

Project Design Phase-I

Proposed Solution Template

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| Date | 09 May 2023 |
| Team ID | NM2023TMID02778 |
| Project Name | Identifying Airline Passenger Satisfaction Using Machine Learning |

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

| S.No. | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | The problem to be solved is to predict and improve airline passenger satisfaction using machine learning techniques. The airline industry is highly competitive, and passenger satisfaction is a critical factor in determining customer loyalty and the success of an airline. The goal of this problem statement is to develop a machine learning model that can accurately predict passenger satisfaction levels based on various factors such as flight details, customer feedback, and other relevant data. By doing so, airlines can gain insights into the drivers of customer satisfaction and take corrective actions to improve their services, which can ultimately lead to higher customer loyalty and profitability. |
| 2. | Idea / Solution description | The first step is to collect relevant data from various sources such as flight records, customer feedback, social media, and other relevant sources. After collecting the data, the next step would be to preprocess it. This step involves cleaning, |

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| | | <p>transforming, and encoding the data into a machine-readable format that can be used by the machine learning algorithms.</p> <p>The solution to the problem of predicting and improving airline passenger satisfaction using machine learning involves data collection, preprocessing, feature engineering, model selection, training, evaluation, optimization, and deployment. By implementing this solution, airlines can gain insights into the drivers of customer satisfaction and take corrective actions to improve their services, which can ultimately lead to higher customer loyalty and profitability.</p> |
| 3. | Novelty / Uniqueness | <p>The proposed solution involves integrating data from multiple sources, including passenger demographics, flight details, customer feedback, social media comments, and reviews</p> <p>The solution can also be used to personalize recommendations for individual passengers.</p> <p>The model can be integrated with the airline's system to provide real-time predictions and feedback.</p> <p>Implementing this solution can be a cost-effective way for airlines to improve customer satisfaction.</p> |
| 4. | Social Impact / Customer Satisfaction | <p>Improved Customer Satisfaction: By predicting passenger satisfaction and personalizing recommendations, airlines can improve the overall customer experience.</p> <p>Enhanced Safety: By analyzing data on customer feedback and complaints, airlines can identify areas of safety concerns and take</p> |

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| | | <p>corrective measures to enhance passenger safety.</p> <p>Environmental Sustainability: By predicting passenger demand and optimizing flight schedules, airlines can reduce fuel consumption and emissions, which can have a positive impact on the environment.</p> <p>Reduced Cost: Implementing machine learning to predict passenger satisfaction can lead to cost savings for airlines.</p> |
| 5. | Business Model (Revenue Model) | <p>Subscription model: Airlines can subscribe to the service and receive regular reports on passenger satisfaction levels, personalized recommendations, and real-time feedback.</p> <p>Commission-based model: The service provider can charge a commission based on the improvements in passenger satisfaction levels.</p> <p>Data monetization model: The service provider can sell the analyzed data to other airlines or businesses that are interested in improving their customer experience.</p> <p>Partnership model: The service provider can partner with other businesses, such as hotels, restaurants, or car rental companies, to offer a complete travel experience to passengers.</p> |
| 6. | Scalability of the Solution | <p>The solution requires a robust data infrastructure to handle large amounts of data from multiple sources.</p> <p>The machine learning algorithms used in the solution should be scalable and capable of handling large datasets.</p> |

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| | | <p>Cloud computing can be used to scale the solution horizontally and vertically.</p> <p>Automation can be used to scale the solution by reducing the manual effort required to analyze data and provide recommendations.</p> <p>The solution should be deployed in a way that allows for easy deployment and maintenance across multiple locations.</p> |
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