**On the Lumsden Economy, Nemesis Contract, and Timeline of Uploads**

A Peer-to-Peer Electronic Cash and Intellectual Property System

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**Intro**

A large feature of any economy is currency or a medium of exchange.  Currency is traditionally based on something of relative scarcity in order to maintain value.  Gold has been used as a basis for currency due to its intrinsic value and scarcity.  One criticism of gold backed currency is its inelasticity.  Government currency offers elasticity at the price of potential corruption.  Governments create artificial scarcity of their currency by limiting the supply in order to allow the currency to retain value.  As a result, users of government currency must have faith that the government will keep the supply of currency low.  Satoshi Nakamoto made an innovation for alternative, digital currencies by relating the introduction of new Bitcoins to the scarce resource of computational power through an intractable problem.  In this paper, another scarce resource is proposed for the basis of digital currency: innovation.  Rather than basing digital currency on proofs of work, the author proposes basing digital currency on proofs of innovation.

**Hypothesis for Current Intellectual Property Practices**

The author asserts the hypothesis that monetary compensation of an entity for generating intellectual property is governed on average by the following equation:

*M = N\*e^(A\*N)*

Where M represents monetary compensation

N is an integer representing the number of people involved in the organization

A is a constant > 0

The author asserts that this hypothesis is a logical conclusion of an entity’s ability to utilize an exploitive strategy in a competition to win a zero sum game, government granted monopolies. The author proposes that if this equation is true, then this represents an unbalanced strategy in intellectual property. By definition, an unbalanced strategy is exploitable. A balanced strategy would be of the form:

*M = N\*e^(A)*

**The Lumsden Dilemma**

If the proposed hypothesis is valid, a certain intellectual property dilemma occurs as a result: the Lumsden Dilemma. The Lumsden Dilemma is summarized as such: compensation for innovation is important for economic advancement, but the end result of a government intellectual property system is to remove the necessity of compensation paid to innovators. The Lumsden Dilemma is dependent on the Lumsden Hypothesis; the more employees under contract in an organization, the more undeserved compensation that organization will receive through a government intellectual property system. As a result, the most lucrative strategy for an organization is to be the largest organization.

A valid Lumsden Hypothesis results in an economy with a few massive organizations rather than a large number of smaller organizations. Once the outcome of few large organizations has been achieved, these organizations can offer less and less compensation to their innovative employees, because financial compensation is largely dependent on the organization’s size rather than the innovations produced by the organization. Once a certain threshold has been surpassed, the vast majority of profits attained through a government intellectual property system can be allocated to share holders and non innovative employees, rather than the innovators themselves.

**Description of an Intellectual Property Game and Strategy to**

**Combat the Lumsden Dilemma**

**Description**

The object of the game is to have more value than your competitor at the end of the game;

2 entities (EA, EB) are in direct competition;

Each party has a file (FA, FB) with respective values (VA, VB);

EA has a number of employees NA;

EB has a number of employees NB;

Once a constituent has been exposed to a message there is no way of proving the removal of the message from the constituent;

Public disclosure of a file (F) results in the loss of the associated value (V) for the controlling entity (E);

**Strategy to Combat the Lumsden Dilemma**

Competing parties are allowed to pay a competitor's constituents to publicly disclose a message through the use of anonymous payment methods;

Constituents can publicly disclose a message without risk through the use of anonymous internet access;

If a message is disclosed, the chance a given constituent disclosed the message is 1/N where N is the number of constituents exposed to that message;

Constituents make decisions based on the options with the highest expected value governed by the equation:

EV = (i --> n) of [Pr(i) \* Incentive(i)];

**Result of Proposed Strategy with Game:** The smaller the ratio of 1/N, the more likely an entity will have a file publicly disclosed by an employee to collect the reward;

**The Lumsden Economy**

The use of original disclosure of an innovation as the basis for currency has the potential to transform a capitalist economy.  Deemed the Lumsden Economy, the value of the currency in circulation will scale on a 1:1 ratio with the value of innovations disclosed by citizens of the economy.  This solves the problem of an inelastic money supply, by allowing the value of outstanding coins in the system to grow proportionately to the growth of the economy.  The use of original disclosure of innovation as the basis of currency gives Lumsden’s Currency intrinsic value in the form of useful information.  Implementations of a novel intellectual property and currency system are utilized to provide incentive for economic growth through innovation.  This new intellectual property system is designed with open source file sharing in mind, while retaining value for innovators through the network effect.  Such a system should align with the future of manufacturing: distributed production by micro factories such as 3D printers.

**The Nemesis Contract: A Smart Contract for Uploads**

A proposal of the Ethereum Project is the creation of a turing complete block chain, meaning any program could be coded and executed within a block chain.  As a result, many types of contracts could be developed, along with many iterations of an essentially similar contract.  The proposed Nemesis Contract produces a cryptographic currency specific to a file upload, and allocates a percentage of that currency X% to the uploader(s), and the rest (100-X)% to a network of seeders who provide access to the file and prevent file deletion, censorship.

**Upload-Specific Crypto Currencies, A Variation on “Colored Coins”**

Inventors or uploaders submit files to a cryptographic ledger, forming a timeline of files.  Upon the upload of each file, an upload specific currency is generated.  The number of upload specific coins generated per upload is fixed.  X% of these upload specific coins will be transacted to the uploader(s) over time while (100-X)% will be transacted to seeding miners over time.  The author is proposing a crypto currency backed by the intrinsic value of files submitted by a network of uploaders, a new type of P2P currency miner.

**Potential Method for Creating Value for Upload Specific Currencies**

To provide incentive for users to both seed and upload files in exchange for an upload specific currency, that currency must have some scarcity.  One way to drive scarcity is through advertising revenue.  By hosting advertising slots in a region specific to an upload, and selling advertising rights through auctions of the upload specific currency, there will be demand for that upload specific currency as long as there is demand for upload specific advertising.

>I don’t believe this is necessary. In my opinion, the information has intrinsic value without forcing advertising to be sold in upload specific coins

**Uploader’s Logic**

The threshold for file uploading is dependent on the value paid to the uploader and the cost of uploading the file.  If the information of the file is worthless then uploading the file to the system will be a waste of the uploader’s time and payment for uploading, limiting reclaimed and frivolous claim submissions.  A small fee could be charged to the uploader to prevent the upload of small value files and spam uploads.  In general, it is good practice to keep this fee as low as possible to prevent giving an advantage to rich uploaders, whose information may not be any more valuable to the economy than a poor uploader.  Paying the uploader a fixed fee would create a fundamental inefficiency in the system as an upload’s value would drop due to an incentive to submit poor claims for the reward, hence the use of upload-specific currencies.

**Randomly Generated, Randomly Mutating “Timeline of Uploads”**

The block chain for such a system becomes a randomly generated, randomly changing sequence of uploaded information.  New uploads add information to the end of the timeline of uploads.  Elimination of the seeding network for an upload results in the redaction of the complete file from the “Timeline of Uploads” leaving behind only a hashed version of the uploaded file.

**Vested Coins for Uploader**

One potential contract would pay upload specific coins between the seeding network and the uploader in a 1:1 manner.  Rather than giving 50% of all potential coins outstanding immediately, the uploader’s coins are vested over the life of the seeding process.

**Seeding Miners**

Seeders are paid with inflation of upload specific currencies for the uploaded files that they seed.  Seeders provide a decentralized network of storage and hosting.  The value of such a network is related to its ability to survive an attack and its ability to provide the content to other users.

Proof of storage miners be used with the main goal of preventing censorship and deletion of the upload, then users who want to view content can separately negotiate a price for downloading the file based on the price of bandwidth usage, supply and demand.

**Conclusion**

The aforementioned system of currencies intends to directly monetize the creative process.  The system of currencies intends to bring equality to intellectual property markets by providing incentive for transparency and compensation for open sourcing information.  The system of currencies intends to provide incentive for uploaders to publish files.  The peer-to-peer intellectual property system intends to maximize the efficiency of the economy by allowing free markets to competitively value novel claims in the form of uploaded files, by giving the ability to claim inventions to a larger population such as people who can’t afford filing fees/enforcement of a patent, by allowing claimers to be rewarded for pseudonymously publishing claims such as trade secrets of an employer, by providing incentive to publish ideas of ingenuity immediately rather than after years of government deliberation and patent filings, by removing government bureaucracy from intellectual property, and by removing the need for lawyers in order to receive compensation for ideas.

**References**

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