



The Next Digital Wave: Evolving Expectations

Matt Herren | Director of Payment Strategy



AGENDA

01 – The Changing Landscape

02 – Emerging Experiences

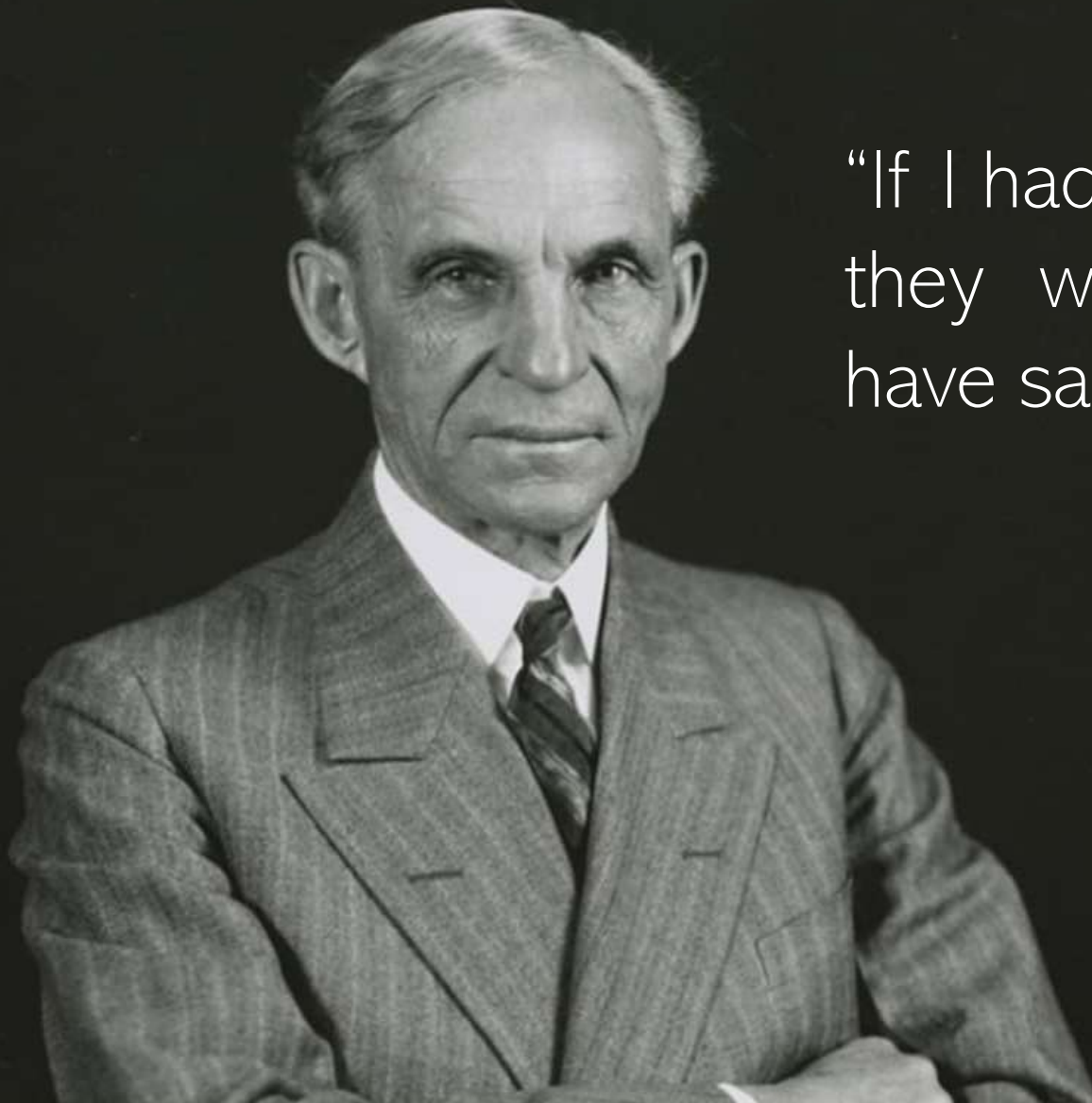
03 – The Next Threat

04 – Stepping Up

"Start with the experience, then
work backwards to the technology"

- STEVE JOBS -

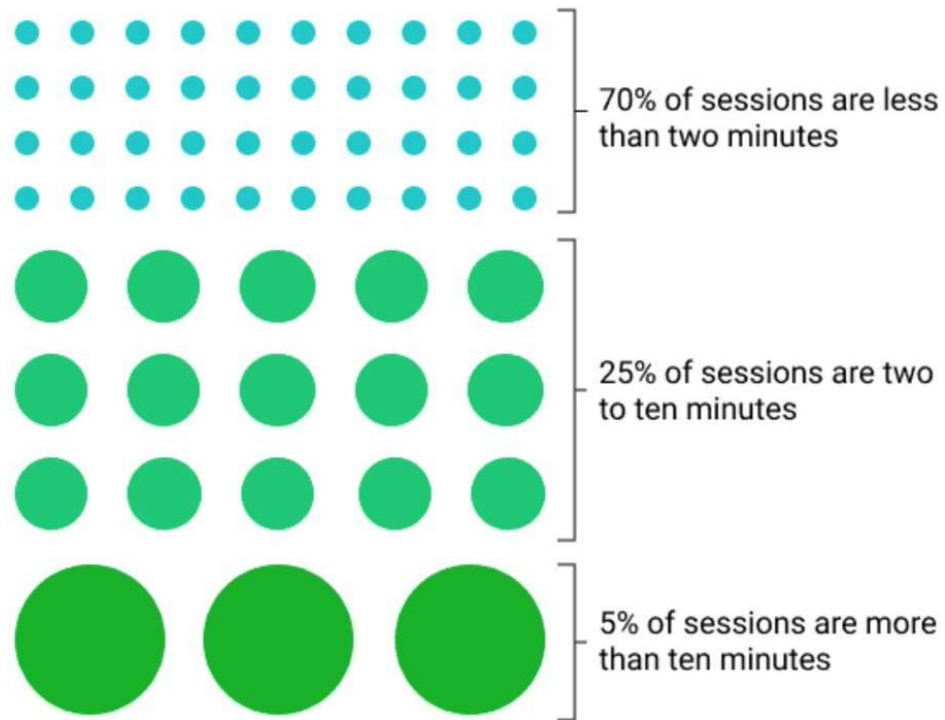




“If I had asked people what they wanted, they would have said faster horses.”

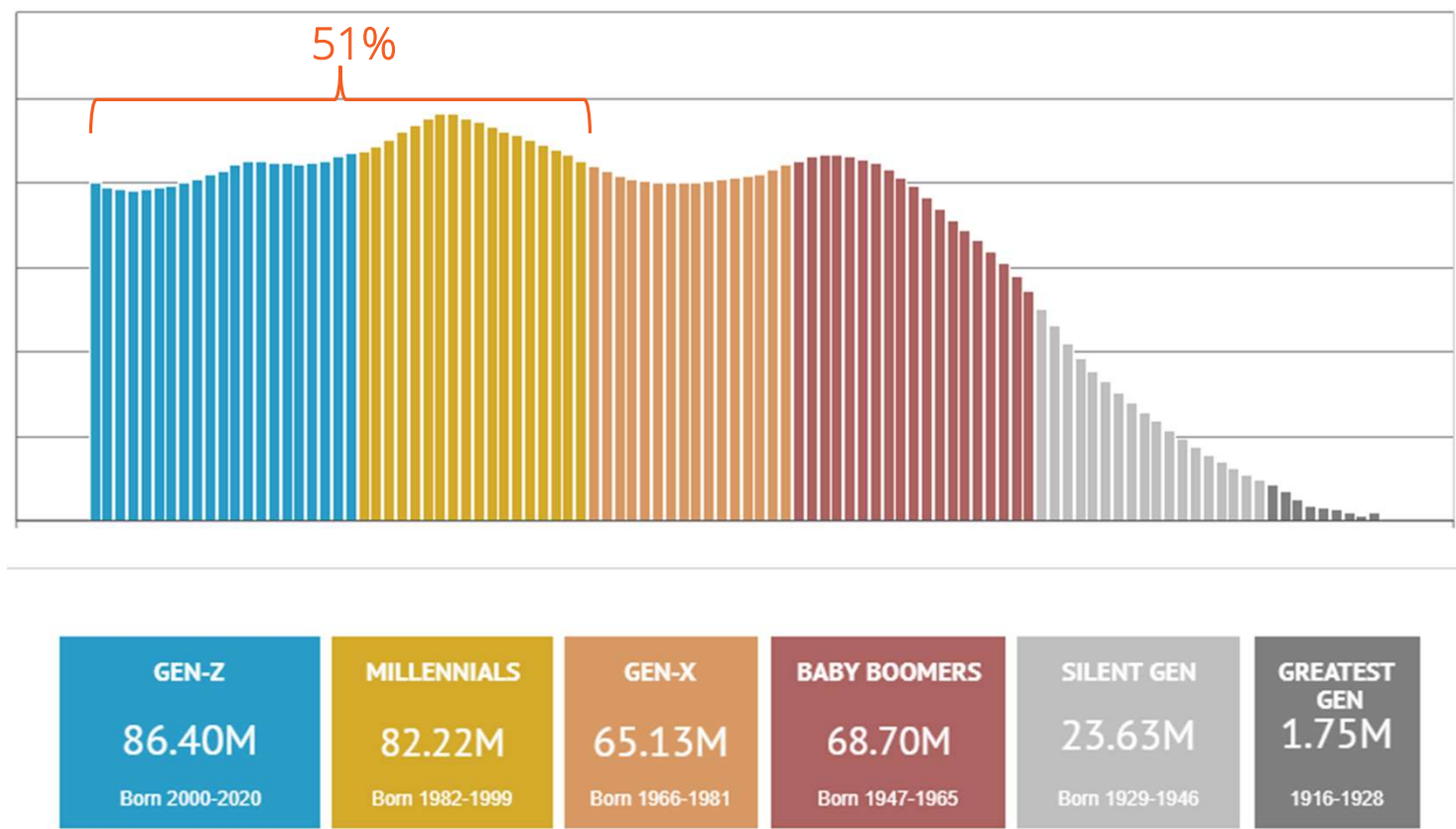
- Henry Ford

ON AVERAGE, WE PICK UP OUR PHONES 58 TIMES PER DAY



This adds up to about 3 hours and 15 minutes.

CHANGING DEMOGRAPHICS


























SOURCE: U.S. Census Bureau

Generational Shifts

Top U.S. finance apps by generation

By monthly average use,

Gen Z	Millennials	Gen X & Baby Boomers
1  Greenlight	1  Ally	1  CNBC
2  Venmo	2  Progressive	2  TD Ameritrade
3  Cash App	3  Credit One Bank	3  Yahoo Finance
4  Robinhood	4  Barclaycard	4  Allstate
5  Webull	5  IRS2Go	5  Truist
6  Truebill	6  Credit Sesame	6  Fidelity Investments
7  Discover Mobile	7  Crypto.com	7  Drive Safe & Save
8  Mint.com	8  Stash Invest	8  Citi Mobile
9  Navy Federal Credit Union	9  Experian	9  Schwab
10  Acorns Invest	10  Chime	10  USAA

SOURCE: App Annie Intelligence

EMBRACE IT

**AT SOME POINT
DIGITAL BANKING
JUST BECOMES
“BANKING”**



killua
@delorres

After the era of malls ends eventually someone will say what if we shopped online, but in real life? And then malls will be reinvented

Emerging Experiences

DIFFERENT BY DESIGN



Top comment on Youtube: “This is hilarious it should be a real company”

Sold to Unilever for \$1 billion.

Pioneering will get pushback. If you’re not getting pushback, expect someone else to disrupt you. Embrace discomfort.



Chris Bakke
@ChrisJBakke

Tipping at Self-Checkout Has Customers Crying 'Emotional Blackmail'

Consumers already bristling at higher prices question where the money goes when interaction with an employee was nonexistent

By [Rachel Wolfe](#) [Follow](#)

May 8, 2023 5:30 am ET



Share



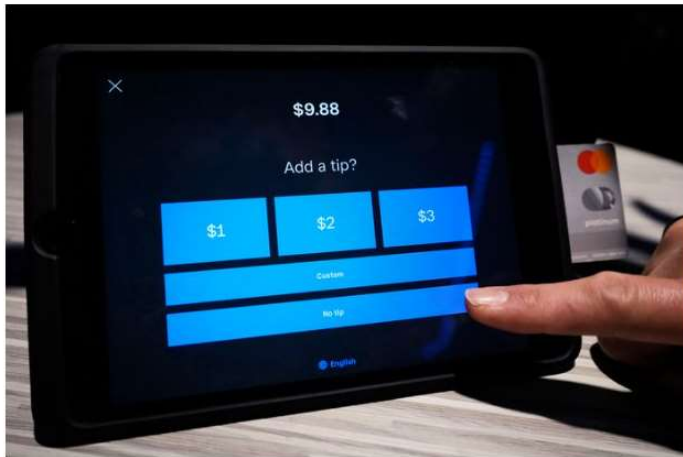
Resize



673



Listen (2 min)



Consumers are encountering prompts to tip at self-checkout machines. PHOTO: NAM Y. HUH/AP

PREDICTING THE FUTURE IS HARD

BUT TRENDS MATTER

Can predict the trend. Can't always predict the tool.

“When wireless is perfectly applied, the **whole Earth** will be converted into a huge brain, which in fact it is, all things being particles of a real and rhythmic whole. We shall be able to **communicate with one another instantly**, irrespective of distance. Not only this, but through tele-vision and telephony we shall see and hear one another as perfectly as though we were face-to-face, **despite intervening distances of thousands of miles**; and the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. A man **will be able to carry one in his vest pocket.**”

Nikola Tesla, Collier's Interview 1926



**Cash is now a
novelty**

The Southern Steak and Oyster
150 3rd Ave S
Nashville, TN 37201

View check and pay now
Scan with phone camera to pay



Pay Your Check >

Server: Hannah L
Check #21
Guest Count: 2
Ordered: 4/24/22 10:50 AM
Table 53

Single Waffle	\$6.00
Seasonal Fruit	\$8.00

Thanks, Matt! We'll send you a text
when your food is ready.

Please take a seat or grab your favorite condiments in the meantime.

Done

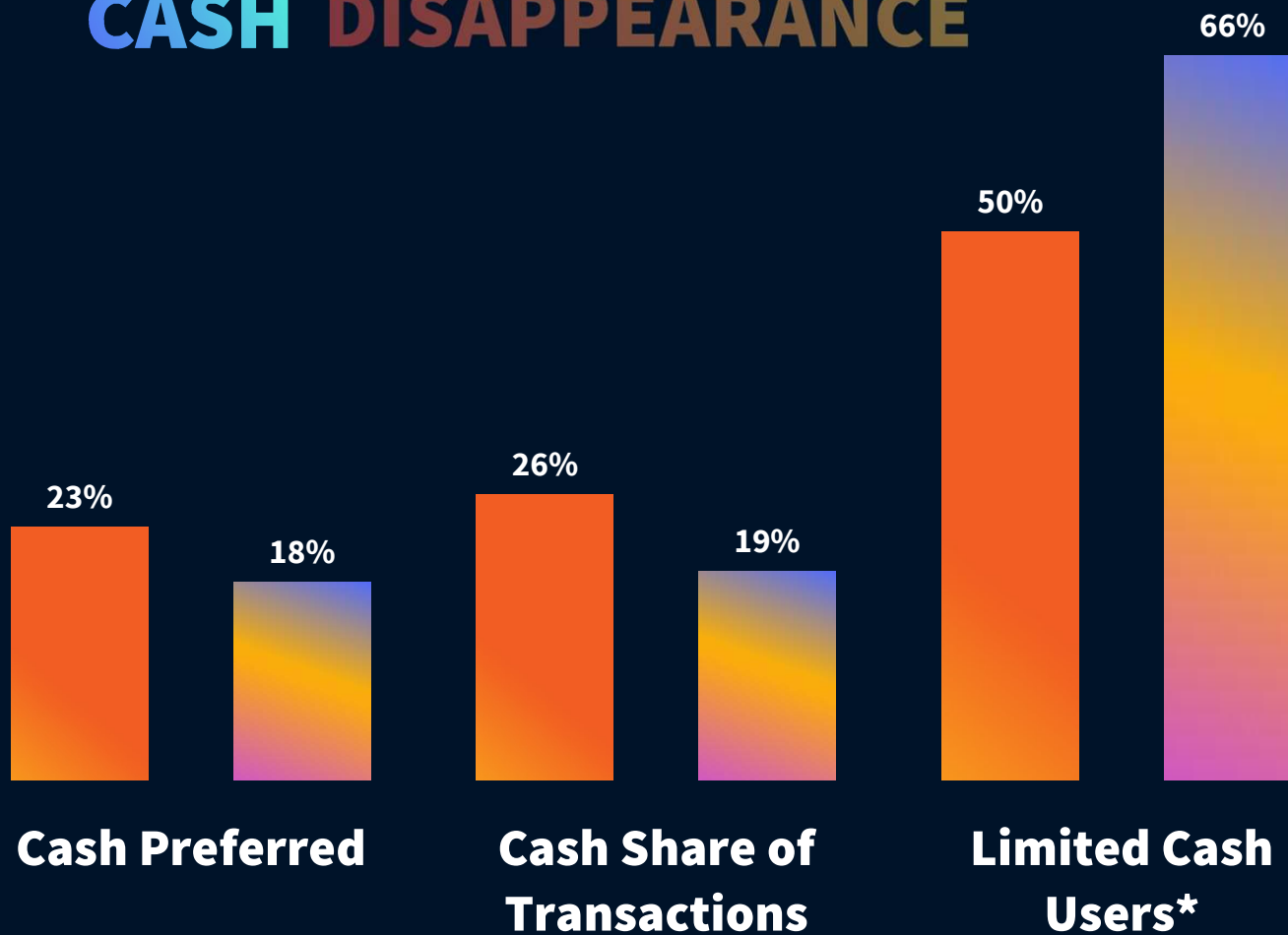
Email My Receipt

CREDIT CARD ONLY | SAMSUNG pay | pay | Apple Pay
INSERT CHIP DOWN HERE



Checkout experience has rapidly changed almost everywhere

CASH DISAPPEARANCE



* "Limited Cash Users" defined as having 4 or fewer cash transactions per month

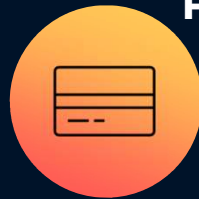


SOURCE Federal Reserve Diary of Consumer Payments Choice 2021

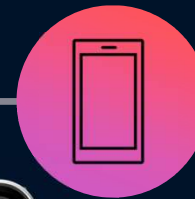


DIGITAL FIRST

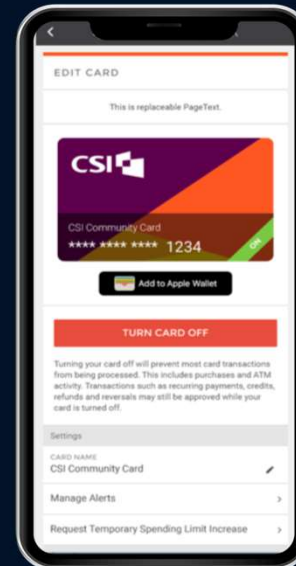
From **PHYSICAL FIRST**
(digital optional)



To **DIGITAL FIRST**
(physical optional)

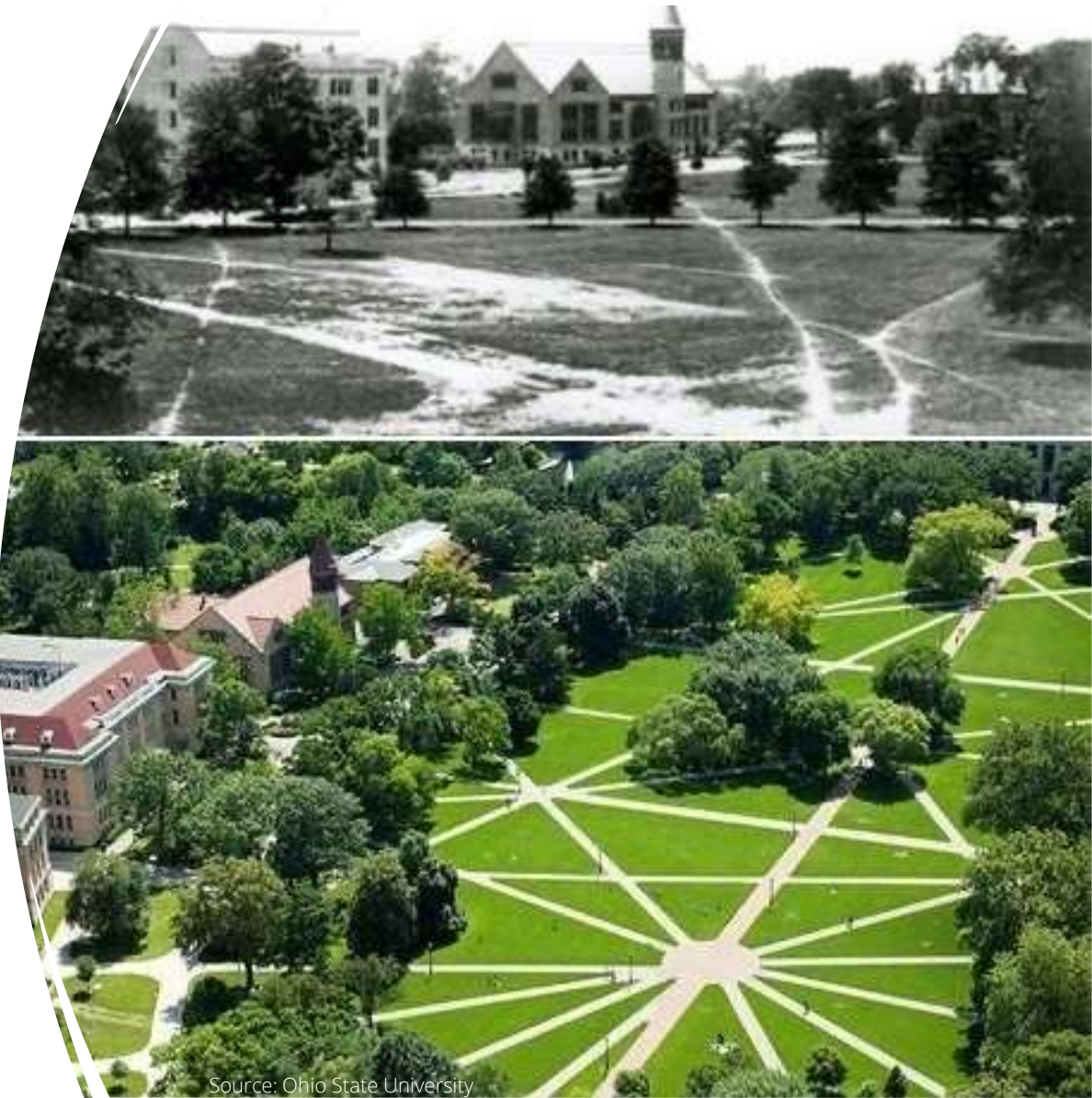


- Physical card is the primary source of relationship with consumers
- Card can be optionally digitized
- Customer service/ interaction done entirely offline
- Security and authentication limitations



- Fully digital card experience via any connected device
- Immediate access to card and better payment experiences
- Stronger security
- Optional physical card with redesign to reinforce digital-first relationship

CUSTOMER EFFORT



Source: Ohio State University




EMPOWERING CUSTOMERS

IN A SINGLE EXPERIENCE

- **Card Activation**
- **PIN Change**
- **Card On/Off Scheduling**
- **Report Lost or Stolen**
- **Travel Notifications**
- **Dispute Transactions**
- **Limit Suspension**
- **Person-to-Person**
- **Operational Efficiencies**
- **Better Customer Experience**

Customer Facing



WELCOME TO VARO BANK®. THIS IS BANKING FOR TODAY.

- Safe, contactless payment with Tap to Pay.**
- Early Payday*** with direct deposit.
- High-yield, effortless savings.**
- No fees at 55,000+ Allpoint® ATMs** in places you already shop like **Target, CVS, and Safeway.**
- No monthly fees.**
- No minimum balance requirement.**

FDIC Bank Account Services provided by Varo Bank, N.A. Member FDIC.

Varo® Debit Card is issued by Varo Bank, N.A. pursuant to a license from Visa U.S.A. Inc. and may be used everywhere Visa credit cards are accepted.

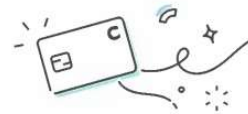
*Early access to direct deposit funds depends on timing of payer's submission of deposits. We generally post such deposits on the day they are received which may be up to 2 days earlier than the payer's scheduled payment date.



chime®

Welcome to the Chime family

You're 2 steps away from better banking



Hey, We've got your back.

Step 1
Activate your Chime Visa® Debit Card in the Chime app



Step 2
Set up Direct Deposit with Chime & get paid up to 2 days early¹
Sign and deliver this form to your employer or payroll provider, and watch the magic happen

NAME: MATT HERREN

The Bancorp Bank 409 Silverside Rd, Suite 105, Wilmington, DE 19809

BANK NAME: 031101279 BANK ADDRESS: [REDACTED]

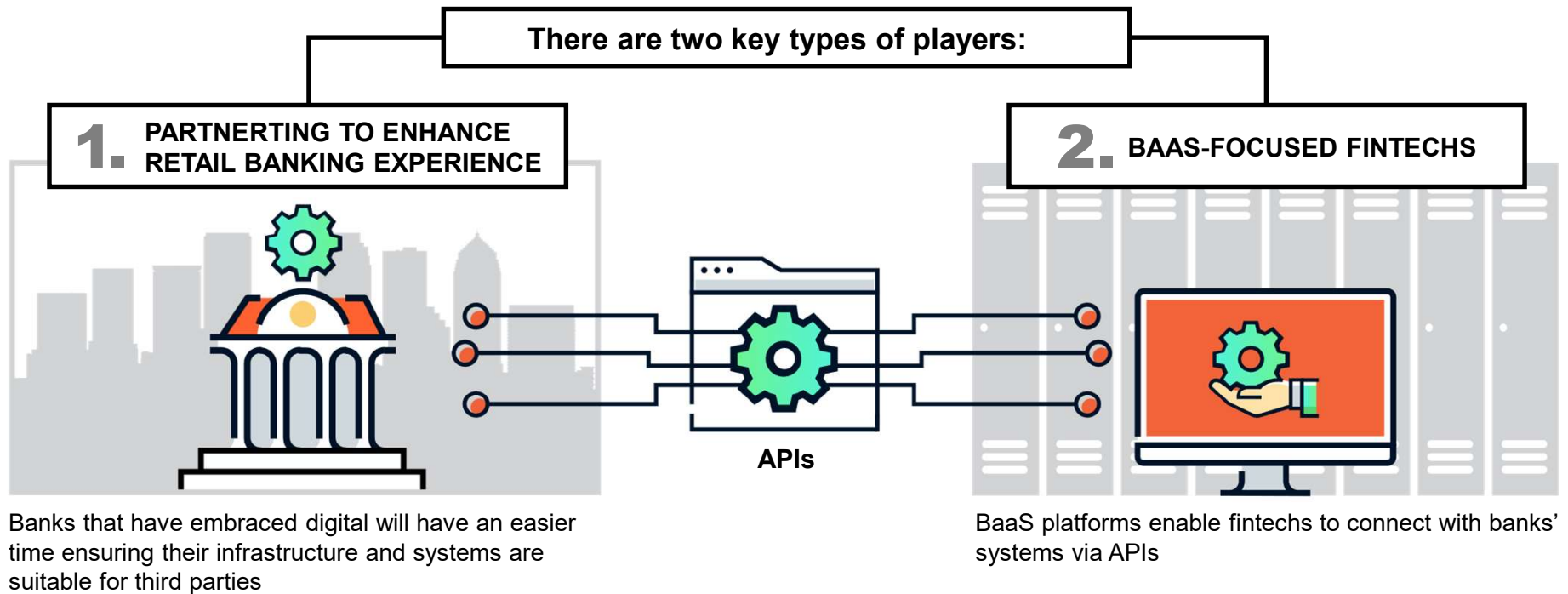
ROUTING NUMBER: ACCOUNT NUMBER: [REDACTED]

Fintechs

Threat & Opportunity

THE RISE OF

Banking-As-A-Service





Ecosystem

Fintech Startups



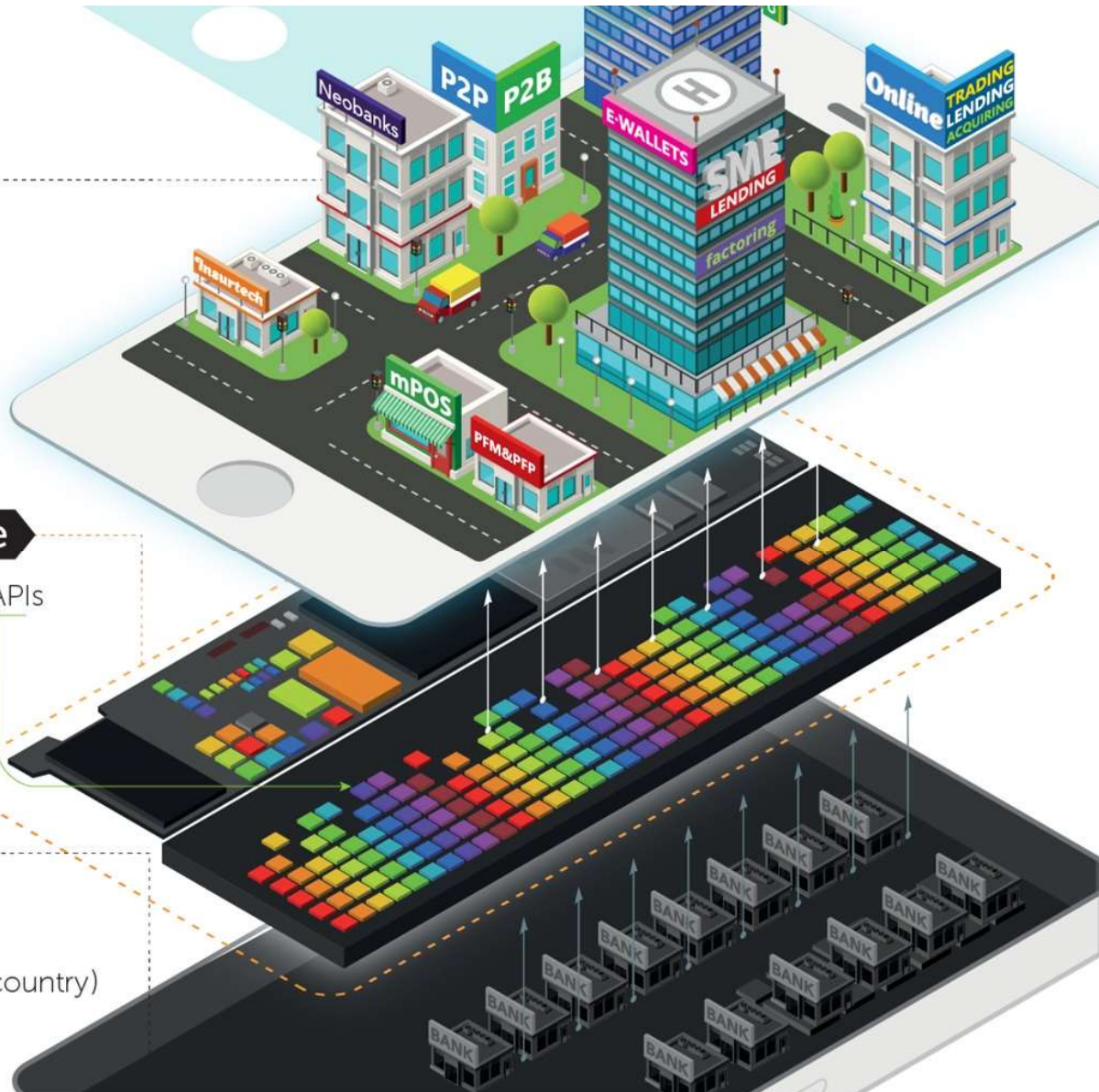
Bank-as-a-service

based on universal APIs



Banks

Licensed and regulated
banking back-ends
(belong to banks in each country)



Fintech-startups do not
need to spend time,
money and human
resources to be integrated
in each country

Middleware

provide for them
universal APIs

Banks do not need to
spend their time and
money to create new
APIs and to communicate
with all startups all over
the world

BUY NOW PAY LATER

BNPL Transaction Types

Pre-Purchase



Post-Purchase

Account



CREDIT CARD

Selected purchase

Date	Description	Amount
Nov 20, 2021	ABERCROMBIE & FITCH #936	\$148.00

Payment plan options

\$50.07 /month

3 payments

This amount includes a monthly fee of \$0.73 with no interest.

\$25.45 /month

6 payments

This amount includes a monthly fee of \$0.78 with no interest.

\$17.27 /month

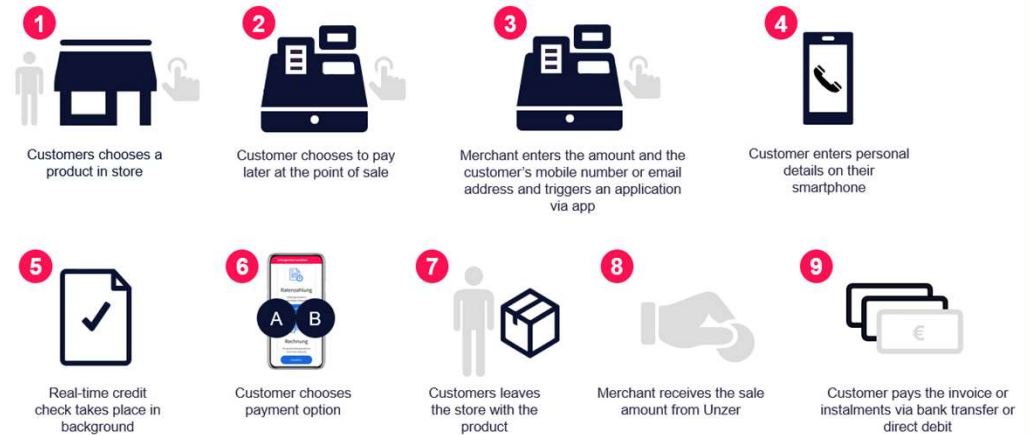
9 payments

This amount includes a monthly fee of \$0.82 with no interest.

If you receive interest rate and fee benefits under the Servicemembers Civil Relief Act or similar state laws, they'll apply to this plan once it's active and throughout your benefit period.

Point of Sale (POS)

Buy Now, Pay Later at the Point of Sale



Source: www.unzer.com

A cartoon illustration of a woman with long blonde hair and pink glasses lying on her back, surrounded by large cardboard boxes labeled 'DUE NOW!', 'LOANS', '4 EASY PAYMENTS', and 'OVERDRAFT FEES'. She is holding a smartphone with the TikTok logo. A speech bubble says 'PAST DUE'. Price tags for '\$700', '\$3000', and '\$375' are floating around her.

Andy Andersen/Special to SFGATE



May 4, 2022 | Updated: May 6, 2022 11:56 a.m.



BNPL: Buy Now Pay Later



lan
@ianfluencer

Finally paid off my vodka cran from last month. God is good 🙌



KGB Bar & Red Room

\$12.00

Paid

\$12.00

0 Remaining

\$0.00

Payment schedule

Pay in 4

✓	Mon, Jan 30	\$2.50	✓
	1 of 4 • Paid		
✓	Mon, Feb 13	\$3.17	✓
	2 of 4 • Paid		
✓	Mon, Feb 27	\$3.17	✓
	3 of 4 • Paid		
✓	Mon, Mar 13	\$3.16	✓
	Final payment • Paid		

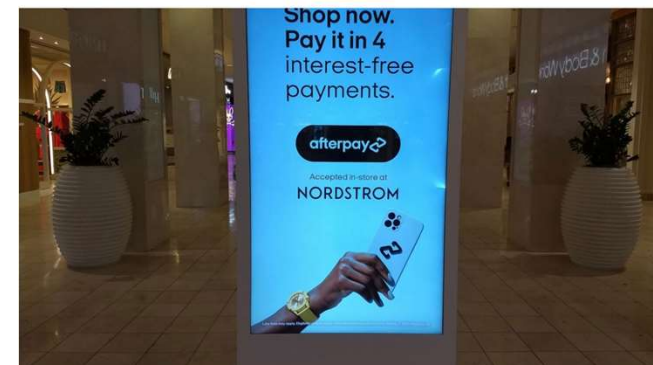
BNPL app downloads decline

In the U.S., total BNPL app downloads for the second quarter fell 19%, compared to the year-ago period, Bank of America Securities analysts said.

Published July 17, 2023



Caitlin Mullen
Reporter



CRYPTO

DeFi SAVINGS ACCOUNTS



DimeFi [Sign up](#)

Get 25x Your Bank Rate

See how DimeFi compares to other platforms.

<p>DimeFi*</p>	12%APY
<p>Marcus: by Goldman Sachs</p> <p>Online Banks</p>	0.5% APY
<p>Big Banks</p>	0.03% APY

Personal Business Yield API

stablegains

Earn up to 15% interest on your cash

Stablegains makes it simple to earn high and stable interest from DeFi lending markets.

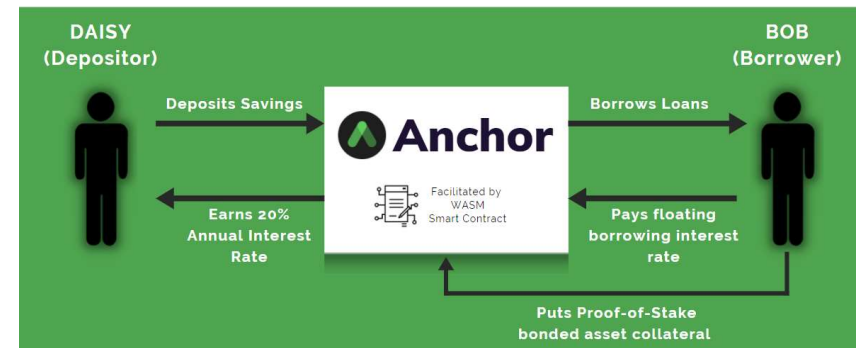
Say goodbye to idle money

Earn 8% APY with DeFi-powered saving.

Download on the App Store

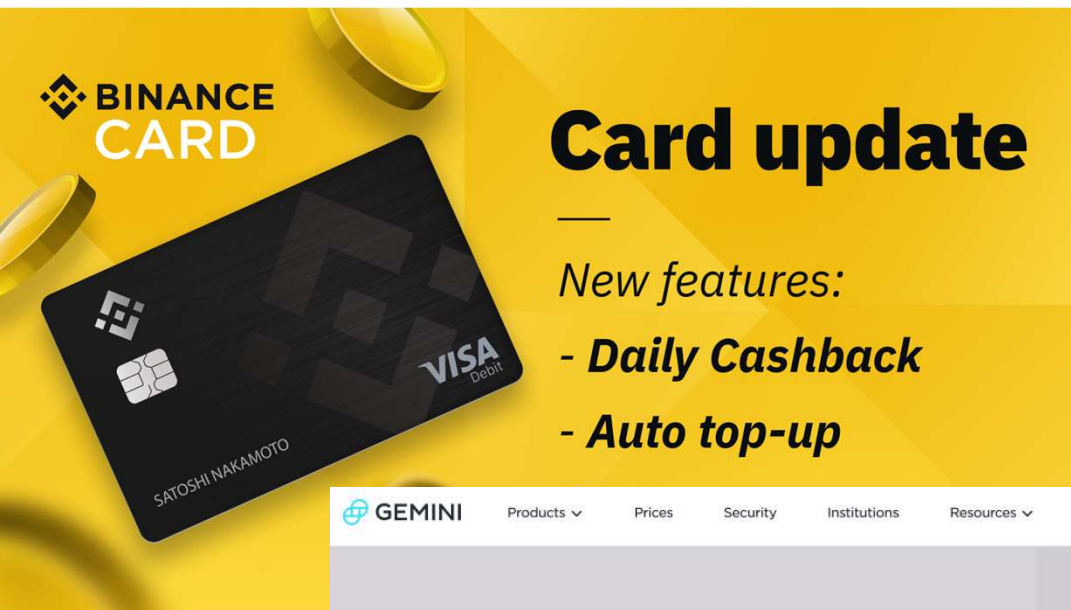
★★★★★
2k reviews

HOW ANCHOR PROTOCOL WORKS





DEPOSITS & PAYMENTS



BINANCE CARD

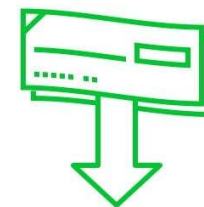
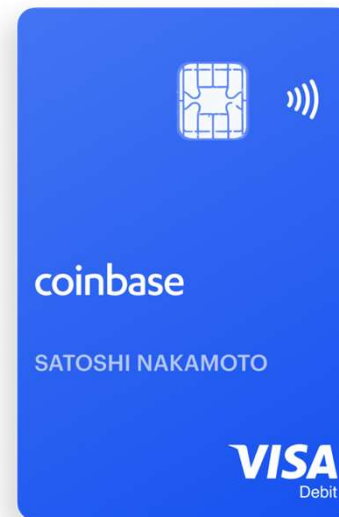
Card update

New features:

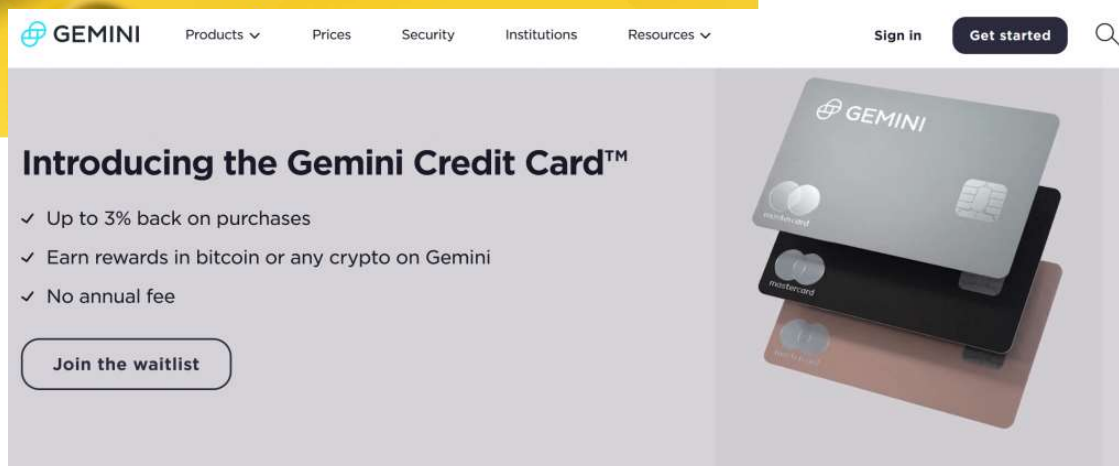
- **Daily Cashback**
- **Auto top-up**

SATOSHI NAKAMOTO

VISA Debit



Have your employer send paychecks directly to a Direct Deposit Account!



GEMINI Products Prices Security Institutions Resources

Sign in Get started

Introducing the Gemini Credit Card™

- ✓ Up to 3% back on purchases
- ✓ Earn rewards in bitcoin or any crypto on Gemini
- ✓ No annual fee

Join the waitlist

GEMINI

mastercard

By enabling my account, I confirm that I understand and agree to the [Terms & Privacy Policy](#).



Enable Account

LOANS

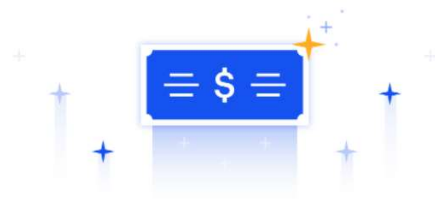
Borrow cash using Bitcoin as collateral

Now you can borrow up to \$1,000,000¹ from Coinbase using your Bitcoin as collateral. Pay just 8% APR² with no credit check.

[Sign up to get started](#)

Already have an account? [Sign in](#)

Line of credit offer currently available to residents of the following US states: AK, AR, AZ, CA, FL, GA, ID, IL, IN, MI, NC, NE, NH, NJ, NY, OH, OR, TN, TX, UT, VA, WA, and WY. [Click here to learn about fixed term loans](#), which are currently available to residents of the following US states: CT⁴.



Why borrow cash?

Have you ever needed cash for something urgent, like medical bills or car repairs? In the past, you might have sold Bitcoin to cover it and incurred a taxable gain or loss³. Now you don't have to.



Avoid selling your Bitcoin

Selling Bitcoin can result in a taxable gain or loss³. Borrow from Coinbase to get cash without selling your Bitcoin.



No fees or credit checks

There are no fees or credit checks involved, just a low APR of 8%².



Flexible repayment schedule

Pay off the balance on your line of credit on a schedule that works for you. Additional terms apply⁴.



Get Cash Quickly

Your borrowed cash can be instantly deposited to PayPal or transferred via ACH to your bank account.



WELCOME BONUS

Sign Up & Get Up to **\$150** in BTC

Get \$100, paid out in BTC, when you top up \$1,500 or more. Grab an extra \$50 in BTC if you swap at least \$1,500.

[Get \\$150 in BTC >](#)

ProductsInstitutionsServicesResourcesCompanyCredit CardLog in[Get started](#)

BLOCKFI LOANS

Borrow money at rates as low as 4.5% APR

You don't have to sell your crypto to get cash. At BlockFi, we let you borrow funds against your cryptoassets so you can get a loan while continuing to hold.

[Open your account >](#)

What's your rate?

\$25,000 - +

USD Loan Amount

BTC

Crypto

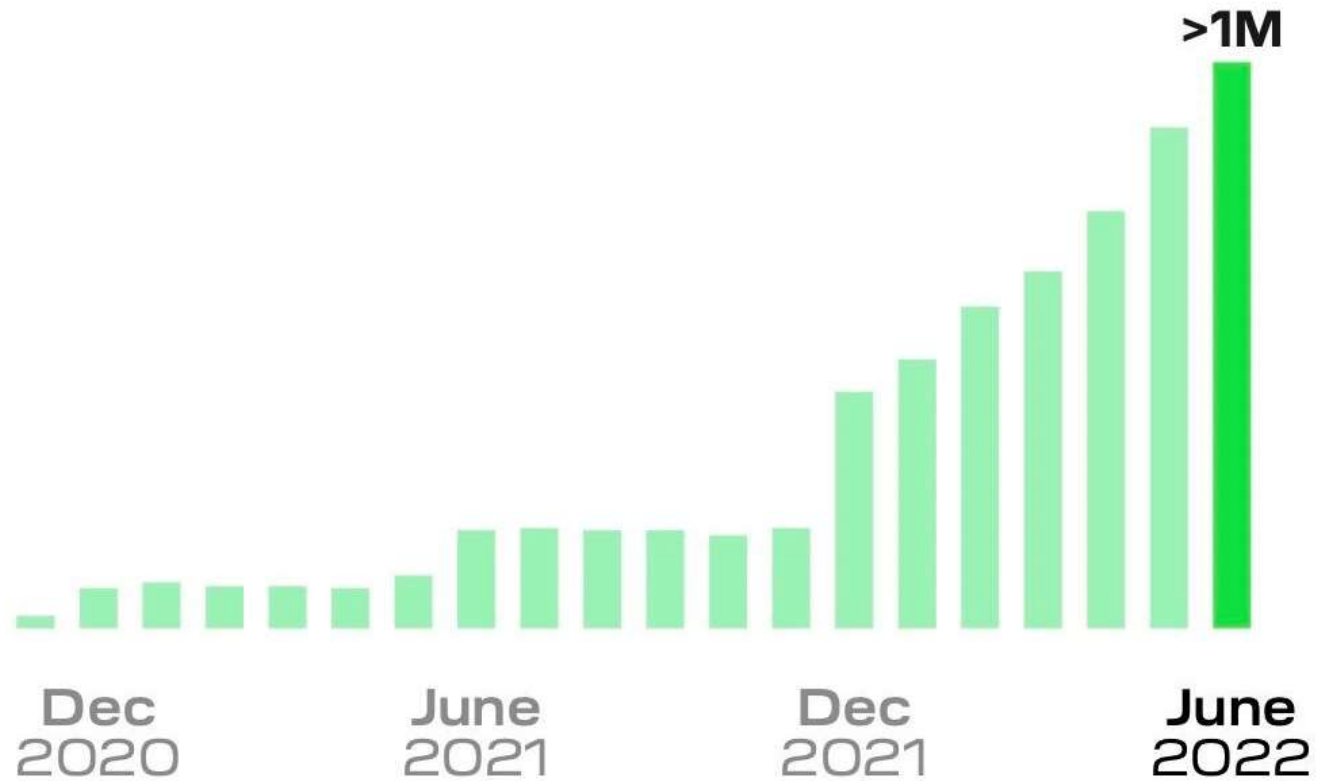
1.39

Collateral Needed

Collateral amount based on a 50% Loan to Value (LTV). Learn more about LTV ratios. Loans originate for a 12-month term.

[Open your account >](#)

GROWING USERS



Cash App Borrow Users through July 2022



This is our apparel line.

It's called Cash by Cash App. It's made up of limited edition drops.

We custom-designed every piece, down to the drawstrings and buttons. You can wear it anywhere. We hope you do.



XS to 5XL

Our garments are designed to be unisex and range in size from XS up to 5XL.



Custom Designed

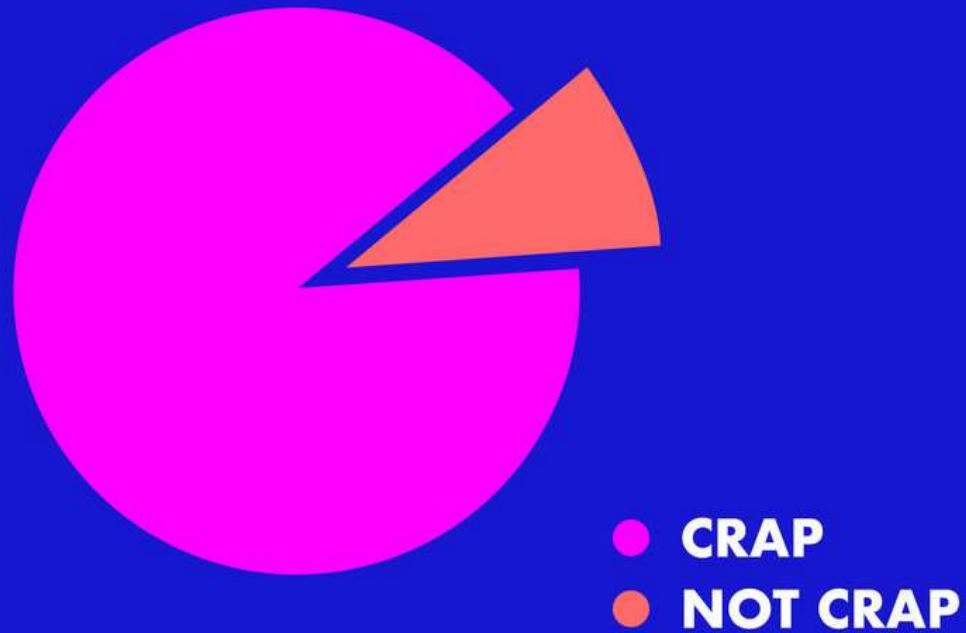
We custom-designed every piece, down to the drawstrings, buttons, and zippers.



Made in Los Angeles

Each garment is sewn with care in Los Angeles, California.

STURGEON'S LAW



"90% of everything... is crap" – Sturgeon's Law

Theodore Sturgeon 1957

CBDC

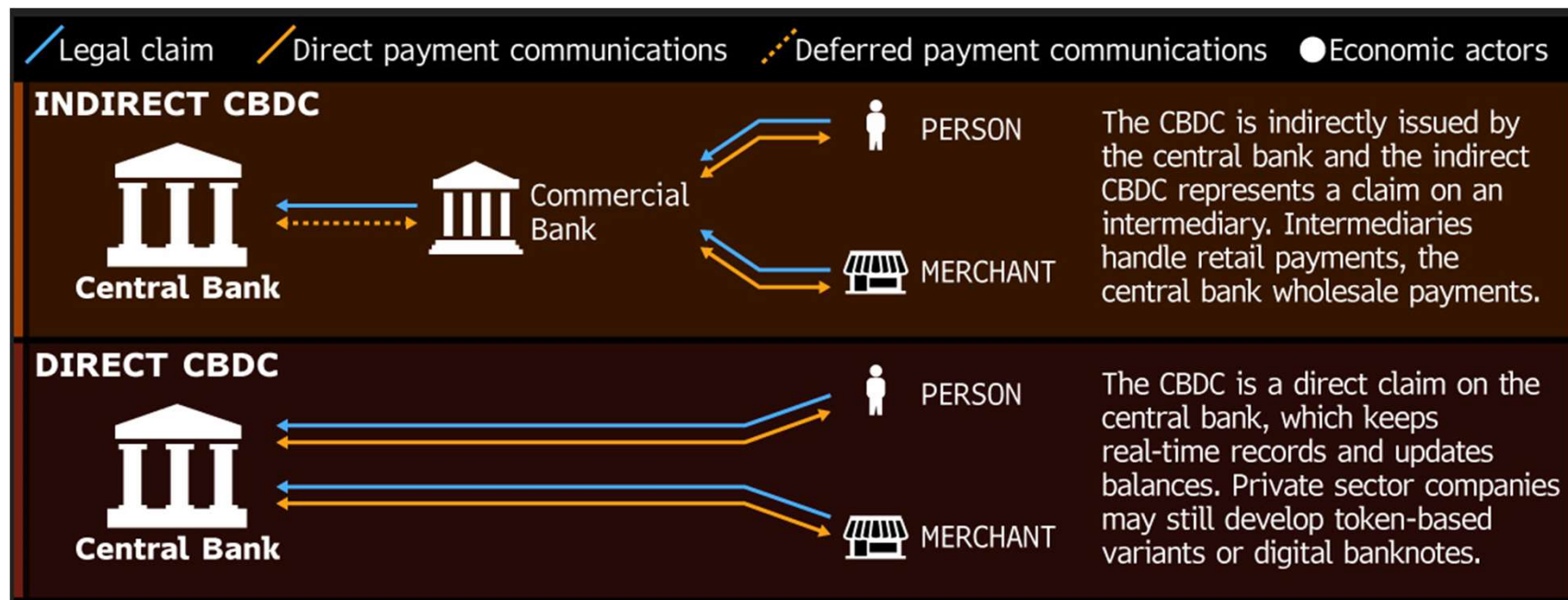
CENTRALLY BACKED DIGITAL COIN (CBDC)

- Not a True Cryptocurrency
- Central Authority: Faster & More Efficient
- Federal Reserve/MIT Hamilton Project
- Transactional – Pegged to US Dollar
- Engage with
 - ICBA, ABA, Regulators, and State Agencies



DIGITAL CASH - CBDC

■ Politicized/Controversial Implementation Models

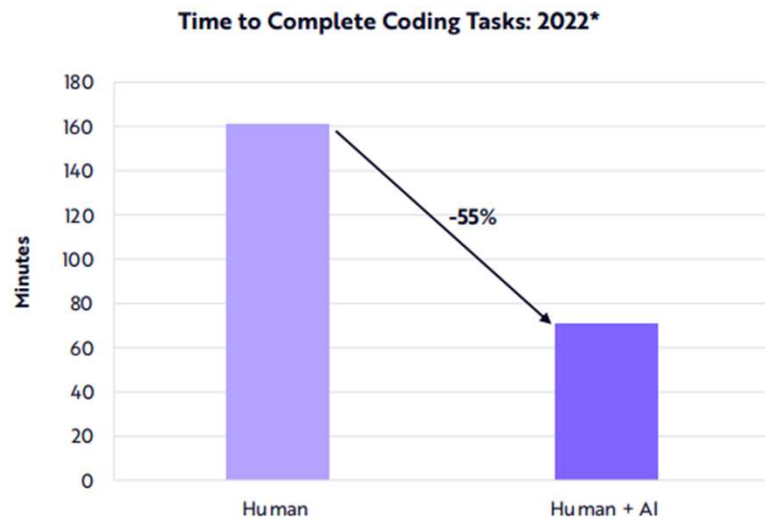


AUTOMATION

AI Is Increasing The Productivity of Knowledge Workers

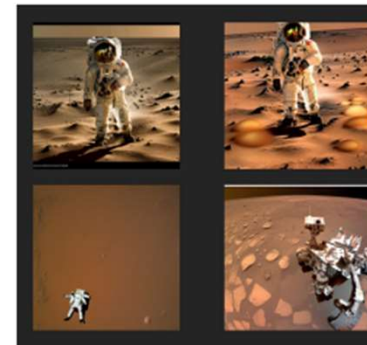
Coding Assistants

Software engineers completed a coding task in less than half the time with AI coding assistant GitHub Copilot.



Generative Image Models

According to our research, AI can create a graphic design for just \$0.08** in minutes — a *di minimis* cost compared to \$150 for human labor.



Human

Cost \$150

Time 5 Hours



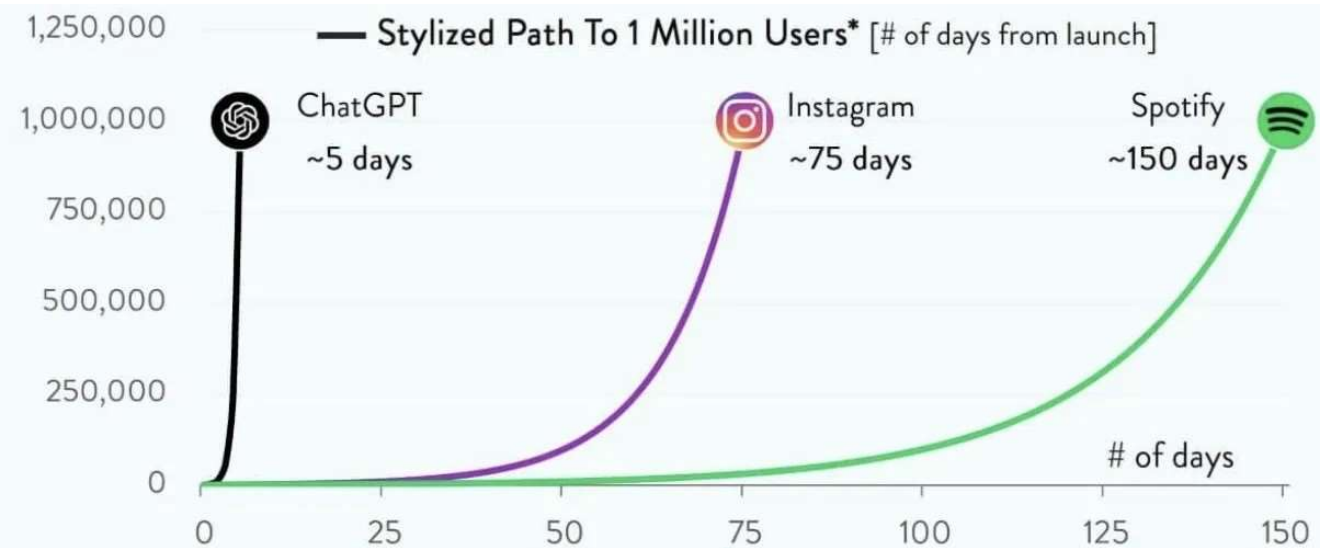
Generative AI

Cost \$0.08

Time < 1 Minute

*Based on the data from GitHub. **Generative AI Models translated "a picture of an astronaut on Mars" into multiple images in just a few seconds – ARK Investment Management LLC

Spawning a Revolution

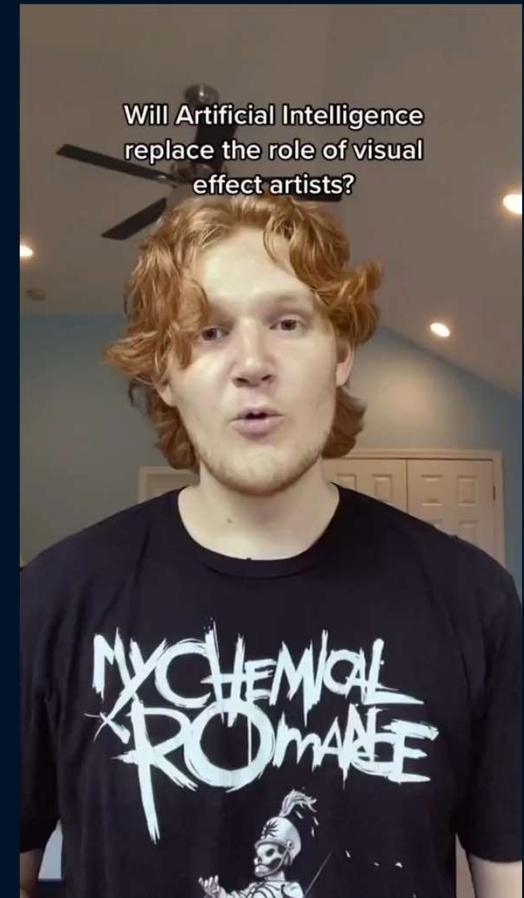
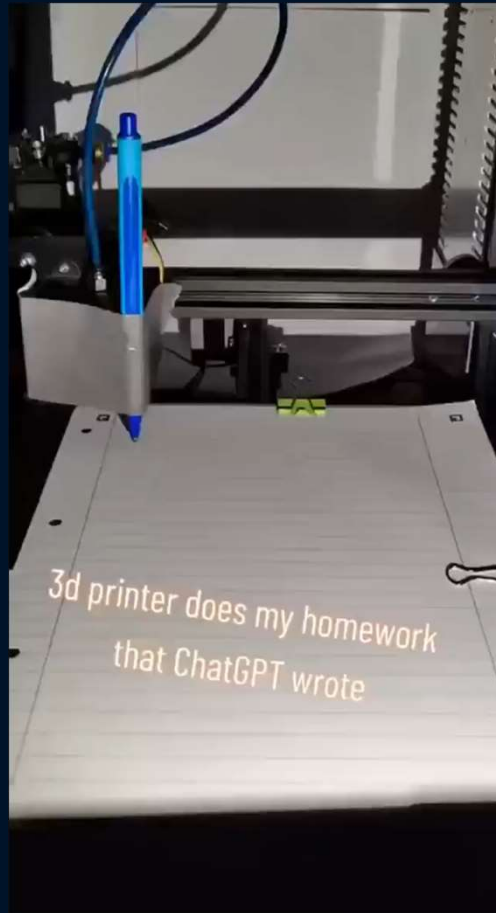


Chat GPT: 847 million unique users just in April 2023

>8 billion devices globally leveraging AI monthly

Text	ChatGPT OpenAI ChatGPT is fine-tuned from GPT-3.5, a language model trained to produce text. Free	GPT-4 OpenAI GPT-4 is OpenAI's most advanced system, producing safer and more useful responses.	Notion AI Notion A connected assistant which produces text responses based on user's questions and the current page context. Free
Image	Stable Diffusion Stability.ai A deep learning, text-to-image model, used to generate detailed images conditioned on text descriptions. Free	Image Creator Microsoft Bing Image Creator generates AI images based on your text. Free	Midjourney Midjourney Midjourney is an AI program which generates images from natural language descriptions/prompts.
Video	Runway Runway A multi-modal AI system that can generate novel videos with text, images, or video clips. Free	Fliki Fliki Fliki is a text to video and text to speech creator powered by generative AI. Free	Wonder... Wonder Studio An AI tool that automatically animates, lights and composes CG characters into a live-action scene.
Audio	JukeBox OpenAI A neural net that generates music, including rudimentary singing, as raw audio in a variety of genres and artist... Free	MusicLM Google Research MusicLM is an AI model that can generate high-fidelity music from text. Free	Text to Speech Microsoft Azure AI voice generators to speak naturally using synthesized speech from input text. Free
3D	Point-E OpenAI A system for generating 3D point clouds from complex prompts. Free	Magic3D NVIDIA Magic3D is a new text-to-3D content creation tool that creates 3D mesh models with unprecedented quality.	Imagine 3D Luma AI An early experiment to prototype and create 3D with text.
Coding	Copilot X GitHub An AI pair programmer with an early adoption of OpenAI's GPT-4.	Codex OpenAI An AI system that translates natural language to code.	CodeWhisperer Amazon CodeWhisperer can generate code suggestions ranging from snippets to full functions based on your comments and... Free

Massive Changes





“

You won't even know that it's AI taking your order.

TODD PENEGOR
WENDY'S CEO
ON AI DRIVE-THRU's

PHOTO: WENDY'S

yahoo!
finance



Kent Beck 🌻🔵
 @KentBeck

I've been reluctant to try ChatGPT. Today I got over that reluctance. Now I understand why I was reluctant.

The value of 90% of my skills just dropped to \$0. The leverage for the remaining 10% went up 1000x. I need to recalibrate.

12:51 PM · Apr 18, 2023 · 945.6K Views



Linas Beliūnas [in](#)
 @linas.beliunas

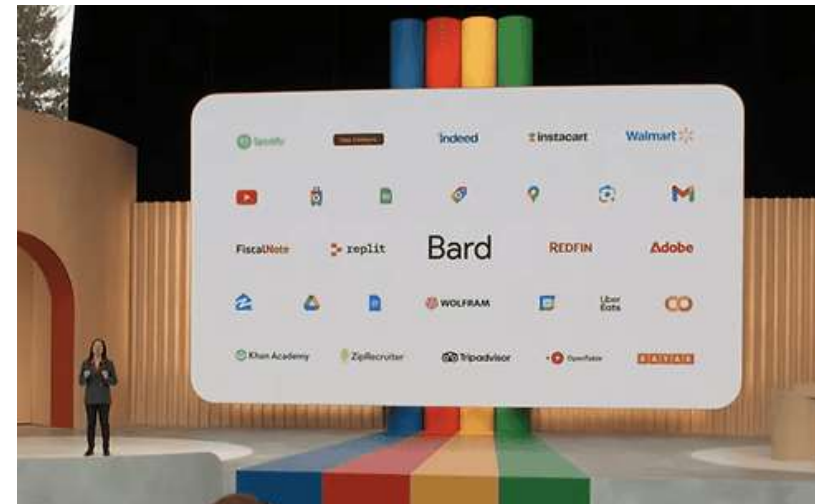
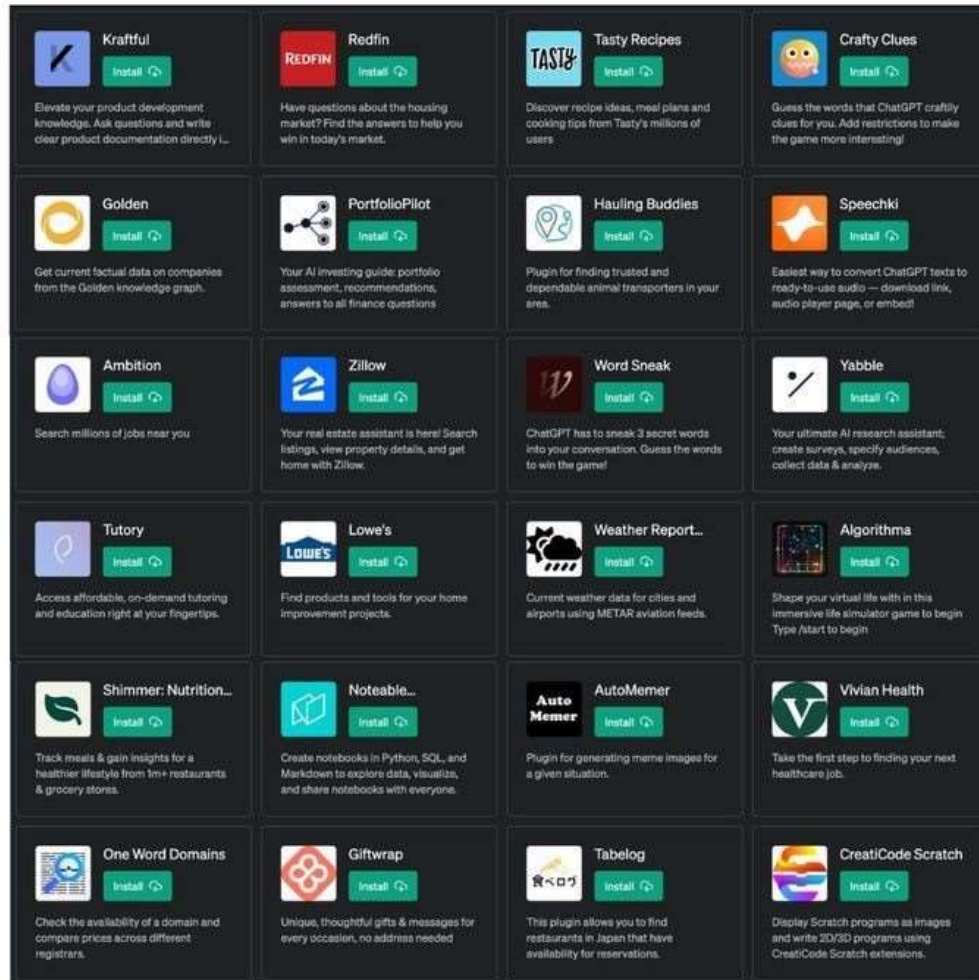
A 23-year-old influencer used OpenAI's technology to create an **AI version of herself**.

She started charging **\$1/minute** for access and made **\$72,000 in the first week**.

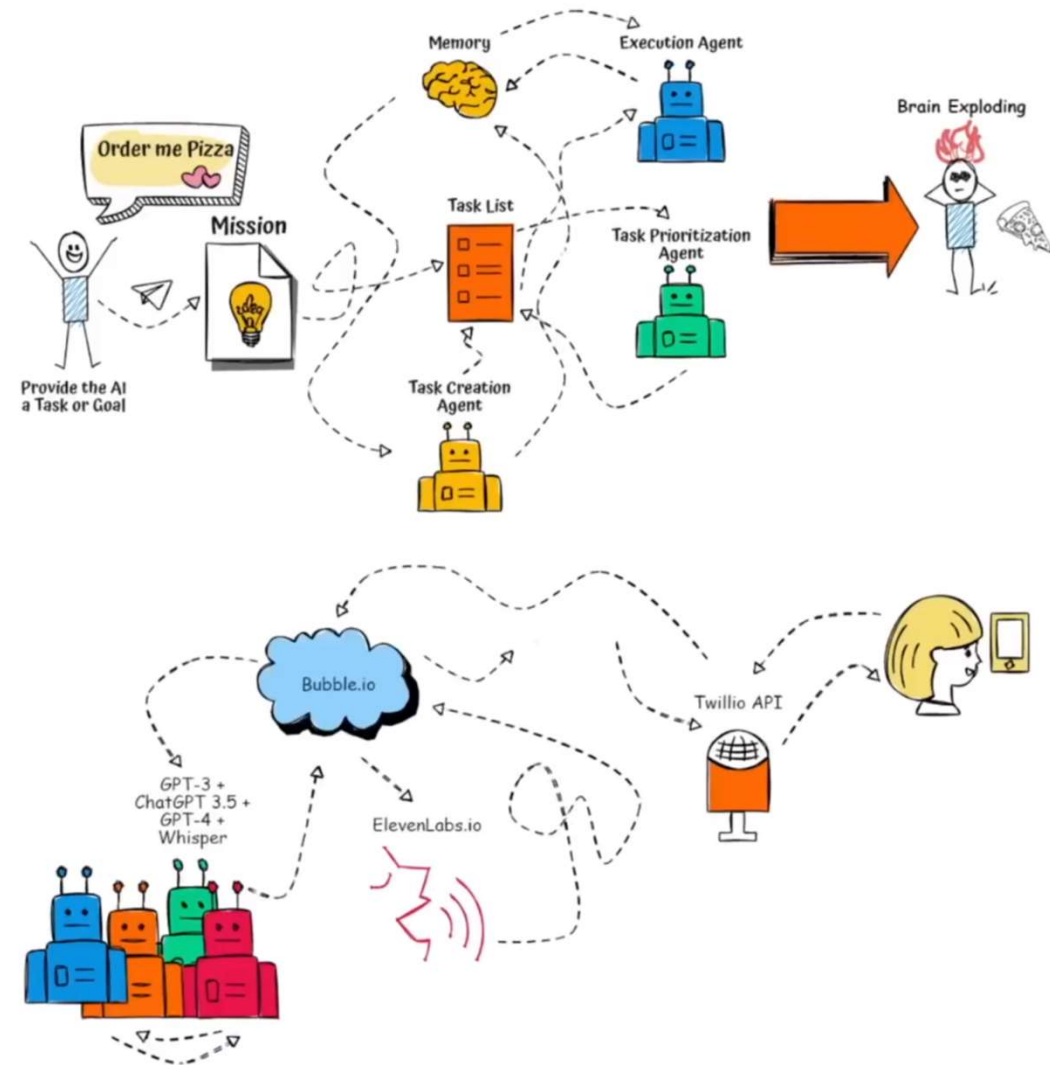
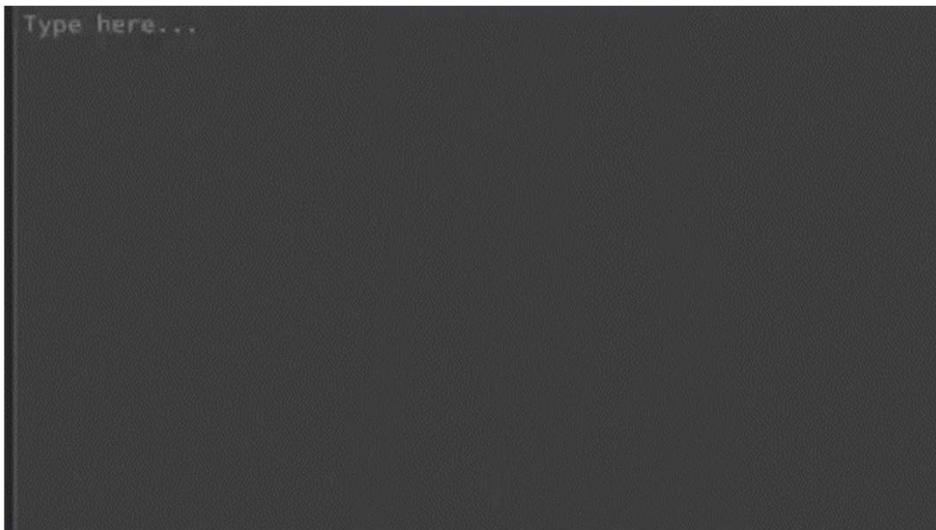
AI girlfriends are going to be a huge.



AUTOMATED COMMERCE – THE NEW APP STORE



AUTOMATED EVERYTHING



**Complexity →
Ignorance**

ACTUAL CONVERSATION

You always get the fanciest food.

Dad, this is just Noodles & Company

Never heard of it.

We had a free code in the app
for Amanda's birthday.

You can order food from your
phone from there?

You can order food from your
phone from almost everywhere

Does my phone do that?

ACTUAL CONVERSATION

Hey, what's 'Zelle'? It was on the envelope of my bank statement

It's a P2P service through your bank

What does "P2P" mean?

It means Person-to-Person...
Like to send money

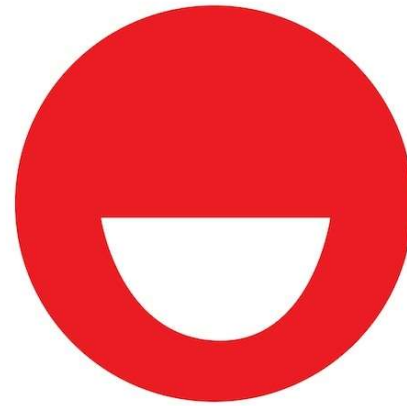
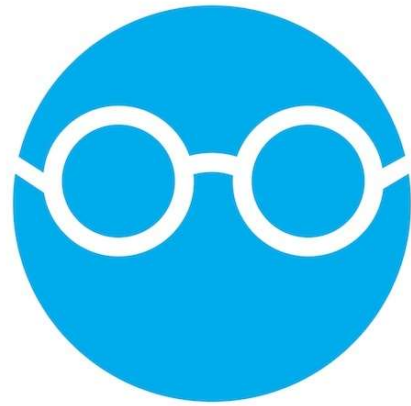
Oh. My bank uses PayPal for that.

No, PayPal is its own company. Entirely separate from your bank. Zelle is done directly from your online banking.

Well I don't know anything about that but my bank uses PayPal.

**WHAT PEOPLE
HEAR WHEN
DISCUSSING
NEW
TECHNOLOGY**





YOU'RE THE EXPERT



**If you don't like change, you're
going to like irrelevance even less.**

– Gen. Eric Shinseki

Questions?

THANK YOU

Matt.Herren@csiweb.com

Linked in Matt Herren CSI

