**Bitcoin consists of:**

\* A decentralized peer-to-peer network (the Bitcoin protocol)

\* A public transaction ledger (the blockchain)

\* ((("mining and consensus", "consensus rules", "satisfying"))) A set of rules for independent transaction validation and currency issuance (consensus rules)

\* A mechanism for reaching global decentralized consensus on the valid blockchain (Proof-of-Work algorithm).

**Three basic questions for anyone accepting digital money are:**

1. Can I trust that the money is authentic and not counterfeit?
2. Can I trust that the digital money can only be spent once (known as the “double-spend” problem)?
3. Can I be sure that no one else can claim this money belongs to them and not me?

**Bitcoin protocol**

There is also a reference implementation of the Bitcoin protocol that includes a wallet, known as the "Satoshi Client" or "Bitcoin Core," which is derived from the original implementation written by Satoshi Nakamoto.

**BITCOIN WALLETS CAN BE CATEGORIZED AS FOLLOWS:**

1. **ACCORDING TO THE PLATFORM:**
2. **Desktop wallet:** They run on general-use operating systems such as windows and MAC OS.
3. **Mobile Wallets:** This is the most used wallets running smart-phone operation systems such as Apple iOS and Android. It is usually suitable for new users.
4. **Web Wallet:** The wallets are accessed through a web browser and the user’s wallet is stored on a server owned by a third party. It I similar to webmail, which relies on third-party servers. Some of these services operate using client-sie code running on the user’s browser, which keeps control of the Bitcoin keys in the hands of the user. Most times, these third-party platforms compromise user’s security by taking control of the Bitcoin keys from the users in exchange for ease of use. Due to this risk, it is always advisable not to store large amounts of bitcoin on third-party systems.
5. **Hardware Wallet:** these are special-purpose hardware devices that operate a secured self-contained Bitcoin wallet. They usually connect to a desktop or mobile device via USB cable or Near Field Communication (NFC) and are operated with a web browser or an accompanying software. Since all Bitcoin-related operations are performed or handled on the specialized hardware, there is a level of security and confidentiality which is suitable for storing a large amount of bitcoin.
6. **BITCOIN WALLET CLAASSIFICATION ACCORDING TO THEIR DEGREE OF AUTONOMY:**
7. **Full-Node Client:** A Full client, or Full node is a client that stores the entire history of Bitcoin transactions, manages users’ wallets, and can initiate transactions directly on the Bitcoin network. A full node handles all aspect of the protocol and can independently validate the blockchain and all transactions. A full-node client consumes substantial computer resources ( eg; 125GB of disk and 2GB RAM), vut offers complete autonomy and independent transaction verification.
8. **Lightweight Client:** Lightweight clients interact with the Bitcoin network directly, without an intermediary. It is also known as Simplified-Payment-Verification (SPV) client and connects to the Bitcoin Full-node client for access to the Bitcoin transaction information, but stores the user wallet locally and independently creates, validates, and transmits transactions.
9. **Third-party API Client**: This is a client that interacts with the Bitcoin Network via third-party system of Application Programming Interfaces (APIs), rather than by connecting to the Bitcoin Network directly. The wallet may be stored by the user or on a third-party server, but all transactions on the Bitcoin Network is initiated via a third-party API.