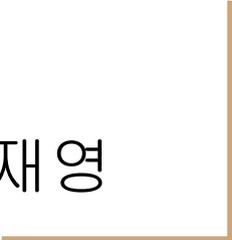
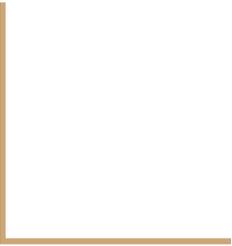




# Compound Liquidator-Bot

JARED 이재승 정재영



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1. Why Liquidator?
  2. How to operate
  3. Implementation

# 1. Why Liquidator?

“차익 실현을 위해 프로토콜의  
정상적인 운영을 유지하는 자”

# 1. Why Liquidator?

## Role of Liquidator

- Unhealthy Account들에 대한 지속적 Monitoring

- 대출자의 빠른 자산 회수 가능

- Protocol 내 자산 유동성의 유지

- 담보물 거래를 통한 차익 실현

<Liquidator Tool의 일부>

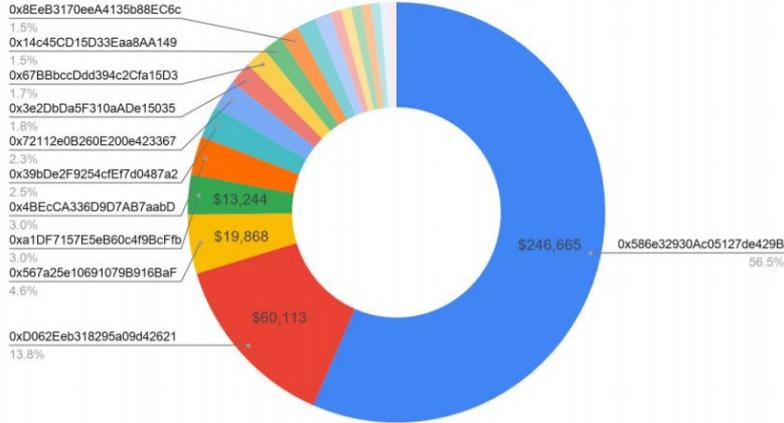
Accounts Current Block (Mainnet): 9082889

Address	Last Updated	Supply	Borrow	Health	State	
<a href="#">0x5142126b4573ae1a23e4c8ab2a16631cae725...</a>	<a href="#">Q</a>	0.035379	0.036397	0.97204967730393...	Unsafe	<a href="#">Inspect</a>
<a href="#">0xe87aa01979fcca6a688c2c714cdddc5a51c10f3a</a>	<a href="#">Q</a>	0.042836	0.043235	0.99077164166776...	Unsafe	<a href="#">Inspect</a>
<a href="#">0xb581c388a30519884522b177a92c2193510814</a>	<a href="#">Q</a>	0.057455	0.057624	0.99705750509330...	Unsafe	<a href="#">Inspect</a>
<a href="#">0x5425d45df13e6d542783efbaabb4278c9f42cc</a>	<a href="#">Q</a>	0.002691	0.002672	1.00702449649509...	Risky	<a href="#">Inspect</a>
<a href="#">0x60d2adea380b35c95c4389abb567a34ec112d1...</a>	<a href="#">Q</a>	0.005623	0.005577	1.00820350074459...	Risky	<a href="#">Inspect</a>
<a href="#">0x586a32930ac0c5127de429bd569eaa2758fcb98bc</a>	<a href="#">Q</a>	8077.208048	8004.899621	1.00903302108080...	Risky	<a href="#">Inspect</a>
<a href="#">0xa242e6dcb2da3a220958401d3b74b365bd3...</a>	<a href="#">Q</a>	3.099229	3.07097	1.00920210576390...	Risky	<a href="#">Inspect</a>
<a href="#">0x567a25e10691079ba916baf40135717370a8f0d7</a>	<a href="#">Q</a>	814.164381	804.027523	1.01260780141291...	Risky	<a href="#">Inspect</a>
<a href="#">0xa080c3c540eef908114679a7b1a06172d4e06f</a>	<a href="#">Q</a>	0.004892	0.004818	1.01545569037549...	Risky	<a href="#">Inspect</a>
<a href="#">0x8eab3170eaa4135b88ec6c058101d41a2b0cdd2</a>	<a href="#">Q</a>	288.430184	283.665422	1.01679712043307...	Risky	<a href="#">Inspect</a>
<a href="#">0xb2c70e8cfaa74c1bab733a5b8b8baea3152c827b</a>	<a href="#">Q</a>	137.226088	133.943293	1.02450883784145...	Risky	<a href="#">Inspect</a>
<a href="#">0xb6a312b525cd698cdd6c73a63e46a1e9dact835...</a>	<a href="#">Q</a>	0.00375	0.003654	1.02638122467077...	Risky	<a href="#">Inspect</a>
<a href="#">0x331e97bdf4239313674d11d3d97994804d44b88f</a>	<a href="#">Q</a>	0.287803	0.279102	1.03117432272627...	Risky	<a href="#">Inspect</a>
<a href="#">0x49f46f118f378ca1f594b8ba7ab9222ad2cd40c</a>	<a href="#">Q</a>	0.007501	0.007243	1.03567432942447...	Risky	<a href="#">Inspect</a>
<a href="#">0x5a7d7d8591dc34678e8601a2a25f1ab06e90da63</a>	<a href="#">Q</a>	21.768134	21.001782	1.03649085399736...	Risky	<a href="#">Inspect</a>

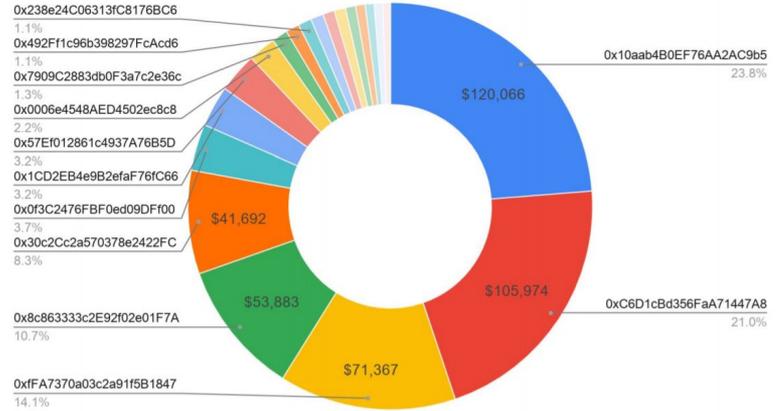
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# 1. Why Liquidator?

Most Liquidated Borrowers, Funds Lost (USD)



Most Active Liquidator Revenue (USD)



Transaction Hash	Date	Profit (\$)	Liquidator	Borrower	Collateralized Token	Repaid Token
<a href="#">0xa93b</a>	2019-12-17	10910.69784	<a href="#">0x10aab</a>	<a href="#">0x39bD</a>	ETH	USDC
<a href="#">0x71c4</a>	2019-12-23	10025.25404	<a href="#">0x10aab</a>	<a href="#">0x586e</a>	ETH	DAI
<a href="#">0x4a13</a>	2019-12-04	8994.932718	<a href="#">0x10aab</a>	<a href="#">0x586e</a>	ETH	USDC
<a href="#">0x2bf2</a>	2019-11-22	7715.455715	<a href="#">0x10aab</a>	<a href="#">0x586e</a>	ETH	USDC
<a href="#">0x06e3</a>	2019-11-22	7272.64655	<a href="#">0x10aab</a>	<a href="#">0x586e</a>	ETH	USDC

(상단 우측부터 반시계방향)

\*상위 청산자 노드

\*\*상위 청산당한 차입자 노드

\*\*\*청산 트랜잭션 예시

# 1. Why Liquidator?

## *Procedure of Liquidation*

- => 담보 자산 가치 하락 or 차입 자산 가치 상승
- => 담보 부실화 (계좌 유동성 < 0)
- => 원금 회수 위험 발생
- => 청산자의 Account 감지
- => 청산 트랜잭션 요청
- => 차입자 승인

## 2. How to Operate

*< Summary of Operations >*

### Borrow

- The borrow function transfers an asset from the protocol to the user, and creates a borrow balance which begins accumulating interest based on the **Borrow Rate** for the asset.
- The amount borrowed must be less than the user's **Account Liquidity** and the market's available liquidity.

### Repay Borrow

- The repay function transfers an asset into the protocol, reducing the user's borrow balance.

# 2. How to Operate

## Transfer

- Transfer is an ERC-20 method that allows accounts to send tokens to other Ethereum addresses.

## Liquidate Borrow

- A user who has negative **account liquidity** is subject to **liquidation** by other users of the protocol to return his/her account liquidity back to positive
- When a liquidation occurs, a liquidator may repay some or all of an outstanding borrow on behalf of a borrower and in return receive a discounted amount of collateral held by the borrower; this discount is defined as the liquidation incentive.
- A liquidator may close up to a certain fixed percentage (i.e. close factor) of any individual outstanding borrow of the underwater account.

# 3. Implementation

=> Shown by 재승