

## Project Design Phase-I

### Solution Architecture

Date	22 October 2023
Team ID	NM2023TMID03998
Project Name	Blockchain Based Smart Real Estate Management System
Maximum Marks	4 Marks

#### Solution Architecture:

Here is a potential solution architecture for a Blockchain Based Smart Real Estate Management System based on the airline management reference:

1. **Data collection:** Collect relevant real estate data like property details, ownership records, valuations, taxes, rental agreements, transactions etc.
2. **Data pre-processing:** Clean and process the collected data to make it usable for the blockchain and ML models.
3. **Smart contracts:** Develop smart contracts to automate processes like property registration, transactions, rents, mortgages etc.
4. **Dashboards:** Develop dashboards and analytics for stakeholders to get insights on property portfolio, transactions, performance etc.
5. **Blockchain Network:** Setup an open, decentralized blockchain network like Ethereum to maintain distributed ledgers.
6. **Apps and Portals:** Build web/mobile apps for property search, transactions, account management for different stakeholders.
7. **Cloud Infrastructure:** Leverage cloud platforms to ensure scalability, high availability and security.

#### Development phases:

- **Planning** - Requirements gathering, design and architecture.
- **Development** - Coding smart contracts and ML models, building apps and blockchain network.
- **Testing** - Rigorously testing each component before deployment.
- **Deployment** - Deploying apps, dashboards, blockchain network in production.
- **Maintenance** - Managing updates, improvements and support.

## Key requirements:

- Integration with external systems like banks, registration authorities etc.
- Compliance with real estate regulations
- Security and privacy of user data
- Scalability to handle increased transaction loads
- Reliable and user-friendly experience for all stakeholders

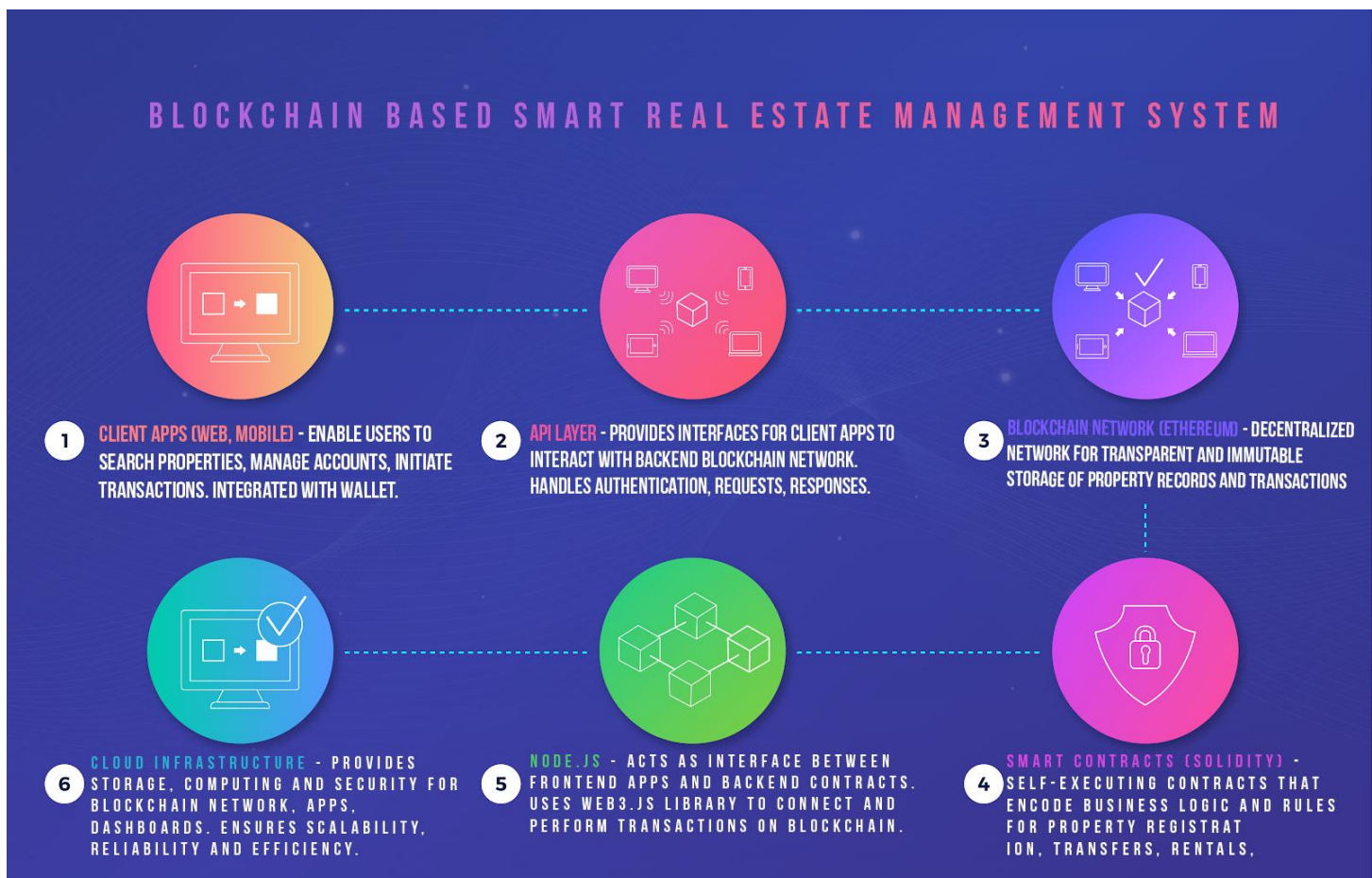


Figure 1: Solution Architecture for Block chain Based Smart Real Estate Management