

# The macOS/win32 SLIP-39 App

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Creating personal Ethereum, Bitcoin and other Cryptocurrency accounts is *urgently* needed, but is complex and fraught with potential for loss of funds.

All Crypto wallets start with a "Seed": a large, random number used to derive all of your actual Bitcoin, Ethereum, etc. wallets.

The best practice for using these wallets is to load this "Seed" into a secure hardware device, like a Trezor "Model T" hardware wallet. SLIP-39 Mnemonic cards contain the recovery words, which are typed directly into the Trezor device to recover the Seed, and all of its Cryptocurrency accounts.

The macOS and win32 SLIP-39 App helps you generate Mnemonic cards and back up this Seed, securely and reliably, by distributing Mnemonic cards for the Seed to partners, family and friends. Also, encrypted "Paper Wallets" can be output, to support safer use of software cryptocurrency wallets such as Metamask, Brave or various mobile- and computer-based wallets.

Later, if you (or your heirs!) need to recover **all** of your Cryptocurrency accounts, they can collect a sufficient threshold of the cards and regain access to all of the cryptocurrency accounts related to the Seed.

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## 1 Security with Availability











































For both BIP-39 and SLIP-39, a 128-bit or 256-bit random "Seed" is the source of an unlimited sequence of Ethereum, Bitcoin, etc. HD (Hierarchical Deterministic) Wallet accounts.

Therefore, we must:

- Ensure that nobody untrustworthy can recover the Seed, but
- Store the Seed in many places with several (some perhaps untrustworthy) people.

### 1.1 SLIP-39 Mnemonic Recovery Cards

Instead, generate a number of SLIP-39 Mnemonic cards, which can be collected to recover the Seed:

<b>SLP39 First(1/1) for: Personal</b>	<b>SLP39 Second(1/1) for: Personal</b>	<b>SLP39 Third(1/1) for: Personal</b>
Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz
1 hazard    8 mixed    15 improve 	1 hazard    8 kind    15 sidewalk 	1 hazard    8 kind    15 sidewalk 
2 steady    9 flip    16 carpet 	2 steady    9 season    16 percent 	2 steady    9 season    16 percent 
3 acrobat    10 program    17 angel 	3 beard    10 discuss    17 resident 	3 beard    10 discuss    17 resident 
4 romp    11 ordinary    18 cradle 	4 romp    11 pacific    18 emission 	4 romp    11 pacific    18 emission 
5 clock    12 energy    19 punish 	5 chest    12 spine    19 glasses 	5 chest    12 spine    19 glasses 
6 standard    13 parcel    20 trial 	6 club    13 thunder    20 remember 	6 club    13 thunder    20 remember 
7 frequent    14 music 	7 merit    14 wealthy 	7 merit    14 wealthy 
<b>SLP39 Fam(2/4) for: Personal</b>	<b>SLP39 Fam(3/4) for: Personal</b>	<b>SLP39 Fam(4/4) for: Personal</b>
Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6) ETH nsk4n6v9r9Dz, d4e6t4f748c5w6d3k2sf3f8BQTCGDSE6E15A161 BTC mkb4m9r9Dz, k1c1g9d9v9r9Dz, n1c1g9d9v9r9Dz, o1c1g9d9v9r9Dz
1 hazard    8 desktop    15 declare 	1 hazard    8 society    15 cluster 	1 hazard    8 society    15 cluster 
2 steady    9 sister    16 floral 	2 steady    9 fiction    16 damage 	2 steady    9 fiction    16 damage 
3 ceramic    10 stay    17 humidity 	3 ceramic    10 glasses    17 staff 	3 ceramic    10 glasses    17 staff 
4 scared    11 slim    18 slush 	4 shadow    11 domain    18 threaten 	4 shadow    11 domain    18 threaten 
5 ancient    12 canyon    19 identify 	5 duckling    12 unfold    19 system 	5 duckling    12 unfold    19 system 
6 obesity    13 beyond    20 agency 	6 garlic    13 spine    20 military 	6 garlic    13 spine    20 military 
7 switch    14 ceiling 	7 camera    14 anatomy 	7 camera    14 anatomy 
<b>SLP39 Frens(1/6) for: Personal</b>	<b>SLP39 Frens(2/6) for: Personal</b>	<b>SLP39 Frens(3/6) for: Personal</b>
Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6)	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6)	Recover w/ 2 of 4 groups First(1), Second(1), Fam(2/4), Frens(3/6)

I estimate the probability of successfully inheriting such a Paper Wallet + password or BIP-39 Mnemonic protected Seed is probably less than 50%. Perhaps **much** less.

### 1.1.2 Why Not a BIP-38 Encrypted Wallet + Password?

Have you ever forgotten a password to an online account?

Well, with a BIP-38 Encrypted Wallet + Password, there is *no password reset* option; there is no way to recover the password.

If the Wallet is lost, there is of course no way to recover it, even if you have the password.

This option is perhaps even less desirable than using a BIP-39 Mnemonic Seed phrase, because each and every Encrypted Wallet is exposed to this risk of loss.

## 1.2 Paper Wallets

If desired, you can produce encrypted Paper Wallets, to support software crypto wallets (eg. Meta-mask, Brave or various mobile- and computer-based wallets):



### 1.2.1 Walking-Around Money

Money that doesn't *work* has low utility and hence low value. There are often situations where you want to transport money physically, perhaps to buy something somewhere where you have no access to a computer, or by mail. Paper Wallets allow this.

Losing this Paper Wallet usually results in the loss of the funds held in it. But, not if you generate it from your Seed!

Just pick a derivation path you aren't going to use for your own personal wallets (eg. ending in `..99'/0/0`), and generate some Paper Wallets (use each derivation path only once, of course). Fold them up so that the Private Key is not visible, laminate them and deposit funds into the wallet public address using the visible QR code.

The recipient can cut and unfold the Paper Wallet, exposing the private key and password hint, and can transfer the funds into their own wallet.

If the Paper Wallet is ever lost, you can recover the Private Key (it was derived from your Seed!), and transfer the Cryptocurrency back into one of your own wallets.

## 2 Affiliate Links

To assist you in obtaining various SLIP-39 compatible components, we have established some relationship with reliable vendors.

## 2.1 Trezor

The Trezor "Model T" hardware wallet has built-in SLIP-39 generation and recovery capability. Enter the words on the SLIP-39 cards directly into the screen of the Trezor to recover your Cryptocurrency accounts.

We recommend the Trezor "Model T" for this reason. No other hardware wallet yet supports direct, on-screen SLIP-39 Seed recovery. This feature is, simply, so fundamentally important for Cryptocurrency Seed security and reliability that we consider it a necessity.

## 2.2 Netcoins.app

In Canada, one of the more highly regulatory-compliant Cryptocurrency exchanges is Netcoins.app (referral code: 5YO1MZ); sign up with this referral link, and we both get some benefits.

They have higher than typical Interac e-transfer limits, which is very nice. However, they don't support a wide range of cryptocurrencies; presently, only BTC, ETH, XRP, LTC, BCH, USDC, and a few other lesser-known coins.

## 2.3 Crypto.com

Use my referral link for Crypto.com (referral code: 2x4hk92dnf) to sign up for Crypto.com and we both get \$25 USD :)

The Crypto.com exchange has many more coins available, as well as a crypto-funded credit card that presently works in Canada.

## 2.4 Protecting your SLIP-39 Cards

Protect your printed SLIP-39 cards from water damage by laminating them in plastic or storing them in foil ziplock bags before mailing them. Print the SLIP-39 cards and cut them out, and then lay them out with 1/2" margins (so you can cut them out after lamination and retain 1/4" borders), either with self-adhesive full-page laminating sheets - no machine required (or index-card size sheets), or with a heat-laminating machine in full-page pouches (or in index-card size pouches).

## 3 Privacy Policy

SLIP-39 does not save or store any data input to or output from the app. Any SLIP-39 Mnemonic card PDFs exported by the app are saved on your device in the location that you specify after clicking the 'Save' button.