LOOT BOXES AND GOLD:

How Video Games Are the Next Frontier for Digital Fraud

JOSHUA A. NASH, MBA, CFE, CAMS, CSPO

DISCLAIMER

- Content and opinions presented in this session are mine alone and should not be considered as representative of my current or past employers.
- All case studies presented in this session are derived from public sources.

ABOUT ME

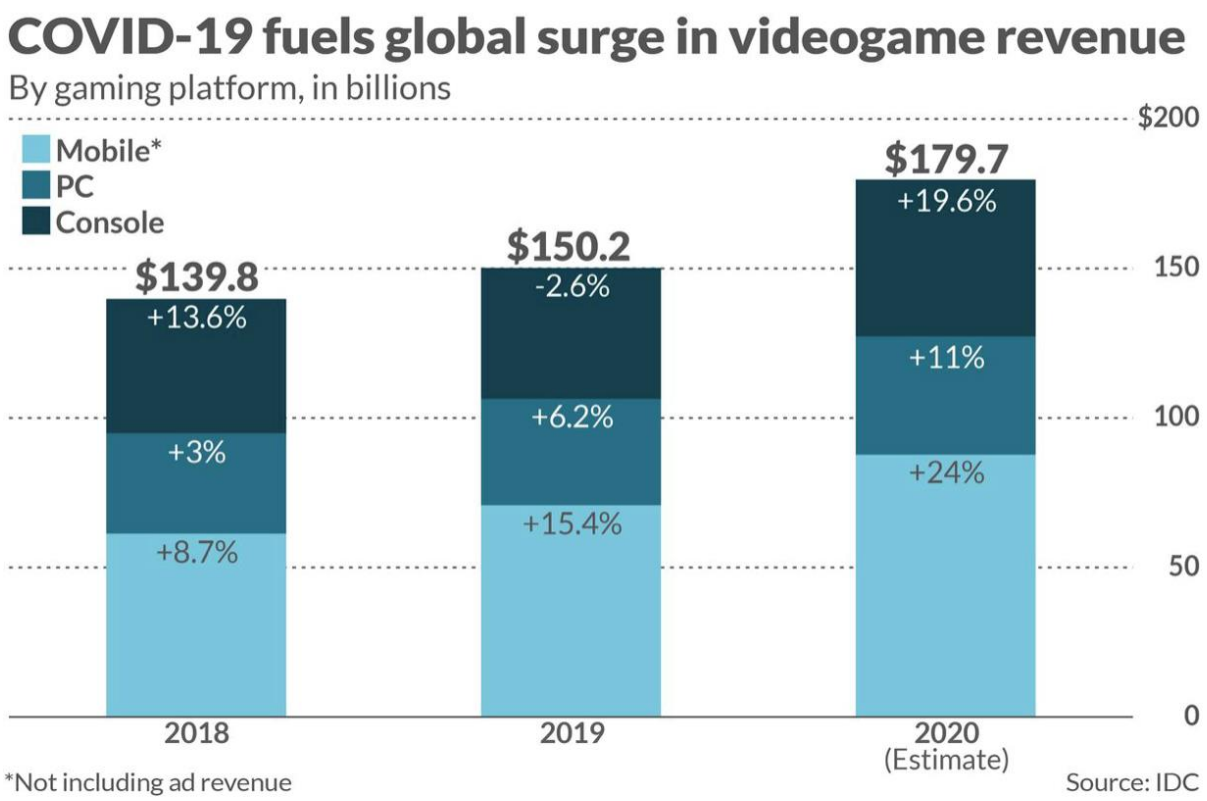
- Certified Fraud Examiner, Certified Anti-Money Laundering Specialist
- Former advisory board member for the Techno Security & Digital Forensics Conference in Denver, CO
- Member of the San Antonio, TX chapter of InfraGard
- Worked for various banks, investigating financial crimes and implementing financial crimes technology systems for over 12 years
- Currently financial crime technology manager at EY



VIDEO GAMES

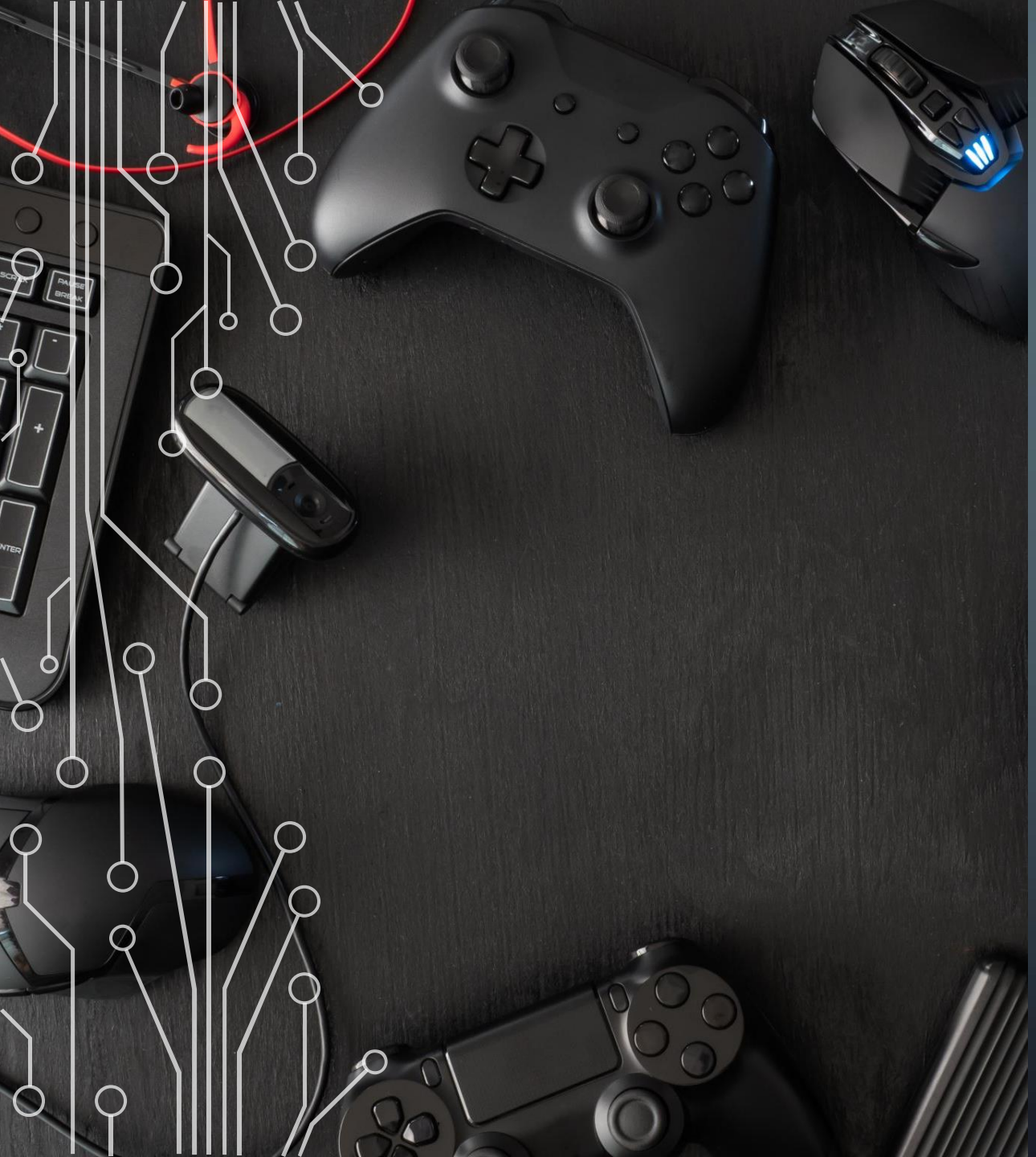
VIDEO GAMES – NOT JUST FOR KIDS ANYMORE

- In 2020, video game industry had nearly $180 billion in revenue:
  - COVID-19 significant factor in growth, but continues long-term trend
  - New console releases from Xbox and PlayStation in Q4 2020 will continue to drive sales
- Global film industry had $100 billion in revenue
- North American sports leagues had $75 billion in revenue
- *Source: Witkowski, W. (2021, January 2). "Videogames are a bigger industry than movies and North American sports combined, thanks to the pandemic." MarketWatch.*



VIDEO GAMES ARE EVERYWHERE

- Some of the biggest growth in gaming comes from mobile
- PC and console continue to surge



FREE-TO-PLAY GAMING

- Many games now available to gamers for free
- Monetized through sale of add-ons:
  - Gacha gaming/pay-to-win
  - Free-play timer resets
  - In-game cosmetic items
- Add-ons purchased with premium currency

CHECK YOUR KNOWLEDGE

In 2020, North American sports leagues collectively earned $75 billion in revenue and the global film industry earned $100 billion in revenue.

How much revenue did the video game industry earn in 2020?

A. $60 billion
B. $95 billion
C. $140 billion
D. $180 billion

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PREMIUM CURRENCY, LOOT BOXES, AND SECONDARY MARKETS

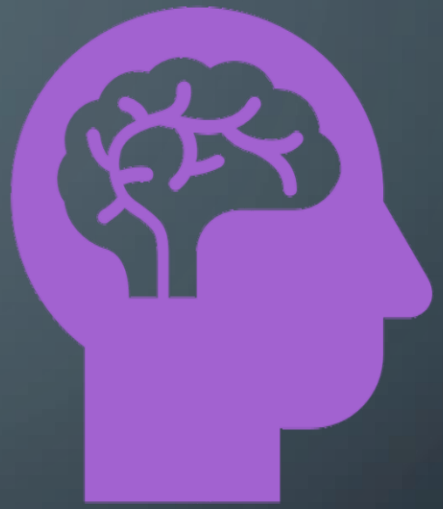
Joshua A. Nash, CFE

WHAT IS PREMIUM CURRENCY?



Sold by game developers and used to purchase in-game items:

- Gold
- Credits
- Rubies
- V-Bucks



Creates psychological disconnect for gamers to alleviate pain of spending:

- Easier to rationalize spending fictional gold than real dollars

WHAT IS PREMIUM CURRENCY?



Often offer bonuses in larger quantities to incentivize larger purchases:

- 100 coins for $1
- 550 coins for $5
- 1,100 coins for $10



Sold in odd quantities that don't align neatly with items being sold to incentivize additional purchases:

- Item costs 1,000 gold
- Gold only sold in packs of 600 or 1,500

LOOT BOXES

- Games will sell loot boxes containing in-game items
- Loot boxes require premium currency to unlock
- Items from loot boxes have a real-world value based on rarity and demand

WHEN DOES PREMIUM CURRENCY TURN SINISTER?

- Most premium currency spending is innocuous…
  - Aside from unexpected credit card bills!
- When trading or gifting is involved, potential for abuse exists
  - Most games do not support player-to-player transactions

SECONDARY MARKETS



Marketplace where people buy and sell commodities they already own:

- Excludes manufacturer or originator of commodities
- Stock market, eBay, StubHub, used cars

REAL DEMAND, REAL VALUE



Games offer ability to obtain, unlock, or purchase premium content, much of which is scarce due to low drop rates or limited-time offerings



Premium content must be purchased or unlocked with premium currency



Premium currency purchased from game makers with real money



Premium content assigned real-world value on secondary markets based on rarity and demand

CHECK YOUR KNOWLEDGE

Why do video game makers use premium currency instead of real currency, such as US Dollars?

A. Creates a psychological disconnect to alleviate the pain of spending real money
B. Encourage gamers to spend more by selling premium currency in quantities that don't align with the cost of virtual goods
C. Incentivize gamers to spend more real money by offering premium currency bonuses for larger purchases
D. All the above

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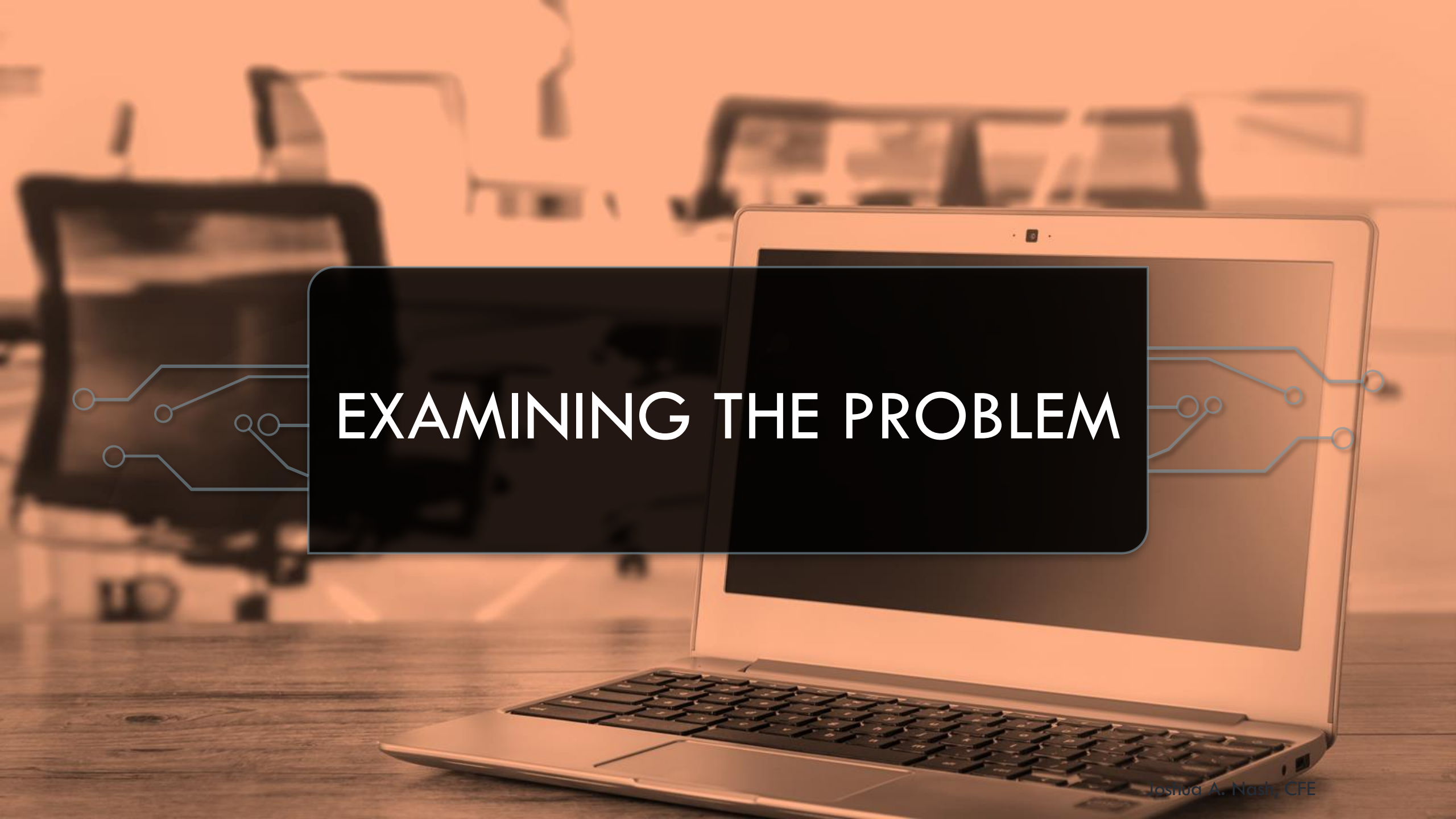
A marketplace where people buy and sell commodities they already own is called…?

A. Primary market
B. Secondary market
C. Tertiary market
D. Open market

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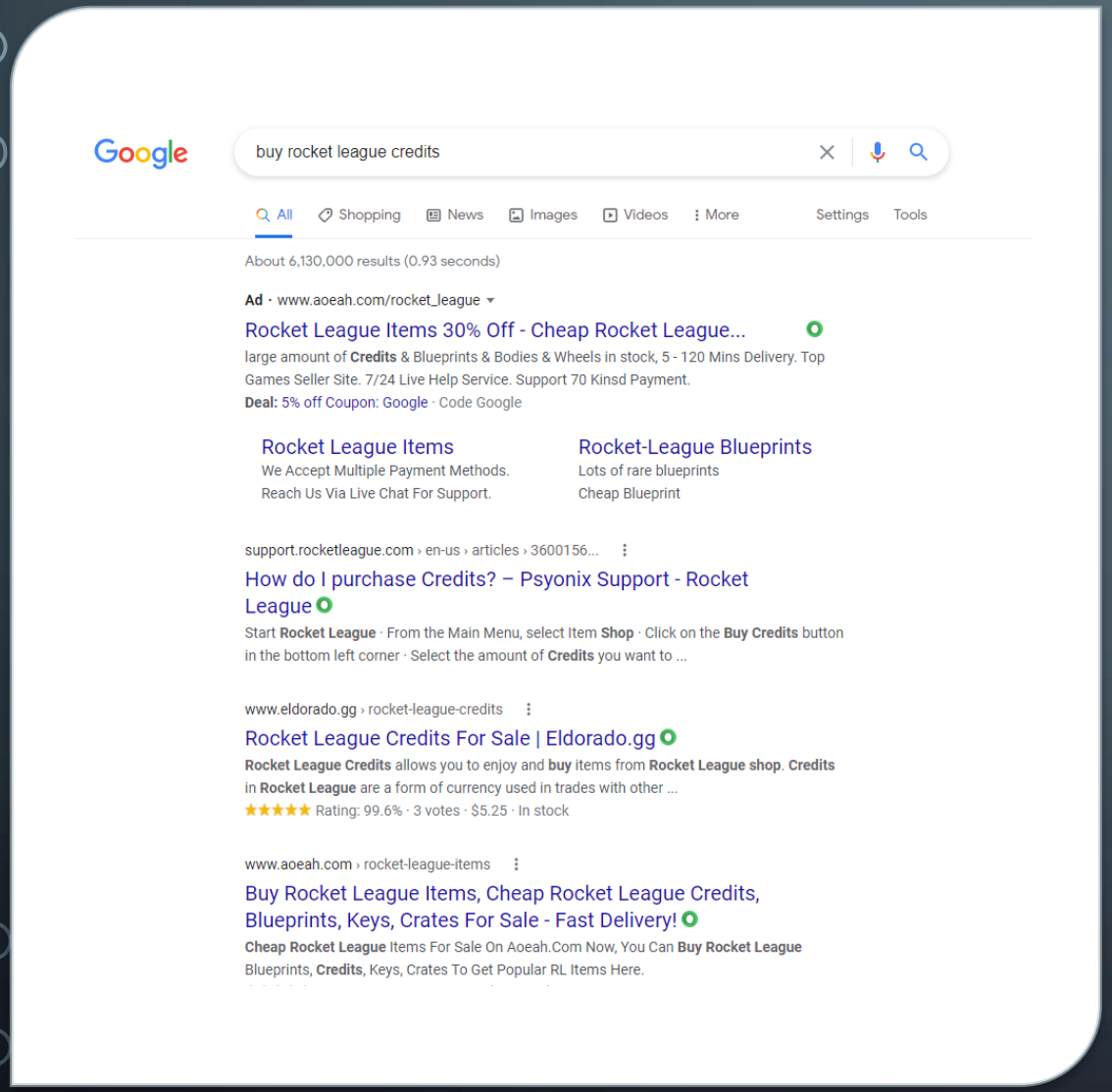

EXAMINING THE PROBLEM



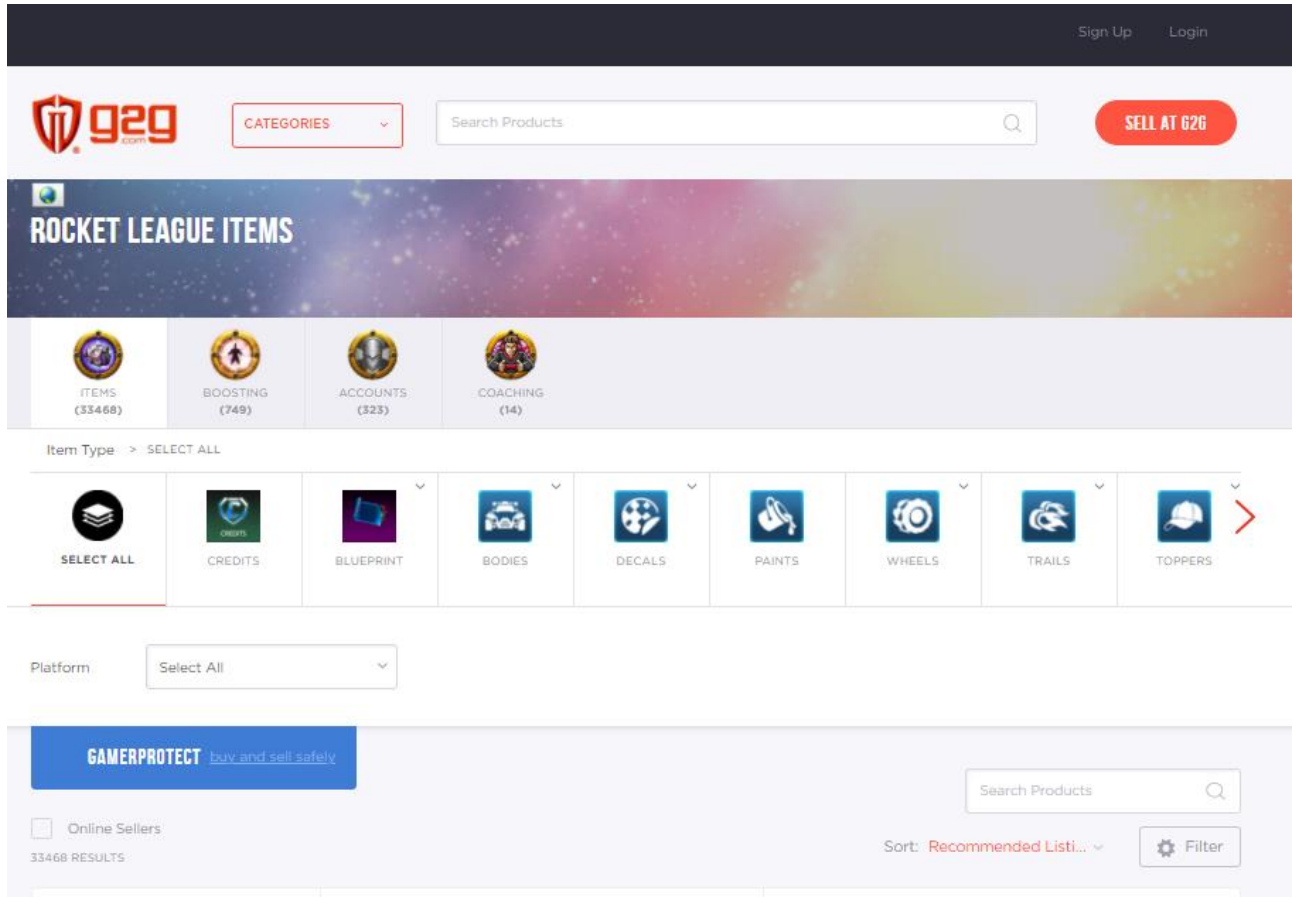
ROCKET LEAGUE

- Popular cross-platform game
- Published by Epic Games, creators of Fortnite
- Car soccer – players each control a car that they use to score
- Players able to customize their cars
- Cosmetic items awarded as part of player progression and at random
- Items unlocked with premium currency ‘credits’
- Players able to trade items AND premium currency with each other

ROCKET LEAGUE SECONDARY MARKET

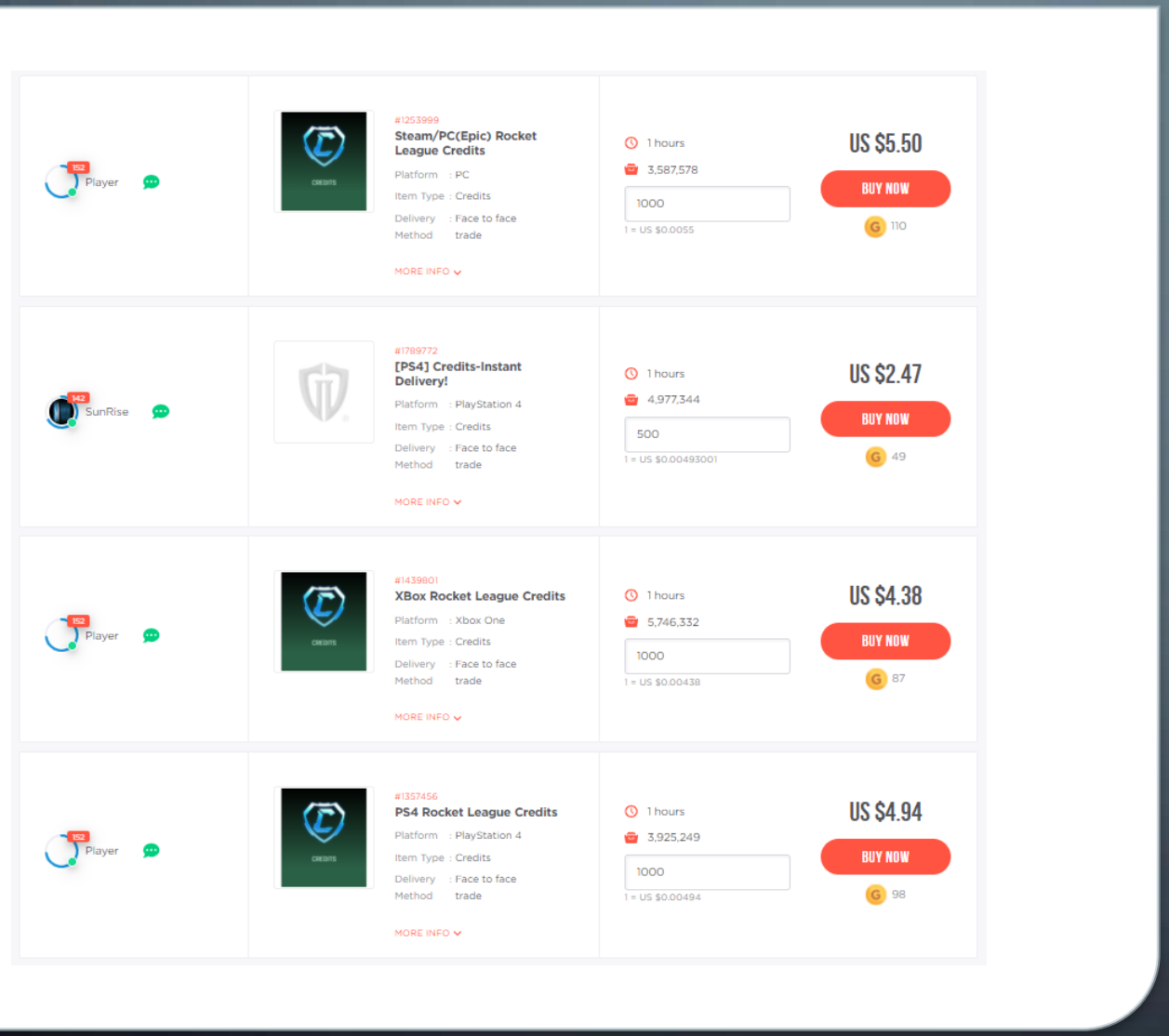


- Simple Google search reveals multiple marketplaces…
  - …and one official support article
- When investigating potential of a game for financial abuse, simple Google search terms give idea of scope



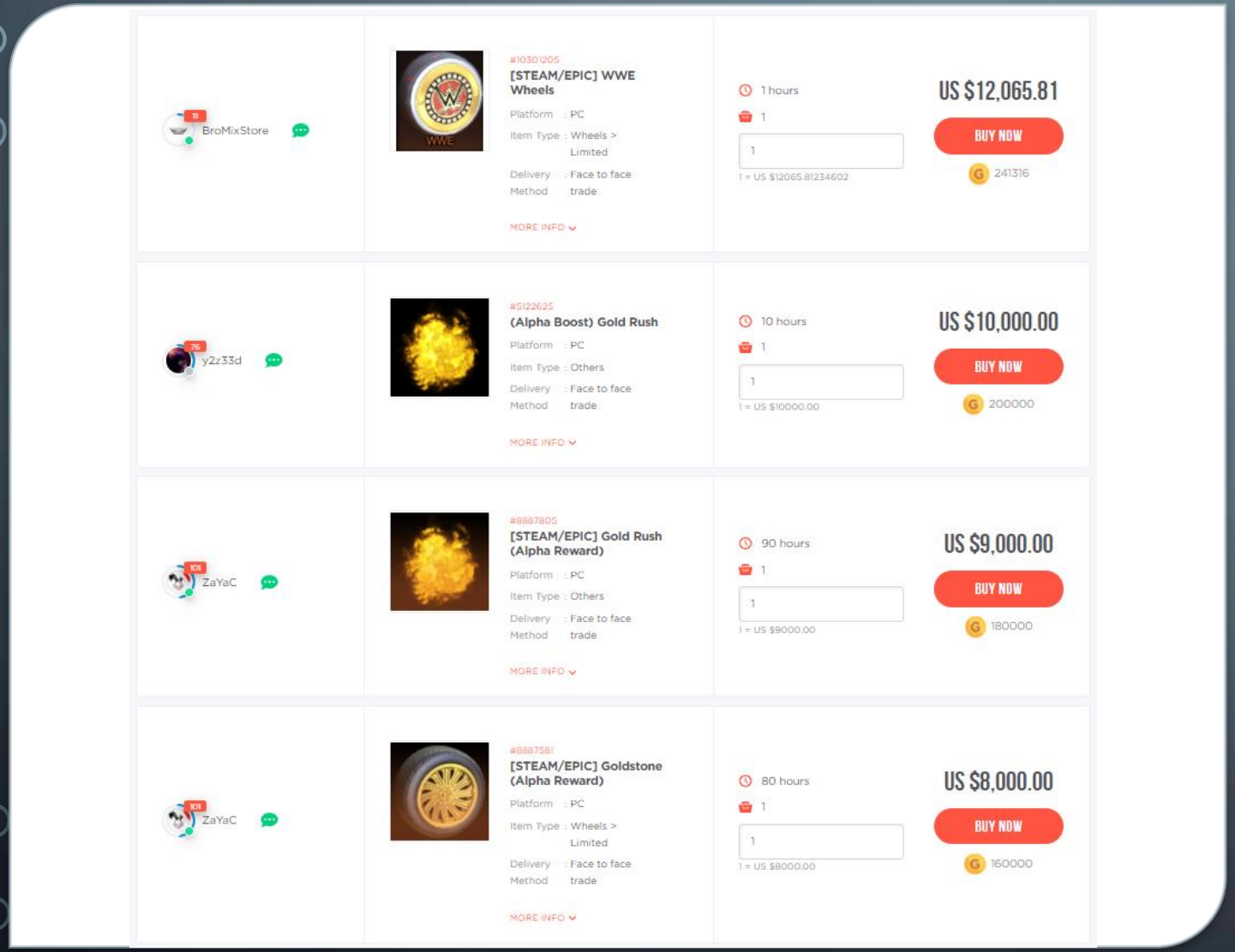
WHAT'S FOR SALE?

- G2G.com is one marketplace
- Variety of items, services, and even accounts for sale
- 'GamerProtect' system establishes system of trust between buyer and seller with independent 3rd party



TURN REAL MONEY INTO CREDITS…

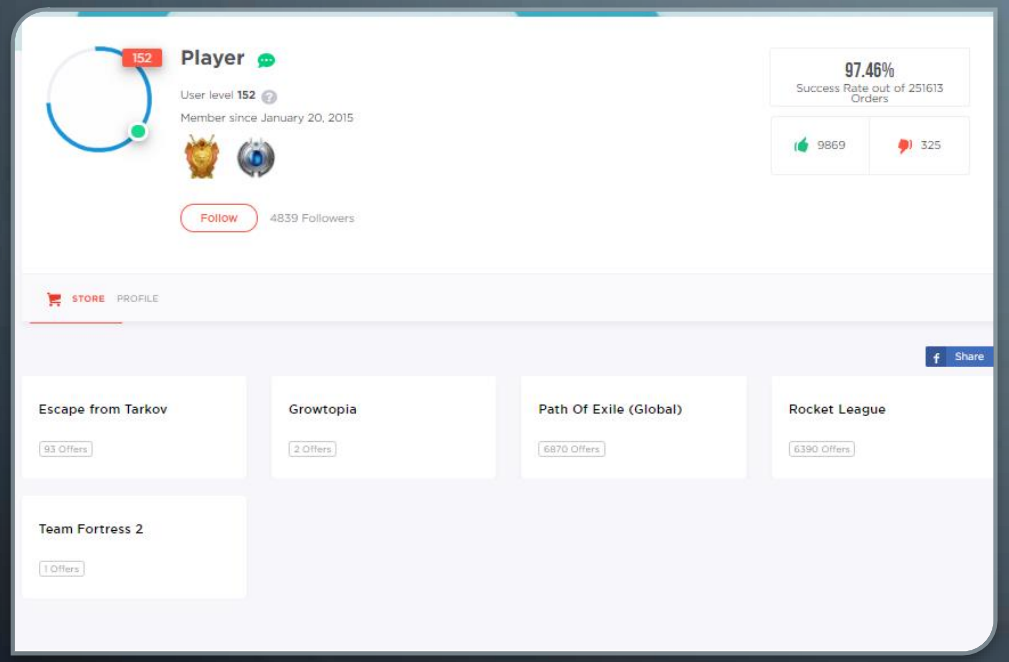
- Cost of credits bought in-game is about USD 1 per 100 credits
- All credits here sold below cost:
  - First 4 results (out of 67) worth over $182k
  - Millions more in inventory
- How do sellers acquire inventory?
- Why do they sell at a loss?



…OR SPEND IT ON ITEMS

- Highest priced items on marketplace at the time
- Items listed are incredibly rare
- Could offer perfect vehicle for movement of large amounts

MEET THE SELLERS



- 'Player' appears to be quite prolific
- Has thousands of listings across multiple games

CHECK YOUR KNOWLEDGE

For a video game to be exploited on a secondary market for the purposes of laundering money, what must be true?

A. The video game allows players to trade
B. The video game sells premium currency
C. The video game can be played on a PC
D. The video game is popular

CHECK YOUR KNOWLEDGE

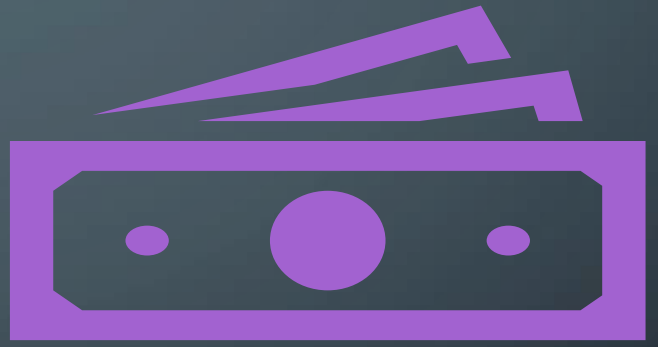
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OPPORTUNITIES FOR FINANCIAL CRIME

MONEY LAUNDERING





Process by which proceeds from illicit activity are moved, obfuscated, and made to look legitimate

Three steps of money laundering:

- Placement
- Layering
- Integration

INFORMAL VALUE TRANSFER SYSTEM (IVTS)

- Most video game money laundering relies on an IVTS
- According to FinCEN, an ITVS:
  - Allows transfer or exchange of something of value from one party to another
  - The input value may be a different item than what is delivered
  - Is based on trust
  - Connects people in separate geographic locations

PLACEMENT

- Fraudster obtained access to compromised card:
  - Stolen card themselves
  - Purchased card numbers from broker
  - Compromised a legitimate player's game credentials
- Uses stolen credentials to purchase premium currency from in-game store

LAYERING

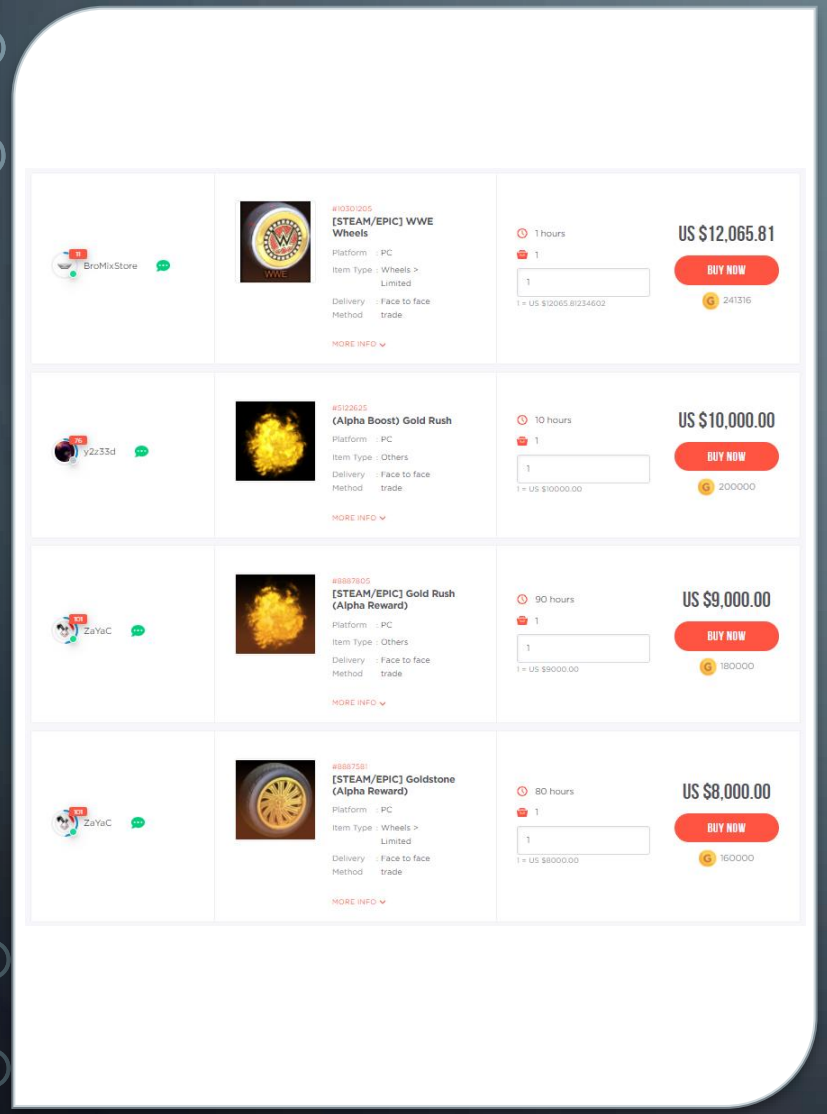
- Fraudster transfers premium currency to a game account under fraudster's control
- Fraudster may also exchange premium currency for in-game goods
- May conduct additional transfers to other accounts to consolidate assets or obfuscate history

LAYERING

- Fraudsters will sell purchased goods on marketplaces for real money
- Items priced below retail to incentivize buyers:
  - If not cheaper, why not buy directly from the game maker?
- Once sold, able to transfer proceeds of sales to bank accounts
- ACH transfers into bank typically regarded as lower risk:
  - ACH transfer not “fraudulent” as the money from the marketplace not considered stolen
  - If pressed for details, fraudsters able to claim funding as simply revenue from online sales

INTEGRATION

- Once ACH transfers received into bank, used to purchase goods
  - Spending activity may occur as expected for a typical consumer or business account
  - Some purchases of luxury goods may occur



MOVING LARGER SUMS

- Fraudsters may list digital item for sale at extremely high price
- Price makes item unlikely to sell to general public
- Fraudster purchases item using separate account at inflated price:
  - Extra layer of complexity
- Emerging trend – may see similar activity in future with non-fungible token (NFT) sales

CHECK YOUR KNOWLEDGE

According to FinCEN, which of the following is not a key attribute of an IVTS?

A. Connects people in separate geographic locations
B. The input value may be a different item than what is delivered
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CHECK YOUR KNOWLEDGE

Using a stolen credit card to purchase video game premium currency is an example of which stage of money laundering?

A. Layering
B. Rationalization
C. Integration
D. Placement

CHECK YOUR KNOWLEDGE

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CASE STUDIES

THE FORTNITE CASE


INDEPENDENT

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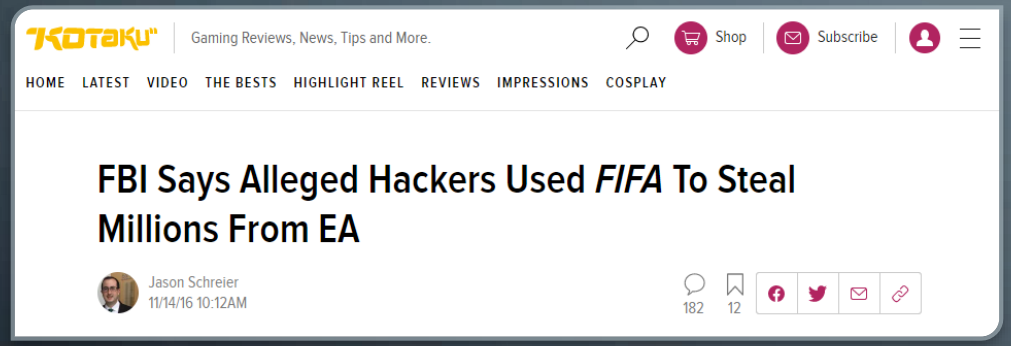
How children playing Fortnite are helping to fuel organised crime

An investigation by *The Independent* into online black markets selling V-bucks reveals the scale of the money laundering operations

Anthony Cuthbertson | @ADCuthbertson | Sunday 13 January 2019 17:36 |

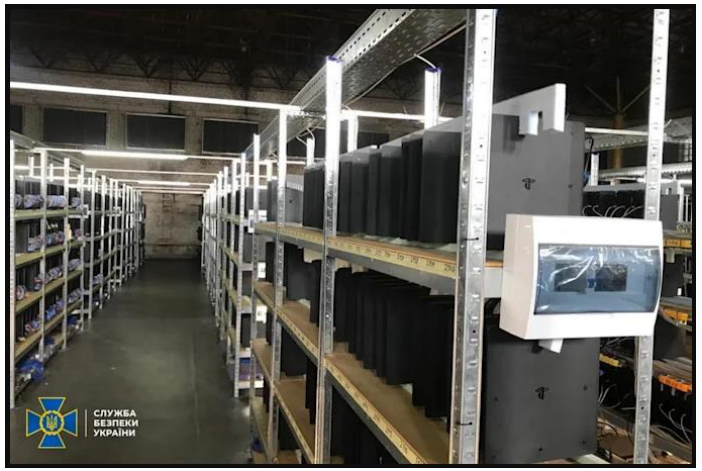
- January 13, 2019 – Newspaper *The Independent* reported on a scheme using these elements to launder money through Fortnite
- Criminals would use stolen credit card info to purchase V-Bucks premium currency
- Criminals would then sell V-Bucks to players at a discount
- Proceeds from sales appear legitimate

THE FIFA EXPLOIT CASE



- Between 2013 and 2015, a group of hackers called RANE Developments created an exploit to trick FIFA into thinking they were rapidly playing matches to earn coins
- Hackers obtained FIFA coins used to purchase FIFA Ultimate Team packs
- Hackers sold them online, earning $18 million before being arrested by the FBI
- FBI seized $2.8 million from a bank account and several luxury cars

THE FIFA PLAYSTATION FARM CASE



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PS4 'cryptofarm' reportedly used bots to grind in-game FIFA currency

Instead of a crypto mining operation, the consoles were building up FIFA Ultimate Team accounts for profit.

- In July 2021, law enforcement in Ukraine raided what was believed to be a cryptocurrency mining operation
- Law enforcement found racks of hundreds of PlayStation 4 consoles
- Rather than using them to mine crypto, they were found to be running copies of FIFA 2021 being controlled by bots to earn in-game premium currency
- FIFA players use in-game premium currency to buy 'FIFA Ultimate Team' cards – virtual trading cards featuring various professional footballers that gamers can use to assemble their own custom team with which to compete

PROTECTIVE MEASURES

HOW DO WE STOP IT?

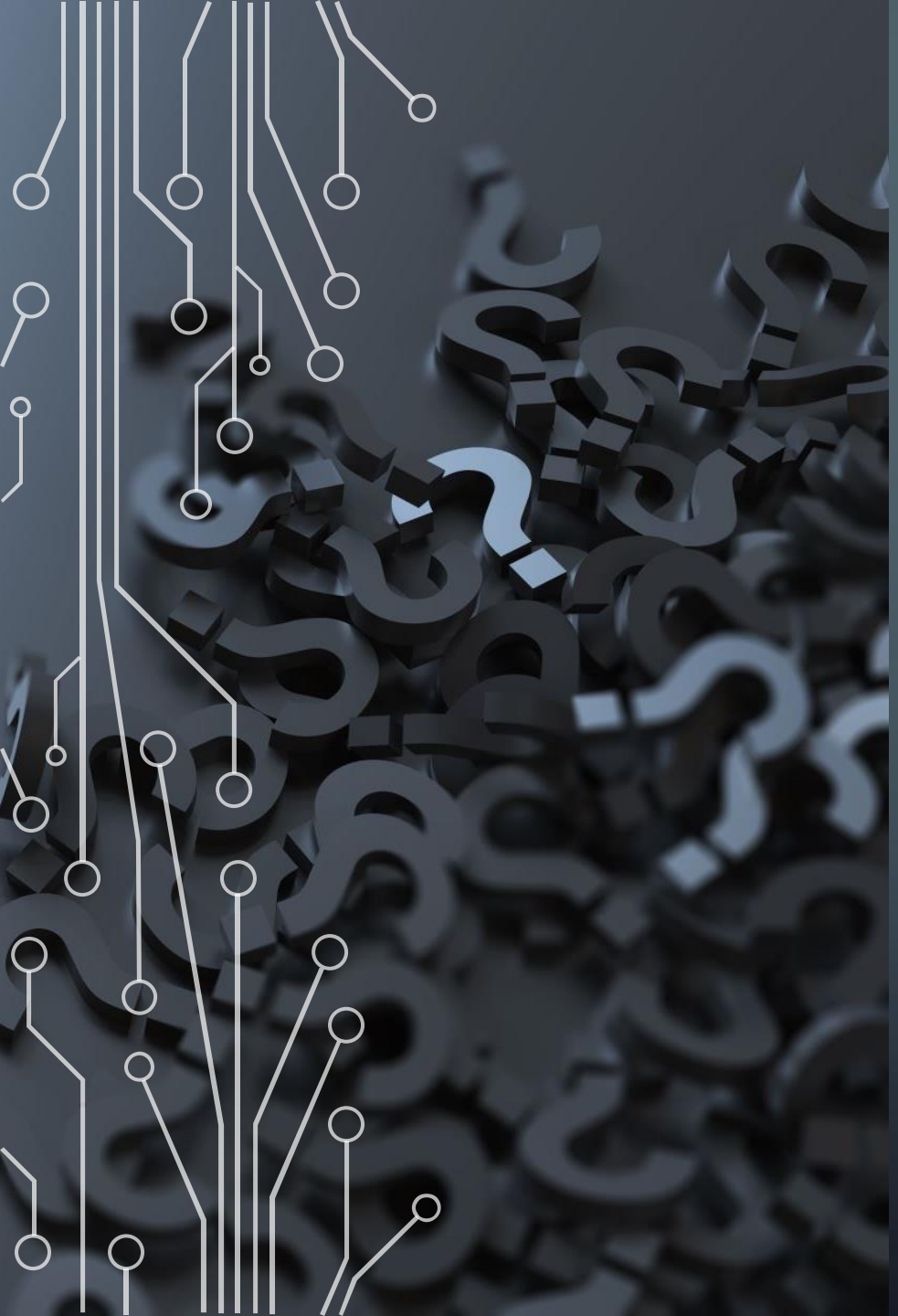
- Game makers face little, if any, financial incentive to act:
  - With digital piracy, music and movies obtained once and then replicated for distribution
  - Unlike digital piracy, every item or premium currency sold on a gaming secondary market must first be obtained directly from the game maker
  - Only financial consequences seem to come from chargebacks

HOW DO WE STOP IT?

- Some game makers, including Epic Games, have taken steps to secure accounts and limit trading:
  - Fortnite now has tougher restrictions on ‘gifting’ items
  - 2FA now required for all Epic Games accounts to participate in trading
  - Prevents losses from compromised game accounts, but doesn’t address other vectors

FOOD FOR THOUGHT

- Lawmakers have a poor track record of understanding and regulating new technology.
- Can game makers police themselves?
- What responsibility should game makers share for crimes committed using their platforms and economies?



QUESTIONS AND CONNECTIONS

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