A MARVEL UNLEASHED

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PHOTOS: KAZI TAHSIN AGAZ APURBO

When you first lay eyes on him, quietly typing codes and scripts away, you will notice his focus and zeal. But there is something different in his countenance. You will somehow feel like he is isolated from the world. But the truth is that, he already has the world in the palm of his hands.

He has his name down in Ripley's Believe It or Not and The Golden Book of World Records. He has been publicized by BBC, Deutsche Welle, Zee News, Hindustan Times, The Tech Journal and many other international and national news agencies. He has flabbergasted some of the most renowned IT professionals from around the world. He has a chapter dedicated to him in English for Today textbooks for Class 8 students. And he still continues to dumbfound anyone whose path crosses his.

Born on January 27, 2006, Wasik Farhan Roopkotha is nine years old, and he is the youngest computer programmer in the world.

"When he was just a couple of days old, we noticed that he chose to always be around the presence of a computer. We found it odd, and tried to keep him away in case it harmed his eyesight. But our efforts were in vain. He wouldn't leave the computer's side," says his mother, Cynthia Farhan Risha.

Roopkotha, since then, has formed a relationship with technology that was unbreakable and unmatched. He began using the computer, learning, by himself, the basics. Soon learning to type before learning to walk, his mother was amazed at how much he managed to teach himself in a span of just two years of actually being alive. By then he had completed games such as Age of Empires, Need for Speed and Star Defender, and had also learned to create folders, install software and make graphs and tables. He had also taught himself to write properly constructed sentences by then. "Roopkotha was never admitted to a school. Everything he has learnt, he has learnt on his own. Even we never taught him anything. He would look at words, find the matching letters on the keyboard and type," says Risha.

He had finished over 200 games, including Red Dead Redemption and Modern Warfare 2, by the time he was three years old. He also transformed into a touch-typist by then. He had learnt to edit images in advanced software such as Adobe Photoshop and Illustrator.

"Around this time was when Roopkotha had started attracting attention. By the time he was three and half, he was already covered by a number of newspapers and news agencies. They would call him the 'wonder baby',' says his father, Wasim Farhan, a businessman.

When he was merely four years old, he began doing things that really took matters to the next level. "He does things even we adults don't understand. He says things that astonish and confuse us at the same time!" his father laughs. He learnt to develop software using emulators such as Project64 1.7, DeSmuME, QEMU and ePSXe. He began creating animations using PIVOT as well as working on CamStudio and HyperCam. In another additional year, he became proficient in C++. In 2011, the World News Agency recognised him as the world's youngest computer programmer.

The very next year, in April, BBC World News also acknowledged him with the same title. By then, he was an expert when it came to using RPG maker and VMware Workstation, which interested him in multiple operating systems. He soon became affluent with knowledge of and the ability to use various operating systems and programming languages—which are skills still considered advanced for even senior experts. At the same time, he started working on Virtual Box and Parallels Workstation.

He created an entire operating system using SUSE studio in 2013, and by then he had completed playing over a 1000 games. He also developed a knack for editing and creating Wikipedia pages and has a keen interest in cosmology.

He has already developed around 11-13 games using ROBLOX Studio. He also recently finished a horror puzzle game called Risha's Haunted House which he named after his mother. He is now busy developing a 100 episode long first-person shooter game.

"Watching him work on a game is a surreal feeling. He will be using the laptop for coding, and switch swiftly to the desktop to sculpt the game characters, while also referring to YouTube and Wikipedia for information. He spends the whole day with his computer, from morning to night," says his mother, Risha. His first person shooter game is already near the end of making, with an option for 128 players to play with multiplayer, at the same time. The game is to be uploaded online this month, although it will be released on December 25, 2017.

"He doesn't really need school, does he now?" asks his father with a smile. "He has more intellect and skill than university graduates. Without school, he can hone his own skills better. But of course, when it is necessary, I will not hesitate to put him in a school. For Roopkotha, I will make absolutely any sacrifice, any compromise. I will do anything for my son, who has brought me pride and honour from before he could even walk." Roopkotha, though quiet and reserved, prefers keeping a smile on his face with company around, even if his eyes are strictly fixed on the computer. "I want to be better looking, and also work in a big IT firm," he said, "and also I want to find solutions to everyone's problem, help them rid their grievances and build a time machine!"

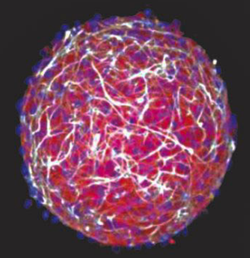
An innocent child still, Roopkothas dreams are endless, but to some extent, may be possible for him, and only him, to achieve. Risha, with a proud mother's smile, stroking her son's hair, says, "He has already done so much. He may just end up inventing things we simpletons haven't even imagined yet!"

Please check out the Star Weekend's Facebook page for a short video story on Wasik Farhan Roopkotha.

Wasik Farhan Roopkotha

QUIRKY SCIENCE

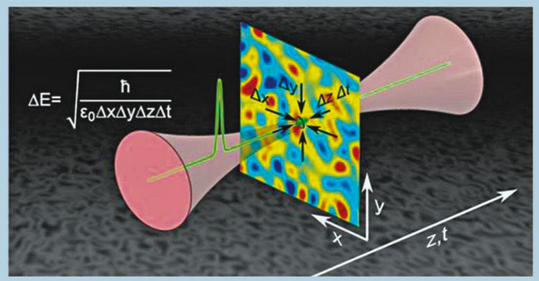
APPROACH TO MAKING A MINI-BRAIN



If you need a working miniature brain – say for drug testing, to test neural tissue transplants, or to experiment with how stem cells work – a new paper describes how to build one with what the Brown University authors say is relative ease and low expense. The little balls of brain aren't performing any cogitation, but they produce electrical signals and form their own neural connections – synapses – making them readily producible testbeds for neuroscience research, the authors said.

"We think of this as a way to have a better in vitro [lab] model that can maybe reduce animal use," said graduate student Molly Boutin, co-lead author of the new paper in the journal Tissue Engineering: Part C. "A lot of the work that's done right now is in two-dimensional culture, but this is an alternative that is much more relevant to the in vivo [living] scenario."

Just a small sample of living tissue from a single rodent can make thousands of mini-brains, the researchers said. The recipe involves isolating and concentrating the desired cells with some centrifuge steps and using that refined sample to seed the cell culture in medium in an agarose spherical mold.



VACUUM FLUCTUATIONS

What are the properties of the vacuum, the absolute nothingness? So far, physicists have assumed that it is impossible to directly access the characteristics of the ground state of empty space. Now, a team of physicists led by Prof. Alfred Leitenstorfer at the University of Konstanz (Germany) has succeeded in doing just that. They demonstrated a first direct observation of the so-called vacuum fluctuations by using short light pulses while employing highly precise optical measurement techniques. The duration of their light pulses was ensured to be shorter than half a cycle of light in the spectral range investigated. According to quantum physics, these oscillations exist even in total darkness, when the intensity of light and radio waves completely disappears.

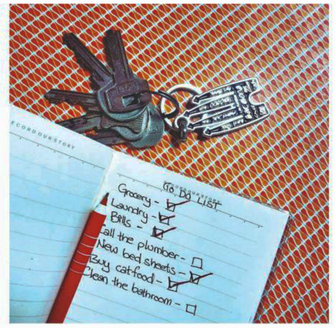
The existence of vacuum fluctuations is already known from theory as it follows from Heisenberg's uncertainty principle, one of the main pillars of quantum physics. This principle dictates that electric and magnetic fields can never vanish simultaneously. As a consequence, even total darkness is filled with finite fluctuations of the electromagnetic field, representing the quantum ground state of light and radio waves. However, until now direct experimental proof of this basic phenomenon has been considered impossible. Instead, it is usually assumed that vacuum fluctuations are manifested in nature only indirectly. From spontaneous emission of light by excited atoms e.g. in a fluorescent tube to influences on the structure of the universe during the Big Bang: these are just some of the instances that highlight the ubiquitous role the concept of vacuum fluctuations plays in the modern physical description of the world.

Source: Sciencedaily.com

5 REASONS TO LIVE ON YOUR OWN

NAZIBA BASHER

PHOTO: KAZI TAHSIN AGAZ APURBO



Most of us really want to live alone at some point of our lives, especially during the teenage years, when whatever your mom says sounds like yelling, whatever you dad says sounds like an accusation, and whatever your older sibling says sounds like a complaint about you. But then we think about it for a while and admit to ourselves almost instantly that it's not possible—'No. No way. There's no way I can live without maa.'

But there are many advantages in living alone, at least for a little while. Here are 5 reasons to live on your own:

1. **You learn to take care of yourself:** Admit it. If your mom doesn't wake you up with breakfast ready on the table, you would end up leaving home without breakfast. If your maid doesn't clean your room once you're out of the house, you will rather live in the mess than do it yourself. Or just wait for the maid to get around to it. Man or woman, everyone needs to know how to clean up after themselves. It is absolutely essential for a grown person to know how to take care of his or herself. And taking care means to do everything that your mom has been doing for you- feeding you, waking you up, cleaning your room etc.

2. **You budget your money:** With great freedom comes great responsibility. Even though you are now free to roam about your own place and do what you want without a peep from anyone, you will have to come in terms with the fact that you will have to be more responsible. And with that, you will finally learn to save and budget your money. Spending frivolously is not an option when you have to pay the bills or do the groceries. You have to save enough to eventually go into a savings account and pay off your credit card bills when it is due. You have to understand when you truly need to buy something and when you can wait a week for your next pay-check to come in. No one teaches you this. You learn it on your own.

3. **You discover new things about yourself:** Living alone gives you a lot of time to reflect on yourself- your actions, your motives, your future. It gives you the scope to think out loud and actually get to know yourself better. Without known people around you, you somehow get the opportunity to discuss issues with yourself, confront your own mistakes and also, learn things about yourself. You may be forced into a situation to handle on your own, which previously would be handled with family by your side. New situations can help bring about a new self.

4. **You Learn to Appreciate Others:** Since living on your own means to not have your family around all the time, it will really help you grow attachment. More often than not, we take our families for granted because we know they're always around. You will learn to appreciate your mom's efforts in making your favourite meals, and your father's help in getting the box down from a really high plane, and your sister's experiments with food, once you live away from all that love for a while. Humility will be your new companion when living on your own, and you will love it!

5. **You learn to be self confident:** This is the best part of living on your own. Soon after you move, you will one day sit back and realise all the wonderful ways you have changed, how you've become more responsible, how you've transformed from that spoiled brat into an actual adult. All these realisations will instil a kind of pride in yourself, which will help you respect yourself more. It can help greatly to increase your self-esteem and self-worth.

Now that you know some amazing things about living on your own, there is no need to be afraid. Yes, you will miss your family very much. But rest assured, they will be proud of you too the moment they see what an amazing, self-sufficient adult you have grown into. You don't have to move out forever. Maybe move out for the sole purpose of becoming independent.

So, are you ready to discover your new self? ■