Choose the Right Hardware

By: Shahzeb Anwar

Scenario 1: Manufacturing

Client Requirements and Potential Hardware Solution

Look through the scenario and find any relevant client requirements. Then, suggest a potential hardware type and explain how this hardware would satisfy each of the requirements.

Which hardware might be most appropriate for this scenario? (CPU / IGPU / VPU / FPGA)
FPGA

Requirement Observed (Include at least two.)	How does the chosen hardware meet this requirement?
Example requirement: The client requires a tiny device to be connected to their CPU—and their budget is only about $100 for each device.	*Example explanation:* VPU or NCS2 is only about 27.40 mm in size and would fit in the price range.
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*

Queue Monitoring Requirements

Maximum number of people in the queue	*[TODO: Type your answer here]*
Model precision chosen (FP32, FP16, or Int8)	*[TODO: Type your answer here—choose from]*

Test Results

After you've tested your application on all four hardware types (CPU, IGPU, VPU, and FPGA), copy the matplotlib output showing the comparison into the spaces below. You should have three graphs (for model load time, inference time, and FPS).

Paste your graph here

Model Load Time

Paste your graph here

Inference Time

FPS

Final Hardware Recommendation

Now synthesize your points from above and provide a brief write-up describing why the chosen hardware is the best choice for this scenario. Be sure to discuss the client's requirements, the test results, and how these relate to one another (e.g., perhaps one of the devices performed better than the rest, but does not meet one of the client's requirements).

Write-up: Final Hardware Recommendation
[TODO: Type your answer here]

Scenario 2: Retail

Client Requirements and Potential Hardware Solution

Look through the scenario and find any relevant client requirements. Then, suggest a potential hardware type and explain how this hardware would satisfy each of the requirements.

Which hardware might be most appropriate for this scenario? (CPU / IGPU / VPU / FPGA)
[TODO: Type your answer here]

Requirement Observed (Include at least two.)	How does the chosen hardware meet this requirement?

Example requirement: The client requires a tiny device to be connected to their CPU—and their budget is only about $100 for each device.	*Example explanation:* VPU or NCS2 is only about 27.40 mm in size and would fit in the price range.
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*

Queue Monitoring Requirements

Maximum number of people in the queue	*[TODO: Type your answer here]*
Model precision chosen (FP32, FP16, or Int8)	*[TODO: Type your answer here—choose from]*

Test Results

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Model Load Time

Inference Time

FPS

Final Hardware Recommendation

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Write-up: Final Hardware Recommendation

[TODO: Type your answer here]

Scenario 3: Transportation

Client Requirements and Potential Hardware Solution

Look through the scenario and find any relevant client requirements. Then, suggest a potential hardware type and explain how this hardware would satisfy each of the requirements.

Which hardware might be most appropriate for this scenario? (CPU / IGPU / VPU / FPGA)
[TODO: Type your answer here]

Requirement Observed (Include at least two.)	How does the chosen hardware meet this requirement?
Example requirement: The client requires a tiny device to be connected to their CPU—and their budget is only about $100 for each device.	*Example explanation:* VPU or NCS2 is only about 27.40 mm in size and would fit in the price range.
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*
[TODO: Type your answer here]	*[TODO: Type your answer here]*

Queue Monitoring Requirements

Maximum number of people in the queue	*[TODO: Type your answer here]*
Model precision chosen (FP32, FP16, or Int8)	*[TODO: Type your answer here—choose from]*

Test Results

After you've tested your application on all four hardware types (CPU, IGPU, VPU, and FPGA), copy the matplotlib output showing the comparison into the spaces below. You should have three graphs (for model load time, inference time, and FPS).

Paste your graph here

Model Load Time

Paste your graph here

Inference Time

FPS

Final Hardware Recommendation

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Write-up: Final Hardware Recommendation
[TODO: Type your answer here]