Land Investment Analysis Using Big Data

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ABSTRACT

Now a-days people are interested in investment for securing their future. They invest their money in buying plot of land or flat. While investing in a land there are many important factors to be consider like location of property, valuation of property investment purpose and expected cash-flow. There are many investments in land which are fraud or illegal. There are people who invest for land by taking loan and if land is fraud then they suffer due to fraud. So this paper gives ease for people who want to buy or sell land using map. This paper provides understanding relationship between security, registration   and productivity of land. Thus it provides easy and safe access for selling and buying land property to both seller and buyer.

Keyword: - *Land investment, Map, Security, Big Data.*

1. Introduction

The combination of social economic, legal and administrative parameter leads, in several countries, to the stage of unplanned development and to creation of a considerable number of informal land .[1]   Land becomes good investment property , if buying and selling process is safe for transaction and documentation of particular land then buyer gets satisfaction about investment . Security in land investment is used to understand quantitative and qualitative impact of intervention to strengthen land property. The main purpose of system is to develop application. For land purchase and selling with actual site view and with all illegal document of that land. People who want to sell land will able to upload details about land. Buyer use the information provided by seller to check available land in specific area using map. when buyer will click on map the information about land like price , owner information and blue print and user also able to see the legal document of land by requesting admin .The document deduplication can be avoided using MD5(Message Digest 5) Algorithm and also AES(Advanced Encryption Standard) algorithm is used for encryption of document.

2. AES and MD5 Algorithm [10]

2.1 AES (ADVANCED ENCRYPTION STANDARD) Algorithm

AES created by Vincent Rijmen, Joan Daemen in 2001.AES system goes through 10 rounds for 128-bit keys, 12 rounds for 192-bit keys, and 14 rounds for 256-bit keys in order to deliver final cipher-text or to retrieve the original plain-text. Before reaching the final round this output goes through nine main rounds, during each of those rounds four transformations are performed Sub-bytes, Shift-rows, Mix-columns, Add round key.

Step 1 Substitute Byte Transformation
AES contains 128 bit data block, which means each of the data blocks has 16 bytes. In sub-byte transformation, each byte (8 bit) of a data is transformed into another block using an 8 bit substitution box which is known as Rijndeal Sbox.

Step 2 Shift Rows Transformation
It is a simple byte transposition, the bytes in the last three rows of the state, depending upon the row location, is cyclically shifted. For 2nd row, 1 byte circular left shift is performed. For 3rd and 4th row 2-bytes and 3-byte left circular left shifts are performed respectively.

Step 3 Mix columns Transformation
This round is equivalent to a matrix multiplication of each column of states. A fix matrix is multiplied to each column vector. In this operation the bytes are taken are taken as polynomials rather than numbers.

Steps 4 Addroundkey Transformation
It is a bitwise XOR between the 128bits of present state and 128 bits of round key. This transformation is its own inverse.
Advantages of AES:
Excellent Security
Speed fast

2.2 MD5 Algorithm [4]

Data Deduplication is new data compaction technology which removes duplicates in data. Data Deduplication is defined as "Data Deduplication is process of examining a data set at the sub-file level & storing only unique data. There are 4 steps for Data Deduplication.

1. Identify the unit of comparison.

2. Creating smaller unique identifier of these units to be compared.

3. Match for duplicates.

4. Saving unique data blocks.

Primary objective of any implementation can be achieved by hashing. Hashing creates a significantly smaller representation of large data. For this hashing algorithm like MD5 is used.

3. HADOOP [8]

Hadoop is an open source java based programming framework that supports the processing and storage of massive data sets in distributed computing environment.

3.1 Characteristics of HADOOP

3.1.1. Computing power

The distributed computing mode of hadoop quickly process the big data. More the number of nodes more are the computing power.

3.1.2. Flexibility

There is no preprocessing of the data is required. Data can be stored and its usages can be decided later. This includes unstructured data like text, images, and videos.

3.1.3. Scalability

The system is scalable by adding more number of nodes.

3.1 4. Low Cost

Its open source framework and uses commodity hardware to store large amount of data.

4. LITEARATURE SURVEY [1, 2, 3]

There are many land investment websites are available on net but every websites has different features. The websites like a 99acers.com features property listing from builders, dealers and property owner from all Indian cities. The website has several sections .Website user can compare the prices of property in different localities of same cities. It provides information about current prize rate. But it does not provides legal documents about land so there can be fraud as well as it does not provides maps so user is unable to get clear location of land .[1][2][3].

There are some applications built for land investments but these are specific types, generally there are applications which provide information about ongoing or completed constructions or only there are some advertisement about land selling with only locations, there is not proper details about land investment, so system is proposed. Proposed system includes all related land information with seller's details and related legal paperwork. System shows Location of land using map. Here are three users of the system 1. Admin 2. Seller and 3. Buyer Admin is responsible for verification of land documents duplication and for change status of land segment. It uses Md5 algorithm for document duplication detection. Data duplication, an effective data reduction technique, stores only a single copy of each data by comparing their fingerprints with the existing stored data to identify duplicated data. [4]. Message digest 5 or MD5 is one of message-digest algorithm that was developed by Ron Rivest in 1991. MD5 algorithm takes an input in any of length and produces an output in the form of a digest with the length of 128 bits. Input received by this algorithm will be processed in a block size of 512 bits, which will then be divided into 16 sub-blocks, each is 32 bits. MD5 is an algorithm developed to replace its predecessor, the MD4 algorithm. At the beginning of its publication, the MD5 hash algorithm is one of the nicest, but at 2004 the weaknesses contained in these algorithms began to be found [5] [6] [7]. The weakness contained on this algorithm is the collision that easily discovered on the results of the MD5 hash. The collision is the existence of two different inputs but have the same hash result cipher text. This weakness is caused by a wrong design of the MD5 algorithm itself, and then exploited so collision in this algorithm can be found quickly. Seller will able to upload all documents about land. Seller will able to view all related documents and land view using map.

6. PROPOSED SYSTEM

Land is one of the resources to be used for the profit of the individual. Any kind of investment, whether from outside money or through bank loans, will inevitably involve the use of our land, as we shall see. In the case of bank loans, we will be required to use our land as collateral to ensure the repayment of the loan.

To provide security in investing money, proposed system is developed. It provides safe way for both seller and buyer of the land for investment of money.
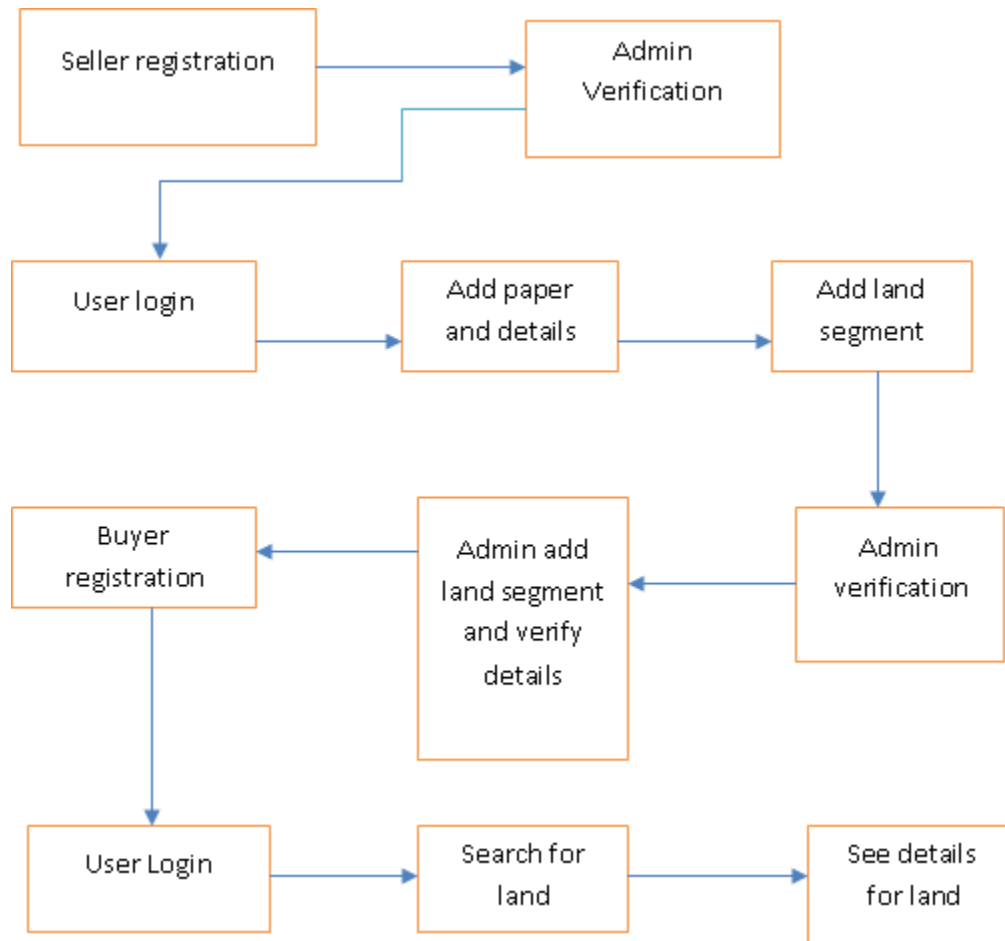
Fig 6.1. Proposed System.

System consists of 3 users:
1. Admin   2. Land Owner   3. Customer

In proposed system every land owner needs to register for their lands and will upload the documents about land for example 7/12 and its ownership details along with the blueprint. Admin will verify these documents and land owners credential. Once details are verified then admin will add the details of land on map. Admin will be responsible for adding information about land in map. Land segments can be open for sale or already booked or government property (not for sale). A map will show user land segment with different colors so user will know availability of land. And fraud like if seller selling land to more than one person can be detected by the color of land piece on map.

Following color codes are use to show a land avability, government land, owned land:
1. Land for sale : Green
2. Land booked : Red
3. Government land: Blue

Land owner can request admin to change status of their land. If user wants to sell their land they can request admin to change color of land from red to green. And new owner has to register land segment by their name.
A buyer can use the system to find available land in a specific area. When buyer will click on the map, information about land like price and owner's information along with blue print will be displayed to user.

7. CONCLUSIONS

From this, it is conclude that proposed system is useful for secure land investment. System provides secure way to invest money in land purchasing. Website provides land segment on map so buyer can view actual site online and provide easy and safe access for selling and buying land property to both seller and buyer. By this way we can avoid frauds in land investment.

8. REFERENCES

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