

Bitdeal Ecosystem.

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1. Introduction.

The Fourth Industrial Revolution began in the early 21st, following the great achievements of the third time, which was formed into the basis of the revolutionary digital revolution, with new technologies such as Blockchain, 3D Printing, robots, artificial intelligence, IoT, SMAC, nanotechnology, biology, new materials. The whole world are in the early stages of this revolution and is the hinge strategy for developing countries to move forward to keeping up with the world trend and open a new turning point for human development.

Bitdeal is building an ecosystem that connects businesses and consumers. Based on one of today's most anticipated storage and information technology platforms: Blockchain. Combined with the business model is able to bring rapid profits for the business but also brings the common good for the whole society: Sharing economy. Bitdeal will play a third-party role, connecting small and midsize businesses, with the need to introduce products and services, reaching out to large numbers of users. Users will enjoy the incentives from Bitdeal partners; convenient and fast by using the App, search for, order (or book) and pay. Bitdeal expects to build an open ecosystem, anticipating new trends by making the most of the power of technology.

2. What is Bitdeal?

Bitdeal by Bitdeal Solution Technology Ltd. Is a new exciting and groundbreaking mobile application that will not only save you money, it will make you money too.

Bitdeal = Cryptocurrency + Sharing economy + The 4th Industrial Revolution.

2.1.1. The 4th Industrial Revolution.

Industry Revolution 4.0 *takes the automation of manufacturing processes to a new level by introducing customized and flexible mass production technologies.*

This means that machines will operate independently, or cooperate with humans in creating a customer-oriented production field that constantly works on maintaining itself. The machine rather becomes an independent entity that is able to collect data, analyze it, and advise upon it.

Industry Revolution 4.0 Components: Cyber-Physical Systems, The Internet of Things (IoT), The Internet of Services (IoS) & Smart Factory.

2.1.2. Sharing economy.

Sharing economies allow individuals and groups to make money from underused assets. In this way, physical assets are shared as services.

For example, a car owner may allow someone to rent out her vehicle while she is not using it, or a condo owner may rent out his condo while he's on vacation. Some examples of the sharing economy include:

- Hospitality and Dining: CouchSurfing, Airbnb, Feastly, LeftoverSwap
- Automotive and Transportation: RelayRides, Hitch, Uber, Lyft, Getaround, Sidecar
- Retail and Consumer Goods: Neighborgoods, SnapGoods, Poshmark, Tradesy
- Media and Entertainment: Amazon Family Library, Wix, Spotify, SoundCloud, Earbits

The Sharing economy is one of the most common concepts at the moment. It refers to services such as Uber (travel sharing application) or Airbnb (global online search service) and a host of other local names. In it, Uber has become a symbol of the success of this type of economy as it gradually leads the market with incredible numbers of influence.

Bitdeal will provide its partners with an application to share their products and services with a wide range of consumers. Allow them to actively create attractive promotions, discounts. Simultaneously manage the orders, improve efficiency in business.

2.1.3. How it works.

- Open the Bitdeal App to find the location for goods and services that you wish to purchase.
- On the menu bar, there are different categories of goods and services you can choose from.
- Choose the appropriate category of what you desire and it will display your options on a map.
- Each supplier on the map will offer their own unique discounts to you.
- Simply going to the place of business pick out the goods you wish to purchase or the service you would like to take advantage of.
- When you are ready to pay, showed them that you came in for a Bitdeal.
- Next, simply scan the QR code for the payment method you wish to use to make the purchase, then enjoy the rest of your day knowing you got an excellent deal because of Bitdeal.

2.1.4. Vision.

- *Create the next wave of cryptocurrency.*
- *Will be widely used in the community, like other existing currencies.*

In the present era digital communication is by far the most important means of communication. The information being transmitted is prone to various attacks (active and passive). Hence, information security is a very important part of the communication process. Cryptography is the branch of information security that provides an excellent method to protect data.

Over the years many encryption techniques have been provided and used. This paper discusses different encryption algorithms (symmetric and asymmetric), newer areas that are being explored in cryptography and its applications in network security.

Promoting both the development of Cryptocurrency and new trading systems as well as financial management.

In the context of financial difficulties and filled with uncertainty as today, Bitdeal believes that the development of Cryptocurrency with the help of technological strength will bring tremendous potential in the effort to improve the current financial

system, minimize the risk of inflation or the collapse of banking systems that used to be interfered by politics.

2.1.5. Mission.

Bitdeal expects to build an open ecosystem, connects businesses and consumers. Spending, saving and making more money for everyone.

3. Technology.

3.1. Blockchain.

A blockchain is essentially a distributed database of records or public ledger of all transactions or digital events that have been executed and shared among participating parties. Each transaction in the public ledger is verified by consensus of a majority of the participants in the system. And, once entered, information can never be erased. The blockchain contains a certain and verifiable record of every single transaction ever made. To use a basic analogy, it is easy to steal a cookie from a cookie jar, kept in a secluded place than stealing the cookie from a cookie jar kept in a market place, being observed by thousands of people.

Current digital economy is based on the reliance on a certain trusted authority. Our all online transactions rely on trusting someone to tell us the truth—it can be an email service provider telling us that our email has been delivered; it can be a certification authority telling us that a certain digital certificate is trustworthy; or it can be a social network such as Facebook telling us that our posts regarding our life events have been shared only with our friends or it can be a bank telling us that our money has been delivered reliably to our dear ones in a remote country. The fact is that we live our life precariously in the digital world by relying on a third entity for the security and privacy of our digital assets. The fact remains that these third party sources can be hacked, manipulated or compromised. This is where the blockchain technology comes handy. It has the potential to revolutionize the digital world by enabling a distributed consensus where each and every online transaction, past and present, involving digital assets can be verified at any time in the future. It does this without compromising the privacy of the digital assets and parties involved. The distributed consensus and anonymity are two important characteristics of blockchain technology.

3.2. Proof of Work.

To implement a distributed timestamp server on a peer-to-peer basis, we will need to use a proof-of-work system similar to Adam Back's Hashcash [6], rather than newspaper or Usenet posts. The proof-of-work involves scanning for a value that when hashed, such as with SHA-256, the hash begins with a number of zero bits. The average work required is exponential in the number of zero bits required and can be verified by executing a single hash.

For our timestamp network, we implement the proof-of-work by incrementing a nonce in the block until a value is found that gives the block's hash the required zero bits. Once the CPU effort has been expended to make it satisfy the proof-of-work, the block cannot be changed without redoing the work. As later blocks are chained after

it, the work to change the block would include redoing all the blocks after it. The proof-of-work also solves the problem of determining representation in majority decision making. If the majority were based on one-IP-address-one-vote, it could be subverted by anyone able to allocate many IPs. Proof-of-work is essentially one-CPU-one-vote. The majority decision is represented by the longest chain, which has the greatest proof-of-work effort invested in it. If a majority of CPU power is controlled by honest nodes, the honest chain will grow the fastest and outpace any competing chains. To modify a past block, an attacker would have to redo the proof-of-work of the block and all blocks after it and then catch up with and surpass the work of the honest nodes. We will show later that the probability of a slower attacker catching up diminishes exponentially as subsequent blocks are added. To compensate for increasing hardware speed and varying interest in running nodes over time, the proof-of-work difficulty is determined by a moving average targeting an average number of blocks per hour. If they're generated too fast, the difficulty increases.

3.3. Peer to peer Network.

Peer-to-peer (P2P) is an alternative network model to that provided by traditional clientserver architecture. P2P networks use a decentralised model in which each machine, referred to as a peer, functions as a client with its own layer of server functionality. A peer plays the role of a client and a server at the same time. That is, the peer can initiate requests to other peers, and at the same time respond to incoming requests from other peers on the network. It differs from the traditional client-server model where a client can only send requests to a server and then wait for the server's response.

With a client-server approach, the performance of the server will deteriorate as the number of clients requesting services from the server increase. However, in P2P networks overall network performance actually improves as an increasing number of peers are added to the network. These peers can organise themselves into ad-hoc groups as they communicate, collaborate and share bandwidth with each other to complete the tasks at hand (e.g. file sharing). Each peer can upload and download at the same time, and in a process like this, new peers can join the group while old peers leave at any time. This dynamic re-organisation of group peer members is transparent to end-users.

Another characteristic of a P2P network is its capability in terms of fault-tolerance. When a peer goes down or is disconnected from the network, the P2P application will continue by using other peers. For example, in a BitTorrent system, any clients downloading a certain file are also serving as servers. When a client finds one of the peers is not responding, it searches for other peers, picks up parts of the file where the old peer was, and continues the download process. Compared to a client-server

model, where all communication will stop if the server is down, a P2P network is more fault-tolerant.

4. Road map.

- MAY, 2018: Concept and Team founding
- JUN, 2018: Whitepaper release.
- JULY, 2018: Private Sale.
- AUG, 2018: Pre-sale.
- AUG, 2018: Public sale.
- DEC, 2018: MVP release.
- DEC, 2018: Exchange listing.
- DEC, 2018: Official Mobile app release.
- Q-1 2019: Branding and App Advertising.
- Q-2 2019: Loyalty & Payment Platform release.

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