Ever since the blockchain technology made a major breakthrough all over the globe, experts and forecasters have been in praises about its potential applications in major sectors. It is believed that a time will come when you will have no choice but to either adopt the technology or step out of business altogether, regardless of which industry you are working in.

**What is Blockchain Technology?**

The blockchain technology operates in the pattern of distributed ledger that exists in different computers at a time. The records or blocks are dynamic and added with every new transaction while older records get linked to them in the form of chain along with their time stamps. It is a decentralized system where there is no monopoly of one entity. Anyone can access and add a record to the database with a personal cryptographic key. They can also make transactions with this unique key and this is where it may face a challenge in terms of key security.

**What are Smart Cards?**

Smart cards are like any other credit cards, with the same shape and size. But they are smart, i.e. they have a microprocessor with a memory chip embedded inside, and can store information that can be read or written. They are a [graphic-quality version](http://www.cardzgroup.com/PvcCard.html) of cards, and can allow you to make financial transactions in a secure, fast and convenient manner.

Now let’s get down to how the blockchain and smart card technology can be integrated together to utilize their full potential.

**Using Smart Cards in Blockchain App Development**

Blockchain and smart cards make the best pair. For app development with blockchain technology, smart cards can help in tackling many challenges that may be faced otherwise. As mentioned earlier, there is a security risk of losing your cryptographic keys which can be handled by preserving the keys in a smart card. This is just one of the numerous uses of smartcards in blockchain applications.

Let’s look at some more benefits below.

**Personalized Transactions**

The blockchain has evenly distributed ledgers across computers with users making transactions with their own crypto keys without interference from a single entity or central authority. Introducing smart cards to it can be a good application where customers can conduct safe and personalized transactions under the protection of a bank or financial institute without their interference.

**Better Security**

When application developers are working on a blockchain, their key issue is security. Blockchains mostly have a combination of public and private keys. By integrating smart cards into blockchain application development, the problem of securing private cryptographic keys can become a thing of past. Smart cards can provide a secure space for storing personal information like unique cryptographic keys. Smart card can also help the blockchain to become distributed without authorization from a centralized authority. It’s like carrying a mini computer system in your pocket with all your personal information safe under the reach of your hands.

**Scalability**

If we consider Bitcoin as an example of blockchain technology, we see that it has limitations in terms of only 10 transactions in one second. On the other hand, smartcards can manage as many as 3,200 transactions in a second. Incorporating smart cards into blockchain can resolve the issue of limited transactions and augment the scalability for blockchain.

Another real-life example is that of Estonia’s e-residency program where applicants apply on a secure blockchain system. Not only is it easier to manage applications, the users can even get multiple advantages after citizenship, such as filing tax, voting or routine banking.

**Blockchain Wallets**

In today’s fast paced world, people don’t have the patience or time to wait for long turnaround time in queues for transactions. Smartcards use the Near Field Communication (NFC) technology, which, when integrated with blockchain wallets can enable easier and faster transactions across multiple platforms. The smart cards can also secure payment information and store passwords and digital signatures for a variety of payment methods. This holds true for all kinds of financial transactions, including local money transfer as well as international fund transfers.

**Conclusion**

Both smartcards and blockchain can provide countless possibilities and benefits in numerous applications. Each has its unique benefits, challenges and tremendous prospects. They can be used ideally when complementing each other. Technology and financial sectors are now integrating them and the discussion is not only limited to theory anymore. With the help of right kind of tools and guidance, companies can go much farther with the integration and utilize it to improve their operations and gain competitive edge.