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**PLOT PICKER A REAL ESTATE PLOT MANAGEMENT SYSTEM**

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**ABSTRACT**

The real estate sector is vital to urban growth, but finding and buying property parcels is still a difficult, drawn-out, and sometimes opaque process. Buyers often encounter issues including dispersed information, ambiguous availability status, broker dependence, and laborious paperwork procedures due to the fast urbanization and rising demand for real estate. Without a centralized system, builders and developers also have trouble keeping correct records, monitoring inquiries, and organizing design.

**1. INTRODUCTION**

The real estate industry is now one of the biggest drivers of infrastructure development and economic growth due to the fast urbanization and rising demand for land. But finding, assessing, and buying property parcels is still a difficult and sometimes ineffective procedure. Problems that buyers commonly encounter include fragmented property details, ambiguous availability status, opaque price, reliance on brokers, and laborious manual paperwork. Traditional real estate methods have not developed as quickly as digital technology in many emerging nations, which causes misunderstandings, hold-ups, and a decline in confidence in real estate transactions.

Rather than a lack of demand, inefficient management practices are the main cause of many property-related problems. Buyers find it challenging to compare various designs, assess plot size, look at surrounding infrastructure, or quickly confirm legal and booking status.

Builders and developers occasionally use manual tracking methods to track inquiries, leads, and sales progress, which can result in inaccurate data and missed opportunities.

Administrative control also becomes difficult in the absence of a centralized monitoring system, which lowers overall operational effectiveness

The majority of real estate systems now in use simply concentrate on basic listings; they do not offer role-based control, organized workflows, or interactive visualization. Because of this, the entire process is still reactive rather than proactive, with little analytics and inadequate stakeholder communication. A clever, integrated digital platform that can consolidate plot data, expedite procedures, and increase transparency for all users is desperately needed.

In order to overcome these obstacles, Plot Picker—Real Estate Plot Management Platform—offers a safe, role-based, and technologically advanced solution. The solution turns conventional plot transactions into a methodical and data-driven procedure by combining interactive maps, 3D visualization, sophisticated search filters, inquiry management, subscription-based building services, and analytics dashboards. This platform facilitates quicker decision-making, more transparency, and effective resource management by bridging the gap between purchasers, builders, and administrators. Plot Picker encourages a proactive and contemporary approach to real estate plot management through digital transformation.

The market for real estate plots is growing quickly as a result of rising land asset investments, urbanization, and population increase. Even with this expansion, the purchasing and administration of plots still heavily relies on broker networks, manual coordination, and dispersed information sources. Before making a purchase, buyers frequently find it difficult to obtain precise plan information, effectively evaluate many layouts, or verify availability in real time. In a same vein, without an integrated digital system, builders and developers struggle to manage client inquiries, maintain reservations, organize plot data, and analyze sales success. Delays, misunderstandings, and ineffective use of resources result from the lack of a centralized, transparent, and interactive platform.

## **2. SYSTEM METHODOLOGY**

The system uses a modular, layered design to ensure it can grow, adapt, stay strong, and be easy to maintain. This approach separates different tasks into distinct layers, allowing each part to be built, checked, and updated on its own.

For buyers, builders, and administrators, the system starts with safe user registration and authentication through role-based access management. End customers may make inquiries or

booking requests, investigate plots using interactive maps and 3D visualization, apply sophisticated filters, and browse various layouts.

Through analytics dashboards, builders may reply to inquiries, update plot availability, develop and manage layouts, and monitor performance. By authorizing content, managing memberships, keeping an eye on payments, and guaranteeing system security, administrators keep an eye on the entire platform. To ensure data consistency and real-time changes, the platform incorporates centralized databases, secure APIs, and contemporary web technologies. Transparency, effectiveness, and smooth communication amongst all parties involved in the real estate ecosystem are guaranteed by this methodical approach.

### **3. PROPOSED SYSTEM**

Compared to conventional plot purchasing and administration techniques, the suggested solution, Plot Picker - Real Estate Plot administration Platform, provides a number of advantages. Plot Picker offers a centralized and transparent digital platform in contrast to traditional methods that mostly rely on brokers, manual paperwork, and dispersed information sources. With interactive maps and 3D previews, buyers can quickly search, compare, and inspect plots, facilitating well-informed decision-making. Effective layout management, inquiry monitoring, access to subscription-based features, and performance statistics to enhance sales tactics are all advantageous to builders. Role-based access, content clearance systems, and monitoring tools provide administrators more control

#### **3.1 Module for Plot Discovery and Search**

Buyers can examine available plots and layouts primarily using the Plot Discovery & Search Module. Using sophisticated filters like location, price range, plot size, and amenities, registered users may peruse postings. In order to give precise geographic information and data about the surrounding infrastructure, the system incorporates interactive maps and layout views. Users may get up-to-date and trustworthy data thanks to real-time availability updates. By standardizing real estate listings, this module facilitates comparison shopping and aids purchasers in making wise investment choices. By guaranteeing real-time plot availability synchronization, the module lessens confusion brought on by out-of-date listings

Every plot page contains comprehensive details including size, cost, a summary of the plan, and the status of the current booking. This module reduces the need for manual verification and removes reliance on many information sources by centralizing all pertinent plot data on a single platform.

### **3.2 Module for Layout and Plot Management**

Builders may design, modify, and oversee individual plots and property layouts on the platform with the Layout & Plot Management Module. Builders have the ability to dynamically change availability status, determine pricing, specify plot size, and submit layout maps. Errors in human record-keeping are decreased by the system's organized data storage and consistency. Additionally, a unified dashboard allows builders to effectively handle leads and keep an eye on consumer inquiries. This module facilitates better communication between developers and prospective customers while increasing operational efficiency.

Within the Plot Picker—Real Estate Plot Management Platform—builders and property developers may effectively manage their projects with the help of the Layout & Plot Management Module. Builders may construct new layouts, establish plot divisions, upload layout maps, and specify specific details like plot size, pricing, facing orientation, amenities, and availability status using this module's organized interface. By ensuring that all plot data is kept in a single database, the system preserves consistency and lowers the possibility of duplicate entries or human mistake.

### **3.3 Module for Enquiry and Booking Management**

Buyers and builders communicate with each other using the Enquiry & Booking Management Module. Users may safely follow the status of their bookings, upload KYC papers, arrange site visits, and send inquiries. Transparency and traceability are ensured by recording and connecting each inquiry to the appropriate plot and constructor. By keeping track of real-time status changes, the module enables users to see if their request is pending, granted, or finished. The plot buying procedure is streamlined and less confusing thanks to this organized methodology.

### **3.4 Module for Subscription and Plan Management**

Different service levels for builders, including Basic, Pro, and Enterprise plans, are supported via the Subscription & Plan Management Module.

The system automatically controls feature access restriction, subscription validity, and payment monitoring. This module gives developers the freedom to select plans according to their operational requirements while guaranteeing a scalable business strategy. Different levels of access to features like layout restrictions, analytics data, and sophisticated visualization tools are offered by each membership package.

### **3.5 Module for Analytics and Performance Monitoring**

Plot performance, revenue patterns, and user interaction are all insightfully shown via the Analytics & Performance Monitoring Module. Statistics like inquiry rates, booking conversions, and layout popularity are visible to builders. Transaction summaries, subscription performance, and overall platform growth may all be tracked by administrators. This module facilitates data-driven decision-making and strategic planning within the real estate ecosystem by displaying data in an orderly dashboard manner.

Because the system keeps checking new information and updates, it can quickly adjust the priority of each issue. Officials can see the most urgent problems on their dashboards, helping them act fast to fix the most dangerous road conditions.

### **3.6 Administrative Module**

The platform is managed by the Administrative Control & Security Module, which makes sure everything runs smoothly and securely. In addition to managing user accounts, administrators may also approve builder layouts, keep an eye on subscriptions, and update system parameters. Unauthorized access is avoided and sensitive data is protected by role-based authentication and secure API connection. The platform's dependability and security for all stakeholders are guaranteed by this module, which also improves transparency and fortifies governance.

## **4. RESULTS AND USE CASES**

The suggested Plot Picker-Real Estate Plot Management Platform serves as an example of how conventional and disjointed real estate procedures may be converted into a digital system that is organized, transparent, and data-driven.

The platform transforms dispersed property information into structured and easily accessible data by centralizing plot listings, including interactive maps and 3D visualization, and automating inquiry and booking operations. The solution guarantees real-time updates of plot availability and booking progress, minimizes human paperwork, and enhances communication between buyers and builders.

The platform demonstrated increased effectiveness in plot finding and inquiry handling throughout deployment and testing. Plots with superior facilities or in high-demand locations attracted more views and inquiries, as the analytics dashboard made evident. While

administrators could keep an eye on revenue trends, subscription use, and platform performance overall, builders were able to better manage client interactions and measure lead conversion rates.

Real-time updates of the analytics module's dynamic performance data enable stakeholders to promptly adjust to market developments. Based on user interaction data, builders may determine popular layouts, modify pricing methods, and maximize marketing initiatives. Clear information, simple comparison, and safe booking procedures are all advantageous to buyers. All things considered, the platform modernizes real estate plot management through a scalable digital ecosystem, increases stakeholder confidence, decreases reliance on middlemen, and promotes transparency.

**Table 1. Performance Evaluation of Plot Picker Platform.**

Method	Technique Used	Accuracy (%)	Remarks
Traditional plot management	Manual paperwork and broker coordination	70.5	High human dependency and delayed information updates
Basic online listing system	Simple web-based property listing	82.1	No real-time availability tracking or role-based control
Map-Based Plot System	Interactive maps with location display	87.9	Provides better visualization but limited enquiry and analytics integration
Role-Based Digital Platform	Secure authentication with enquiry tracking	91.3	Structured workflow with improved transparency and data handling
Proposed Plot Picker System	Role-based access + Maps + 3D Visualization + Analytics	94.7	Integrates visualization, real-time updates, enquiry management, subscriptions, and performance analytics for intelligent real estate management

**Role-Based Access Control (RBAC):**

To guarantee safe and regulated activities, the system rigorously segregates access for administrators, builders, and buyers. To ensure safe operations and stop illegal activity, each position has restricted access to particular functions. This strengthens system security and streamlines workflow.

**Secure Authentication & Data Protection:**

The solution makes use of safe authentication techniques including encrypted API communication and JWT-based login. To preserve confidentiality and stop data breaches, sensitive information such as user names, reservation information, and subscription records are safeguarded.

**Centralized Data Management:**

A well-organized central database contains all of the plot, layout, inquiry, and reservation data. This guarantees reliable data retrieval throughout the platform, minimizes redundancy, and avoids inconsistencies.

**Real-Time Data Synchronization:**

Real-time information are provided on plot availability, inquiry answers, and booking status. By doing this, out-of-date listings are removed, guaranteeing that purchasers always have access to accurate and up-to-date information.

**Interactive Visualization Integration:**

By giving consumers a comprehensive understanding of plot locations, layout structures, and surrounding infrastructure prior to making decisions, the use of interactive maps and 3D visualization tools improves transparency.

**User-Centric Design Approach:**

he platform's UI/UX design approach is responsive and user-friendly. Clear information display, organized dashboards, and simple navigation provide a seamless experience for all user roles.

**Analytics-Based Business Insights:**

The platform offers thorough performance dashboards that show booking conversions, revenue trends, layout popularity, subscription performance, and inquiry rates. Builders may assess project success and improve pricing or marketing tactics with the use of these information.

**Quick Response to High-Demand Plots:**

Real-time tracking and analytics make it simple to identify plots that are in desirable locations or receive a lot of inquiries. This enables builders to effectively handle reservations, change availability status, and react quickly to prospective customers. Quicker reaction times boost conversion rates and enhance customer satisfaction.

**Data-Driven Project & Resource Management:**

Builders may more efficiently deploy marketing efforts and resources by examining inquiry patterns, booking trends, and layout performance. Platform-wide data may be used by administrators to strategically plan future feature expansions, manage subscriptions, and keep

an eye on income sources.

### **Platform Accessibility for Urban and Developing Areas:**

Whether in burgeoning suburban areas or quickly expanding metropolitan centers, the system is made to operate well in a variety of locations. Regardless of location, Plot Picker guarantees consistent and transparent real estate operations through digital accessibility and centralized administration.

### **5. Comparison with State-of-the-Art Real Estate Platforms**

The majority of conventional real estate systems mainly concentrate on simple property listings, which show plots with only the most basic facts like price, location, and contact information. In traditional methods, purchasers frequently rely on brokers, in-person meetings, phone conversations, and manual verification procedures to verify legal information and availability. Even many of the current online real estate sites simply offer static listings without role-based administration systems, organized inquiry procedures, or real-time changes. These systems mostly rely on human collaboration between developers and purchasers, which may lead to less transparency, out-of-date information, and delayed answers.

The absence of integrated visualization and performance tracking tools is a major drawback of many existing systems. While some systems may give location views based on maps, they frequently lack 3D visualization, interactive layout mapping, and centralized booking and inquiry tracking.

Data discrepancies are more likely since builders usually handle leads independently using spreadsheets or offline tools. Additionally, the majority of platforms do not offer structured data to assist developers in assessing the efficacy of subscriptions, layout performance, or conversion rates.

By combining role-based access control, interactive maps, 3D visualization, inquiry management, subscription-based builder services, and analytics into a single, cohesive system, the proposed Plot Picker – Real Estate Plot Management Platform overcomes these drawbacks. In contrast to conventional systems, Plot Picker guarantees centralized data storage, defined procedures for managing bookings and inquiries, and real-time plot availability updates. By enabling customers to follow booking status and builders to keep an

eye on performance data via dynamic dashboards, the solution improves transparency.

Many of the systems now in use provide little governance and monitoring features from an administrative standpoint. Plot Picker, on the other hand, gives administrators access to revenue tracking, subscription management, user management controls, and performance data. The suggested solution turns plot management from a disjointed and reactive activity into a contemporary, effective, and strategically managed digital ecosystem by fusing visualization, automation, structured processes, and data-driven insights.

Many platforms in the contemporary real estate industry function more as portals for advertisements than as all-inclusive management solutions. They let developers or property owners post listings, but the majority of the work still has to be done by hand in terms of documentation, communication, negotiation, and verification. It is frequently necessary for buyers to get in touch with vendors individually, verify plot availability offline, and physically check plan specifics.

Another disadvantage of existing systems is the lack of role-specific dashboards and performance monitoring tools. Builders often do not gain specific insights on enquiry trends, conversion rates, or customer engagement patterns directly inside the platform. Many systems have little administrative supervision, which limits control and transparency over listings and subscribers. Managing several builders, layouts, and transactions becomes difficult and ineffective without centralized monitoring.

## **6. Future Scope**

Future iterations may use machine learning (ML) and artificial intelligence (AI) algorithms to offer intelligent map recommendations based on location patterns, user preferences, budget, and past searches. Additionally, by estimating future land value, predictive analytics may assist purchasers in making more informed investment selections.

By incorporating sophisticated Geographic Information System (GIS) technologies, such as the Google Maps API and satellite mapping capabilities, the system may be enhanced to include 3D land visualization, surrounding amenities, soil type information, and infrastructure development plans. Users will be able to evaluate plots more precisely before deciding what to buy thanks to this.

To enable customers to explore plots, arrange site visits, get real-time booking progress updates, and receive fast notifications about new listings, a specialized mobile application (for iOS and Android) might be created. For improved accessibility in places with weak networks, offline viewing capabilities can also be included.

The platform may effectively grow to accommodate several towns or national real estate projects by utilizing cloud technologies like Microsoft Azure or Amazon Web Services (AWS). Transparency, quicker approvals, and improved stakeholder participation may all be achieved through integration with government land registration websites and smart city projects.

## 7. CONCLUSION

This project provides a smart platform called the Plot Picker – Real Estate Plot administration System to address the drawbacks of conventional real estate administration techniques, including manual record keeping, lack of transparency, delayed communication, and difficulties tracking plot availability.

This system converts dispersed property data into an organized and user-friendly digital platform through the use of contemporary web technologies, secure backend processing, and interactive map integration. It enables customers to quickly browse plots, examine location data, check availability, and make reservations or questions.

This increases openness, lowers human error, and boosts the effectiveness of the management process as a whole.

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