**Proposed Technical Workflow**

**Automated Valuation Model (AVM)**

To develop the Automated Valuation Model (AVM) described in the Software Requirements Specification (SRS) document, I propose the following approach utilizing Python:

1. Data Preprocessing and Cleansing:
   1. Implement data cleansing and analysis techniques to handle missing values, outliers, and inconsistencies.
   2. Perform data normalization and feature extraction to prepare the data for analysis.
2. Data Analysis and Model Development:
   1. Utilize statistical and mathematical methods to estimate average prices for undiscovered Saudi Arabian neighborhoods.
   2. Incorporate alternative data sources (if applicable) and advanced data processing techniques to enhance the accuracy of valuations.
   3. Develop and implement algorithms to calculate the RS score based on proximity to essential amenities and other factors affecting real estate prices.
   4. Develop and implement algorithms to calculate accurate line distances between real estates and main streets.
   5. Perform comparative analysis considering prices of similar real estates and their distances from the target property.
   6. The findings of the analysis and final assumptions overall, shall be shared with the SME in a simple readable format such as a python notebook.
3. Model Development:
   1. Develop a mathematical model to estimate the real estate price by assigning weights to all factors.
   2. Initial model weights shall be estimated based on the results of the analysis and additional knowledge from the SME.

1. Model Testing and Validation:
   1. Utilize a sample of historical data from MOJ (Ministry of Justice) and AQAR to test the AVM's performance.
   2. Validate the model's results against expert opinions and adjust the model accordingly.
2. Model Deployment and Integration:
   1. Develop the AVM as a standalone application or API using Python. The application will accept real estate data and coordinates and return the estimated price.
3. Documentation and Collaboration:
   1. Document the methodologies, assumptions, and limitations of the AVM for transparency and reproducibility.

By following this approach, we can develop a robust AVM that automates real estate property valuations in Saudi Arabia, considering factors specific to the local real estate market. The use of Python will enable efficient data processing, analysis, and model development, ensuring accurate and timely valuations.

The entire project is estimate to last for 2 weeks and cost $2,800. The project may follow the milestones listed below

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| Item | Timeline | Price |
| Data analysis and insights on Saudi Arabia real estate data | 3 working days | $600 |
| Build RS score | 3 working days | $600 |
| Build line distance algorithm | 3 working days | $600 |
| Similarity and price | 2 working days | $400 |
| Develop model | 1 working day | $200 |
| Build standalone application or API | 2 working day | $400 |

I look forward to discussing in more detail and collaborating with you to develop the AVM that meets your requirements.

Best regards,

Jedidiah O