

CHAPTER 1

Warm, golden light filtered in through the window in Efi's workshop, bringing with it a beam of hope . . . Hope that this new robot of hers would work this time, and not embarrass her in front of her friends. Again.

Efi watched as the six-legged spider ran across the wooden tabletop. It was made of jet-black metal and the most advanced artificial intelligence Efi's ingenuity and allowance could afford. She held her breath as it approached the edge. This robot would revolutionize the world, Efi was sure of it, but right now it had one big problem.

Thump.

The robot toppled over the table's edge and hit the ground. Then, as if dazed, it stumbled around, wobbling this way and that. Finally, it seemed as if it had corrected its footing, and took a few confident steps . . . right into the side of the unlaced sneaker belonging to Efi's best friend Naade.

Naade frowned and picked up the robot, its legs waving in

the air like an agitated crab. "Not too smart, is it?" he asked.

"Not yet," Efi said, carefully taking the robot back from her friend. "But it's going to be. Everyone's going to want one of these."

The spatial processing freeware she'd downloaded had serious bugs in it. Nothing she couldn't fix, of course, but that'd take time, and she already had 150 customers waiting on their orders. From the corner of her workshop, the "new sale" alert on her laptop chirped. Efi flinched.

Make that 151 customers . . .

Don't get her wrong—Efi was truly grateful for all the interest her robot prototype had stirred up on Hollagram: 1,023 likes and 850 claps and 332 shares. But somewhere between taking the first order and making the first production unit, she realized that she'd gotten in way over her head. As always, Efi had big dreams and not enough hands to make those dreams real. She was hoping Naade and Hassana—her best friends since that unfortunate science fair incident a few years back—would volunteer once they saw how revolutionary the robot would be, but her demonstration wasn't going very well.

"I want one already," said Hassana, a sharp grin on her face. "I can't even contain my excitement for owning a six-legged robot that's awesome at falling off tables."

"Ha, funny," Efi said, setting the robot on the workbench again and herding it away from the edges with her cupped hands. Maybe the robot was clumsy, but she was sure her friends would be impressed by what she had to show them next. Efi

pressed a silver button on the bug's back, and a life-sized, holographic projection of Naade flickered into view, sitting cross-legged on the table. It blinked at the real Naade.

"Whoa!" Naade said, examining the hologram from all angles—from the mismatched socks peeking under the pants of his school uniform, to the stewed-beans stain on the lapel of his shirt, to the scar on his forehead from the battle he'd lost to the NO PARKING sign in front of Kofu Aromo. "You're right. Everyone's gonna want one of these."

"Never mind. You can count me out," said Hassana. "One Naade in my life is plenty. Though if swapping this one for the other is possible . . ."

Naade stuck his tongue out at Hassana, but Hassana pretended not to notice and instead swiped her hand across the projection, dragging her fingers through it like it was holographic finger paint. The image dissipated where she touched it, and then the pixels reassembled. The Naade hologram turned its head toward her and smiled. Hassana shivered.

"No one's swapping anyone for anything," Efi said to her best friends. "And I'm not building an army of Naades, if that's what you're thinking. It's called a Junie, short for 'Junior Assistant,' designed to serve as a stand-in for social and professional situations. Like if you are unable to make a meeting, you can send your Junie to take video and report back with a transcript of the events."

"You mean I could fall asleep during history class, and it'd take notes for me?" Naade asked, his eyes wide.

Efi frowned. It could do that, in fact, but Naade sounded a little too enthusiastic about the idea. "This isn't your excuse to goof off in class," Efi said, shaking her head. "Naade-Junior, please tell my friend here why it's important that he take his studies seriously."

The holoimage nodded, flickering as it retrieved audio from a voice test that Efi had recorded earlier. Finally, the holoimage opened its mouth to speak, but out came a dizzying mix of English, Yoruba, Pidgin, French, and maybe Cantonese, its arms flailing all over the place as it spoke.

"Stop it, Naade!" Efi commanded, exasperated, but once she got her wits back, she remembered she was talking to an AI and not her friend. "Naade-Junior, halt processing!"

The Junie quietly composed itself, then flickered out, leaving nothing but a trail of dust motes stirring in the air.

"Yeah, I definitely consider that an improvement on Naade's usual noise," Hassana said, laughing into her fist.

But Naade noticed how upset Efi was and draped an arm over her shoulder. "I don't know a lot about programming robots or AI, but I do know that nobody gets it right on the first try," he said softly.

"I know." Efi sniffed. She'd started making robots when most kids her age were still stacking alphabet blocks. Bugs were perfectly normal. She usually expected one or two. What she didn't expect was a complete and total disaster. "It's just, I've got all these orders already, and everyone's so excited to get their

Junie. I've been spending all my extra time in the workshop, trying to get this thing perfected."

"Well, what can we help with?" asked Hassana, pulling a metal stool up to the worktable. "You know we've got your back."

Efi perked up. She knew they had her back. You don't go through three hours of being stuck to the floor of the school library due to a dysfunctional graviton beam and not come out friends for life. "Okay. If you could work on assembling the legs to the chassis, that would be great." Efi pointed to two boxes on the worktable, brimming with robot parts. "It'll take a little soldering and some circuitry work, but I've got this to help."

Efi turned on the huge holographic monitor hanging on her wall and cued up a video.

"Oh! A movie? Is it starring Kam Kalu?" asked Naade, attempting to mimic the macho, one-raised-brow smolder of one of his favorite Nollywood action heroes. And failing. Miserably.

"Actually, it's more like an instructional video on cable colors and terminals, and the most efficient way to calibrate—" Efi gave her friends a bashful smile. "It's probably just easier to watch the video. You're sure you don't mind helping?"

"Isn't making robots how everyone spends their Friday night?" Naade said, holding up a pair of pigtailed wire connections under his nose like a handlebar mustache.

"Yeah, and how hard could it be?" Hassana said, aiming a solder gun at a pile of servo motors and making pew, pew noises.

"Ummm . . ." Efi said, wincing. "You're holding that the wrong

way." She turned the solder gun around and flicked the switch, and a pale blue light beamed out from it.

Naade laughed so hard, he nearly fell off his stool. "You almost soldered your eyebrows together," he said to Hassana. "Ha, just imagine me walking into school on Monday and telling everyone that you'd pulled an Isaac!"

"So I made a mistake," Hassana said. "But how could you compare me to Isaac?"

"Oh, the way he walked around with his palm stuck to his forehead! Instant classic."

Efi paused the video. "What are you two talking about?" she asked.

"Oh, nothing," Hassana said. "Just a little incident in the science lab today."

"*Little* incident?" Naade said, becoming overly animated with his arms flailing about, just as Naade-Junior had. At least Efi had gotten that part right. "It was only the most stunning, stupendous, ridiculously awesome science lab disaster ev—" Naade sucked in a breath as Hassana elbowed him in the ribs. She gave him a stern look; then he straightened up. "Yeah, it wasn't anything. You didn't miss much."

Efi bit her lip. Left out of her school's best in-jokes yet again. Such was her life. She'd started taking advanced math and science classes her first year of elementary school. Halfway through the academic year, she was placed in junior-high classes. By the end of the next year, she'd taught herself algebra and

geometry. Now she was taking courses at the senior high school after lunch, which she mostly loved—International Baccalaureate instruction in calculus and physics—but she missed out on so much of what was going on in school with Naade and Hassana. And lately, that feeling was growing.

“Tell me about it?” Efi begged. “Please?”

“You just had to be there, Efi,” Naade said. “Sorry I mentioned it. I’ll be more careful next time.”

“No, I want to know. It sounds so hilarious!” Efi stretched a smile across her face the best she could. She didn’t want her friends to feel sorry for her. She just wanted to be included.

“Okay . . .” Naade said reluctantly. “Well, you know how Isaac is always trying to impress everyone?”

Efi laughed loudly. “Attention seeker, for sure.”

Naade raised an eyebrow. “It’s more sad than funny. He tries too hard, but he means well. Anyway, Isaac brought a military-grade barrier into science lab during our discussion on semipermeable objects. Where he got such advanced tech, I don’t know, but apparently the barrier’s instructions were in Omnicode, and Isaac claimed he could read them.”

Efi laughed again, certain that this was the hilarious part of the story. A non-augmented *human* reading something as complex as Omnicode? Efi had studied the omnic’s written language for nearly three years, and she couldn’t understand more than the occasional word here and there. If she couldn’t read Omnicode, the chances Isaac could were slim-to-none. Efi’s

laughter morphed into a forced cough, but Naade gave her another blank stare. She put a pensive look back on her face and nodded. "Okay, go on."

Naade continued. "In any case, Isaac ended up activating the barrier around his head and one of his hands, making it look like they were caught inside a fishbowl. Thankfully, his face was pressed up against the side that let air get through . . ."

Efi bit her lip, reluctant to laugh again. Was this it? Was that the punch line? Had Isaac "pulled an Isaac" yet? She waited so long to respond that Naade shrugged.

"You really had to be there," he finally relented. "Come on. Let's watch this instructional video. I still haven't given up that Kam Kalu is going to be in it. He could act in anything."

"Spoiler alert: He's not. But I can put on a little music in the background while we work. 'We Move Together as One'?" Efi asked, already dancing to the beat of her favorite Lúcio song to shake away the feeling of missing out.

"You know it!" Hassana said, joining in.

Efi and Hassana were in a constant competition to prove who was actually the biggest Lúcio fan. It mainly played out by one-upping each other as they memorized every possible personal detail and fact about their favorite activist/DJ/hero. For example, Efi knew he wore size forty-two skates. She knew his sonic amplifier could hit a target up to eight meters away. She even knew the exact song that Lúcio had played when he led the popular uprising that drove the oppressive Vishkar Corporation out of the first favela—"Rejuvenescência," a song of healing and

regrowth. Efi always thought the song was fitting: And though the wounds the corporation left in the community were deep and many, Lúcio knew they would heal, in time.

Hassana's knowledge, on the other hand, seemed to be more trivial in nature . . . like the depth of Lúcio's navel, the type of floss he used, and his favorite food, pão de queijo—little round cheese breads that Hassana liked to prepare on the anniversary of the day she first heard Lúcio's music. Naade was no less a fan, though he made a point to stay out of his friends' heated rivalry.

Naade and Hassana finished watching the instructional video and got to work. They were both quick learners, so Efi had confidence they'd be able to assemble at least two dozen Junies, which gave her the space she needed to work on the bugs in the code. She tucked into her programming interface, a bowl of Lúcio-Oh's cereal at her fingertips, as the steady beat of the music playing helped her fall into a trance. Line by line, she fixed the holes in the logic, then ran the Junie motion simulators on her computer.

The processors revved up in a high-pitched whine that peaked above the music. Efi's computer was overdue for an upgrade, but she couldn't afford to pour more time and money into it right this moment, not when there was so much to do. So she waited patiently as the simulations struggled to compile. It took forever, but finally, little wire-frame versions of the robot skittered across her screen, avoiding obstacles. The simulations succeeded at skirting the table edges. Now it was time to update the Junie's firmware and see if it worked in real life as well.