CryptoCLASH: A Strategic Board Game Examining Volatility in Digital Currency and Markets

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Abstract

CryptoCLASH is a digital board game that aims to highlight the volatilities of online currency and competitive capitalist markets. In Thomas Piketty’s book Capital in the Twenty-First Century, he illustrates the relationship between markets, capital, and volatility. He notes that as capital becomes concentrated in fewer hands, the stability of markets decreases. While Piketty focuses on global, long-term trends, we noticed a similar pattern in online currency. Bitcoin, the most commonly used digital currency, fluctuates in value at extremely high rates. We believe that Bitcoin could act as a microcosm to educate an audience about volatility in small and large scale markets.

Research

Bitcoin, a digital cryptocurrency, is high in value but also high in volatility, as its exchange rate can change over $100 USD in a single month. In short, Bitcoin is maintained by a system, or “mining,” a system of cryptographic functions which enable transactions and produce more bitcoins. Anyone can mine and use Bitcoin, and it seeks to solve the problems of current monetary systems through its security, innovation, versatility, and decentralization. Thomas Piketty’s groundbreaking book Capital in the Twenty-First Century describes how capital and income inequality have evolved over the past hundred years. While wealth from income and goods fluctuates widely with the markets, wealth from capital is relatively stable and only harmed in extreme cases. Over years, while wealth from income and goods fluctuates wildly with the markets, wealth from capital is relatively stable and only harmed in extreme cases. Over time, this capital accumulates in fewer and fewer hands, and inevitably leads to massive income inequality between the top 10% and bottom 90% of people.

Purposes of mechanics in game:
- Claiming of markets simulates competition and acquisition of finite resources
- Randomly generated exchange rate simulates volatility of online currency
- Capital affects inputs and outputs of Function cards
- Outputs are introduced and generate income in bitcoins every round
- Capital cards, representing capital, are a permanent, and lucrative, form of wealth
- Volatility cards allow players to directly interfere in other players’ progress

Finalized Game

OBJECTIVE: Players, or “entrepreneurs,” seek to gain as much wealth as possible through the accumulation of output, capital, and bitcoins. Completion of Function cards are the most straightforward way to gain output and bitcoins, but there are many other ways to undermine your opponents and change the course of the game. The entrepreneur with the most Victory Points at the end of the game is the winner!

INSTRUCTIONS AND RULES: The main objective of the game is the completion of Function cards via accumulating bitcoins and inputs (electricity, energy, labor, steel). In return, they give the player rewards in the forms of bitcoins and outputs (stocks, factories, computers). These outputs generate income in the form of bitcoins at the beginning of every round. The Exchange Rate, which is randomly set from 1-6 at the start of each round, also affects the amount of inputs and outputs necessary to complete some Function cards. On any given turn, players “claim” lucrative Markets in order to facilitate the completion of Function cards, but have many other actions available, such as claiming Market Expansion, creating new markets; creating Function Markets, acquiring new Function cards; and playing Volatility cards, which allow a player to, among other things, steal other players’ inputs and change the Exchange Rate. However, once a market is claimed, no other player can claim that market until the next round when the board is cleared. Capital cards, which are extremely valuable, can also be acquired, but only if a player has enough bitcoins and inputs. Have fun!

Moving Forward

Alex, Marisa, and I are planning on finalizing the Function cards, further play-testing, tweaking user-friendly functionality, and creating a basic tutorial for newcomers to play through at Stony Brook University’s Game Programming Competition on May 12th. Then, once the semester is over, we will continue working on the educational portion of the game, hopefully including features such as more advanced AI, custom AI playthroughs and evaluations, and game theory applications. We also hope to enter our game into the 2017 Games For Change Festival in NYC which runs from July 31st to Aug. 2nd.

References