Blockchain for True Media
White Paper

"I've become increasingly worried about three new trends: the lost control of our personal data, "fake news", which is surprising, shocking, or designed to appeal to our biases, and some political adverts are being used in unethical ways – to point voters to fake news sites, or to keep others away from the polls."

Tim Berners-Lee

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INTRODUCTION

More and more individuals are concerned about the growing power of large private tech corporations in their daily lives. Google owns data of its users - where they eat, what movies they like to watch, when and where they went to their last vacation. Facebook and Twitter know who their users' friends are, what music do they listen to and when are their birthdays. Amazon informed of what type of consumers their customers are, what kind of books they prefer and so on.

Our lives are being formed by the rules of web algorithms; even more, the web has started to influence our political decisions and civil activism. People all around the world need other ways of communication based on community-owned, trusted technology – in their personal lives, on the work, and even with the media products they consume. Applications created on the blockchain technology could address this problem.

BACKGROUND

The cryptographically connected row of blocks first described in 1991. In 2008 a computer scientist (or group of people) conceptualized blockchain, implementing this method to cryptocurrency bitcoin and a general digital ledger keeping all transactions on the web without verifying them by third parties. It is almost impossible to hack these blocks because the data in them cannot be changed without changing all of the subsequent blocks. When you have not hundreds and thousands, but millions of blocks, the fraudulent is practically out of the question.

The blockchain technology also can apply to other fields of the Internet, including digital media.

PROBLEM

Like other means of communication, journalism has also changed under the influence tech. Given that over 2 billion people use Facebook, and over 1 billion people daily use Google, and they often consume the news through these corporation's services, one can easily imagine the degree of dependency of media on private tech companies.

Intended misinformation, supported by dirty policy technologies and/or financial groups, is spreading more and more among Internet users. It has become difficult to survive for

independent media companies, which adhere principles of truthful journalism. People like to click on "sensational," often fake news, designed to appeal to our biases, as mentioned above by Berners Lee. In the United States this has led to the possible determination of outcomes of the Presidential Election, while in other territories, for example, Russian-speaking Post-Soviet countries, fake and biased news serve as a tool of subordination or increasing the "spheres of influences" of one country to others.

The problem is that people are not quite competent to tell whether it is fake or real news. Media organizations need a new way of spreading news, enabling elimination of hoax reports in a practical way.

ISSUES

Failure to develop and implement blockchain-based news tools against fake news:

- Would support the spreading and popularization of false and biased media websites.
- Would encourage a societal tension in communities, by damaging people's and organization's reputation, and fostering misperceptions, prejudice, and discrimination.
- Would bring financial losses to media companies.
- Would make a real a danger of interference to political decisions (elections, referendums, etc.) population makes.
- Would stop the development of the new Internet era.

DISCUSSION

The problems related to real journalism and fake news have been discussed long before the creation of the Internet. "Flashy," or "screaming" headlines have been part of the journalism history for a long time. Now, in the Internet era, tabloids are striving for "clickbait" effect of their stories — more clicks equal to more money.

More importantly, some media started to write distorted stories not only for the greed for money but also as manipulation of public awareness. The characteristics of online fake news have aggravated the situation.

It must be noted, that Internet users get their information mostly from Social media. And these social media work like news-aggregators which don't care about the source, authors and reliability of journalists. Thus, people share (retweet, repost) those stories for their friends, and they, in turn, share them further. If you believe your acquaintance, why not to accept the news she/he shared?

An impact of this news, which spread like at the speed of light, is very notable. The United States authorities are still investigating the alleged interference of Russia to the 2016 Presidential elections, when they believe, fake stories and false news helped to form public opinion conveniently for those who wrote them.

The breakthrough innovation of Blockchain technology could turn back this negative trend. Due to the nature of blocks, and connections between them with data kept in millions of different computers it would be complicated to forge a source.

The main idea of the *Blockchain for True Media* is signing every piece of news with a unique label, or cryptographical code. This mark will verify the authenticity of the story, even if it republished and rewritten several times. Thus, it will become possible to trace the news to its primary source. And every consumer can quickly check this information.

There are a few similar projects developing media startups with blockchain technologies. A blockchain-based platform "Steem" is trying to fight with fake social media accounts; the project named "Civil" is working on a building a strong journalist's credibility and punishing reporters who disobey their code of ethics; and the Dutch startup "Newschain" is making it possible to write a story by completing it with "storyblocks." A universal media library Mediachain Labs makes users able to find a creator of an image on the web. Thus, they connect all data in Mediachain to the identity of the author.

Blockchain for True Media requires further research. It remains to be seen on what platforms it can work, how to involve a maximum number of participants, and how it will work if the news wasn't edited, but just was written from scratch. As the whole blockchain industry, it is in its developing stage. We are considering building it on Ethereum or IBM's Hyperledger blockchain technologies.

CONCLUSION

The Blockchain technology offers brand-new suggestions of the old problems, like trusted and safe money transactions, decentralization of the Internet, and the opportunity for consuming only reliable and unbiased news sources. Web community has to find a solution to fight fake news. *Blockchain for True Media* can help to address this issue.