Business Objective:

Develop and deploy a machine learning (ML) model on our website that accurately predicts the prices of laptops based on their specifications.

Key Deliverables:

Predictive Model: Develop a robust ML model that takes into account various specifications of laptops such as processor type, RAM, storage capacity, graphics card, screen size, etc., to predict their prices accurately.
Data Collection and Preparation: Gather a comprehensive dataset containing information on various laptop models along with their specifications and corresponding prices. Clean and preprocess the data to ensure its quality and suitability for training the model.
Model Training and Evaluation: Utilize appropriate ML algorithms and techniques to train the model using the prepared dataset. Employ cross-validation and other evaluation metrics to assess the model's performance and ensure its accuracy in predicting laptop prices.
Deployment on Website: Integrate the trained ML model into our website, providing users with an intuitive interface to input laptop specifications and receive predicted prices in real-time.
User Experience Enhancement: Design an engaging and user-friendly interface for the website, ensuring ease of navigation and understanding for users who seek laptop price predictions. Implement features such as autocomplete for specification inputs and clear presentation of predicted prices.
Performance Monitoring and Maintenance: Continuously monitor the performance of the deployed ML model on the website, addressing any issues or inaccuracies promptly. Periodically update the model with new data and retrain it to maintain its relevance and accuracy over time.

Success Criteria:

- Achieve a Mean Absolute Error (MAE) or Root Mean Squared Error (RMSE) within an acceptable threshold, indicating the model's accuracy in predicting laptop prices.
- Receive positive feedback from website users regarding the usefulness and accuracy of the price predictions provided by the ML model.

- Witness an increase in website traffic and user engagement as a result of offering the laptop price prediction feature.
- Establish the website as a trusted resource for individuals seeking reliable predictions on laptop prices based on specifications.

Timeline:

- Data Collection and Preparation: 1 month
- Model Development and Training: 2 months
- Deployment on Website: 1 month
- User Experience Enhancement: Ongoing refinement
- Performance Monitoring and Maintenance: Continuous

Resources:

- Data Analyst: Responsible for data collection, preprocessing, model training, and evaluation.
- Web Developer: In charge of integrating the ML model into the website and enhancing user experience.
- Quality Assurance Team: Ensure the accuracy and reliability of the deployed ML model and website functionality.
- Stakeholders: Provide guidance, feedback, and support throughout the project lifecycle.

By achieving this objective, we aim to provide users with a valuable tool for making informed decisions when purchasing laptops, thereby enhancing their overall shopping experience and driving traffic to our website.