**Volkswagen Diesel Emissions**

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| * **Short History of Diesel Gas**
	+ Includes Diesel vs. Gasoline stats for US and Europe (1980-now)
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| * **Motivations for Making Diesel Sell better in Europe**
	+ From the POV of the companies (market differentiation)
	+ From the POV of the customer (mileage)
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| But the real problem with diesel is the emissions…* **Emission stats (comparing regulation to actual)**
	+ <http://www.theicct.org/sites/default/files/publications/ICCT_PEMS-study_diesel-cars_20141010.pdf>
	+ Across all car companies
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| * **Volkswagen wrote code to cheat this**
	+ Explain how it was caught, the WestVirginia study : <http://www.npr.org/2015/09/24/443053672/how-a-little-lab-in-west-virginia-caught-volkswagens-big-cheat>
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| * **Q1: Who did this?**
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| * **A corporate Decision**
 | * CEO of Volkswagen International, taking responsibilty resigning
* Repurcussions for brand
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| * **A Rogue Software Engineer**
 | * Insert quote from CEO of Volkswagen America (and video)
* https://www.youtube.com/watch?v=Sr9GknJ1kGk
* Repurcussions for computer science profession
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| * **Technology section**
	+ How did they write code that did this?
	+ Explain what it monitored to decide if it was being tested or not.
	+ Explain how this could be made even better, harder to find.
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| * **Long term impacts**
	+ VW has set aside 18billion dollars in fines
	+ DOJ still deciding fines
	+ European regulators starting to look at this
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| * **Q2: What would you do if you were VW right now (free-form Q)**
	+ Possible responses:
		- Recall
		- Upgrades to cars / trade in
		- Try to do nothing?
		- Hope other car companies have the same problems?
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| * **Q3: What would you do if you were the employee who was asked to write this code?**
	+ Possible responses:
		- Write the code --- now your job is on the line
		- Tell your boss --- Boss does nothing…
		- Quit --- now you have no job
		- Tell the media / whistleblow --- let people know
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| * **What happens from here?**
	+ Lawsuits…
	+ Continued efforts from regulators (especially Europe)
	+ Further changes in emissions testing
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