

TERRANEST: AN INTELLIGENT PROPERTY LISTING ECOSYSTEM



Brief Introduction:

TerraNest revolutionizes PG accommodation search with a secure, scalable, and intelligent platform. Its rule-based recommendation engine, advanced filtering, and user-centric features like verified listings and roommate compatibility ensure a personalized, trustworthy experience. Deployed on cloud infrastructure. TerraNest offers high availability and performance, addressing real-world housing challenges for students and professionals

Objectives:

- Intelligent PG Recommendations:** Develop a rule-based engine that suggests PGs based on user search behavior and preferences.
- Robust Web Platform:** Build a secure, scalable platform using Spring Boot and MySQL.
- Efficient Search Filters:** Implement dynamic filters for budget, location, amenities, and room types.
- Trust & Transparency:** Include verified listings with user reviews and ratings.
- Security & Scalability:** Ensure data encryption, and deploy on cloud for high availability.

Conclusion:

The TerraNest platform successfully addresses the challenges of traditional PG accommodation search by integrating modern web development with intelligent machine learning techniques. By offering a rule-based recommendation engine, secure user verification, and a dynamic, user-friendly interface, the system provides a tailored and trustworthy experience for users. With strong backend support, a modular ML engine, and deployment on scalable cloud infrastructure, TerraNest demonstrates innovation, practicality, and scalability in solving real-world housing search problems for students and professionals.

Results and Analysis:

Given below are several snapshots of the user interface and key features which will help in visualizing how the TerraNest platform looks and functions :

1. Home Page

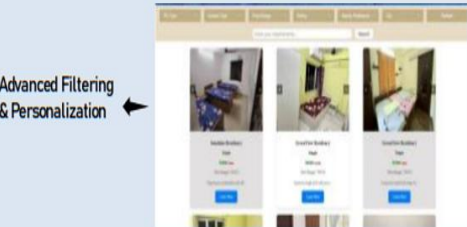
Description: Responsive entry point with central search bar and user-friendly layout.
Analysis: Fast-loading design with clear navigation boosts user engagement.



Home Page

3. PG Details Page

Description: Detailed PG info with media, pricing, availability, and room-specific data.
Analysis: Enhances trust by linking ML output with transparent data.



Advanced Filtering & Personalization

4. Advanced Filtering & Personalization

Description: Intelligent filtering with suggestions and behavior-based recommendations.
Analysis: Enables smarter, user-adaptive search experiences.



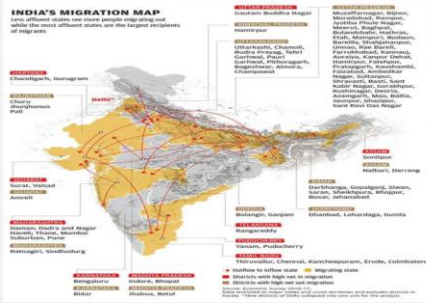
Contact

5. Contact and Payment Page

Description: Form interface for feedback, support, and inquiries to admins or owners. And Structured reservation page prepared for future payment integration.
Analysis: Simplifies communication with validated user inputs and Supports scalable booking and secure transaction flows.

Discussion:

Every year, millions of people in India migrate to urban areas for education and employment opportunities. This surge in urban migration creates a dynamic housing market, especially near educational hubs and business districts. As a result, PGs have become a preferred choice due to their affordability, flexibility, and ready-to-move-in convenience.



States with highest share of intra-state migrants in population (%)	
Himachal Pradesh	37.2
Telangana	33
Tamil Nadu	31.9
Andhra Pradesh	31.8
Kerala	30.6
Maharashtra	30.1
West Bengal	29.6
Odisha	29.6
Punjab	27.7
Chhattisgarh	27.7

Note: The lists exclude states and Union territories with small sample sizes.

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