Chapter 5

A Review on Bitcoin and Currency Encryption:
Bitcoin and Blockchain

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ABSTRACT

In today's world, security has become a major issue in our lives, and in this era, one cannot trust the government for handling their lifetime savings. That's where the bitcoin comes to our lives. In this chapter, the authors try to understand one of the famous innovative payment methods (Bitcoin), how it is used and the data structure (Merkle tree) that is used in it. Also, they discuss one of the most recent attacks that involved the use of bitcoin (Wanacry). Further, they try to understand how this hack succeeded in stealing 10,800 euros that is 8,74,290 rs from the hospital with the help of bitcoin. They also discuss the various bitcoin companies now emerging with their own security measures against such hacks.

1. INTRODUCTION

In today's world security had become a major issue in our lives and this era, one cannot trust the government for handling their lifetime savings. That's where the bitcoin comes to our life. A currency that is not controlled by any government or bank and thus the most secure way of doing the transaction. Through this chapter we will explain the overall aspect of bitcoin how it's being implemented, how much secure it is and how it will be in the future.

1.1 Cryptocurrency:

Let's break the above word into two simple words "Crypto" &" Currency". Crypto is a Greek originated word which means secret and currency (we all know!). Now if we combine this it becomes a secret currency. So what does a secret currency means? The secret currency here is regarded as a digital way of completing transactions that are nearly untraceable and are secure. Bitcoin is generally considered as the first cryptocurrency (Nakamoto, 2008 and Gord, 2016).

Figure 1. Bitcoin Logo [1]
https://en.bitcoin.it/w/images/en/2/29/BC_Logo.png

1.2 Why use Cryptocurrency-

Cryptocurrency like every other currency can be used for doing transactions but what makes cryptocurrency different is that it is decentralized. Now you would be thinking what does that mean? Simply, we can say that it can be said as the currency that is not issued by any government and is encrypted. But then how it is better than other currency? The answer to this is since cryptocurrency are not issued by any government, the governments do not have the right to take it away from you. This is the major advantage of cryptocurrency. Also in terms of security these currencies are way better than other currencies because they are very difficult to trace.

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