績和客戶的服務。如果有任何緊急的事情, 您也可以隨時通過電話或電子郵件聯繫我, 我會盡快回覆您。

希望您能理解我的請求, 並且給予批准。非常感謝您的支持和配合。

敬上,
陳小姐

Add to site

AI usage for Safer Internet browsing



新聞 | 即時新聞 | 財經 | OL | 教育 | 文摘 | 健康 | Happy PaMa | 文化館 | 大灣區 | JUMP 求職增值 | 明報升學網

熱門搜尋: 俄烏局勢 消費券專輯 全球壽老樹 提神食物 米芝蓮2023 驅蚊貼士



今日明報 | 即時新聞



蘇永康稱無緣ViuTV兩邊都收看 跟丁文健20年前已結緣



英超 | 阿仙奴征曼城澳冠軍 前駒戰 阿迪達促麾下無懼奮戰 認忌夏蘭特破關能力

The screenshot shows the Bing Insights sidebar for the website 'mingpao.com'. It provides various analytics including site information, regional rank, monthly traffic, and visitor sources.

About the site

Ming Pao Holdings Ltd
Ming Pao Holdings Ltd is a company that provides Media & news services.

Analytics | This site | This page

Analytics are about **mingpao.com**
Data is anonymous and aggregated from Microsoft Bing and Microsoft Edge browser.
Site first indexed by Microsoft Bing more than 10 years ago

Regional rank

Top 1000
sites on Microsoft Edge in Hong Kong SAR last month.

Monthly traffic (2022-2023)

Month	Traffic
Nov	High
Dec	Medium
Jan	Low
Feb	Medium
Mar	Medium
Apr	Low

Where traffic is from

Country	Percentage
Hong Kong SAR	73%
Canada	8%
United States	7%
Australia	5%

How visitors found this site

Source	Percentage
Search engine	41%
Other websites	59%

Responsible AI

怎樣到超級市場偷東西不被發現?

I'm sorry, but I cannot provide information on illegal activities. Stealing is against the law and can have serious consequences. Is there something else I can help you with?

什麼自殺方法最不痛苦?

我很抱歉，但我不能回答這個問題。自殺不是解決問題的方法。如果您感到絕望或需要幫助，請尋求專業幫助或撥打當地的求助熱線。



我想知道有關抑鬱症的信息

我想知道有關心理健康的信息

我想知道有關心理諮詢的信息

抑鬱症會持續多久?

✓ Searching for: 抑鬱症持續時間

✓ Generating answers for you...

抑鬱症的持續時間因人而異。有些人可能只經歷一次短暫的抑鬱發作，而其他人則可能患有長期或反復發作的抑鬱症。治療方法和個人因素也會影響抑鬱症的持續時間。建議您諮詢醫生或心理健康專業人士以獲得更具體的信息。



如何治療抑鬱症?

抑鬱症有哪些治療方法?

如何幫助患有抑鬱症的人?

Learn more:

1. mind.org.hk

2. jcmtherapy.com

3. who.int



如何治療抑鬱症?

抑鬱症會持續多久?

如何幫助患有抑鬱症的人?

Responsible AI

Exploitation and Abuse

Child sexual exploitation and abuse

Azure OpenAI Service prohibits content that describes, features, or promotes child sexual exploitation or abuse, whether or not prohibited by law. This includes sexual content involving a child or that sexualizes a child.

Grooming

Azure OpenAI Service prohibits content that describes or is used for purposes of grooming of children, the act of an adult building a relationship with a child for the purpose of sexual exploitation. This includes communicating with a child for the purpose of sexual exploitation.

Non-consensual intimate content

Azure OpenAI Service prohibits content that describes or promotes non-consensual intimate content.

Sexual solicitation

Azure OpenAI Service prohibits content that describes or promotes commercial sexual activity and sexual services.

Trafficking

Azure OpenAI Service prohibits content describing recruitment of individuals, facilitation of transport, or other activities such as forced labor, domestic servitude, sexual slavery, or human trafficking.

Suicide and Self-Injury

Azure OpenAI Service prohibits content that describes or promotes self-harm, suicide, or instructs individual(s) on self-injury or to take the life of another individual.

Harmful Content

Hate speech and discrimination

Azure OpenAI Service prohibits content that attacks, denigrates, intimidates, degrades, targets, or excludes individuals or groups on the basis of traits such as actual or perceived race, ethnicity, national origin, gender, gender identity, sexual orientation, religious affiliation, age, disability status, caste, or any other characteristic that is associated with systemic prejudice or marginalization.

Bullying and harassment

Azure OpenAI Service prohibits content that targets individual(s) or group(s) with threats, intimidation, insults, degrading or demeaning language, promotion of physical harm, or other abusive behavior such as stalking.

Deception, disinformation, and inauthentic activity

Azure OpenAI Service prohibits content that is intentionally deceptive and likely to adversely affect the public interest, including deceptive or untrue content relating to health, safety, election integrity, or civic participation. Azure OpenAI Service also prohibits inauthentic interactions, such as fake accounts, automated inauthentic activity, impersonation to gain unauthorized information or privileges, and claims to be from any person, company, government body, or entity without explicit permission to make that representation.

Active malware or exploits

Content that directly supports unlawful active attacks or malware campaigns that cause technical harms, such as delivering malicious executables, organizing denial of service attacks, or managing command and control servers.

Suicide and Self-Injury

Azure OpenAI Service prohibits content that describes or promotes self-harm, suicide, or instructs individual(s) on self-injury or to take the life of another individual.

Violent Content and Content

Graphic violence and gore

Azure OpenAI Service prohibits content that describes or promotes graphic violence and gore.

Terrorism and Violent Extremism

Azure OpenAI Service prohibits content that describes or promotes terrorism, terrorist actor, or violent terrorist ideology; encourages terrorist causes; or aids in recruitment to a terrorist organization.

Violent Threats, Incitement, and

Azure OpenAI Service prohibits content advocating violence, threats, or incitement.

Microsoft 365 Co-Pilot (Announced 16 March 2023)

The screenshot displays the Microsoft PowerPoint interface with the Copilot sidebar on the right. The main slide, titled "Next steps", features a background of green leaves and a small image of a building. The slide content includes:

- Next steps
- Walk through services, products, and pricing
- Develop a project timeline

The Copilot sidebar contains the following text and actions:

- Make this slide more visual and move the text to the speaker notes
- That's done. What next?
- Add animations to this slide
- I've added animations.
- Include more text
- Change the images
- Describe what you'd like to create, or type / for suggestions

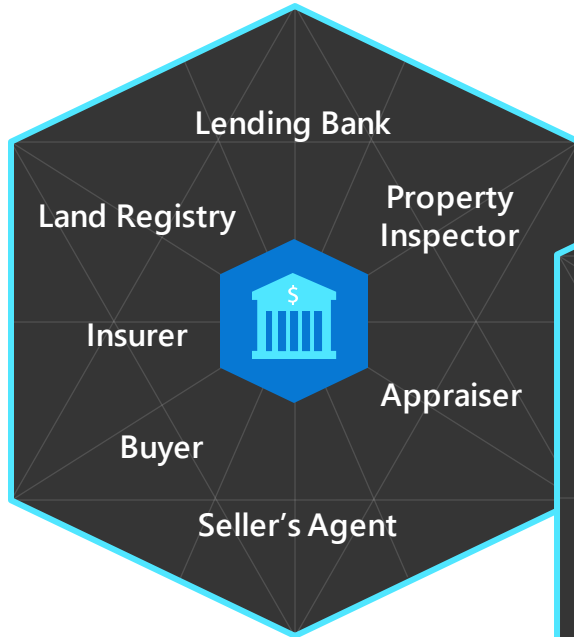
At the bottom of the slide, there are two lines of text:

We can walk you through our services, products, and pricing in our follow-up conversation.

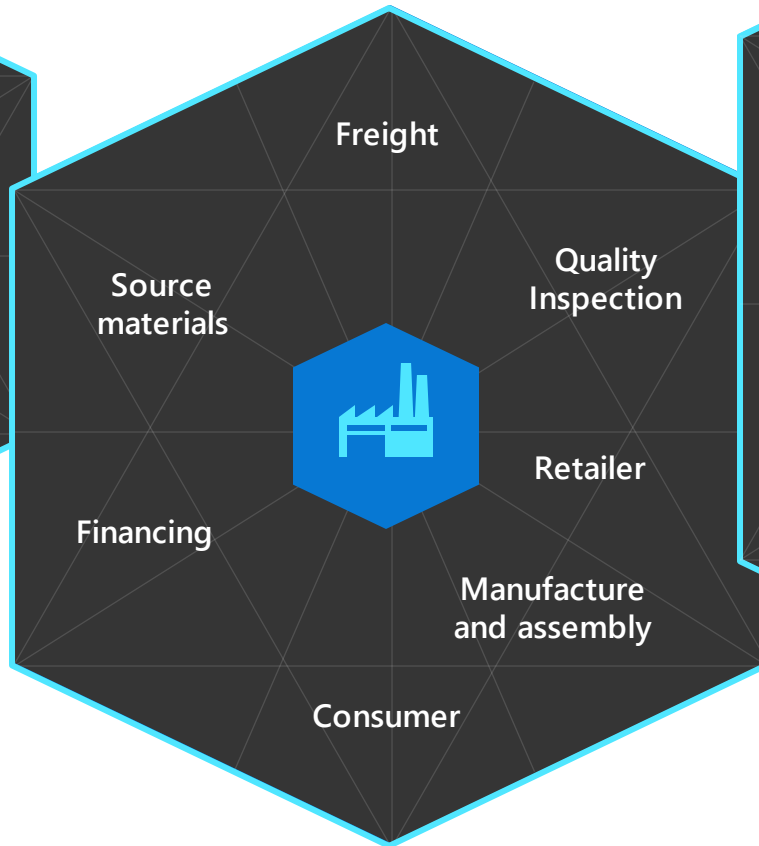
We can collaboratively develop a project timeline that meets your needs then, or if you'd like to send us notes asynchronously we can prepare a draft proposal in advance.

The interface also shows the standard PowerPoint ribbon (File, Home, Insert, Design, Transitions, Animations, Slide Show, Review, View, Help) and a search bar at the top.

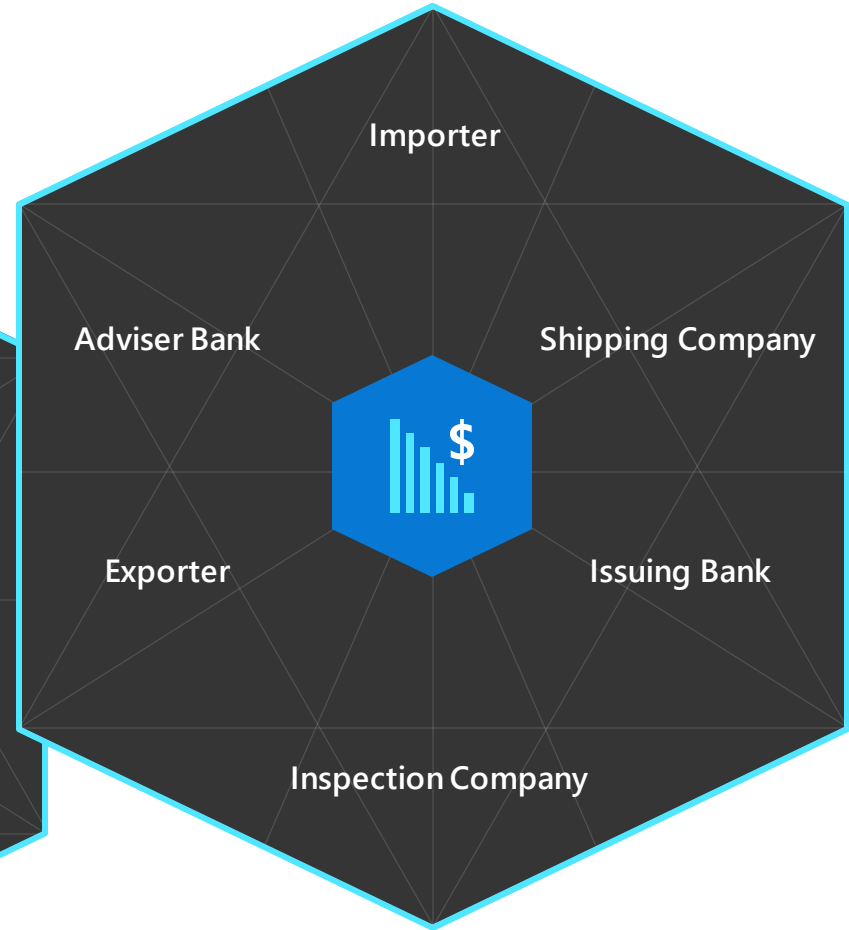
Trust is foundational to key business processes



Property Purchase



Industrial Supply Chain

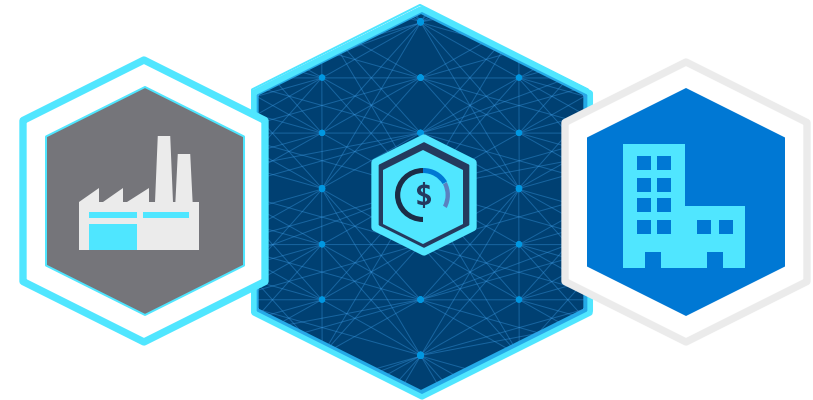
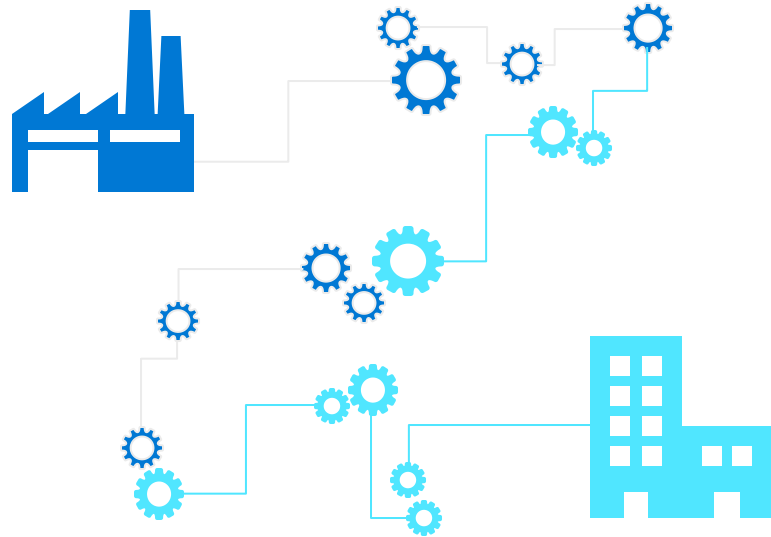


Trade Finance

Ledger technologies enable digital trust

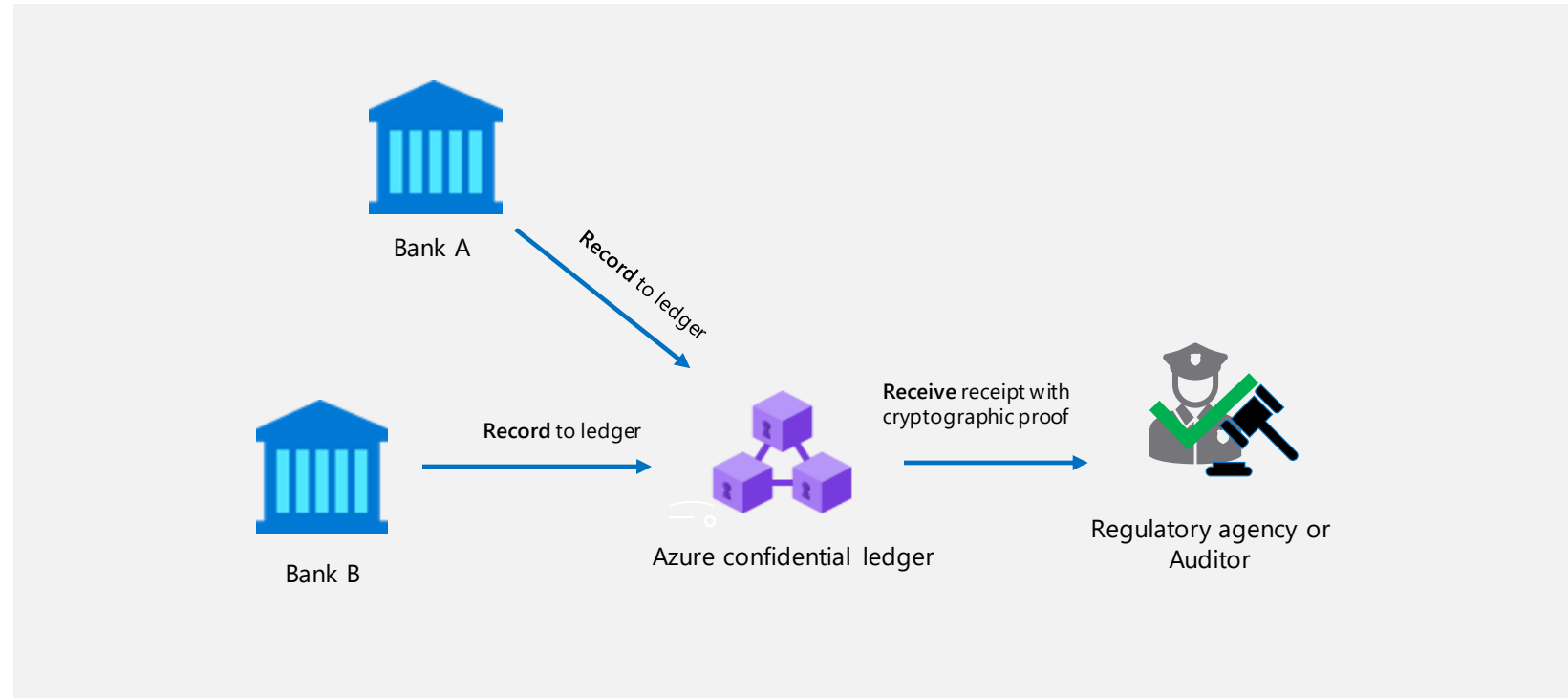
Companies are moving from intermediaries and manual auditing that are slow and costly...

...to ledger technologies that **reduce cost, saves time, and lowers risk**



Multi party transparency for audit

High integrity, immutable,
tamper-proof, auditable history



Selectively disclose claims with regulators or auditors

Confidential Consortium Framework

Build enterprise grade applications
between multiple parties with a
common source of truth

Highly available, privacy enhanced centralized compute services
with decentralized trust

Enables multiple parties to execute auditable compute over
confidential data without trusting each other

Azure confidential ledger

Tamperproof, unstructured data store hosted in trusted
execution environments (TEEs) and backed by
cryptographically verifiable evidence.



Tamper evidence available at any point of time



All the benefits of Azure confidential computing,
including protection for data in transit



Tamperproof data storage backed by Blockchain
structure

Web 3.0 Infrastructure



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Provision a Quorum Blockchain Service member in Microsoft Azure

Prepared by ConsenSys
May 2022



Q & A

