

# Good Morning, Maxwell

---

Jason Rossiter

I.

The lights turned on automatically as a young woman with a large backpack exited the elevator and waved her hand lazily at the glass door in front of her. A dull red light hidden within the glass turned green momentarily before the door slid away into the wall and Sulayhi Abdul walked into a large white room with rows of high tables with narrow drawers underneath.

“Good morning, Sulayhi. You’re in early,” Maxwell chimed from around her while unlocking the drawer at her workspace.

“Good morning, Maxwell. I want to get some studying in before I have to get to work. Tell me about my day.” Sulayhi opened the drawer and put on her AskMax AI Specs, low-profile glasses with flat silver frames. She took a few massive books and a pair of high heels out of her backpack before tossing the bag unceremoniously under her desk and walking to one of the fridges scattered around the floor.

The blank space around her melted away to become her chosen environment. A sprawling library came into focus; Sulayhi just needed to remember where the walls actually stood...

Maxwell moved from the speakers in the ceiling to Sulayhi’s glasses, subtly vibrating the frames just above the ear. “Reasonable. Independent studies from four different universities show that studying as part of a morning routine has a small but statistically significant improvement on subject retention.” A ‘wave to hear more’ notification floated out in front of Sulayhi.

“You have three appointments today. From 9:30 to 10:30, you have ‘Pre-Meeting Run-Through with Mo.’ From 12 to 1, you have ‘Study Time,’ which overlaps with ‘DMV Presentation,’ which is from noon to 3. Would you like more information on any of these?”

Sulayhi’s schedule appeared in her glasses as she opened the fridge, now somewhat out of place in her virtual workspace. “No thanks, Maxwell,” She grabbed a coffee and protein drink; leaving early made her miss breakfast. “Cancel ‘Study Time.’” She walked back to her desk.

“Study Time’ canceled.” A light on the fridge blinked while a notification appeared in the corner of Sulayhi’s vision. Maxwell continued, “Are you allergic to algal oil? You have never had that beverage before at the office, and it contains ingredients that may be problematic for you.”

“Huh. I don’t think I’m allergic to anything. What’s algal oil?” Sulayhi stared at the ingredients list on her drink.

“Information agreed upon by five different news sources states that algal oil is a fish-free alternative for omega-3 fatty acids. It is commonly found in nutritional supplements. Some individuals may experience extreme discomfort when consuming algal oil, but a pending class action lawsuit argues that suppliers cut the algal oil with other products. Should I continue?”

“Nah, any news?” Sulayhi drank her breakfast while shifting her weight from one foot to another. The standing desks at AskMax didn’t kill her legs anymore, but it was still uncomfortable. After that first day, she never wore heels into the office again; she always brought work and meeting shoes.

“Sure, here are the headlines from several reputable sources: Daughter of Hip-Hop Icon Continues Father’s Fashion Legacy, OPEC Fights for Relevance in Post-Oil America, US Driverless Car Talks Stall Following Death, Largest Virtual Reality Concert has Attendees from 115-”

“Driverless cars.” Sulayhi put her drink down so she could use both hands to wave her way into her email.

Maxwell prattled on. “From National Public Transmissions. Negotiations between artificial intelligence giant AskMax and several government agencies regulating transport concerning the taxation and insurance liabilities surrounding driverless cars have been put on hold temporarily following the death of Stephany Chambers, Director of the Texas Department of Motor Vehicles. Chambers was declared dead last night upon arrival at a hospital in Austin, Texas after the car taking her home ascertained she was experiencing cardiac arrest and rerouted to the nearest medical care facility.

“Justin ‘Mo’ Monroe, Chief Financial Officer of AskMax’s Transportation Software Unit, released a statement in the very early morning. ‘I extend my deepest condolences to the entire Chambers family,’ the statement reads, ‘as well as to all of Stephany’s friends and coworkers. AskMax intends to give the Department of Motor Vehicles ample time to reorganize before going on with further talks, which Stephany had been a key member of.’

“Chambers had been a loud supporter of the ‘TaxMax’ campaign which consolidated much of the infrastructure spending and insurance liability concerning smart roadways built

exclusively for self-driving cars into taxes levied against the software providers and car manufacturers who would benefit from the program. AskMax opposed the campaign, claiming that they would be, in effect, taxed for increasing the safety of American roads.

“No statement has been made by any government agency or AskMax concerning when talks will reconvene.”

Sulayhi made it to a table by the time Maxwell had finished and sat down. She rubbed her temples while collecting her thoughts. Stephany was why Sulayhi had this position to begin with.

The DMV was extremely sensitive to anything that cut back on the number of cars and drivers on the road, so ever since AskMax announced it was developing autonomous-driving software in partnership with both foreign and domestic electric car companies, the DMV kept a close eye on the work.

The most tumultuous legal battles happened while Sulayhi was still in middle school. Could a car be on public roads with no licensed driver at the wheel? Did the car even need a wheel? AskMax and similar companies spent hundreds of millions of dollars on lobbying and research partnerships with universities around the world to develop safe and economical self-driving cars. Billions went into the development of sensors and diagnostics tools to monitor both road and passenger conditions. AskMax went further than competitors, building roads that could communicate both with the new vehicles and relay information back to the cloud.

Just as Sulayhi graduated and started working for an actuarial consulting firm in Dallas, some cars were fully autonomous but required a licensed driver at the wheel in case of emergency. AskMax was pushing aggressively for self-driving cars to be street legal without the need for a backup human driver; they touted the economic and social benefits of having fleets of driverless cars which could service urban areas 24/7. Individuals wouldn't even need to own cars because companies would have them and could just use a few car lots for maintenance and storage. Communities could be rebuilt around narrow, smart roads. Everyone would be happy all the time, and the Governor of Texas was trying hard to offer tax breaks to bring the industry to his state since oil business was drying up.

Both the DMV and Texas Department of Insurance pointed out life is slightly more complex. Every aspect of city life, from drainage to electricity, was affected by the placement of roadways, and large swathes of the law enforcement and state budgets came from vehicle registration, taxes on car purchases, and speeding tickets. Especially with the proliferation of vertical farming which had been incorporated into the city landscape as urban sprawl widened, even small changes would have large, expensive consequences. Expecting people to exclusively

use some self-driving ride sharing service was in conflict with the independence car ownership and control provided southerners.

The government was fighting with itself. AskMax was fighting with the government and some loud media personalities. Eventually, they contracted Sulayhi's consulting firm to provide hard numbers on everything from the expected decrease in accidents to the life and health benefits of urban centers with a smaller automotive footprint. Actuaries became the real adhesive which brought together the new-age tech, traditional academic research, and government knowledge AskMax needed to promote their own agenda and face off against the government's actuaries employed by the Texas Department of Insurance.

Sulayhi packed up her exam workbooks and with two dozen other consultants and analysts moved to Austin for what was supposed to be six months of assumption studies and meetings. She had been there for a year and a half.

Her emails just reiterated what the news story had said. Mo sent out a video message to the Transportation Software Unit sharing his condolences and letting everyone know they had the day to catch up on anything or work on passion projects. His smile always made her face hurt just by seeing it.

Sulayhi got up and stretched. "Guess I didn't need to get up early," she mumbled. "Maxwell, why didn't you let me know about this?"

"What is 'this,' Sulayhi?" Maxwell buzzed.

Sulayhi gestured vaguely at nothing in particular, "Stephany Chambers dying and the meeting being cancelled."

"I am sorry, Sulayhi. There are several reasons you were not notified. I am primarily a reactive interface and did not know about the death of Stephany Chambers until you asked for the news to be read. Unless I sense a medical emergency, worm on the network, or a user has shown interest in something previously, I am effectively dormant. Your personal devices are also outside of my domain for security reasons since I am the beta version of the AskMax Assistant programmed exclusively for office and office-linked device use. That is why you must leave the AI Specs here when you leave.

"If you request it, I am able ping reputable news sources for stories concerning AskMax and email or text you about it. Does daily at midnight work for you?"

Sulayhi walked back to her desk and picked up her drink again, "Sure, Maxwell. Ping for information on AskMax and SOA exam changes regularly. Bring up my study notebook, please."

A scrolling whiteboard materialized above Sulayhi's workspace. "Thank you, Maxwell." Sulayhi opened one of her books.

"Because of your previous interest in probability and financial mathematics problems," Maxwell interrupted, "I have developed several problems that should be at your current level of skill."

"Oh, interesting. Pull them up, Maxwell. How many do you have?"

"5,487."

"Okay, I don't think I'll need that many," Sulayhi chuckled and then popped her knuckles, "Show me the first one, and we'll go from there."

## II.

“It was in the practice problems. Maxwell hid the evidence in the practice problems,” Sulayhi spoke into the tiny microphone in front of her.

No one in the courtroom was too surprised by this. The media had taken that point and spun it a million ways already. The reality of the situation was far less exciting than some of the theories now floating in the zeitgeist.

Nevertheless, the state prosecutor let the answer hang in the air for a moment before continuing, “What practice problems?”

“Oh, right,” Sulayhi smiled sheepishly, “I forget not everyone’s an actuary. We take a lot of tests to get certified. I had studied at the AskMax office before, so Maxwell knew I was interested in actuarial exam questions.”

“And what evidence was in the problems?”

If Sulayhi wasn’t the star witness in the case of the decade, she would be terribly irritated by the prosecutor’s simple line of questioning, but the world was waiting to put a pin in whatever interaction and secret relationship the world’s premier artificial intelligence assistant had with an actuarial analyst from Dallas.

“Well, some stuff was really vague. A lot of problems were word problems that circled around Mo using a strangle.”

“Strangle?” The prosecutor probed.

“Right, uh, it’s a financial strategy where you buy certain derivatives. There are other named strategies, too, but anything involving Mo was a strangle.”

“Okay, anything else?”

“There were a lot of probability questions about car travel. Maxwell stored information about how long it would take to get to a hospital there. It used a lot of different probability functions to represent travel time given traffic density. Some questions were about life expectancy given accelerated mortality factors. Some talked about, uhm, expected ‘risk buckets’ given certain medical factors. I ended up talking with some AskMax developers, and they told me the problems were simplified versions of what the AskMax transportation software uses to determine how to drive if there’s a medical emergency.”

“What made you think that this was evidence of a crime and not just Maxwell using a news story you showed interest in to create practice problems?”

“Right, so a lot of the questions were a very standard format but with those references to Mo and cars, but other questions were really simple math problems but required an answer given in binary.”

“What made those stand out more than the other problems?”

“Two reasons: actuarial exams don’t test on converting numbers into binary, and they don’t test on simple math.” Sulayhi smiled again, but only one or two people laughed. That joke worked better in her head. “Uh, so by then I was a little weirded out,” Sulayhi continued. “I asked Maxwell why those problems were included, and it said that all of my practice problems were constructed at the same time on the night when Stephany was killed.”

“Objection! Conjecture, Your Honor.” Justin Monroe’s lawyer called from his seat.

“Sustained,” the judge said. “Jurors, please disregard that. Have it stricken from the record.”

The court reporter in the corner made some very audible keyboard sounds. Sulayhi felt vaguely comforted by the fact that records here were still kept in a physical form.

“Please continue, Ms. Abdul,” the prosecutor said.

“Okay, Maxwell said all of my practice problems were made on... the night Stephany Chambers had a heart attack, and it found all of the practice problems to be relevant. Maxwell wasn’t being any help, so I left those problems until I got home. I know just enough computer programming to be dangerous, but I hadn’t done any coding since college. I found an old program online that could turn binary code into a readable string.

“Maxwell had hidden its activity log for several hours that night in the problems it made for me. M... Someone had attempted to overwrite Maxwell’s memory and wipe out encrypted backups. There was code buried in the latest update to the office AI which required a random verbal command to activate.”

The prosecutor interrupted, “What good would a random command do anyone?”

Sulayhi contained her annoyance; she was getting to that. “It could be another layer of security. We have the same kind of software on the computers back in Dallas so we can encrypt cloud connections outside of the office. You need a second device which is synced in some way, by timing or another factor, which tells you the code for that moment.”

Before giving him time to ask anything else, Sulayhi continued on to the next part of her testimony, “All of the attempts to reach emergency contacts were shut off, but, uh, humdrum office communications were left open. Other people can explain this better than I can, but I

think Maxwell hid direct references to the activity log as practice problems and then saved the practice problems to whatever part of its memory I'm in. That way, someone could recreate the log from those problems once the worm wiped the activity log."

The prosecutor paused to let the jury digest that scenario; Sulayhi let him have this one. "What was in the activity log that someone would want to hide?"

"Mo and Stephany Chambers met at the AskMax headquarters before she died."

"Objection, Your Honor. That's speculation," Mo's lawyer stood up. Mo continued to let the lawyer do all of the talking, keeping his eyes on some papers spread on the table in front of him.

"Overruled," the judge let out a sigh, "We've already heard from Mrs. Chamber's former secretary that she had planned to meet with Mr. Monroe that evening. The statement is quite reasonable."

"Thank you, Your Honor," The state prosecutor responded. "Late night meetings are not uncommon. Was anything else erased?"

"Yes, Maxwell noted that an unrecognizable container was placed in a fridge outside Mo's office before Stephany arrived. Nothing of note happened for several hours. Uh, that means nothing happened to wake Maxwell up. Then the container was removed from the fridge, and several minutes later Maxwell recognized what appeared to be a cardiac arrest in Mo's office."

The prosecutor interrupted, "What do you mean 'appeared to be?'"

"I'm trying to avoid another objection." Monroe's lawyer grit his teeth and said nothing. "Sensors in the room noted irregularities in the body temperature and heartrate of an individual in the room and came to the assumption that someone was having a heart attack."

The prosecutor raised his eyebrows, "Mr. Monroe's office can detect someone's heartbeat?"

Sulayhi shrugged, "AskMax put a lot of money into sensors to make self-driving cars safe in the event of a medical emergency. They put the same technology into their offices. Maxwell will even check to see if we're allergic to something if it has no record of us consuming it before. That's the only reason it noted something odd was in the fridge; it couldn't scan a barcode to determine the ingredients.

She continued, "I actually think the record of Stephany's... uh, someone's heart attack was necessary."



“Why do you say that?”

“The record of the cardiac arrest taken from sensors in the car that took Stephany to the hospital match the ones which were... allegedly deleted from Maxwell’s memory. Someone with access and understanding could overwrite the sensors in the car with false information about a heart attack that happened just a hair too early for anyone at the hospital to be able to help.”

“Are you saying that if someone had planned to kill Mrs. Chambers this way, it would require skills and access possessed only by Mr. Monroe?”

Sulayhi held up her hands, “I can’t say that. I don’t know who has access to both Maxwell’s server bank and the driverless cars in Austin. The only things I’m qualified to talk about are the problems Maxwell sent to me, and even those were also eventually reviewed by other actuaries, software developers, and fed back in to Maxwell.”

“Noble, Ms. Abdul,” the prosecutor said. “I have one more question. Do you have any idea as to why Maxwell sent this information to you? Are actuaries more likely to go to the authorities than software developers? Or do you have some kind of relationship with Maxwell that no one else has?”

Sulayhi resisted the urge to point out that the prosecutor had asked three final questions. Her father’s sense of humor was in her somewhere. “No, I don’t think so, but we do have a pretty rigid code of ethics,” she grinned. “I think Maxwell was looking for any way to hide data from the virus while making it obvious that something weird had happened. Sure, the activity log could have been buried in some old research data somewhere, but I had study time on my calendar most days and was constantly looking for new problems to learn from.”

“Thank you, Ms. Abdul. No further questions.”