

A Project Proposal document

In partial fulfilment of the requirements for the

Degree of Bachelor of Engineering/Technology

In

Computer Engineering

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By

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Project Proposal Document

Project Title:

RentWise

The project is a full-stack web application that provides a platform for buying, selling, and renting properties. It also incorporates a machine learning feature to predict house prices based on area and other relevant parameters. The system supports multiple user roles: Admin, Owner, and Tenant, ensuring a streamlined and efficient real estate management experience. The platform aims to bridge the gap between property seekers and sellers/owners, making property transactions more accessible, secure, and efficient. mke these in points

Scope:

The scope of this project includes:

1. Admin Features
   * Manage users (owners and tenants) by analyzing account activity.
   * Remove unused accounts and advertisements.
   * Send email notifications to users about account or property updates.
2. Owner Features
   * List properties for sale or rent.
   * Manage bookings for their properties and interact with potential tenants or buyers.
   * Update property details and personal profiles.
3. Tenant Features
   * Search properties using advanced filters (e.g., price range, location, size).
   * Save properties of interest in a personalized list.
   * Contact owners to inquire or book a property.
4. ML-Powered Prediction
   * Predict house prices based on area and other inputs to assist owners and tenants in making informed decisions

Methodology/Approach:

1. Requirement Gathering
   * Conduct research on Bangalore's housing market, including popular areas and price variations.
   * Identify specific needs of Bangalore-based users through surveys or interviews.
2. System Design
   * Design a location-focused UI, highlighting Bangalore neighborhoods and property types.
   * Build a scalable backend to handle property data, user roles, and interactions.
3. Machine Learning Integration
   * Gather data on Bangalore property prices, categorized by location, area, and other factors.
   * Train a machine learning model (e.g., Linear Regression, Random Forest) for price prediction.
4. Development
   * Follow agile methodologies for iterative feature development and testing.
   * Integrate ML predictions seamlessly into the property listing and search features.
5. Testing and Deployment
   * Conduct user acceptance testing with Bangalore-based users for feedback.
   * Deploy the application on a scalable cloud platform.

Expected Outcomes:

* A location-specific web platform tailored for Bangalore’s housing market.
* Enhanced user experience for Admin, Owner, and Tenant roles.
* Accurate and localized house price predictions for better market insights.
* Efficient property transaction processes, reducing the time required for search and bookings.
* A scalable and robust system capable of handling real-world Bangalore housing challenges.

Tools and Technologies:

1. Frontend
   * HTML, CSS, JavaScript.
2. Backend
   * PhP, Flask.
3. Database
   * MySQL.
4. Machine Learning
   * Python, scikit-learn, pandas, NumPy.
5. Deployment
   * XAMPP,AWS
6. Others
   * Google Maps API for neighborhood filtering.
   * Email API (e.g., SendGrid) for notifications.
   * Authentication (e.g., JWT, OAuth).

Feasibility Analysis:

1. Technical Feasibility
   * Using modern frameworks and cloud services ensures scalability and robustness for a Bangalore-specific audience.
   * Machine learning integration enables accurate price predictions tailored to local dynamics.
2. Economic Feasibility
   * Deployment costs are manageable given the targeted audience, and monetization options (e.g., premium listings) can offset expenses.
3. Operational Feasibility
   * The platform is tailored for the Bangalore housing market, ensuring high relevance and usability for users.
   * Regular user feedback ensures continuous improvement.
4. Time Feasibility
   * Focus on Bangalore-specific data reduces complexity, enabling faster development and deployment timelines.

Prepared by:

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