**Rental Prediction App using Machine Learning**

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**Problem Statement:**

Actually we are going to create app using flutter and android studio which predicts the rent for the houses in the main four metropolitan cities. The prediction is based upon machine learning algorithm that suits our data. Our prototype app will be with choices given in dropdown which is used for the rent prediction. This app saves the money for the newbies who are coming to the cities.

**Business Need Assessment:**

This app will be interesting to the new comer of the city. To attract the newbies, we will be giving ads in the television. This app looks simple but plays a crucial role in the migration of peoples. The population of rural people is more than the urban population. Because of this reason the demand for our app will high. It makes one to be preplanned for the migration and make them comfort. Our will app help the newcomer to get knowledge of house rent at different places with different attributes. No one can copy our app because we keep our data safe and secure. We also update our data daily for our users. Creation of this app needs the following members:

Project manager 1

UI Designer 1

Front-End Developer 5

Back-End Developer 5

Big Data Expert 1

Enumerator 5

**Target Specification:**

Our target customers are the rural peoples. Because of this reason we keep our app so simple so that even the illiterate would understand easily. We should also advertise in the television because it’s reach is so intense in terms of rural area. Simple doesn’t mean not attractive. That is we keep our app both simple and attractive. So that the number of downloads keeps increasing. By providing accurate prediction we can retain the users for the maximum time period. The best service of our app will make normal customer to be the loyal one to our app. But the accurate prediction varies upon several factors. We will discuss in the later section of our report.

**External Search:**

<https://www.kaggle.com>

<https://www.velvetech.com/blog/mobile-app-development-team-structure/>

<https://vitalflux.com/different-types-of-statistical-tests-concepts-examples/#Non-Parametric_Statistical_Tests_Types_Concepts_Examples>

<https://scikit-learn.org/stable/modules/linear_model.html>

<https://flutter.dev/learn>

**Bench marking alternate products:**

Our competitors are 99acres,housing,rent khata,NoBroker,Magic brick and Airbnb. These app are more practical applicated than just predicting. But our also has some competitive advantages than these apps. That is our app gives average rent in terms of different attributes of house and it’s location. And another advantage is our app’s interface is simple. That even illiterate can use it comfortably. We are not helping the newcomer to get house, we are helping them to get knowledge about rents for houses with different attributes. We do this service at cheap price than other apps. Our app’s simple and attractive features will attract the peoples to use our app. We also provide premium subscription to get the address of the houses with particular attributes. So our app has competitive advantages than our competitors.

**Applicable Patents:**

1)Google’s scikit learn library

2)Google’s flutter app

3)pingouin library

4)Google’s keras and tensorflow

5)Data is collected by Prashant verma which is posted in Kaggle

**Applicable Constraints:**

The practical constraint are we need continuous flow data updates to get accurate prediction without any legal quarrels. The Next constraint is our product needs high budget (both initial cost and running cost) for best service of our product. The another constraint is our product is not free. The users will think to pay subscription and get the prediction of rent. Basically they look for free product to get rent prediction. The final constraint is our product needs strong marketing forces to reach to the large rural people. This strong marketing forces may need high pay also. But this pay is worth to do.

**Business Model:**

The users need to pay 200 rupees monthly subscription amount to use our product. And there is also free trial period of 15 days per device. The normal subscription is to get only rent prediction by altering choices. The premium service worth 300 rupees per month which includes services of rent prediction and address of houses with the particular choices. Once they pay the subscription amount, they will be allowed to use our services to get knowledge of average rent of houses. The app will be built in that way. We also need to pay the enumerator for the collection of data. They are the part our business services.

**Final Product**:

The final product will be with simple and attractive UI which has choices to choose and get the predicted rent in the main panel. It helps the newcomer to the city without actually travelling. It updates it’s data every single day to be in concurrent in predicting. For the premium users we also provide addresses of houses with particular specification. The specification are the area of houses, number of the bathrooms , size of the houses, number of BHK, number of the floor, furnishing status, and city. By choosing the specification out of these variables we can predict the rent. Our app also checks inflation and predict rent according to that. We use Regressor and ANCOVA algorithms to predict the rent. But our prototype model consist only the features and rent prediction. It does not involve Big data and updation of data. And it also not involve inflation factor to predict house rent.

**Conclusion:**

In the project end we will be creating the prototype to predict the rent. This app help the newcomer of the city to get the average rent in the places without even travelling to the places. It also recommends safer places with lower rent amount. The simple UI design help the rural people to easily understand the features and get the rent prediction. And the attractive UI will attract the users to stay in app for the long time. The accurate prediction will create a bond between the users and the app. At the final it plays a crucial role in the lives of the people.