

Facebook announces Libra cryptocurrency: All you need to know

The use cases, technology and motive behind the new digital money



Josh Constine @joshconstine 10 hours ago



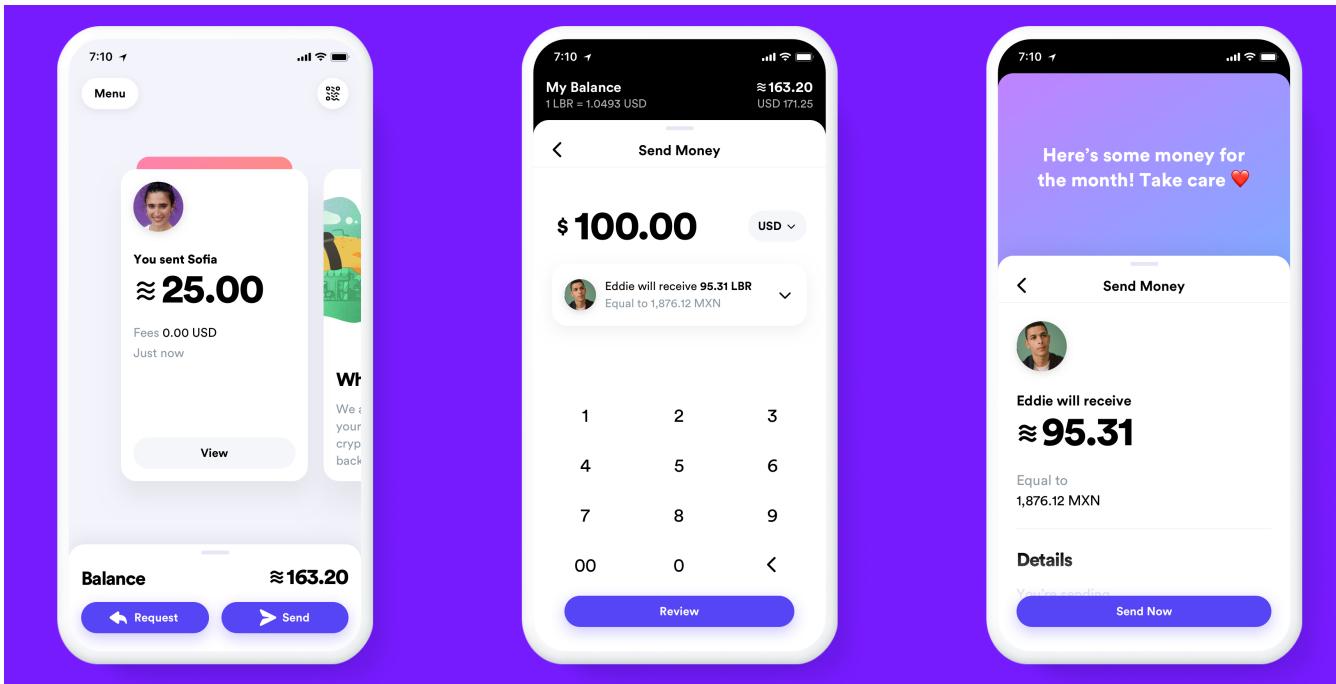
Facebook has finally revealed [the details](#) of its cryptocurrency, Libra, which will let you buy things or send money to people with nearly zero fees. You'll pseudonymously buy or cash out your Libra online or at local exchange points like grocery stores, and spend it using interoperable third-party wallet apps or Facebook's own [Calibra wallet](#) that will be built into WhatsApp, Messenger and its own app. Today Facebook [released](#) its [white paper](#) explaining Libra and its [testnet](#) for working out the kinks of its blockchain system before a public launch in the first half of 2020.

Facebook won't fully control Libra, but instead get just a single vote in its governance like other founding members of the Libra Association, including Visa, Uber and Andreessen Horowitz, which have invested at least \$10 million each into the project's operations. The association will promote the open-sourced Libra Blockchain and developer platform with its own Move programming language, plus sign up businesses to accept Libra for payment discounts or rewards.



Your identity won't be tied to your publicly visible transactions. But

Facebook/Calibra and other founding members of the Libra Association will earn interest on the money users cash in that is held in reserve to keep the value of Libra stable.



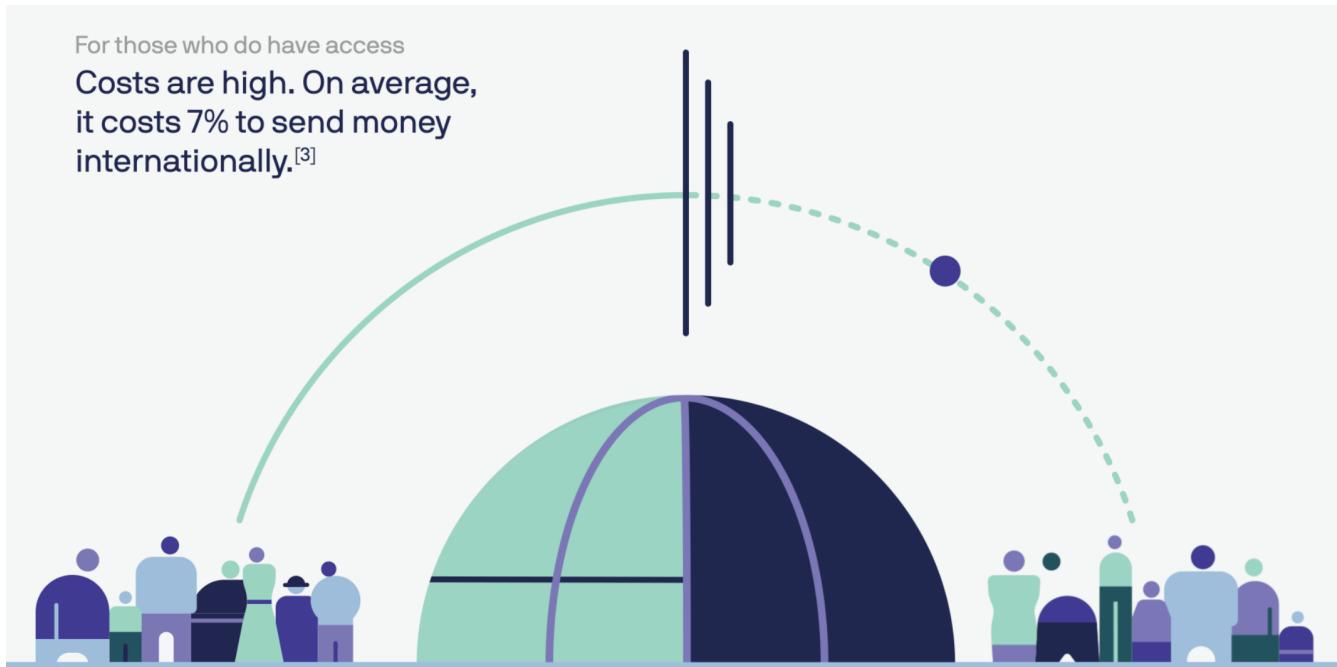
Facebook's audacious bid to create a global digital currency that promotes financial inclusion for the unbanked actually has more privacy and decentralization built in than many expected. Instead of trying to dominate Libra's future or squeeze tons of cash out of it immediately, Facebook is instead playing the long-game by pulling payments into its online domain. Facebook's VP of blockchain, David Marcus, explained the company's motive and the tie-in with its core revenue source during a briefing at San Francisco's historic Mint building. "If more commerce happens, then more small businesses will sell more on and off platform, and they'll want to buy more ads on the platform so it will be good for our ads business."

The risk and reward of building the new PayPal

In cryptocurrencies, Facebook saw both a threat and an opportunity. They could build their own system for tracking how things are bought and sold by eliminating

transactions, they'd learn what people buy and could muscle in on the billions

spent on Facebook marketing. Meanwhile, the 1.7 billion people who lack a bank account might choose whoever offers them a financial services alternative as their online identity provider too. That's another thing Facebook wants to be.



Yet existing cryptocurrencies like Bitcoin and Ethereum weren't properly engineered to scale to be a medium of exchange. Their unanchored price was susceptible to huge and unpredictable swings, making it tough for merchants to accept as payment. And cryptocurrencies miss out on much of their potential beyond speculation unless there are enough places that will take them instead of dollars, and the experience of buying and spending them is easy enough for a mainstream audience. But with Facebook's relationship with 7 million advertisers and 90 million small businesses plus its user experience prowess, it was well-poised to tackle this juggernaut of a problem.

Now Facebook wants to make Libra the evolution of **PayPal** ⓘ. It's hoping Libra will become simpler to set up, more ubiquitous as a payment method, more efficient with fewer fees, more accessible to the unbanked, more flexible

than traditional currencies, and more long-lasting through decentralization.



empowers billions of people.



“Success will mean that a person working abroad has a fast and simple way to send money to family back home, and a college student can pay their rent as easily as they can buy a coffee,” Facebook writes in its Libra documentation. That would be a big improvement on today, when you’re stuck paying rent in insecure checks while exploitative remittance services charge an average of 7% to send money abroad, taking \$50 billion from users annually. Libra could also power tiny microtransactions worth just a few cents that are infeasible with credit card fees attached, or replace your pre-paid transit pass.

...Or it could be globally ignored by consumers who see it as too much hassle for too little reward, or too unfamiliar and limited in use to pull them into the modern financial landscape. Facebook has built a reputation for over-engineered, underused products. It will need all the help it can get if wants to replace what’s already in our pockets.

How does Libra work?

By now you know the basics of Libra. Cash in a local currency, get Libra, spend them like dollars without big transaction fees or your real name attached, cash them out whenever you want. Feel free to stop reading and share this article if that’s all you care about. But the underlying technology, the association that governs it, the wallets you’ll use and the way payments work

Facebook knew people wouldn't trust it to wholly steer the cryptocurrency they use, and it also wanted help to spur adoption. So the social network recruited the founding members of the Libra Association, a not-for-profit which oversees the development of the token, the reserve of real-world assets that gives it value and the governance rules of the blockchain. "If we were controlling it, very few people would want to jump on and make it theirs," says Marcus.

Each founding member paid a minimum of \$10 million to join and optionally become a validator node operator (more on that later), gain one vote in the Libra Association council and be entitled to a share (proportionate to their investment) of the dividends from interest earned on the Libra reserve into which users pay fiat currency to receive Libra.

The 28 soon-to-be founding members of the association and their industries, previously reported by [The Block's Frank Chaparro](#), include:

- Payments: Mastercard, PayPal, PayU (Naspers' fintech arm), Stripe, Visa
- Technology and marketplaces: Booking Holdings, eBay, Facebook/Calibra, Farfetch, Lyft, Mercado Pago, Spotify AB, Uber Technologies, Inc.
- Telecommunications: Iliad, Vodafone Group
- Blockchain: Anchorage, Bison Trails, Coinbase, Inc., Xapo Holdings Limited
- Venture Capital: Andreessen Horowitz, Breakthrough Initiatives, Ribbit Capital, Thrive Capital, Union Square Ventures
- Nonprofit and multilateral organizations, and academic institutions: Creative Destruction Lab, Kiva, Mercy Corps, Women's World Banking

 USV Union Square Ventures

ANDREESSEN
HOROWITZ

Ribbit Capital

FARFETCH

 THRIVE
CAPITAL

iliad

 VISA



 lyft

Uber

 stripe

 PayU



 mercado
pago

 ebay

coinbase

 Spotify

 PayPal

 ANCHORAGE

 CREATIVE
DESTRUCTION

 xapo.

 BisonTrails

 facebook | Calibra

Facebook says it hopes to reach 100 founding members before the official Libra launch and it's open to anyone that meets the requirements, including direct competitors like Google or Twitter. The Libra Association is based in Geneva, Switzerland and will meet biannually. The country was chosen for its neutral status and strong support for financial innovation including blockchain technology.

Libra governance — who gets a vote

To join the association, members must have a half rack of server space, a 100Mbps or above dedicated internet connection, a full-time site reliability engineer and enterprise-grade security. Businesses must hit two of three thresholds of a \$1 billion USD market value or \$500 million in customer balances, reach 20 million people a year and/or be recognized as a top 100 industry leader by a group like Interbrand Global or the S&P.

Crypto-focused investors must have more than \$1 billion in assets under management, while Blockchain businesses must have been in business for a



de security and privacy and custody or staking

nonprofits fulfilling three or four qualities, including working on financial inclusion for more than five years, multi-national reach to lots of users, a top 100 designation by Charity Navigator or something like it and/or \$50 million in budget.



The Libra Association will be responsible for recruiting more founding members to act as validator nodes for the blockchain, fundraising to jump-start the ecosystem, designing incentive programs to reward early adopters and doling out social impact grants. A council with a representative from each member will help choose the association's managing director, who will appoint an executive team and elect a board of five to 19 top representatives.

Each member, including Facebook/Calibra, will only get up to one vote or 1% of the total vote (whichever is larger) in the Libra Association council. This provides a level of decentralization that protects against Facebook or any other player hijacking Libra for its own gain. By avoiding sole ownership and dominion over Libra, Facebook could avoid extra scrutiny from regulators who are already investigating it for a sea of privacy abuses as well as potentially



. In an attempt to preempt criticism from lawmakers,

The Libra currency — a stablecoin

A Libra is a unit of the Libra cryptocurrency that's represented by a three wavy horizontal line unicode character ≈ like the dollar is represented by \$. The value of a Libra is



meant to stay largely stable, so it's a good medium of exchange, as merchants can be confident they won't be paid a Libra today that's then worth less tomorrow. The Libra's value is tied to a basket of bank deposits and short-term government securities for a slew of historically stable international currencies, including the dollar, pound, euro, Swiss franc and yen. The Libra Association maintains this basket of assets and can change the balance of its composition if necessary to offset major price fluctuations in any one foreign currency so that the value of a Libra stays consistent.

The name Libra comes from the word for a Roman unit of weight measure. It's trying to invoke a sense of financial freedom by playing on the French stem "Lib," meaning free.

The Libra Association is still hammering out the exact start value for the Libra, but it's meant to be somewhere close to the value of a dollar, euro or pound so it's easy to conceptualize. That way, a gallon of milk in the U.S. might cost 3 to

actually the same as with dollars.

apps, including Facebook's Calibra, third-party wallet apps and local resellers

like convenience or grocery stores where people already go to top-up their mobile data plan.

The Libra Reserve — one for one

Each time someone cashes in a dollar or their respective local currency, that money goes into the Libra Reserve and an equivalent value of Libra is minted and doled out to that person. If someone cashes out from the Libra Association, the Libra they give back are destroyed/burned and they receive the equivalent value in their local currency back. That means there's always 100% of the value of the Libra in circulation, collateralized with real-world assets in the Libra Reserve. It never runs fractional. And unlike "pegged" stable coins that are tied to a single currency like the USD, Libra maintains its own value — though that should cash out to roughly the same amount of a given currency over time.



When Libra Association members join and pay their \$10 million minimum,



they get 100 Libra Governance Tokens. Their share of the total tokens

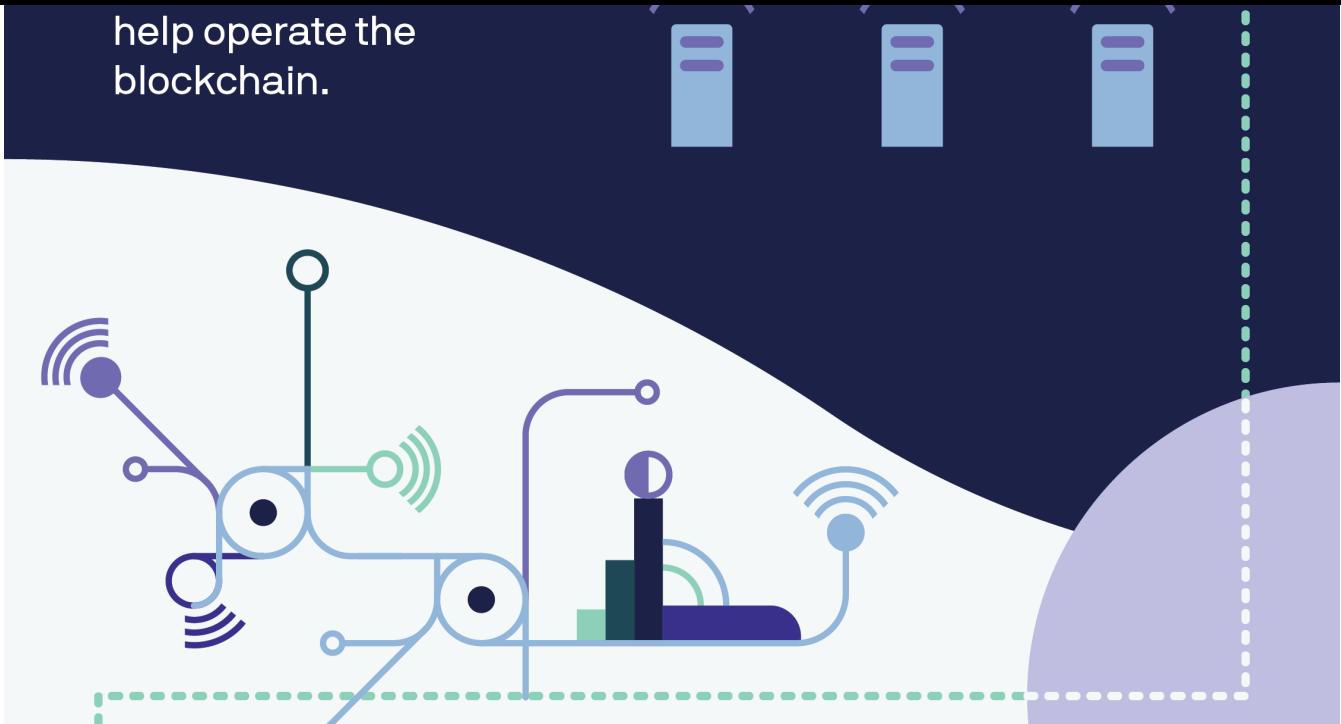
engineering research and grants to nonprofits and other organizations. This interest is part of what attracted the Libra Association's members. If Libra becomes popular and many people carry a large balance of the currency, the reserve will grow huge and earn significant interest.

The Libra Blockchain — built for speed

Every Libra payment is permanently written into the Libra Blockchain — a cryptographically authenticated database that acts as a public online ledger designed to handle 1,000 transactions per second. That would be much faster than Bitcoin's 7 transactions per second or Ethereum's 15. The blockchain is operated and constantly verified by founding members of the Libra Association, which each invested \$10 million or more for a say in the cryptocurrency's governance and the ability to operate a validator node.

When a transaction is submitted, each of the nodes runs a calculation based on the existing ledger of all transactions. Thanks to a Byzantine Fault Tolerance system, just two-thirds of the nodes must come to consensus that the transaction is legitimate for it to be executed and written to the blockchain. A structure of Merkle Trees in the code makes it simple to recognize changes made to the Libra Blockchain. With 5KB transactions, 1,000 verifications per second on commodity CPUs and up to 4 billion accounts, the Libra Blockchain should be able to operate at 1,000 transactions per second if nodes use at least 40Mbps connections and 16TB SSD hard drives.

help operate the blockchain.



Transactions on Libra cannot be reversed. If an attack compromises over one-third of the validator nodes causing a fork in the blockchain, the Libra Association says it will temporarily halt transactions, figure out the extent of the damage and recommend software updates to resolve the fork.

Transactions aren't entirely free. They incur a tiny fraction of a cent fee to pay for "gas" that covers the cost of processing the transfer of funds similar to with Ethereum. This fee will be negligible to most consumers, but when they add up, the gas charges will deter bad actors from creating millions of transactions to power spam and denial-of-service attacks. "We've purposely tried not to innovate massively on the blockchain itself because we want it to be scalable and secure," says Marcus of piggybacking on the best elements of existing cryptocurrencies.

Currently, the Libra Blockchain is what's known as "permissioned," where only entities that fulfill certain requirements are admitted to a special in-group that defines consensus and controls governance of the blockchain. The problem is this structure is more vulnerable to attacks and censorship



centralized. But during Facebook's research, it

compromising security.

That's why the Libra Association's goal is to move to a permissionless system based on proof-of-stake that will protect against attacks by distributing control, encourage competition and lower the barrier to entry. It wants to have at least 20% of votes in the Libra Association council coming from node operators based on their total Libra holdings instead of their status as a founding member. That plan should help appease blockchain purists who won't be satisfied until Libra is completely decentralized.

Move coding language — for moving Libra

The Libra Blockchain is open source with an Apache 2.0 license, and [any developer can build apps](#) that work with it using the Move coding language. The blockchain's prototype [launches its testnet today](#), so it's effectively in developer beta mode until it officially launches in the first half of 2020. The Libra Association is working with HackerOne to launch a bug bounty system later this year that will pay security researchers for safely identifying flaws and glitches. In the meantime, the Libra Association is implementing the Libra Core using the Rust programming language because it's designed to prevent security vulnerabilities, and the Move language isn't fully ready yet.

Move was created to make it easier to write blockchain code that follows an author's intent without introducing bugs. It's called Move because its primary function is to move Libra coins from one account to another, and never let those assets be accidentally duplicated. The core transaction code looks like: `LibraAccount.pay_from_sender(recipient_address, amount)` procedure.



Eventually, Move developers will be able to create smart contracts for programmatic interactions with the Libra Blockchain. Until Move is ready, developers can create modules and transaction scripts for Libra using Move IR, which is high-level enough to be human-readable but low-level enough to be translatable into real Move bytecode that's written to the blockchain.

The Libra ecosystem and the Move language will be completely open to use and build, which presents a sizable risk. Crooked developers could prey on crypto novices, claiming their app works just the same as legitimate ones, and that it's safe because it uses Libra. But if consumers get ripped off by these scammers, the anger will surely bubble up to Facebook. Yet still, Calibra's head of product tells me, "There are no plans for the Libra Association to take a role in actively vetting [developers]," Calibra's head of product Kevin Weil tells me.

Libra incentives — rewarding early businesses

The Libra Association wants to encourage more developers and merchants to work with its cryptocurrency. That's why it plans to issue incentives, possibly Libra coins, to validator node operators who can get people signed up for and using Libra. Wallets that pull users through the Know Your Customer anti-fraud and money laundering process or that keep users sufficiently active for over a year will be rewarded. For each transaction they process, merchants will also receive a percentage of the transaction back.

Businesses that earn these incentives can keep them, or pass some or all of them along to users in the form of free Libra tokens or discounts on their purchases. This could create competition between wallets to see which can pass on the most rewards to their customers, and thereby attract the most users. You could imagine [eBay](#) ⓘ or [Spotify](#) ⓘ giving you a discount for paying in Libra, while wallet developers might offer you free tokens if you complete 100 transactions within a year.

**"Libra will
empower fans in
underserved
markets by
enabling financial
inclusion."**



"One challenge for Spotify and its users around the world has been the lack of easily accessible payment systems – especially for those in financially underserved markets," Spotify's Chief Premium Business Officer Alex

count without dictating how businesses balance their margins versus growth. Facebook also has another plan to grow its developer ecosystem. By offering venture capital firms like **Andreessen Horowitz** ⓘ and Union Square Ventures a portion of the reserve interest, they're motivating to fund startups building Libra infrastructure.

Using Libra

So how do you actually own and spend Libra? Through Libra wallets like [Facebook's own Calibra](#) and others that will be built by third-parties, potentially including Libra Association members like PayPal. The idea is to make sending money to a friend or paying for something as easy as sending a Facebook Message. You won't be able to make or receive any real payments until the official launch next year, though, but you can [sign up for early access when it's ready here](#).

Calibra: How Facebook's Libra Cryptocurrency Wallet Works



None of the Libra Association members agreed to provide details on what



the blockchain, but we can take Facebook's Calibra

Know Your Customer anti-fraud process where they'll have to provide a government-issued photo ID and other verification info. They'll need to conduct due diligence on customers and report suspicious activity to the authorities.

From there you'll be able to cash in to Libra, pick a friend or merchant, set an amount to send them and add a description and send them Libra. You'll also be able to request Libra, and Calibra will offer an expedited way of paying merchants by scanning your or their QR code. Eventually it wants to offer in-store payments and integrations with point-of-sale systems like Square.



The Libra Association's e-commerce members seem particularly excited about how the token could eliminate transaction fees and speed up checkout. "We believe blockchain will benefit the luxury industry by improving IP protection, transparency in the product life cycle and — as in the case of Libra — enable global frictionless e-commerce," says FarFetch CEO Jose Neves.

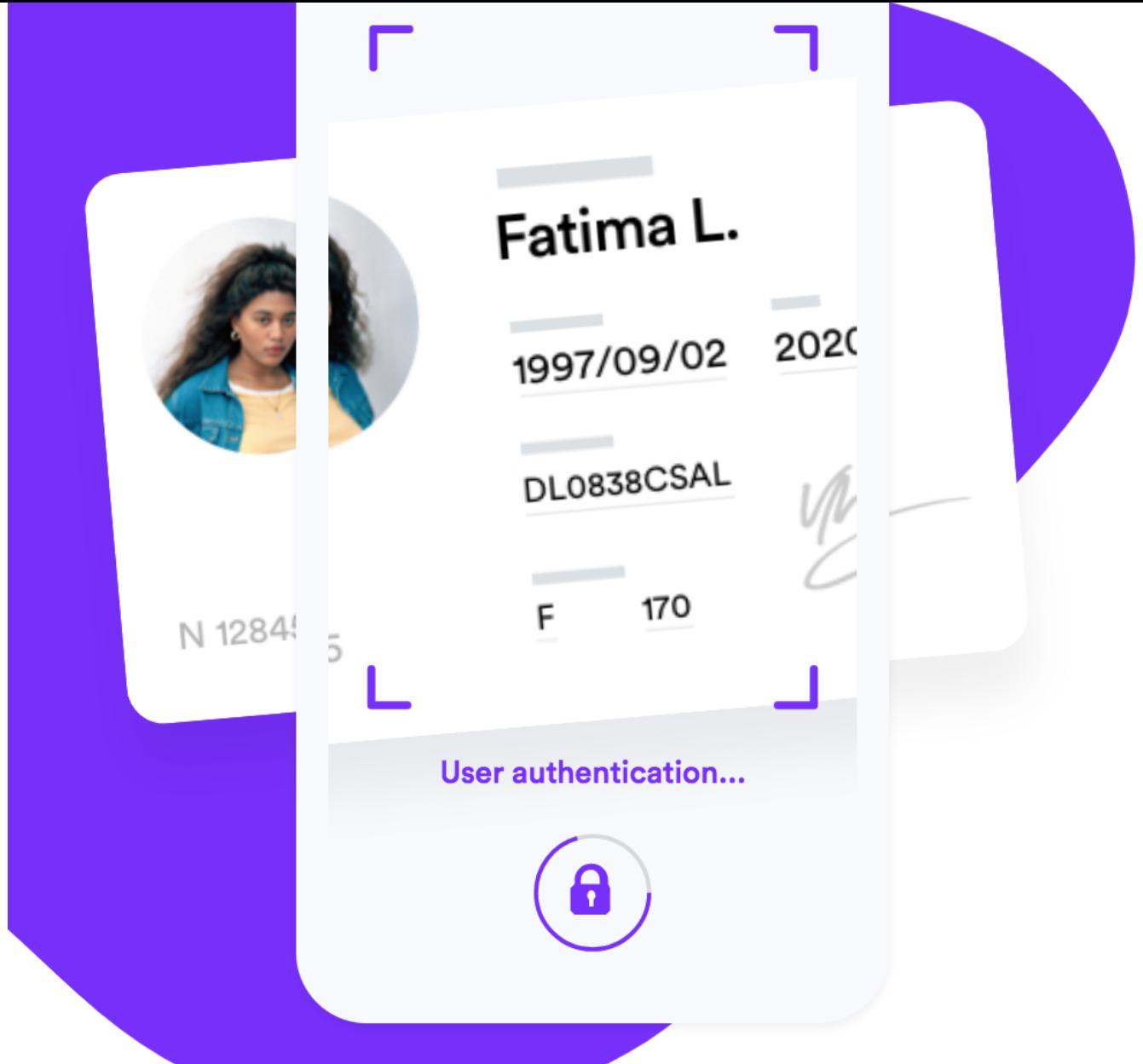
Privacy — at least from Facebook

Facebook CEO Mark Zuckerberg explained some of the philosophy behind Libra and Calibra in a [post today](#). "It's decentralized — meaning it's run by many different organizations instead of just one, making the system fairer overall. It's available to anyone with an internet connection and has low fees and costs. And it's secured by cryptography which helps keep your money safe. This is an important part of our vision for a privacy-focused social platform — where you can interact in all the ways you'd want privately, from

rank your News Feed, or otherwise earn Facebook money directly. Data will

only be shared in specific instances in anonymized ways for research or adoption measurement, for hunting down fraudsters or due to a request from law enforcement. And you don't even need a Facebook or WhatsApp account to sign up for Calibra or to use Libra.

"We realize people don't want their social data and financial data commingled," says Marcus, who's now head of Calibra. "The reality is we'll have plenty of wallets that will compete with us and many of them will not be in social, and if we want to successfully win people's trust, we have to make sure the data will be separated."



In case you are hacked, scammed or lose access to your account, Calibra will refund you for lost coins when possible through 24/7 chat support because it's a custodial wallet. You also won't have to remember any long, complex crypto passwords you could forget and get locked out from your money, as Calibra manages all your keys for you. Given Calibra will likely become the default wallet for many Libra users, this extra protection and smoother user experience is essential.

We hope to offer additional services for people and businesses, such as

paying bills with the push of a button, buying a cup of coffee with the scan of a code or riding your local public transit without needing to carry cash or a metro pass," the Calibra team writes. That makes it start to sound a lot like China's everything app WeChat.

A global coin

Facebook got one thing right for sure: Today's money doesn't work for everyone. Those of us living comfortably in developed nations likely don't see the hardships that befall migrant workers or the unbanked abroad. Preyed on by greedy payday lenders and high-fee remittance services, targeted by muggers and left out of traditional financial services, the poor get poorer. Libra has the potential to get more money from working parents back to their families and help people retain credit even if they're robbed of their physical possessions. That would do more to accomplish Facebook's mission of making the world feel smaller than all the News Feed Likes combined.

If Facebook succeeds and legions of people cash in money for Libra, it and the other founding members of the Libra Association could earn big dividends on the interest. And if suddenly it becomes super quick to buy things through Facebook using Libra, businesses will boost their ad spend there. But if Libra gets hacked or proves unreliable, it could cost lots of people around the world money while souring them on cryptocurrencies. And by offering an open Libra platform, shady developers could build apps that snatch not just people's personal info like Cambridge Analytica, but their hard-earned digital cash.

Facebook just tried to reinvent money. Next year, we'll see if the Libra Association can pull it off. It took me 4,000 words to explain Libra, but at least now you can make up your own mind about whether to be scared of Facebook crypto.

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