

Freelancer Platform

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Abstract : This Freelancer Platform Enhancer is designed to streamline the process of matching clients with the right freelancers, enhancing efficiency and experience for both parties. Through a data-driven approach, the platform analyzes job descriptions, required skills, and previous projects to recommend suitable freelancers to clients. Key features include real-time job suggestions, skill-based matching, competitive rate prediction, and insights into freelancer performance metrics. By leveraging comprehensive data and analytics, this system improves the accuracy and relevance of recommendations, providing a seamless experience in connecting clients and freelancers.

INTRODUCTION

Overview Of Freelancer Platform :

The rapid advancement of digital technology, there are significant opportunities to improve client-freelancer matching on freelance platforms. This project introduces a Freelancer Platform Enhancer designed to streamline the connection between clients and freelancers. The system utilizes data analysis to match clients with freelancers based on job requirements, skills, and past performance. Key features include real-time job suggestions, skill-based matching, competitive rate predictions, and insights into freelancer performance metrics. This platform enhancement maximizes efficiency in connecting clients with ideal freelancers, thereby elevating the overall user experience on freelance platforms.

Objective :

This project provides clients with predictions on potential freelancer matches based on job requirements, budget, and skill level. By inputting job details, clients can quickly view a curated list of freelancers likely to meet their needs, simplifying the hiring process and setting clear expectations for project delivery. The platform features a user-friendly interface built with HTML, CSS, and JavaScript. The webpage includes a modern design with a gradient background, a centrally aligned recommendation container, and smooth animations for an engaging experience. CSS effects such as hover animations and slide-in transitions enhance visual appeal and interactivity, making it easier for clients to connect with freelancers.

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Freelancer Platform Process: Enhancing Client-Freelancer Matching

Client Project Posting :

When a client begins a new project, they first create a detailed project listing, which is key to attracting the right freelancers. This involves filling out fields such as the project title, a comprehensive description, specific skills required, budget range, preferred completion date, and other optional specifications (e.g., language requirements, location preferences). A well-defined project posting helps the platform's recommendation engine understand the exact nature of the job and match it with freelancers who have the appropriate skills and experience. This step sets the foundation for a successful hire, as freelancers can better gauge if the project aligns with their expertise and bid accordingly.

Freelancer Profile & Skill Matching :

Once a project is posted, the platform uses algorithms to analyze the client's requirements against the profiles of available freelancers. Each freelancer profile contains information about their skills, years of experience, certifications, portfolio samples, and recent projects. The platform's system evaluates this data to identify freelancers who possess the skills and qualifications necessary to complete the project successfully. Additionally, it may consider factors such as a freelancer's responsiveness, previous ratings, and completion rate to recommend highly rated and reliable freelancers. Those who closely match the job criteria receive notifications about the project, giving them the opportunity to review the project requirements and decide if they wish to apply.

Automated Recommendations :

To streamline the hiring process, the platform generates a curated list of recommended freelancers based on the project requirements. This recommendation list saves clients time by eliminating the need to browse hundreds of profiles manually. For each recommended freelancer, the platform displays key information, including their skill set, years of experience, portfolio, past ratings, and even a suggested bid based on market trends and project budget. This helps clients compare potential candidates more easily and make an informed decision. This approach not only saves clients time but also ensures they are presented with high-quality matches tailored to their project.

Bid Submission :

Freelancers who are interested in a posted project can submit bids that outline their approach to completing the project, estimated timeline, and price quote. This bid process gives freelancers a chance to showcase how their skills and experience are particularly suited to the client's needs. In addition to the bid amount, freelancers can also include brief proposals explaining their understanding of the project, suggestions for a project roadmap, or ideas on how they can add value beyond what's described. Clients then have access to a range of proposals, allowing them to choose a freelancer whose bid aligns with their budget, timeline, and vision for the project.

Client-Freelancer Communication :

After reviewing the bids, clients may have questions or want more information before making a decision. The platform provides a secure chat feature that allows direct communication between clients and freelancers. Through this feature, clients can ask freelancers for clarifications on their approach, negotiate terms, or even conduct short interviews to get a better sense of a freelancer's capabilities and fit. This step is vital for establishing a clear understanding between both parties, as it minimizes miscommunication and ensures the freelancer fully understands the client's expectations. Transparent communication upfront can also help set the stage for a smooth project workflow.

Agreement and Payment Setup :

Once a client selects a freelancer, the platform guides them through setting up an agreement that outlines key details, including payment terms, milestones, and project timelines. This step often includes setting up an escrow arrangement, where funds are held securely by the platform and are only released to the freelancer when specific milestones or deliverables are approved by the client. This payment setup protects both parties—clients are assured that work will be completed to their satisfaction before payment, and freelancers have confidence that funds are available and ready for release. This structured process fosters a trust-based relationship, which can lead to higher client and freelancer satisfaction.

Project Management and Tracking :

As the project progresses, the platform provides a project management dashboard where both clients and freelancers can monitor the project's progress. This dashboard may include features like milestone tracking, document sharing, and status updates to keep everything organized and visible in one place. Freelancers can submit drafts or completed tasks for review, while clients can leave comments or request adjustments as needed. This real-time tracking not only helps to keep the project on schedule but also ensures transparency and accountability. By having a dedicated workspace, both parties can focus on project goals and maintain a smooth flow of communication.

Project Completion and Payment Release :

Upon project completion, the freelancer submits the final deliverables for the client's review. Once the client is satisfied with the work, they approve the release of payment from escrow. The platform ensures that all aspects of the project have been fulfilled before funds are transferred, creating a secure transaction for both parties. Clients are encouraged to leave feedback based on the freelancer's performance, which contributes to the freelancer's reputation on the platform. For clients, this step signifies the successful end of the hiring process, while freelancers benefit from completed payments and potential positive reviews that can enhance their future job prospects.

Feedback & Performance Metrics :

After the project concludes, the client and freelancer exchange feedback, rating their experience with each other. The platform collects this data to improve its recommendation algorithms and help future clients make more informed hiring decisions. Freelancers with higher ratings and positive reviews gain visibility, while constructive feedback helps others identify areas for improvement. These performance metrics also allow the platform to continually enhance the accuracy of its matching algorithms, ensuring clients are paired with top-rated freelancers who consistently meet project standards. This feedback loop ultimately creates a more trustworthy and effective freelancing ecosystem.

Freelancer Platform Dashboard Setup

The screenshot displays the Freelancer platform's dashboard setup interface. At the top, a dark blue navigation bar features the Freelancer logo, a 'Browse' button, and links for 'Manage' and 'Groups'. On the right, there's a 'Post a Project' button and a user profile for '@rupavathis' with a balance of ₹0.00 INR. Below the navigation bar, a secondary menu includes 'Dashboard', 'Lists', 'Tasklists', 'My Projects', 'Inbox', 'Feedback', 'Free Credit', and 'Project Updates'. The main content area is divided into two columns. The left column, titled 'You are almost ready to start earning money as a freelancer, simply complete the following steps: 2 minutes ago', lists three tasks: 'Email Address' (Already Verified), 'Update your profile' (Profile Page), and 'Place your first bid' (Browse Projects). The right column, titled 'Set up your account 15% done', shows a progress bar and a message: 'Having a complete verified account will increase the chances of getting jobs.' Below this, it says 'Complete your account setup by:' followed by a task 'Add your full name' with a '+ 5%' reward. At the bottom right, the 'Balance' section shows 'Indian Rupee' and '₹0.00 INR' with an 'Add funds' button.

1. Dashboard Overview :

The dashboard serves as the central hub for managing your freelancer account. It shows your profile progress, updates, and any action steps needed to complete your profile setup. Completing your profile increases your chances of getting hired, as clients prefer verified and complete profiles.

2. Steps to Complete Profile Setup :

- **Verify Email Address :**

Email verification is required to secure your account and improve trust. After verifying your email, the "Already Verified" status will appear, confirming your email has been successfully verified.

- **Update Your Profile :**

A complete profile increases your visibility and the likelihood of attracting clients. The "Profile Page" button takes you directly to your profile editing section, where you can add details such as skills, experience, certifications, and other relevant information.

- **Place Your First Bid :**

Bidding on projects is a crucial step toward landing jobs on the platform. Use the "Browse Projects" link to explore available projects that match your skills. Once you find a project that interests you, submit a proposal or bid to showcase your expertise and attract potential clients.

3. Account Setup Completion :

A setup progress bar shows the completion percentage of your account. As you fulfill each step, your progress increases. A fully verified profile (100%) is recommended, as it increases your profile's credibility and visibility to clients.

4. Additional Profile Completion Tasks :

Add Full Name (+5% Completion)

Adding your full name increases your profile completeness. This step can be done under account settings and is essential for building client trust.

5. Balance and Adding Funds :

The balance section shows your available funds in your account. You can add funds using the "Add funds" option, which is useful if you need to pay for platform services or participate in certain premium project listings.

CODE SECTION

This section provides a simplified code to find the accuracy :

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt

from sklearn.model_selection import train_test_split, cross_val_score
from sklearn.ensemble import RandomForestRegressor
from sklearn.metrics import mean_squared_error, r2_score

# Load your dataset
data = pd.read_csv('C:/Users/parve/OneDrive/Desktop/desktop/ds project/freelancer.csv')

# Display the columns in the dataset
print("Columns in the dataset:", data.columns.tolist())

# Select features (independent variables) and target (dependent variable)
# Adjust the features based on your dataset
features = ['client_review_count', 'min_price', 'max_price'] # Change this based on your dataset
target = 'avg_price' # Make sure 'avg_price' exists in your dataset

# Prepare the feature and target DataFrames
X = data[features]
y = data[target]

# Handle any missing values (if necessary)
X.fillna(X.mean(), inplace=True) # Replace NaN values with the mean of the column
```

```
y.fillna(y.mean(), inplace=True) # Replace NaN values in the target variable

# Split the data into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

# Create a Random Forest Regressor model
model = RandomForestRegressor(n_estimators=100, random_state=42)

# Fit the model on the training data
model.fit(X_train, y_train)

# Make predictions on the test set
y_pred = model.predict(X_test)

# Calculate the mean squared error and R2 score
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)

# Print accuracy metrics
print(f"Mean Squared Error: {mse:.2f}")
print(f"R2 Score: {r2:.2f}")

# Calculate accuracy as a percentage (1 - MSE)
accuracy = r2 * 100 # R2 Score can be interpreted as a percentage
print(f"Model Accuracy: {accuracy:.2f}%")

# Cross-validation scores
cv_scores = cross_val_score(model, X, y, cv=5) # 5-fold cross-validation
print(f"Cross-Validation Scores: {cv_scores}")
print(f"Mean CV Score: {cv_scores.mean():.2f}")

# Plotting the actual vs predicted values
plt.figure(figsize=(10, 6))
```

```
plt.scatter(y_test, y_pred, color='green', alpha=0.6)

plt.plot([y.min(), y.max()], [y.min(), y.max()], color='red', lw=2) # Line of equality

plt.title('Actual vs Predicted Average Price')

plt.xlabel('Actual Average Price')

plt.ylabel('Predicted Average Price')

plt.tight_layout()

plt.show()


# Display feature importances

importances = model.feature_importances_

feature_importances = pd.DataFrame(importances, index=features,
columns=['Importance']).sort_values('Importance', ascending=False)

print("Feature Importances:")

print(feature_importances)
```

CONCLUSION

A freelancer platform serves as a valuable hub that connects skilled professionals with businesses seeking specialized services. It offers flexibility, allowing freelancers to work on projects that align with their expertise, while providing clients with access to a diverse pool of talent for various needs. The platform fosters a mutually beneficial ecosystem where both freelancers and clients can thrive through transparent interactions, efficient project management, and secure payment systems. As such, it plays a crucial role in modernizing the freelance industry, making it easier to collaborate, innovate, and grow in a global marketplace.