

Interview with Client Mr. XX, a Geologist working in a Coal Mining Company

Me: Hi Mr. XX, thank you for taking the time to talk with me today. Can you explain to me what specific calculations you do manually that you would like to simplify with a software application?

Mr. XX: Sure, thanks for having me. One of the calculations I do manually is calculating the actual volume of coal from the cross-sectional area of a coal seam. I use alpha, delta, and distance measurements as inputs to calculate the volume. Additionally, I sometimes need to calculate the volume based on the width and length of the coal seam. Another calculation I do is coal blending, which involves calculating the percentage of different types of coal to be blended together based on their chemical properties, such as the ash and volatile matter content.

Me: I see. So, you want a software application that can automate these calculations for you. Can you tell me more about the inputs required for each calculation?

Mr. XX: Sure, for the actual volume calculation, I need to input the alpha, delta, and distance measurements. Optionally, I would also like to input the width and length of the coal seam to calculate the volume. For the coal blending calculation, I need to input the coal ratios and the total moisture content, ash content, volatile matter content, total sulfur content, and calorific value on an as-received basis (ADB).

Me: Thank you for explaining. And what would you like the output to be?

Mr. XX: For the actual volume calculation, I would like the output to be the actual volume of the coal seam in cubic meters or cubic feet. For the coal blending calculation, I would like the output to be the percentage of each type of coal to be blended together.

Me: Understood. And what level of user-friendliness are you looking for in the software application?

Mr. XX: I would like the application to be easy to use for someone who has basic computer skills. It would be great if the application could provide instructions for each calculation and give hints for the required input.

Me: That sounds reasonable. Are there any specific formulas or methods that you use for these calculations that you would like the software application to incorporate?

Mr. XX: Yes, for the actual volume calculation, I use a formula that takes into account the cross-sectional area of the coal seam and the distance between measurement points. For the coal blending calculation, I use a formula that takes into account the chemical properties of each type of coal and the desired coal blend properties.

Me: Okay, I'll make sure to incorporate those formulas into the software application. Lastly, do you have any specific file format requirements for the input and output files?

Mr. XX: Yes, I would like the application to be able to read input files in .docx (word) format and provide output files in the same format.

Me: Thank you, Mr. XX, for the information. Based on our conversation, I will create a software application that can automate the actual volume and coal blending calculations you described, while also being user-friendly and providing instructions for each calculation. I will make sure to incorporate the formulas you use and to support .docx file formats for input and output files. If I have any further questions, I will be in touch.

Mr. XX: Thank you, I appreciate your help.