README

This project aims to maximize income through an in-depth analysis of user behavior, optimizing user experience, adjusting campaigns, and increasing conversion rates to achieve financial growth goals.

Analysis Approach

1. **Data Exploration:**
    - The project starts with an exploration of user data, focusing on factors such as page types, months, and more.
    - Various visualizations, including curves and predictions, are used to gain insights into user behavior.
2. **Optimizing User Experience:**
    - The analysis delves into user experience optimization by understanding how different factors impact revenue generation.
    - Adjustments and improvements in user experience are recommended based on the findings.

Predictive Modeling

1. **Curve Analysis:**
    - Various curves are analyzed to understand the relationship between different variables and revenue contribution.
    - Insights from curve analysis guide decision-making for income optimization.
2. **Prediction Models:**
    - Several machine learning models, including KNeighborsClassifier and GaussianNB, are employed to predict user contributions to income.
    - Evaluation metrics are used to assess the effectiveness of different models.

Conclusion

1. **Factors Influencing Revenue:**
    - The analysis reveals that factors such as page types, months, and more can significantly influence whether a visitor contributes to revenue.
2. **Prediction Model Effectiveness:**
    - While no single model is found to be sufficiently precise overall, specific models like KNeighborsClassifier effectively predict visitors who will not contribute to income.
    - GaussianNB without PCA emerges as the most effective model for predicting contributing visitors, despite occasional errors.
3. **Choosing the Appropriate Model:**
    - The choice of a prediction model depends on specific needs and priorities.
    - The project recommends selecting a model based on the desired balance between precision and recall, considering the nature of the errors.