

Sprint 2		Data cleaning and Visualizing		Time	2023/09/12 to 2023/09/19 (one week)
Activity		Time	Response	Criteria	
Data clean		1 day	Klaas	Remove all data from the table that does not conform to common sense or is irrelevant to the research.	
Visualization	Heat map	2 days	Martin van Andel	Create a few templates of how a heatmap could look like.	
	Bar chart	2 days	Sun Yixin	Bar charts can show the average number of incidents on weekdays at different hours.	
	Heat map - COROP	2 days	Heisuke Miyoshi	The heat map can show the number of incidents per COROP zone	
Convert linestring to nodes		1 week	Klaas	Reduce the size of the highway network dataset	
Prepare the Machine learning(Clustering)		2 days	Martijn Stok	Understand data and find a way to cluster the data	

Sprint 3		Data cleaning and Visualizing		Time	2023/09/19 to 2023/09/26 (one week)
Activity		Time	Response	Criteria	
Visualization	Heat map	2 days	Martin van Andel	The heatmap can show the amount of incidents happening on the roads.	
	Bar chart	2 days	Sun Yixin	A concise interactive interface allows bar charts to be called up as needed instead of being displayed all at once.	
	Heat map - COROP	2 days	Heisuke Miyoshi	The heat map can show the number of incidents per COROP zone	
Select potential candidates for the optimization model		3 days	Klaas	Reduce the size of the highway network dataset	
Writing code for clustering		4 days	Martijn Stok	Write the full code for the clustering and make a	

			figure of all incidents for each cluster
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Sprint 4	Prepare the material for Midcheck	Time		2023/09/26 to 2023/09/29
Activity		Time	Response	Criteria
Visualization	Heat map	2 days	Martin van Andel	The heatmap is interactive with the option to select the type of incidents shown.
	Bar chart	2 hours	Sun Yixin	A clear explanation shows the bar chart and how it works
	Heat map - COROP	2 days	Heisuke Miyoshi	The heat map can show the number of incidents per COROP zone
Gather data from clustering		4 days	Martijn Stok	Data gathered for each cluster with regard to number of incident points, average distances (with approximations) and explaining results
Ethics		1 day	Martin van Andel	A document with several considerations on multiple ethical aspects.
Integrate all the works into a single notebook and update the Github wiki		1 day	Sun Yixin	Create a notebook with ample explanations and considerations on ethics.
Path finding model		4 days	Klaas	finding shortest path between two arbitrary points on the highway network

Sprint 5	Optimization	Time		2023/10/02 to 2023/10/09
Activity		Time	Response	Criteria
Finalized code for clustering for centroids and starting code for medoids		2 days	Martijn Stok	A working code of clustering with centroids and make a start with cod for medoids
Building optimisation model		2 days	Martin van	A base mathematical model

for inspectors' location		Andel	which can determine the optimal locations of road inspectors
Working on the streamlit for result visualization	2 days	Sun Yixin	Having a deep understanding of Streamlit's features and applications
Connect the incident data to the highway network	1 week	Klaas	make sure that the incidents location can be used for path finding
Building optimisation model for inspectors' location	1 week	Heisuke Miyoshi	Obtaining optimal locations of road inspectors

Sprint 6	Optimization	Time	2023/10/10 to 2023/10/13
Activity	Time	Response	Criteria
Work on code for clustering with medoids	3 days	Martijn Stok	Get a code that works for the clustering method with medoids
Update optimisation model and work on combining results	2 days	Martin van Andel	Correct optimisation model and create a way to combine optimised results
Creating Dashboard	3 days	Sun Yixin	Showing the visualization result in streamlit for the Data part
Creating Cost matrix	1 week	Klaas	Deliver the data for the optimization model
Optimisation model update and visualisation of solutions	1 week	Heisuke Miyoshi	Improving the optimisation model and visualising the optimal solution on maps

The Github part of the backlog is in the Github wiki:

<https://github.com/hmiyo29/Advanced-Data-Science-for-TTE-Group-4/wiki>