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Reimagining Technology Access **Fast Sammy, the Two-Wheelin' Grocer**

The delivery truck comes barreling around the corner, forcing Samuel to swerve hard toward the curve to avoid being run over. Safely out of the way, he turns and gives the truck the finger, a futile but satisfying gesture at the indignantly of having to share the road with aggressive robotrucks.

Samuel pats the frame of his bicycle like he is calming a frightened horse and looks it over for damage. “You’re okay girl.”

The bike is more than just his livelihood; it is his personal work of art. He spent nearly every day and night for three months at the community makerspace, designing and fabbing it. Every part, from the bright red frame to the intricately woven baskets that ride in front of the handlebars and beside each wheel; even the cargo trailer he pulls behind, is his unique design. To the casual viewer, the bike looks like it would be almost impossible to maneuver, especially if it were completely loaded. But that is the beauty of Samuel’s

design. He 3-D printed the bike using the latest plasteel inks. It's light enough for him to pick up with one hand but strong enough to withstand a sledgehammer or even a robotruck.

Sure that the bike is unharmed, he pauses to document the near-miss for his friend Sheila. She's running a crowd site tracing all the accidents and near accidents between autonomous vehicles and people in the community, mainly bike vendors, like Samuel.

Sheila's already collected enough data to show that the accident rate is higher in Sammy's neighborhood than it is uptown. Now she's trying to prove that the trucking companies are cutting corners on safety when they send trucks downtown. Safety protocols for autonomous vehicles are not cheap. It takes a lot of hardware and computing power to navigate crowded city streets. Turn off one of two collision avoidance sensors, dial down the required safety envelope, maybe shift to low-fi Lidar. A handful of changes on a few hundred trucks could add nicely to the owners' bottom lines.

Of course, such practices are illegal, just like other forms of discrimination have been for decades. That doesn't mean the law always get enforced. The big difference now is that citizens like Sheila have the tools necessary to expose violators. Samuel has no idea if she is right or not, but he knows that enough data will get them the answer.

He pushes hard on the pedal and guides the bike back into the street. Samuel is tall and lanky, with the muscles of a serious rider and a perpetual youthfulness. As he passes the few early morning sidewalk commuters, those who notice him would assume he is barely twenty years old. It is only when he stops at a red light that they might get a closer look and realize that the slight greying of his temples and deep creases that line his face belong to someone at least a decade older.

Soon the sun will rise above the low, ragged skyline, and grey buildings will be transformed into a vibrant technicolor backdrop. The streets will fill with people, traffic, and the cacophony of life in the city. For now, Samuel enjoys the rare quiet and solitude. It's a ten-minute ride to the re-dis center. Because of the incident, he'll be the last one to arrive, but he's not worried.

When he arrives at the heavily secured entrance, he doesn't need to stop, only slow down enough for the cameras to recognize his face. He knows exactly how fast he can pass by for the cameras to register him. He should, since he has done this so many times before. Two thousand, one hundred, twenty-three times over the past six years, three months, and two weeks to be precise. Being precise with numbers is the key to Samuel's success.

He parks his bike in front of a nondescript warehouse, one in a long row of commercial buildings at least a hundred years old. Most of the others have been transformed into small shops and businesses with bright facades that welcome the many local customers that stream by during the day. The owners of this warehouse have wasted no effort on improving the exterior. Samuel counts forty-seven bikes already parked by the warehouse entrance. He knows the owners of nearly every one of them. All of them know him. They should. He started this business.

Entering the warehouse is like stepping into another world completely. The floors and walls are gleaming white. Small warehouse bots scurry around under the watchful eye of a large robocrane. Samuel can't help but think that this is techno overkill for a place whose sole purpose is to pass off surplus produce from the Amazon/Whole Foods Go stores uptown to the mobile grocers downtown. He realizes that the look is all corporate ego. The company is more than willing to get the cred for being socially responsible and make

a nice profit off merchandise they used to dump, but they still do not consider themselves part of Samuel's neighborhood.

This morning, like every morning, the space is filled with crates of produce. To the uninformed eye, there wouldn't be much to distinguish the contents from any on display at those fancy uptown stores. You might see a few more bruises here, and some of the leafy greens might have a single outer leaf on the verge of turning brown, but these are the rejects, deemed second rate and offered here without warranty or promise as the text scrolling across Samuel's augmented lenses warns in bright red letters.

Samuel certainly doesn't need the reminder of the terms and conditions for the auction. He has the eye of an expert, supplemented by the power of data. He ignores the text scrolling in front of him and heads for the first row of crates.

As he strides quickly down the aisles, sensors inside the crates relay intricate details about the contents: quantity, date harvested, hours spent in transit, even up to the moment nutritional values. The Wi-Fi in his lenses picks up the data and displays them over the actual scene. He stops now and then to give the contents of a crate a closer inspection. It's an old habit, not really necessary; Samuel possesses a keen instinct for matching just the right product to his customers. As he passes those lots that look worthwhile, he whispers the price he's willing to pay. Immediately, his bid appears on the lenses along with the bids from all the other buyers exploring the warehouse.

Samuel walks fast and covers the entire warehouse in less than twenty minutes. As he heads back to the front, he watches the developing auction. So far, so good. Few of the other buyers are competing with him on the lots he has selected. They know that Samuel has an uncanny sense for knowing exactly the right price to pay so he can still sell to his customers and make a profit.

The one exception seems to be lot number 2791. He pauses for a moment to remember which one it is. Oh yeah, a bundle of jute mallow. The leafy green, native to Africa, has been getting some notice lately in the Uptown culinary circles but is still rare; its slimy texture when cooked, off-putting to those unfamiliar with it. Samuel knows it from his Big Mama's kitchen. She grew some in a small patch outside her back door, from seeds that their ancestors had brought to this country nearly a century before.

He's spent many a Sunday afternoon there with his aunts and uncles and tons of cousins. The aunts were always whispering about Big Mama's radical lifestyle. They said she had hung out with a group of civil rights activists called the *Black Panthers* when she was young. Family lore had it that his great-grandfather might have been one of the more famous members of that group. All Big Mama would ever say about him was that he was tall, handsome, and a real go-getter, just like the young Samuel. Some of Samuel's best memories from those days were of incredible meals Big Mama and his aunts served up.

He suspects that some of his customers might have their own family memories about the jute mallow and be willing to pay a little extra. Derek, one of the younger buyers, seems to have the same idea. He's bid more than Samuel. Samuel sees Derek standing across the warehouse, trying to look nonchalant, hoping to hide his nervousness over competing with the big man. Samuel smiles and raises his bid half a cent a pound. Without hesitating, Derek responds with another half-cent raise.

Brash, Samuel thinks, *boy got some moxie*. A lot like him when he started out. He knows he should probably let it go, give it to the kid. Not much margin at this price. He's just about to turn away when his competitive streak takes over.

“Nay, you can wait a little longer before you get the better of me,” he whispers. “Lot 2791, twenty-seven per.” The number appears instantly.

With a shrug and a nod, Derek acknowledges that he has lost this round. Samuel returns the gesture and hopes the young man hasn’t just goaded him into a bad business decision. The profit margins for a two-wheelin’ grocer are razor thin. Samuel is successful because he can interpret the data and make decisions quickly. Still, he knows, better than any of the others, the risks. He should, since he practically invented the market.

Growing up in the neighborhood, Samuel had learned early on that you had to hustle to survive. Still, he never imagined that one day he would become an entrepreneur and a leader in the revitalization of his urban community.

He was only nine when he started hanging out at the corner bodega, offering to carry groceries home for the G-mommas. They’d tip him a few coins. The money was great, but Samuel was even more interested in learning why each one tipped what she did. He started trying to guess how much he was going to get. It didn’t take him long to get good at it. He made a game out of it. If he guessed wrong, he’d give the whole tip to one of the vets on the corner. After that, he didn’t get it wrong very often. He still dropped a little change in their cups. His Big Mama had taught him to care for his brothers.

Before long, he had earned the G-mommas’ trust. They started sending him to the store to do their shopping for them. More than once, in the beginning, he got sent back because he brought them a sad-looking head of lettuce or a melon “softer than a baby’s head.” It was under their watchful eye that he learned how to select the best produce, even when the selection was limited to the corner bodega.

By the time he was sixteen, it was easy to get hired as a stocker at the new Amazon/Whole Foods Go Emporium uptown. During the interview, his new boss was amazed by the lanky boy's grocery knowledge.

The A/W was a long bike ride and a universe away from his neighborhood. The store was a high-tech playground filled with every imaginable distraction. Samuel had been brought up to consider carefully every choice when shopping and wasn't impressed by the store's extravagances. He understood that it was all part of the experience these uptown customers were shopping for. It certainly helped justify the ridiculous mark-ups. To be fair, they could afford to pay the prices, and the store was serious about quality and freshness—so serious that they had outfitted the store with the most advanced sensors and data grabbers.

Every individual piece of produce was monitored like a newborn in an intensive care ward. At the first sign that any was past its peak moment, Samuel would appear. His job was to make sure that the stock was constantly rotated so that no customer would ever confront a piece of produce that wasn't photoshoot worthy. He spent his days moving stock from the back of the store to the displays and moving outdated stock back to the warehouse.

He was also in charge of disposing of the unsold stock. Even without all the advanced real-time data, Samuel could have told them that they were throwing away a massive amount of good food. Sure, about half of it went to the local food charities, but by the time those items made it through a second bureaucratic distribution system, even more would be lost to waste and spoilage.

Samuel had a hard time accepting all that waste. He knew there would be a market downturn for the food that the store was tossing. The problem was distribution. But he had an idea how to solve that.

The city was full of bike delivery services. Bikers could get you food from your favorite takeout joint, scripts from the drugstore, a bottle from the neighborhood liquor store. There were even a few grocery services that delivered by bike. Samuel and all his friends picked up a few bucks now and then doing delivery. If he could convince enough of them to work with him, they could set up an alternative grocery delivery system.

When he first tried to sell the idea to his friends, he didn't get many takers. Part of it was pride, part of it was not believing the effort would be worth the return. Samuel enlisted his friend Lenny to help solve the second problem. Lenny was a coding madman. It only took him a couple of all-nighters, fueled by a six-pack of NooTroo, to create the Grocer App.

The app sucked up all the data from around the city on the prices produce was selling for in real time. Pick any item, and it could tell you immediately the average price you could expect to get, by neighborhood, even down to a specific block. Using the app, Samuel could prove that there was profit in his idea.

Still, even the young guys he needed to buy into the idea were reluctant. Pride could be the hardest obstacle to overcome in this neighborhood. That is until the G-mommas stepped in. When they learned that he could get them fresher produce at a lower price, they became his biggest recruiters. Soon, guys he didn't even know were searching him out and asking how to get in on the gig.

Convincing the managers at A/W to test the idea was a lot easier. They figured they didn't have anything to lose—just some produce they were going to trash anyway. Once word got out about the test, two-wheelin' grocers started popping up all over the city.

In the first year, the new secondary market turned a profit for the A/W. That's when they decided to go all in and set up the re-dis

center. They even offered Samuel a job as assistant manager. He passed. He preferred the close relationship with his customers over managing warehouse bots like the one following him now to his bike with his purchases from the morning's auction.

Quickly and efficiently, Samuel loads the produce, putting those items he expects to deliver first near the top. He never knows for sure, since his customers will bid on the produce in a second auction. Trying to anticipate who will place the winning bids for each item is another of Samuel's games. He's gotten pretty good at it and only occasionally has to dig deep into one of the baskets when he makes his deliveries.

Loaded down with a cornucopia of fruits and vegetables, Samuel pushes hard to get the bike going and slowly pedals out of the distribution center parking lot. The first couple of blocks is always the hardest, trying to get the dead weight of 180 pounds of product moving. Finally, he picks up speed, and the bike begins to glide along. Now, if he just gets lucky with traffic, he'll have an easy twenty-block ride to his first customer.

One of those customers is Sharesa Johnstone. Right now, fresh vegetables are the farthest thing from her mind. She's rushing around the apartment trying to get her boys, Eric and Andrew, off to the neighborhood maker center where they attend classes. She shuts the door behind them just as she gets the ping that Samuel's auction is beginning. She clicks on the list and starts scrolling through the day's offerings as she goes back to the kitchen table to finish her cup of coffee. She bids on her regular items; sweet potatoes, corn, peas. Eric likes celery, so she bids on a bunch, and she's going to try zucchini one more time. Without the two-wheelin' grocers, she'd never be able to buy nearly as much fresh produce.

She's almost finished with her bids when she sees the jute mallow

and is hit with a flood of memories. Her Mamaw used to make a stew with it. Mamaw said it was full of the kind of good stuff every growing child needs. She remembers how good it tasted, a little slimy like okra, but rich and earthy. Mamaw passed away almost two years ago, and Sharesa still misses her. It might be a good way to connect the boys to their history, she thinks. Her budget is tight this week, but maybe there's enough for one more small bid. She places it, afraid that it's too low and someone else will be buying this memory.

Samuel watches the auction as he pedals. The numbers projected on his lenses stand out sharply against the blurred background of the passing roadside. As soon as he gets a bid that matches his projected price he accepts. He's not trying to hustle anybody, just go home with some creds in his pocket. It looks like he's going to have a good day, bids are quickly getting to price.

He notices that there are a handful of offers on the jute. His instinct had been right. He recognizes Ms. Johnstone's name among them. She's a few cents behind the top bidder, but she's one of Samuel's best customers, always giving him five stars on Grocerater. Lots of days she even gives him a glass of her homemade sweet tea, best in the neighborhood. Besides, her Mamaw was one of his regulars when he was carrying groceries from the bodega. He accepts her bid.

Sharesa gets the ping that she has won the bid for her entire shopping cart. Estimated delivery in less than ten minutes. That's enough time to ask her kitchen app to find a recipe for jute mallow stew. The options appear on the cooktop screen and she scrolls through them until she finds the one that reminds her most her Mamaw's recipe. She selects it and the kitchen app begins to assemble the list of ingredients she already has and the ones she will need. The app will

automatically order the missing ingredients from the local bodega and they will be delivered before noon.

Sharesa is engrossed in the recipe when she gets the alert that Samuel is arriving. She heads out of the kitchen, then stops and goes back to the cupboard. She gets out a glass and pulls a pitcher of dark, rich iced tea from the refrigerator. She fills the glass and goes outside to meet her two-wheelin' grocer.