Project (KCS-851) Presentation

Presentation on

Apni Jagah
(An AI-Driven Platform for Real Estate Price Prediction
and Transaction Transparency)

24PMA39

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Introduction

Apni Jagah is an AI-driven real estate platform designed to enhance property transactions by integrating machine learning for price prediction and decision-making support. It addresses key industry challenges such as price ambiguity, fraudulent listings, and inefficient processes by leveraging data-driven insights.

Key features include:

1. AI-based Price Prediction using Random Forest for accurate property valuation and neighborhood price trends details.
2. Smart Deal Prediction to balance seller expectations with market conditions.
3. Provide personalized best location recommendations based on user preferences.
4. AI-Powered Location Comparison Tools to help buyers make informed decisions.

Problem Statement

1. Traditional platforms lack accurate price prediction models,leading to unclear property and neighborhood values.
2. Existing platforms fail to provide location comparisons based on individual preferences, giving generic listings instead of recommendations.
3. Limited features make it challenging for users to make the best decisions based on their specific needs.
4. Buyers and sellers lack access to tools that offer clear insights and personalized assistance in the real estate process of properties pricing.

Literature Review

| Platforms	Their objectives	Our objectives	Key differences
Housing.com	Provides verified listings, price trends, and property visualization.	Focuses on pricing clarity, location comparison, and market insights using AI models.	Housing.com emphasizes verified listings and visualization; April Jagah uses AI for price prediction
99acres	Supports buying, selling, and renting with locationbased searches.	Offers smart deal predictions, neighborhood price comparisons.	99acres uses search filters, April Jagah offers predictive models, better security.
MagicBricks	Offers property listings, price trends, and additional services like loans.	Provides data-driven pricing predictions and neighborhood analysis without ancillary services	MagicBricks offers support services, April Jagah ensures accurate pricing, better deals.
NoBroker	Eliminatesintermediaries, enabling direct buyer-seller connections	Provides transparent pricing, locations comparison, and market deal predictions.	NoBroker removes middlemen, April Jagah helps buyers with AI tools.

Objective

The primary goal of "Apni Jagah" is to propose a comprehensive solution that leverages artificial intelligence to simplify property transactions, improve price transparency, and enhance user experiences. The proposed system, Applies to:

1. Resolve price ambiguity through predictive analytics.
2. Provide personalized best location recommendations based on user preferences.
3. Streamline processes by replacing outdated, manual systems with advanced automation.
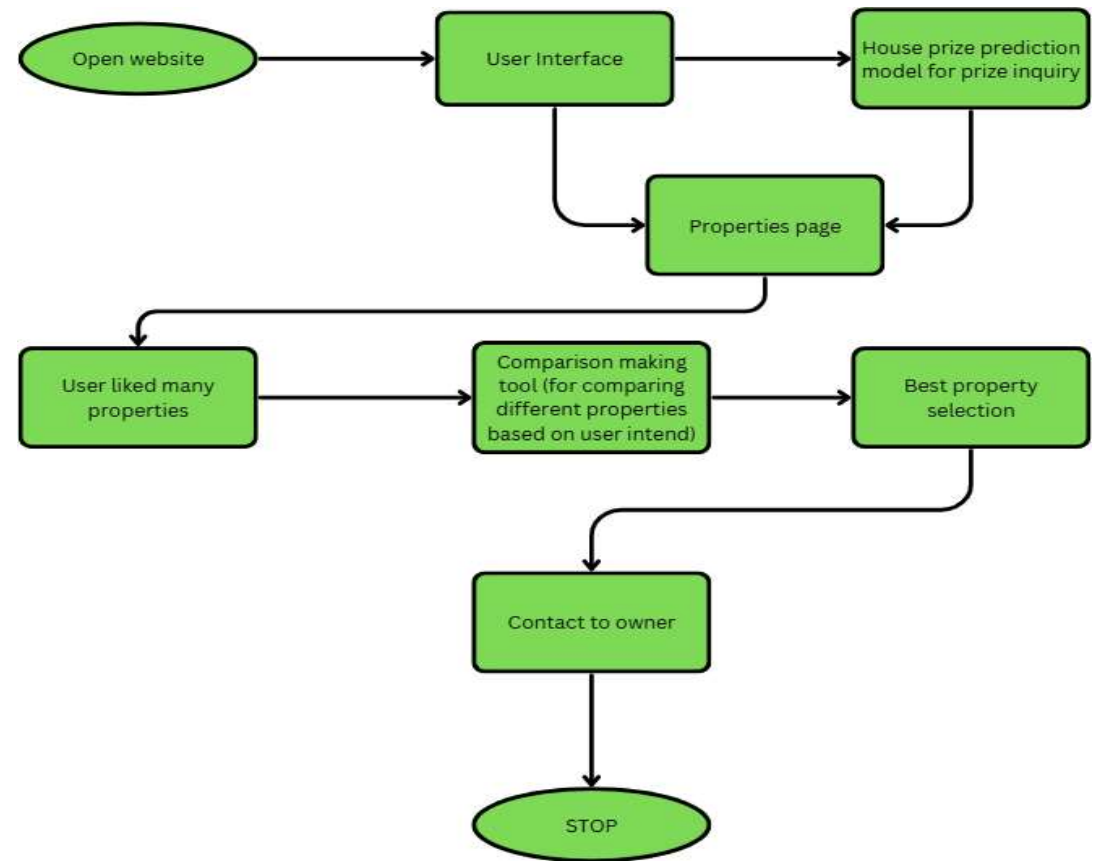
Proposed Methodology

- The proposed methodology has been divided into two parts i.e for seller and buyer represented in the form of work flow diagram as shown below.

  1. Seller Interaction Flow chart
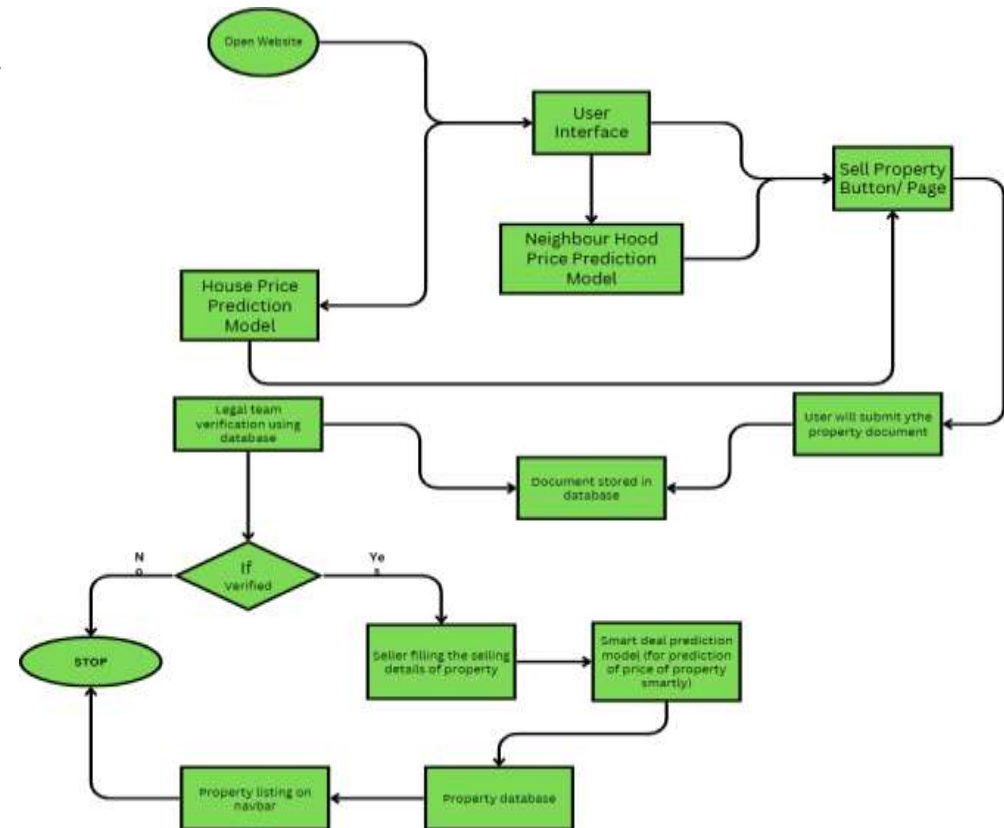
Proposed Methodology

2. Buyer Interaction Flow chart

Results and Discussion

Model	MAE	R^2 (Score)
Logistic Regression	4,833,250.00	0.15
Decision Tree	1,848,901.61	0.78
Random Forest	1,692,424.65	0.85

Table 1: Performance Metrics of Machine Learning Algorithms

- Random Forest emerges as the top-performing model, achieving the lowest Mean Absolute Error (MAE) of 1,692,424.65 and the highest R-squared (R^2) score of 0.85, indicating superior accuracy and reliability. While Decision Tree follows with a respectable R^2 score of 0.78, Logistic Regression lags with an R^2 score of only 0.15. Consequently, Random Forest is the most suitable choice for achieving high precision, particularly with extensive datasets.

Conclusion and Future Work

1. AI-Powered Real Estate Platform – Addresses price ambiguity, inefficiencies, and lack of transparency with smart deal recommendations and personalized insights.
2. Enhanced AI Features – Advanced machine learning models will improve price predictions and property recommendations.
3. Blockchain Integration – Ensures secure, transparent transactions and fraud prevention.
4. Augmented Reality (AR) – Enables virtual property tours for an immersive buying experience.
5. Localized & Global Expansion – Tailors listings to regional markets and expands to international buyers.
6. Sustainability & Data-Driven Insights – Promotes eco-friendly properties and leverages big data for market trends.
7. All-in-One Ecosystem – Integrates social media, banks, and legal services for a seamless experience.

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