Property and Land Registration on Blockchain

A Concept Paper

Contents

- Current Problem
- Proposed Conceptual Solution
- Potential advantages

Current Problem

➢ Property Registration is a mere record of sales transaction
   - Liable to be challenged in Court
   - There could be multiple parties claiming for ownership
   - Verification process is cumbersome/ time consuming

➢ Ownership could be tampered
   - Leading to huge number of increase in civil cases in courts

➢ Benami Registrations
   - Leading to Corruption
   - Leading to tax evasions to exchequer

Proposed conceptual Solution

➢ Unique ID for Property
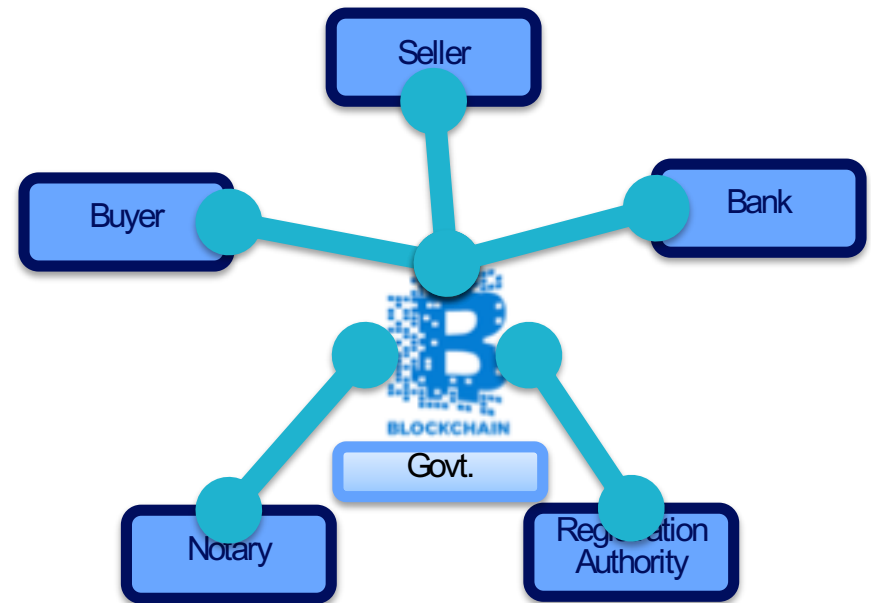 ▪ A simple alpha-numeric ID for every property
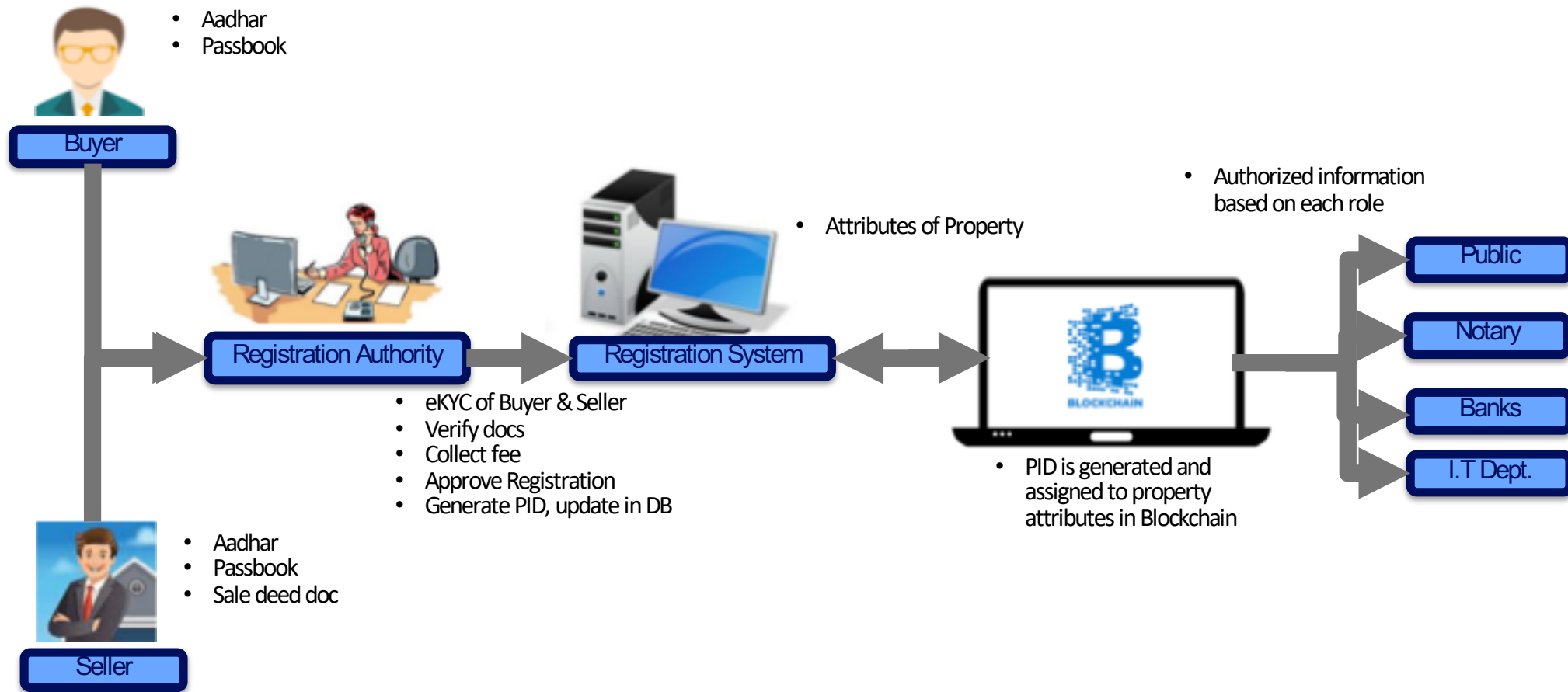
➢ Property details on Blockchain
  ▪ Unique ID
  ▪ Title details
  ▪ Property details
  ▪ Tax details
  ▪ Legal Status
  ▪ Market Price

➢ Connect all Stakeholders
  ▪ Buyer
  ▪ Seller
  ▪ Bank
  ▪ Registration authority
  ▪ Notary

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Technical Workflow

- Aadhar
- Passbook

Buyer

- Aadhar
- Passbook
- Sale deed doc

Seller

Registration Authority

- eKYC of Buyer & Seller
- Verify docs
- Collect fee
- Approve Registration
- Generate PID, update in DB

Registration System

- Attributes of Property

BLOCKCHAIN

- PID is generated and assigned to property attributes in Blockchain

- Authorized information based on each role

Public

Notary

Banks

I.T Dept.

Potential Advantages

➢ Unique ID for Property

  - Simplifies and synthesize complex property details into Alpha-numeric code
  - This can be used for fetching property title history

➢ Tamper proof decentralized ledger

  - Property ownership cannot be tampered
  - No duplicate owners
  - Benami registrations elimination
  - Eliminates corruption

➢ Faster Registrations due to increase in trust

  - Faster property verification leading to faster registrations
  - Increase in tax collections

Blockchain application UI

➢ **Roles**
  - User
  - Registrar
  - Admin
  - Financial Institute (to be covered later)

➢ **Status to be maintained in Blockchain**
  - Created
  - Registered
  - Intent for Sale

➢ **UI Pages**
  - Log-in Page
  - User home Page
  - Registrar Home Page
  - Admin Home Page

Blockchain application UI

- ## Story
  - Create multiple users viz., User-A, User-B, User-C, Registrar, Admin
  - Scenario when User-A sells property to User-B.
    - User-A logs-in
    - Able to see his own properties listed
    - Able to see other owners properties flagged for intent to sale
    - Against his own property, able to flag "Intent for Sale" for PID: LKA1234
    - In Blockchain DB, the status of property changes from "Registered" to "Intent for Sale"
    - When Registrar completes Registration (ownership transfer from User-A to User-B) outside Blockchain application, the attributes flows into Blockchain application and associates with the PID: LKA1234
    - In Blockchain DB, the status of property changes from "Intent for Sale" to "Registered"
    - The property disappears from User-A home page
    - The property appears in Use-B home page

  - Scenario when User-A Intends to sell property to User-C
    - If User-A selects "Intent for Sale" and "Private Option", gives e-mail of User-C, then the record should appear in User-C's home page under Property for Sale. This record shouldn't be visible under any other user's home page.

Blockchain application UI

User-A Home page

My Properties

PID	Registration Date	Property Type	Location	Status			
LKA1234	10-Jan-18	Agri - Land	Hubli - KA	Intent for Sale	☑ Intent for Sale	⦿ Public	○ Private
CDL3486	10-Jan-18	Private - Building	Kalkaji - DL	Registered	☐ Intent for Sale	○ Public	○ Private

Properties for Sale

PID	Registration Date	Property Type	Location	Status
CKA6635	31/10/1999	Private - Building	MG ROad - KA	Intent for Sale

- If User flag "Intent for Sale", the status changes from "Registered" to "Intent for Sale" if unflags the status toggles back to "Registered"
- If User flag "Intent for Sale", and "Private", there should be option to enter e-mail IDs of users

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Blockchain application UI

User-A – PID Page

PID
LKA1234

If User clicks on PID, should be
able to view all property attributes

PID	LKA1234
Registration Date	10-Jan-18
Property Type	Agri - Land
Property Dimensions	2000 x 3000 Sqm
Latitude/ Longitude	15.3647° N, 75.1240° E
Current Owner(s)	User-A
Status	Intent for Sale

User-A

Blockchain application UI

User-A – Location Page

Location
Hubli - KA

If User clicks on Location link, should be able to view Map, GIS Info and Drone Pictures in separate breadcrum

Blockchain application UI

Registrar Home page

Search   Enter PID

Registrar

MIS Reports

- Registrar has two main functions – Search Properties and MIS Reports
- MIS Reports intends to show the canned reports such as "Volume of Registrations", "Volume of Intent for Sale", etc. [We don't need to show a separate Page for this, just keep the button]

Blockchain application UI

Registrar Home page

Search: LKA1234

Registrar

MIS Reports

PID	LKA1234
Registration Date	10-Jan-18
Property Type	Agri - Land
Property Dimensions	2000 x 3000 Sqm
Latitude/ Longitude	15.3647° N, 75.1240° E
Current Owner(s)	User-A
Status	Intent for Sale