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| Frontend | |  | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| Cost and Time for each Route | | | | | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| **Route Selection** | | **Option 1** | | | | | | | | **Option 2** | | |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
| *Cost* | | | | *Time* | | | *Cost* | | *Time* |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
| A->B | | 20 | | | | 1 Day | | | 7 | | 3 Days |  | | |  | | | | |  | |  | | | | | | | | | | | | | |  | |  | | | | | |  | | | | | | | | | | | | |  | | | | | | |
| B->C | | 12 | | | | 5 Days | | | 6 | | 12 Days |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
| C->D | | 18 | | | | 21 Days | | | 80 | | 2 Days |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
| D->E | | 11 | | | | 4 Days | | | 9 | | 8 Days |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
| E->F | | 18 | | | | 1 Day | | | 8 | | 3 Days |  | | | | |  | | | | | | | | |  | | | |  | | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |
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| "Choose option for each route" | | | | | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | | Option 2 | |  | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| **Route Selection** | | **Choose Option** | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | |  | | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
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| A->B | | Option 1 | | This is a dropdown list. User selects either option 1 or option 2 from it. | | | | | | | | | | |  | | | | |  | |  | | | | | | | | | | | | | |  | |  | | | | | | |  | | | | | | | | | | | |  | | | | | | |
| B->C | | Option 2 | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| C->D | | Option 1 | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| D->E | | Option 2 | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| E->F | | Option 1 | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
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| Create a Button called “Calculate” | | | | | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| Once the user selects the options in each route selection and clicks the “Calculate” button, perform the backend calculation and displays in with the message “Your Scorecard” and result next to it. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| "Your Scorecared: \_\_\_\_" | | | | Display it like this | | | | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
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| Backend | |  | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| Route Selection | | Cost | | Time | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| A->B | | C1 | | T1 | | | These are based on user selection. The dataset is pulled from the "Cost and Time for each Route". For example: if user selects "Option 1" for A->B route then take C1 as 20 and T1 as 1 day. Use the data as per this. | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| B->C | | C2 | | T2 | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| C->D | | C3 | | T3 | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| D->E | | C4 | | T4 | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| E->F | | C5 | | T5 | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
|  | | Total Cost = C1+C2+C3+C4+C5 | | Total Time = T1+T2+T3+T4+T5 | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
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| To calculate total score: | | | |  | | |  | | | | | | | | | | | | | | | | |  | | | |  | | | |  | |  | | | | | | | | | |  | | | | | |  | | | | |  | | | | | | |  | | | | | | |  | | | | |  | | | | |  | |  | |
| Total Score = (Total Cost \* 0.9 + Total Time \* 0.1) – This is how result is calculated in the backend. | | | | | | | | | | | | | | |  | | | | |  | |  | | | | | | | | | | | | | |  | |  | | | | | | |  | | | | | | | | | | | |  | | | | | | |
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You are the new product owner for Letsroute. Your next task is to design an intermodal freight transport calculator. Using this tool you can calculate the cost and time for each route selected by the user. Lets call them Route A to B, B to C, C to D, D to E and E to F. There are two options for each route. Users have to make a selection between the 2 options. Based on the option selected add all the cost and add all the time and multiply with a factor of 0.9 and add it to time and a factor of 0.1. Therefore calculation will be (Total cost\*0.9+Total time\*0.1). Here total cost = C1+C2+C3+C4+C5 (Based on user selection of the option). Total Time = T1+T2+T3+T4+T5 (Based on user selection of the option). Choose the relevant C and T based on user selection. Below are the data inputs for cost and time for each option 1 and option 2.

A to B – Option 1 (Cost – 20 pound sterling, Time – 1 Day). Option 2 (Cost – 7 pound sterling, Time – 3 Days)

B to C - Option 1 (Cost – 12 pound sterling, Time – 5 Day). Option 2 (Cost – 6 pound sterling, Time – 12 Days)

C to D - Option 1 (Cost – 18 pound sterling, Time – 21 Day). Option 2 (Cost – 80 pound sterling, Time – 2 Days)

B to C - Option 1 (Cost – 11 pound sterling, Time – 4 Day). Option 2 (Cost – 9 pound sterling, Time – 8 Days)

B to C - Option 1 (Cost – 18 pound sterling, Time – 1 Day). Option 2 (Cost – 8 pound sterling, Time – 3 Days)

Front End

Cost and Time for each Route

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Route Selection | Option 1 | | Option 2 | |
|  | Cost | Time | Cost | Time |
| A->B | 20 | 1 Day | 7 | 3 Days |
| B->C | 12 | 5 Days | 6 | 12 Days |
| C->D | 18 | 21 Days | 80 | 2 Days |
| D->E | 11 | 4 Days | 9 | 8 Days |
| E->F | 18 | 1 Day | 8 | 3 Days |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Route Selection** | **Choose Option** |  | |  | | |
|  | |  | | |
| A->B | Option 1 | | This is a dropdown list. User selects either option 1 or option 2 from it. | | |
| B->C | Option 2 | |  | |
| C->D | Option 1 | |  | |
| D->E | Option 2 | |  | |
| E->F | Option 1 | |  | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Create a Button called “Calculate” | | | | | |  | | |
| Once the user selects the options in each route selection and clicks the “Calculate” button, perform the backend calculation and displays in with the message “Your Scorecard” and result next to it. | | | | | | | | | |
| "Your Scorecared: \_\_\_\_"  Backend | | | |
| Route Selection | | Option 1 | | | Option 2 | | | |
|  | | | Cost(C) | Time(T) | | Cost(C) | | Time(T) |
| A->B | | | 20 (C1) | 1 Day (T1) | | 7 (C1) | | 3 Days (T1) |
| B->C | | | 12 (C2) | 5 Days(T2) | | 6 (C2) | | 12 Days (T2) |
| C->D | | | 18 (C3) | 21 Days(T3) | | 80 (C3) | | 2 Days (T3) |
| D->E | | | 11 (C4) | 4 Days(T4) | | 9 (C4) | | 8 Days (T4) |
| E->F | | | 18 (C5) | 1 Day(T5) | | 8 (C5) | | 3 Days (T5) |

Based on the selection made by the user i.e. either option 1 or 2. Do the below calculation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Route Selection | Cost | Time |  | |
| A->B | C1 | T1 | These are based on user selection. The dataset is pulled from the "Cost and Time for each Route". For example: if user selects "Option 1" for A->B route then take C1 as 20 and T1 as 1 day. Use the data as per this. | |
| B->C | C2 | T2 |  | |
| C->D | C3 | T3 |  | |
| D->E | C4 | T4 |  | |
| E->F | C5 | T5 |  | |
|  | Total Cost = C1+C2+C3+C4+C5 | Total Time = T1+T2+T3+T4+T5 |  | |
|  |  |  |  | |
| To calculate total score: | |  |  | |
| Total Score = (Total Cost \* 0.9 + Total Time \* 0.1) – This is how result is calculated in the backend and displayed next to “Your Scorecard” in the frontend. | | | |