CODE ANALYSIS

●●●

MakerDAO protocol

```
/// @dev Place a vote for the given list of addresses
/// @param issues A list of contract addresses that represent voting issues or executive functions.
/// See: https://vote.makerdao.com/ for MakerDao voting issues.
/// @return The "slate" that identifies this list of issues. A slate is simply a hash of the
/// array of addresses.
function voteAddresses(address[] memory issues) public auth returns (bytes32) {
  // Ensure all GOV (MKR) has been locked to the DSChief prior to placing the vote
  lock();
  return chief.vote(issues);
}
}
```

VOTING PROXY SMART CONTRACT

The community could vote upon the proposal contracts and the one with the maximum votes is made active introducing all the necessary changes

Voting will take two forms, which is **Governance Vote** and **Executive Vote**

1. Governance vote → Vote for resolution/solution over matters, ex : creation over new teams
2. Executive vote → Vote for change the state of the system, ex : to ratify risk parameters for a newly accepted collateral type.

```
109        }
110
111        // Push to debt-queue
112        function fess(uint tab) external note auth {
113            sin[now] = add(sin[now], tab);
114            Sin = add(Sin, tab);
115        }
116        // Pop from debt-queue
117        function flog(uint era) external note {
118            require(add(era, wait) <= now, "Vow/wait-not-finished");
119            Sin = sub(Sin, sin[era]);
120            sin[era] = 0;
121        }
122
123        // Debt settlement
124        function heal(uint rad) external note {
125            require(rad <= vat.dai(address(this)), "Vow/insufficient-surplus");
126            require(rad <= sub(sub(vat.sin(address(this)), Sin), Ash), "Vow/insufficient-debt");
127            vat.heal(rad);
128        }
```

MULTI COLLATERAL DAI SMART CONTRACT

We can open CDP (Collateralized Debt Position) to get liquidity without losing ownership of our crypto asset. If we fail to pay back or the CDP does not hold enough collateral to cover the value of DAI issued, the MakerDAO will liquidate the asset.

DAI TOKEN

Enter the Solidity Contract Code below *

```solidity
pragma solidity ^0.4.22;

// Adding only the ERC-20 function we need
interface DaiToken {
    function transfer(address dst, uint wad) external returns (bool);
    function balanceOf(address guy) external view returns (uint);
}

contract owned {
    DaiToken daitoken;
        address owner;
```

Create DAI token

```solidity
1   pragma solidity ^0.5.9;
2
3   // Adding only the ERC-20 function we need
4 ▾ interface DaiToken {
5       function transfer(address dst, uint wad) external returns (bool);
6       function balanceOf(address guy) external view returns (uint);
7   }
8
9 ▾ contract owned {
10      DaiToken daitoken;
11      address owner;
12
13 ▾    constructor() public{
14          owner = msg.sender;
15          daitoken = DaiToken(0xC4375B7De8af5a38a93548eb8453a498222C4fF2);
16      }
17
18 ▾    modifier onlyOwner {
19          require(msg.sender == owner,
20                  "Only the contract owner can call this function");
21          _;
22      }
23  }
24
25 ▾ contract mortal is owned {
26      // Only owner can shutdown this contract.
27 ▾    function destroy() public onlyOwner {
28          daitoken.transfer(owner, daitoken.balanceOf(address(this)));
29          selfdestruct(msg.sender);
30      }
31  }
32
33 ▾ contract DaiFaucet is mortal {
34
35      event Withdrawal(address indexed to, uint amount);
36      event Deposit(address indexed from, uint amount);
37
38
```

4. Overall pros and cons

Pros
a. The key asset of Maker Dao is the fact that its a stablecoin, which granted, offers its stability. Due to its value which remains constant, it is spared from market brutality of ups and downs, and maintains a stable level, and is great for both long-term and short-term investments.

b. Dai holders have the brilliant option of lending the coins and earn interest. The calculation of interest amount is easy to do with Dai as the coin is stable enough.

c. Maker Dao provides the option of liquidation. So if someone's CDP appears to be too risky, it can be liquidated as per the target price that was set. The Maker Platform can determine as to when a CDP becomes risky and must go for liquidation. This process is completely automatic

Cons
a. There is a system of collateral that you need to show in order to acquire Maker Dao. It has a collateralized derivative contract, which has a lot of steps that could be confusing for the trader.

b. In the event of an Ethereum black swan event, the value of the underlying collateral, and therefore the value of the stablecoin, will also be wiped out. This could potentially disrupt your entire holding.

5. How to improve the cons

a. The first con talks about the complications that may caused to the traders using the collateralized derivative contract. The solution to this is to provide a step-by-step guide in the collateral system. This way, the traders that want to acquire Maker Dao can be able to follow the step-by-step guide to complete the collateralized derivative contract. Explanations should also be shown in the step-by-step guide so that the traders could know what they are "signing up" for instead of just following the step-by-step guide blindly. This solution could be able to simplify the complicated collateralized derivative contract process.

b. Rather than providing solution, I would like to address/eloborate about the second con mentioned in the above slide. The Black Swan argument is as follows:
    ● Ethereum may suffer from some catastrophic bug or a regulatory crackdown, at which point the value and liquidity of ether plummets before the collateral backing Dai can be liquidated.
    ● MakerDAO's system does have some protection against undercollateralization in the form of the MKR token, which serves as something akin to a Credit Default Swap, alongside its voting properties. In the event that the system enters an undercollateralized state, MKR supply is programmatically inflated and sold on the market, with any returns directed towards Dai holders.

5. How to improve the cons (continued)

- While not infallible, there is no guarantee that the MKR market will have sufficient liquidity in the event of an Ethereum 'black swan' this CDS-type protection does provide an additional margin of safety for Dai holders.

- One further concern is a liquidity crunch in the Dai market in the event of deleveraging spiral. A scenario was described by Klages-Mundt and Minca in the paper where CDP holders rush en masse to close out their positions when ether is falling precipitously, thereby bidding up the price of Dai. At certain Dai price levels, CDP holders may not have sufficient funds to cover their debt positions, leading to further vicious cycle of liquidations.

- MakerDAO's imminent transition to a multi-collateral portfolio, expected to launch in Q4 2019, should mitigate some of these issues: a diverse collateral portfolio mitigates system-wide risk in the event that one collateral type suffers from rapid price depreciation. Importantly, MakerDAO stakeholdersmust tailor risk parameters like debt ceilings, collateralization ratios, liquidation discounts according to the liquidity of collateral spot markets.

- Conclusion, as we view this "Black Swan event" as a whole, there are other issues and consequences that could happen in between. Improvements shall be proposed in a bottom-up manner, instead of a whole.

BUSINESS MODEL
AND
VISION

- Fact: Fluctuations over some common cryptocurrencies are LARGE. The value of them may vary second to second, and thus may not be a stable cryptocurrency.(See pic below, fluctuations over Bitcoins)
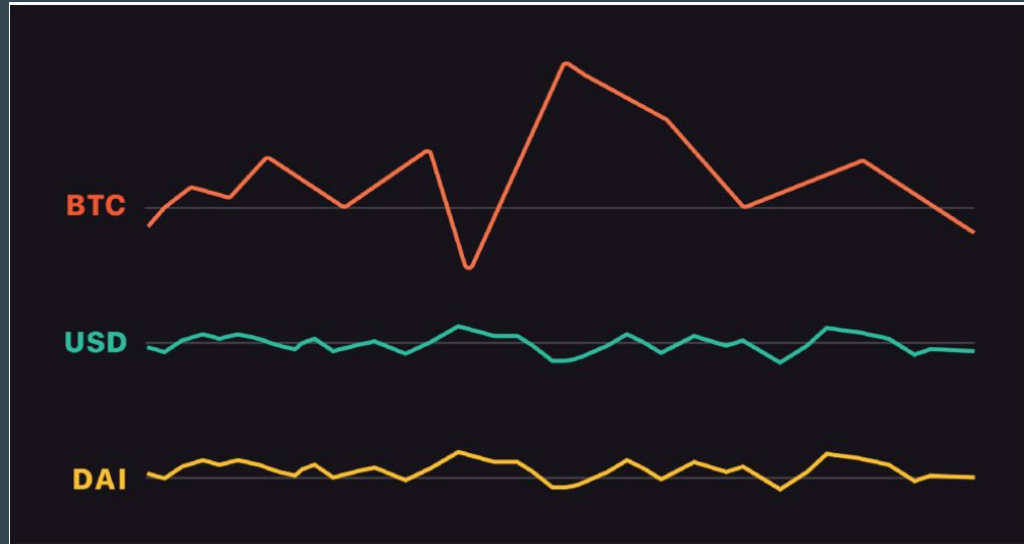
- However, DAI, created by MakerDao, is a decentralized stable coin on Ethereum that is soft-pegged to USD. The value of DAI may deviates a bit over time, but it will go on the trend where 1 USD is..

- In contrast to the large-vibration property, Dai is suitable for company to keep accounts, or for people to do transaction that would prefer to use a rather stable cryptocurrency. The creation of "Dai" is a milestone that a decentralized currency first get into usual market.

- For people who want to make some financing, they can now consider Dai as one of their choices. They also provide a platform to allow people to loan money. For example, Jack wants some cash(or any other mobile currency), but he only has some cryptocurrency(say, ETH). The platform allow him to mortgage his ETH and get Dai back, while he only need to pay the fixed value back in the future days. It does not matter whether ETH rises or falls in price.(But, perhaps, with some transaction fee).

- The transaction process depends on the special smart contract they designed－CDP(Collateralized Debt Position). CDPs alter the total supply of outstanding Dai, creating Dai when new assets are leveraged and destroying existing Sai when it is repaid to the position. This cycle of controlled minting and burning allows the contract to account for the total supply of the stablecoin, thus proving that the portfolio of backing collateral can always guarantee the value of circulating Dai.
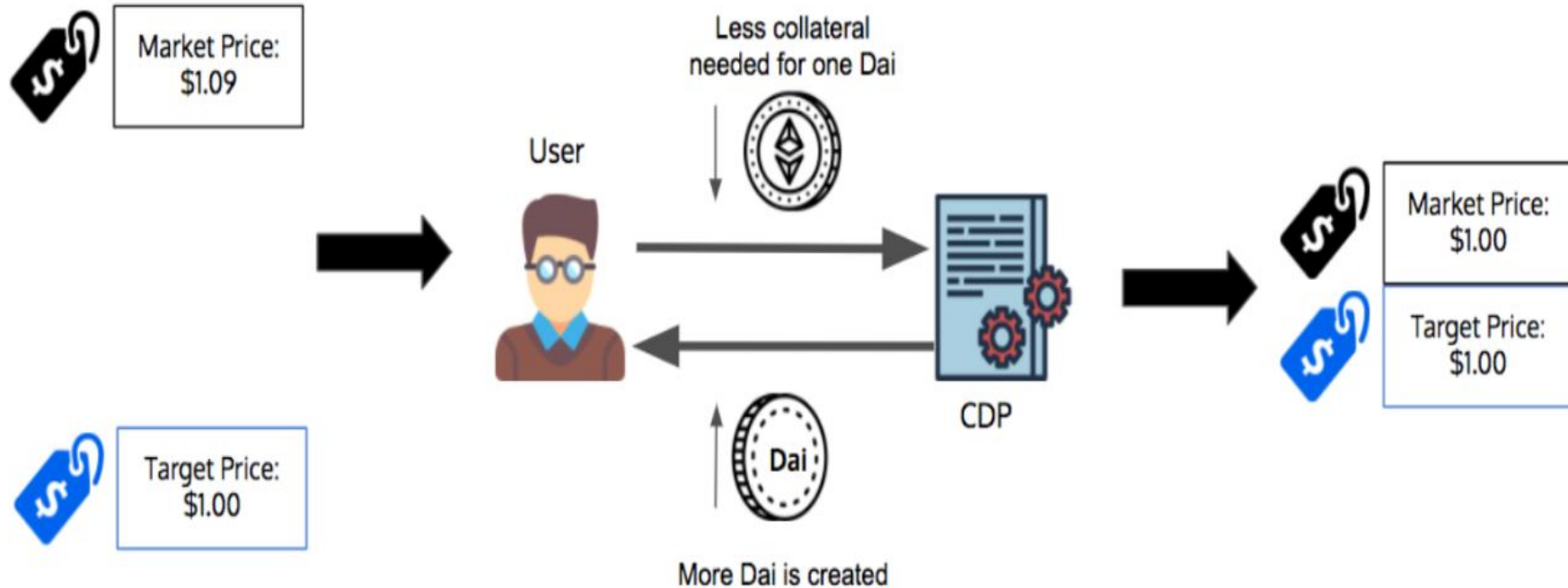
MARKET OVERVIEW

GREAT RESPONSE IN THE BEGINNING
Because it introduces itself as "stablecoin" which fixes the flaws that any other cryptocurrency has

Until public began to lose trust because of the debt that the company has

> MakerDAO's emergency shutdown option – which was weighed by community members following the appearance of a $4 million debt bubble on the decentralized finance (DeFi) platform – will not pass at this time. If a shutdown was triggered by the Maker team, all dai stablecoins in circulation would convert to the underlying asset, ether (ETH).

CAUSE OF THE DEBT

1. Error in generating collateralized debt positions (CDPs)
2. High chain congestion on Ethereum and the inability to add collateral to positions on Maker

The Maker Foundation Forms
a New Board of Directors

28 April 2020

As part of its commitment to bootstrapping MakerDAO, the Maker Foundation is pleased to announce the next phase of its board of directors. The most recent

ATTEMPT TO GAIN BACK PUBLIC TRUST
AND ITS COMPANY VALUE