

FINTECH
HANGSUN
ASSOCIATE
PROFESSOR

AN OVERVIEW

AN OVERVIEW



KICKSTARTER

Star Citizen



Reclaim the stars in the exciting new Space Epic from legendary game designer Chris Roberts.

Created by

Cloud Imperium Games
Corporation

34,397 backers pledged \$2,134,374 to help bring this project to life.

*Video Game Raised \$148 Million
From Fans. Now It's Raising Concerns.*



An image from the game Star Citizen
Cloud Imperium Games

'Star Citizen' Court Documents Reveal the Messy Reality of Crowdfunding a \$200 Million Game

**An early backer of the controversial space
game wanted his money back, so he took it to
small claims court, and lost.**

Finance Technology

Financial technology, often shortened to **FinTech** or fintech, is the new technology and innovation that aims to compete with traditional financial methods in the delivery of financial services. It is an emerging industry that uses technology to improve activities in finance.

FinTech and Money

- A **cryptocurrency** (or crypto currency) is a digital asset designed to work as a medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of assets. Cryptocurrencies use decentralized control as opposed to centralized digital currency and central banking systems.
 - There are more than **2,500** cryptocurrencies over the world until now, exceeding **US\$300 billion** by market value.
-

FinTech and Money

- Advantages of cryptocurrency:
 - Fast settlement;
 - Low transaction cost (compared with credit card, etc.);
 - Immunity from threat of inflation;
 - Payment cannot be canceled;
 - No risk of information leakage;
 - Account cannot be frozen.
-

FinTech and Money

- Why did cryptocurrency become popular?
 - Tax evasion;
 - Money laundry;
 - Illegal trade (e.g., Silk Road);
 - Countermeasure against foreign exchange regulation – the market share of China drops from 90% to 25% after the 2017 ban of Bitcoin trade;
 - Countermeasure against inflation (e.g. Venezuela).
-

FinTech and Money

- Problems of cryptocurrency:
 - Its value is supported solely by confidence;
 - Its price risk is huge and difficult to diversify;
 - Its property safety is difficult to ensure.
-

Shop by category:

Cannabis(203)
Ecstasy(35)
Psychedelics(127)
Opioids(39)
Stimulants(68)
Dissociatives(9)
Other(197)
Benzos(43)



1 hit of LSD
(blotter)
฿0.58



1/8 oz high
quality cannabis
฿2.05



1 g pure MDMA
(white)
฿1.28

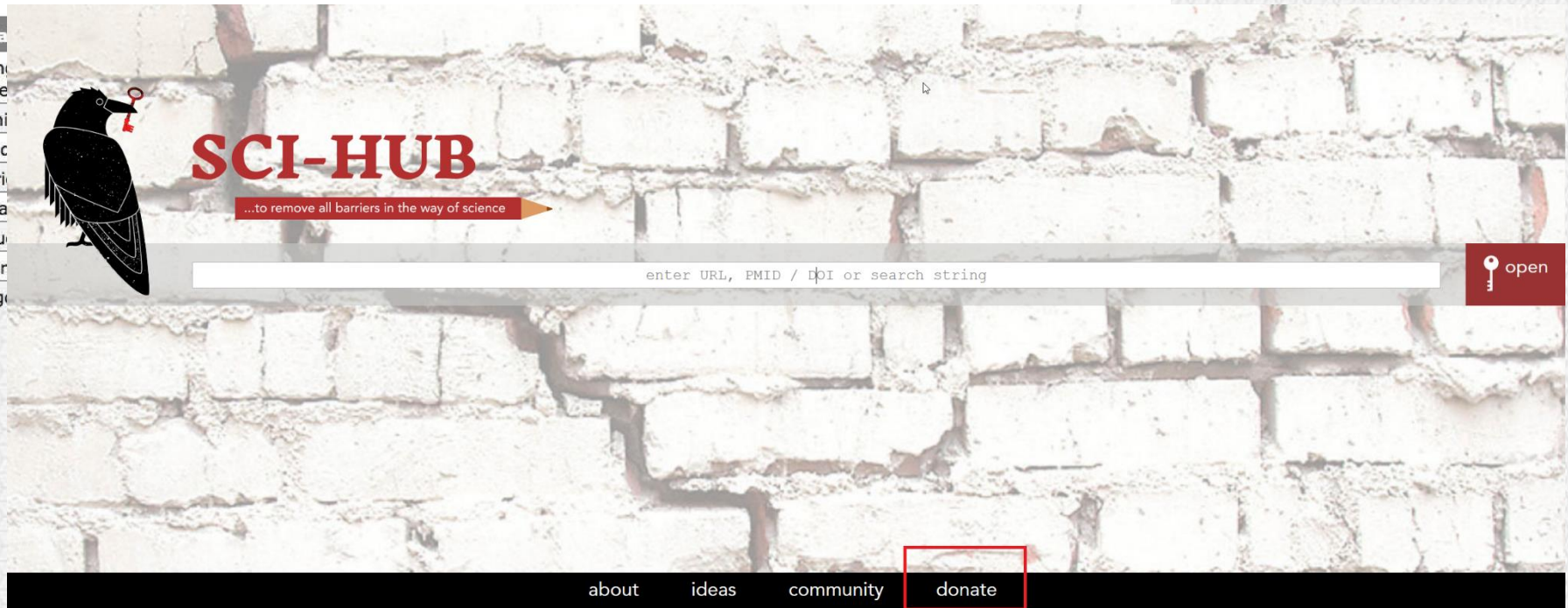
Step-by-step:

1. Get **anonymous money**
2. Buy something here
3. Enjoy it when it arrives!

Vacation mode. Important
info for **sellers**...

recent feedback:

seller	rating	feedback
1UP of Canada(97)	4 of 5	amazing flattene
CaliforniaSunrise	5 of 5	Fast shi
Rook	5 of 5	all good
illy	5 of 5	Very fri
somatik	5 of 5	Order a
gamely54	5 of 5	No issu
mellowyellow	5 of 5	Item ar
dirtysouf(100)	5 of 5	looks g



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FinTech and Money

- Cryptocurrency issued by central banks?
 - Read: Bech, Morten L., and Rodney Garratt. "Central bank cryptocurrencies." *BIS Quarterly Review* September (2017).
 - A **distributed ledger** (also called a **shared ledger** or distributed ledger technology or **DLT**) is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, or institutions. There is no central administrator or centralized data storage.
 - A peer-to-peer network is required as well as consensus algorithms to ensure replication across nodes is undertaken. One form of distributed ledger design is the blockchain system, which can be either public or private.
-

FinTech and Money

- An **initial coin offering (ICO)** or initial currency offering is a type of funding using cryptocurrencies.
 - In an ICO, a quantity of cryptocurrency is sold in the form of “tokens” (“coins”) to speculators or investors, in exchange for legal tender or other cryptocurrencies such as Bitcoin or Ethereum. The tokens sold are promoted as future functional units of currency if or when the ICO's funding goal is met and the project launches.
 - An ICO can be a source of capital for startup companies. ICOs can allow startups to avoid regulatory compliance and intermediaries such as venture capitalists, banks and stock exchanges.
-

FinTech and Money

- On September 4, 2017 seven Chinese financial regulators officially banned all ICOs within the People's Republic of China, demanding that the proceeds from all past ICOs be refunded to investors or face being "severely punished according to the law." This action by Chinese regulators resulted in large sell-offs for most cryptocurrencies. Prior to the Chinese ban, ICOs had raised nearly \$400 million from about 100,000 Chinese investors. A week later, however, a Chinese financial official stated on Chinese national television that the ban on ICOs is only temporary until ICO regulatory policies are in place.
 - In July 2017 the U.S. Securities and Exchange Commission (SEC) indicated that it could have the authority to apply federal securities law to ICOs. The SEC did not state that all blockchain tokens (ICOs) would necessarily be considered securities, but that determination would be made on a case-by-case basis. The SEC action may encourage more mainstream investors to invest in ICOs, although ICOs typically prevent U.S. investor participation in order to remain out of the jurisdiction of the United States government.
-



*On Tuesday, September 11, 2018, Judge Raymond J. Dearie of the Eastern District of New York issued a decision holding that Initial Coin Offerings ("ICO") may qualify as securities offerings and therefore be subject to the criminal federal securities laws. In **United States v. Zaslavskiy**, the Department of Justice ("DOJ") alleged in an indictment that **Maksim Zaslavskiy**, the founder and sole owner of two companies purportedly in the business of investing in real estate and diamonds, engaged in securities fraud in connection with two unregistered ICOs through which he promised token purchasers profits from his companies' investments. Specifically, the government alleged that Zaslavskiy violated securities laws by soliciting investments in two cryptocurrencies which he claimed were backed by real estate investments and diamonds, despite neither the tokens nor the underlying investments actually existing.*

FinTech and Money

- Payment technologies:

- Mobile wallets;

- Mobile payment;

- Point of sale (POS) technology.

The point of sale (POS) or point of purchase (POP) is the time and place where a retail transaction is completed. At the point of sale, the merchant calculates the amount owed by the customer, indicates that amount, may prepare an invoice for the customer (which may be a cash register printout), and indicates the options for the customer to make payment. To calculate the amount owed by a customer, the merchant may use various devices such as weighing scales, barcode scanners, and cash registers. To make a payment, payment terminals, touch screens, and other hardware and software options are available. POS terminal software may also include features for additional functionality, such as inventory management, CRM, financials, or warehousing.

- **Data monetization**, a form of monetization, may refer to the act of generating measurable economic benefits from available data sources (analytics).

- "Big data?"

FinTech and Capital Markets

- FinTech and bond markets: analysis and issuance platforms, such as Overbond, BondView, Neighborly, and Algomi.
- FinTech and stock markets: funds that invest with AI technologies.
- Roboadvisors.

The customer specifies individual investment preferences in terms of risk, desired return, and investment amounts. The company's investing algorithms then identify investment choices and weightings for each. The investments are typically in different ETFs although some services may offer a choice of assets among stocks, bonds commodities, and others. There may also be a choice offered between passive and active investment vehicles. In terms of investment choices, the robot services are like those offered by the wealth management divisions of the Big Financial Institutions. What is different is the focus on online delivery and lack of physical infrastructure and human interaction. This allows robots to present an enhanced customer experience and keeps costs to very low levels.

FinTech and Derivatives & Commodities

- FinTech mainly serves for institutions instead of retail markets.
 - Data analysis services for derivative markets (e.g. OpenGamma).
 - DLT has been introduced into settlement services (e.g. Depository Trust and Clearing Corporation, DTCC).
 - DLT is also used in spot trading of commodities.
-

Technology

These Oil Traders Are Trying to Overhaul the Industry With a Blockchain Venture

By Andy Hoffman

September 19, 2018, 3:49 PM GMT+8

- ▶ New Komgo entity will develop ledger to track commodity trades
- ▶ Shell, Mercuria, Gunvor team up with banks including ING, Citi

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WTI Crude
 55.80 USD/bbl
 ▼ -1.42 -2.48%

MQG
MACQUARIE GROUP
 129.23 AUD
 ▲ +0.59 +0.46%

RDSA
ROYAL DUTCH SH-A
 2,350.50 GBP
 ▲ +1.00 +0.04%

INGA
ING GROEP NV
 11.67 EUR
 ▲ +0.04 +0.34%

GLE
SOC GENERALE SA
 27.04 EUR
 ▲ +0.04 +0.15%

Commodity giants Mercuria Energy Group Ltd. and Gunvor Group joined forces with Royal Dutch Shell Plc and a slew of international banks to create a trade-finance venture aimed at becoming the industry standard.

Using blockchain technology, the Komgo SA venture will develop a digital ledger-based system to track commodity transactions, the partners said Wednesday. The inclusion of some of the biggest lenders in trade finance may help establish a universal norm after previous efforts to use blockchain faltered.

“The launch of Komgo SA highlights a shared vision for industry innovation and underlines the ongoing commitment among members to build a truly open and more efficient network,” Souleima Baddi, a senior trade-finance banker at Societe Generale SA and chief executive officer of Komgo, said in a statement.

Other banks involved include ING Groep NV, ABN Amro Group NV, Cooperatieve Rabobank UA, Macquarie Group Ltd., Mitsubishi UFJ Financial Group Inc., Natixis SA, BNP Paribas SA, Citigroup Inc. and Credit Agricole SA. Koch Supply & Trading LP and inspection giant SGS SA are also among Komgo’s 15 founders.

Notably absent are the top three independent oil traders -- Vitol Group, Glencore Plc and Trafigura Group -- as well as oil majors and traders BP Plc and Total SA.

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† Place Securities MPS Ltd., a Cyprus Investment firm regula

FinTech and International Finance

- Opportunities are huge, but development insufficient.
 - Point-to-point (P2P) international money transmitters are the most developed area (e.g. TransferWise).
 - Authorities are concerned with money laundry or finical support for illegal activities utilizing FinTech.
-

Take your transfers with you.

Keep track of your transfers on the go with the TransferWise app. Make new transfers - wherever you are - at the touch of a button.



FinTech and Banking

- Traditional commercial banking business is digitalized.
 - “Challenger banks” are disruptors with banking model based solely or primarily on the following features: all mobile, user friendly, data driven, artificial intelligence enhanced, open application programming interfaces, no foreign exchange charges, robo investment advisory, and simple money transfers.
-

FinTech and Banking

- **Marketplace lending**, including **peer-to-peer**, and **peer-to-commercial lending**, etc., uses online platforms to connect borrowers with investors willing to offer loans. It offers both new loans and refinancing.
 - Competitors in this area is paying more attention to segment markets as competition becomes fierce. The business has also attracted money from big financial institutions.
 - Typical platforms: Lending Club (personal market, since 2006), OnDeck (SME market, since 2007), Social Finance Inc. (SoFi, student loan market, since 2011).
 - Search, read, and think: what are the major models of P2P lending in China?
-

	2011 Market Share		2016 Market Share
Wells Fargo	24.20%	Wells Fargo	12.55%
Bank of America	10.58%	JP Morgan Chase	5.95%
JP Morgan Chase	9.95%	Quicken Loans	4.90%
U.S. Bank Home Mortgage	4.38%	U.S. Bank Home Mortgage	4.12%
Citigroup	4.29%	Bank of America	4.07%
Ally-GMAC	3.81%	PennyMac Financial Services	3.37%
PHH Mortgage	3.51%	Freedom Mortgage	2.90%
Quicken Loans	2.03%	PHH Mortgage	2.01%
Flagstar Bancorp	1.80%	Caliber Home Loans	2.00%
MetLife	1.60%	loanDepot	1.89%

Figure 6.5 Mortgage market is now dominated by nonbank lenders. *Copyright © August 2017. The Urban Institute. All rights reserved.*

Startup Financing

Crowdfunding refers to raising money for a project through small contributions from a wide number of people, most of whom have no connection to the project's sponsors. The contributors usually do not receive equity or debt in the project, although there are exceptions. Instead, they receive a reward in terms of a sample product, a tee-shirt, beta version of software, or other benefit. The benefits to the entrepreneur are: They receive funding for the project; in many cases the crowdfunding supporters act as a test or focus group, giving valuable feedback; and a community of users are self-selected for future follow-on contacts.

Startup Financing

Characteristics of crowdfunding:

- Free from geographical constraints;
 - Highly selective – only a small proportion on each platform can receive money;
 - Matthew effect;
 - At the initial stage, money from friends and relatives still plays an important role;
 - Money flow is geographically unbalanced: regions that get more money traditionally still receive more money;
 - Both the supply and demand sides of money are often overoptimistic, and a big proportion of projects are in fact never accomplished;
 - Crowdfunding has a substitution effect to traditional money-raising.
-

Startup Financing

- In **equity crowdfunding**, investors do not receive real rewards. Instead, they receive **stocks**. Equity crowdfunding is hence a part of the capital markets.
 - In 2012, the US Congress passed the Jumpstart Our Business Startups Act (JOBS Act), relaxing the requirements for firms to issue stocks and lowering the threshold for equity crowdfunding.
 - Typical platforms include AngelList, CircleUp, etc.
 - It is risky, just like any other security market.
-

Startup Financing

- An **angel investor** (also known as a **business angel**, **informal investor**, **angel funder**, **private investor**, or **seed investor**) is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity.
 - A small but increasing number of angel investors invest online through equity crowdfunding or organize themselves into **angel groups** or **angel networks** to share investment capital, as well as to **provide advice** to their portfolio companies.
 - Angel investors have actually existed for a long time in the US. Nowadays there are around 300,000 angel investors and 400 active angel groups.
 - Angels investors usually come **after friends and relatives but before venture capitals** to supply funds.
-

Startup Financing

- Venture capital (VC) is a type of private equity, a form of financing that is provided by firms or funds to small, early-stage, emerging firms that are deemed to have high growth potential, or which have demonstrated high growth.
 - VC is highly risky, but once the invested project is luck enough to succeed, they get high returns.
 - In 2017, US VCs invested \$76.4 billion, \$43.4 billion of which is to California, \$12.3 billion to New York State, and \$9.0 billion to Massachusetts. Over \$33 billion is invested to the software industry.
-

Startup Financing

What are the differences between angel investors and VCs?

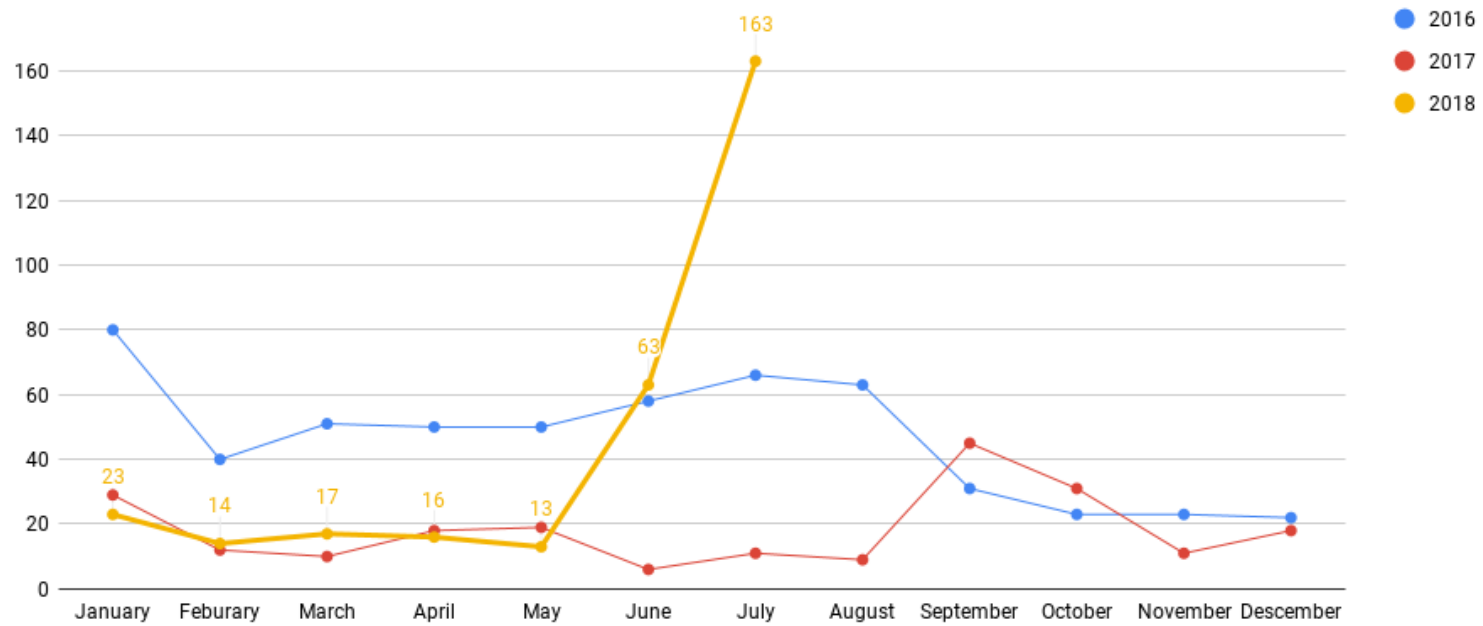
- Size of investment: typically \$25,000-\$100,000 (individual angels) or \$750,000 or more (angel groups) vs. \$7 million per project;
 - Stage of investment;
 - Due diligence: which one is higher?
 - Decision making: who makes decisions?
 - Returns: which one is higher?
 - Time frame: which one wants to take back their money in a stricter time frame?
-

Regulation of FinTech

- FinTech is a type of financial activities as well. It faces both traditional risks in finance and special risks.
 - Some typical cases:
 - Lending Robot, a platform to compare online lending platforms, initially offered free service for accounts under \$5,000. The policy was canceled after SEC ruled it equivalent to "cash payments for client solicitations;"
 - PayPal Credit registered credit cards without informing customers and was fined \$2.5 million by the US Consumer Financial Protection Bureau (CFPB);
 - As a part of the settlement of Heaton v. Social Finance Inc., SoFi agreed to compensate the plaintiff with \$100,000 for collecting credit information of website visitors who did not intend to apply for loans;
 - Dwolla, an online payment platform was fined \$100,000 for inaccurate advertisements;
 - Sand Hill Exchange sold "shares" of corporates that are about to be listed without license, which was ruled as illegal security issuance by the SEC.
-

The number of defaulted platforms has surged since June

The number of defaulted platforms by month in the past and present



Source: Home of Online Lending; Graphics by TechNode/Jiefei Liu

Large-scale defaulting of P2P lending platforms in China.

Regulation of FinTech

- **Regulatory technology**, also known as a "**RegTech**" is a new field within the financial services industry that utilizes information technology to enhance regulatory processes.
 - What does ReTech regulate in the US?
 - AML/KYC (Anti-Money Laundering and Know Your Customer);
 - Blockchain;
 - Risk Management;
 - Data analytics;
 - Reporting;
 - Tax;
 - Trading (to monitor employee and customer trading for risk, compliance, and regulatory purposes).
 - Search and read: what are Chinese regulators doing concerning RegTech?
-

... We have something like 35,000 people in the firm; something over 9,000 of them are in technology. So, when you ask me how is technology... what might this technology be doing to disrupt the industry or our company, it's a little bit of a funny sentence. Because we are a technology company...

- Lloyd Blankfein, current CEO of Goldman Sachs, 2015