# VOLUME 1, ISSUE 36 📕 FRIDAY, AUGUST 21, 2020, BHADRA 6, 1427 BS WEEKEND LIVING IN THE DIGITAL AGE

## We take out the turbo entry from BMW









#### 66GB update bug leaves Xbox One players angry

The latest update for Call of Duty: Modern Warfare requires a 66GB download for Xbox One players, far larger than the sizes of its PlayStation 4 and PC counterparts.

The update, which includes some general bug fixes and the removal of some maps from certain game modes, only requires a 1.2GB download for the PlayStation 4 and up to 1.83GB for the

However according to Infinity Ward, the game's developer, an unforeseen bug" with Microsoft's patch delivery process for the bloated update file for the Xbox One. They assure however, the download will not affect the overall install size.

Regardless, the bug left a lot of Xbox One players upset, who took to twitter to voice their complaints.

#### NASA and SpaceX picks October 23 for Crew-1 launch

NASA and SpaceX have selected a target date for Crew-1, the first operational crewed mission for SpaceX's Crew Dragon

Crew-1 will carry astronauts Shannon Walker, Victor Glover, Mike Hopkins and Soichi Noguchi to the International Space Station, and will mark the first regular service mission of the Dragon spacecraft

The Dragon spacecraft was previously certified by Demo-2, a mission launched on May 30 with astronauts Bob Behnken and Doug Hurley on board. Hurley and Behnken completed that mission with a successful return to Earth earlier this month.

If all goes well, the Crew-1 mission will pave the way for the Crew-2 to take place next spring, bringing up four more astronauts to relieve the Crew-1.



Vulnerabilities in Qualcomm's Snapdragon chip have left A billion or more Android devices are vulnerable to hacks, researchers

According to researchers at Check Point security, they have discovered more than 400 code vulnerabilities in the digital signal processors (DSPs) of Qualcomm's Snapdragon chips. These vulnerabilities. nicknamed "Achilles," allow attackers to quietly record calls, steal data, render devices unusable, and even install malware.

The "Achilles," can be exploited when a target downloads a video or other content that's rendered by the

Asked, Qualcomm stated they acknowledged the vulnerabilities but maintains "no evidence" of



active exploits has been found. They further claimed users could minimize their risk by downloading apps only from "trusted" outlets like the Google Play Store.

Qualcomm has also released a fix for the flaws, but it has yet to be incorporated into the Android OS or any other Snapdragon Android

## **NEW CARS** THIS WEEK



Remember that weird new sedan from Hyundai we talked about a few months ago? Well, it got a sporty makeover. The Hyundai Elantra N Line is a performance package for the base model, in from of a stiffer suspension and larger front brakes. The exterior is also spiced up, that's a new front new bumper with trapezoidal inlets while in the rear they added an integrated spoiler, a small diffuser, and dual chrome exhaust tips. The engine is left alone, though the 201 HP and 195.2 lb-ft of torque already made by the 1.6 liter turbocharged engine isn't something to look down on.



Moving from one Korean automaker to another, Kia has rolled out the fourth generation of their Sorento SUV. The six-seat midsize has apparently hit the gym, and lost around 80 kilograms of weight and gained 10 millimeter or length. The increased size gives the car "more comfortable interior space" according to kia, and comes with their typical above average list of features. The base engine is a 1.6 liter turbocharged hybrid powertrain making 227 HP and 258.2 lb-ft of torque. Overall, a decent package, that will probably soon be hitting the streets of Dhaka.

#### **EDITOR'S NOTE**

#### Come back stronger or be left out

Corona is running scared in our homeland. Or so suggests a high ranking person of authority. Whatever the numbers, our people can't be held back. The need to eat for survival far outweighs the need to stay inside safe from marauding viruses.

Garments are back on. Orders are trickling in. Food businesses have pivoted to a majority of home deliveries. Cars and bikes are being sold despite the new tax rates that have upset the social media denizens for all of one week. We took out a new 'budget' BMW for a test drive. We explore upskills with 3D modelling. And all this behind our now-normal masks - the necessity soon turning to a fashion statement. These are times to adapt or be let out.

- Ehsanur Raza Ronny, Editor

### TOGGLE

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Halo Infinite delayed to 2021

Twitter will let all users limit replies to their tweets

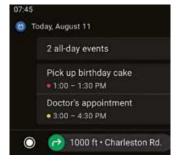




SpaceX reportedly planing a "spaceport resort" in Texas

Google introduces virtual visiting card in India





Android Auto receives Google **Calendar** integration



It is a universal truth that all modern businesses today are more or less packed with a lot of data. 1 Exabyte  $(1^{0_18})$  of data is being created on the internet daily. With the emergence of the Internet of Things (IoT), more organisations today are opening up their doors to big data and unlocking its power thereby increasing the value of a data scientist who knows how to generate actionable insights out of gigabytes of data. Besides organisations, some countries also are taking initiatives to incorporate data science analysis to save costs. According to a report by McKinsey & Company. big data initiatives in the US healthcare system could account for USD 300 billion to USD 450 billion in reduced healthcare spending or 12 to 17% of the USD 2.6 trillion baselines in US healthcare costs.

Data science continues to evolve as one of the most promising and indemand career paths for professionals. Advancing past the traditional skills as to analysing data, data mining, and programming skills, successful data professionals today are mastering the full spectrum of the data science life cycle.

With increasing popularity, Big Data and Analytics are two of the most common terms today that are mentioned in any product introduction by a company, career talk or skill development sessions. However, very few people know what Big Data and Analytics actually are and what the differences are between the two. Moreover, the plethora of contents and blogs on the internet have led to

inconsistent definitions and some myths regarding data science.

#### Data Science is only for people with an engineering background

K. M. Saqiful Alam, an expert in analytics and machine learning, is currently pursuing his PhD to explore links between big data analytics, firm-level strategy, and behavioural biases. He completed his undergraduate studies in business. When asked about the myth, he said that anyone could be good at data science irrespective of their academic background if he/she follows the right resources under proper guidance. According to him, all the data around us end up telling a story. Every bit of data has something to do with the story of everything around us. The urge to understand and tell these stories is very important and one does not necessarily have to be from an engineering background to do that.

#### Data Scientists are not coders

Different types of media today promote self-claimed data scientists who do not know how to code. Although Excel, SPSS and Tableau can help one by creating visualizations to impress the viewers, these tools are never enough to reach the depth of analytics and prediction based on collected data. As a start, people usually start by learning to code with R or Python. Websites like DataCamp are dedicated to teaching people about coding relevant to analytics and machine

#### Data Science requires a deep understanding of Statistics and **Statistical Methods**

Data Science requires an understanding of statistics. However, businesses can take advantage of Data Science without having a dedicated statistician on staff. One does not have to take a formal course or pursue a graduate degree for this. There are plenty of e-books and other resources on the internet that helps understand the basics of relevant statistics. By dint of this learning, one can build models that are meaningful to his/her organisation.

#### Analytics, Data Science and Machine Learning are the same things

Today all these buzzwords are being used everywhere on the internet interchangeably without actual explanations of which is what. Some have incorrect definitions of the terms while others think these are different ways of calling the very same thing. Saqiful Alam explained this conundrum by explaining the role of each of the components in the whole process. It starts with Analytics, which can be of three types, viz. Descriptive, Prescriptive (use of statistics) and Predictive (use of statistical models like regression). Predictive analysis is the area where Machine Learning (ML) is used the most. Companies and developers put increasing efforts behind making these processes as automated as possible. And this is where AI (Artificial Intelligence) comes in. In all of this, according to Saqif, "Data Science helps in the derivation stage, not the implementation".

When asked, Saqif mentioned the following steps to be helpful for anyone who wants to be an Analyst:

- Understanding that it is all about a story in the first place: The skill of identifying the right story to tell with the data is very important. This, in turn, will guide the learners towards the data they
- Understanding the power of stats: Statistic is important for data analysis and the following resources can help the learners with that
- a. Statistics with R Specialization: Online set of courses by Duke University in Coursera.
- b. OpenIntro Statistics: A book on statistics offered as a supplement of the mentioned course.
- c. Youtube Channels: Khan Academy and StatQuest with Josh Starmer.
- d. Naked Statistics: A book that talks about connecting Statistics with the story analysts want to tell.
- Taking small baby steps towards coding: R or Python both the languages are very much in use and learning one can speed up the process of learning the others. A very good source for learning coding relevant to Data Science in small steps is DataCamp.
- Enjoying learning to be a Data Scientist: Aiming to be a Data Scientist just because everyone is talking about it or because it sounds cool/sophisticated will not take anyone far enough. To tell a unique story and stand apart from the crowd, enjoying Data Science and being curious about it is very important.



**4-LANE DHAKA-BHANGA EXPRESS HIGHWAY BUILT WITH BSRM XTREME** 





## 2020 BMW 218i Gran Coupé

RAHBAR AL HAQ

#### What is it?

For the purists, it's sacrilege. For BMW, it's a dive into competitive waters. For the rest, the BMW 218i Gran Coupé is a front-wheel, compact luxury sedan and contender in the same class as Audi A3 and Mercedes CLA.

#### A front wheel Beemer?

Yes, front wheel. Now, despite being under the "2" badge, the Gran Coupé shares more with the 1 Series hatch rather than the 2 Series RWD coupé, and features styling ques liberally borrowed from the 8 series. It is designed as a sedan for markets like China and USA

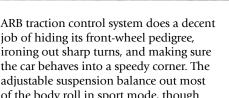




where people don't like hatchbacks. Which makes sense in Bangladesh beucase despite how good a hatch is for our tight roads, we don't seem to want one. The resulting mixture is an entry-level C-segment executive sedan, aimed at people looking for a slice of the German pie on a budget.

#### How does it drive?

Fun, for what it is. The turbo takes a second to spool up to when you floor it, but the following delivery of low-end torque that does provide a satisfying jolt of acceleration. Hitting triple digit in light traffic is possible, provided you find yourself enough room to floor it. The car's



ironing out sharp turns, and making sure the car behaves into a speedy corner. The adjustable suspension balance out most of the body roll in sport mode, though hitting a pothole in this mode is not recommended. The three-cylinder engine prefers to keep quiet, but will raise its voice to a heavy drone when you push it. For a "sporty" sedan, there is an ample



amount of ground clearance, allowing the car to drive over most speed bumps with ease. Great for Bangladesh because we build speedbreakers to train mountain

#### How's the ride?

Depends on where you are seating. The front seats are comfortable with adjustable thigh support while the steering wheel is wrapped in genuine leather. The Sensatec upholstery is a bit stickier compared to the real thing, but the extra grip does help to keep you planted to your seats. Riders in the back get some nice attention to details such as induvial reading lights and twin USB charging ports, tough legroom can become an issue if the people seating at the front are any taller than six feet. The hard-plastic seat backs mean the rear passengers can't even push in their knees to gain a few centimeters of extra legroom, while the sloping roofline around the C pillar limits headspace. To BMW's credit, they have removed a chunk of the rear headliner to create some additional headroom, though people around 5 feet 11 will have their hair scraped. There's a 12volt power socket in the trunk for all your picnic needs, along with the first aid kit in the event you need to mend some basic injuries. As for mileage, the official Euro rating is little over 7 Kmpl in combined city and

highway driving, though staff at Executive motors claimed it takes around TK 1,700 worth of fuel for the car to travel from Dhaka to Chittagong.

If you are in the market for a basic yet sporty compact from a premium brand, this is a strong candidate. It has everything needed to survive the Dhaka traffic with enough fizz for spirited drives on the open roads.

Engine: 1.5-liter TwinPower Turbo 3-cylinder (140 HP, 220 Nm)

Transmission: Seven-speed dual-clutch Steptronic, FWD

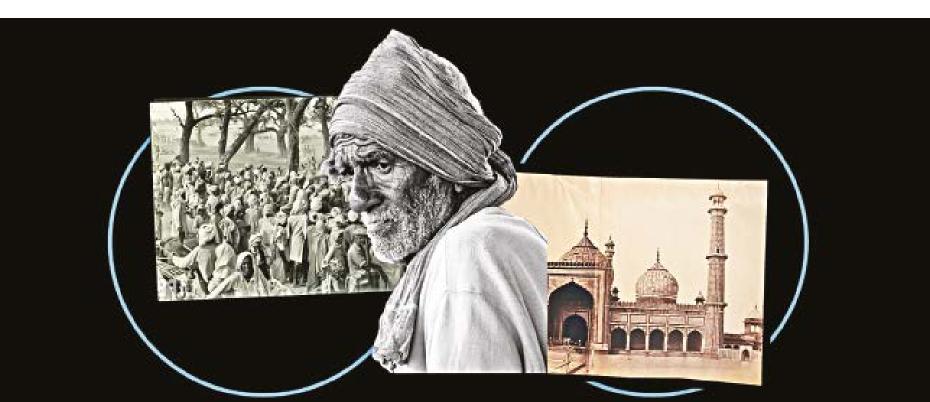
Safety: 5 airbags, ABS with EBD and Brake Assist, ESP, Traction Control, BAS, first aid kit, park assist, rear view camera.

Features: "Illuminated Berlin" ambient lighting, panoramic roof, daytime running lights with LED front lighting, BMW i-Drive infotainment system, multifunction leather steering wheel,

Price: Starting from TK 68,00,000, For details, contact Executive Motors Ltd.

Photo: Nayem Shaan





## 73 years later, partition victims find their way back in virtual reality

Rabin Dasgupta was only 16 years old when he moved from a quaint village in Jamalpur, to Kolkata, towards an uncertain future, in August of 1947. A student of painting-coming from an affluent family-Rabin would find himself hit hard by poverty in the years that followed and the painter would resort to selling hand-made dolls to support his family in a city that was not his own.

Seventy-three years later, Kolkata has made Rabin Dasgupta one of its own, but memories of his lost homeland still haunt him. "You could see the Brahmaputra river, and beyond that, you could see the Garo hills from faraway. Once we had crossed it, we didn't realise it was too late to return." he fondly recalls.

Rabin Dasgupta is one among the fourteen million people displaced in Puniab and Bengal during the partition of 1947. At the stroke of midnight on 14th August 1947, India would see itself divided along the Radcliffe line. And communal riots would push fourteen million to uproot their entire lives almost overnight and head for bleak futures in the newly created countries.

After seven decades, many of them are getting a chance to get a glimpse of their ancestral lands once again, thanks to a virtual reality project by a team of tech and history enthusiasts from Oxford University.

#### Project Dastaan

The idea for Project Dastaan was conceived in 2018, when two of its cofounders, Oxford go-er Sparsh Ahuja and Ameena Malak, sat down over a cup of

coffee one fine day and exchanged their grandparents' stories of partition.

They realised that their grandparents had travelled almost identical journeys but in the opposite direction. And they both yearned to go back home. But old age, political tension between countries and the traumatic experience of the past made it difficult for them to go back to their ancestral lands.

They brought in their friends, Sam Dalrymple and Saadia Gardezi, both experts on South Asian history and politics from Oxford, and thus began the flight of Project Dastaan.

#### Behind the scenes

Sam Dalrymple, Co-founder and Project Lead of Project Dastaan, gives us a glimpse of what really goes into recreating the experiences in VR.

"We begin by interviewing the partition witnesses. We then use our volunteer networks [in India and Pakistan] to track down these locations and try to find any areas which may have survived. 72 years later, a lot of these places have changed. Both countries have ndustrialised massively since 1947.

"We then edit it and turn it into a full 6 minutes [360 VR] experience of those places as they exist today.

Sparsh Ahuja, CEO and Founder, sheds light on how the project has evolved to focus more on outreach and education surrounding partition.

"In order to educate people, we can't just show them these spaces; we got to contextualise the whole experience. So, we came up with Child of Empire. Child of Empire isn't just a 360 experience of these places. Instead, it's an interactive, animated journey through the partition as if you were a child actually migrating. So, you're not just watching the experience of migration; you are the migrant. Any action you take along the journey will influence the narrative" he

"In a second area of work, we explore the diversity of the experiences of 1947 Partition across India, Pakistan, and Bangladesh in a series of 5 animated episodes. In this exploration of communal and geographical diversity, we explore issues that are pertinent in 1947 and today, i.e. caste, class, religion, language, and gender. The series brings forth lesser-known stories from South

Partition is often misperceived as just something that concerns India and Pakistan, rather than a mass event that impacted everyone in the region. As an event, it is often thought as limited to the 1940s, but migrations continued into the 1960s and borders of India and Pakistan only became more solid in the 1960s. The Bangladesh chapter

In Bangladesh, discourses regarding partition and its displaced communities from these part of the subcontinent are often painfully absent under the shadow of our liberation war in 1971.

"The first issue is that since the 1970s. Bangladeshi has not really attached its identity to 1947, and does not celebrate an anniversary of independence from the British Empire. Thus academic study. and literary works of the region, also don't touch upon 1947 or comes to the topic as a secondary afterthought to 1971. Establishing the field of Partition studies in Bangladesh is secondary to understanding the "other Partition" of the country when it gained its independence/ liberation from Pakistan in 1971.

The other issue is that of the intense violence that the partition of Punjab saw, leading to it becoming a greater part of the oral history of Partition, as well as constant tensions between India and Pakistan along the border over Kashmir. The way back

"We are being driven by someone in power. We are like the pawns of a checkboard. Partition was forced onto us," as Tarapada Dey puts it. Tarapada, now 87, is a retired Assistant Commissioner of Income Tax in Kolkata He moved to Kolkata from Dhaka in 1947 with his family and was left without a permanent residence for almost a decade.

Like Tarapada, Manjari Dasgupta, who migrated to Kolkata from Jamalpur, also recounts the partition days. "We stayed by the temple for seven days, you know. So many houses were burnt. The thought still gives me goosebumps," she says.

Project Dastaan's VR experience might whisk Tarapada, Manjari and Rabin to their ancestral lands, but it can never give back what they lost. The memories, however, might be the only things left to

See online for the extended story







## Hifiman Sundara Review

FATTAH ALAM KHAN

Before I purchased this headphone, I read everywhere that this was one of the best options under the 350 USD budget (both between dynamic drivers and planars)! I have been using this headphone for over 2 weeks now and this gets better every day. The cans came in a paper box. After taking off the top cover, I found the warranty card and the manual.

Beneath it was the Sundaras sitting snug inside the foam cutout wrapped in a silky black cloth. Hifiman didn't provide many accessories with this model, just the connecting wires and a quarter-inch

adapter to go with it. Although this looks larger than your typical headphone, as soon as I put it on my head, it just disappeared.

The comfort is on another level, the earpads are large and barely touches my ears (they sit around my ears), not to mention how soft they are. The rest of the headphone is built of metal and plastic.

The Sundaras are rated at 37 Ohm, which means that they are not hard to drive. But like all planar headphones, this comes to life if you pair it with a good amplifier. Running this beast off a phone or the 3.5mm port of your PC will mean that you are seriously underutilizing it. I used two devices to test my unit, the Topping NX4S portable amplifier and then the Topping DX3 Pro.

The first two words I would use to describe the Sundaras are "airy" and "spacious". It seemed like the sound was coming from all around you, yet you could put your finger exactly where the sound was coming from. I played "Bubbles" by Yosi Horikawa. The imaging blew my mind, there were so things

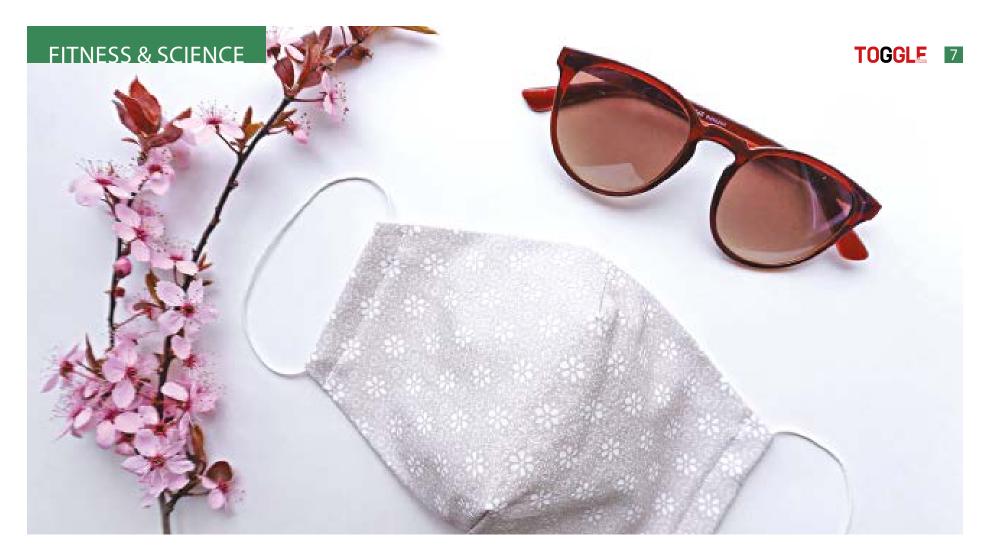
happening at once in this song and yet each one of them could be distinguished separately. They were happening all around you.

Secondly, I played "The Chain" by Fleetwood Mac. This particular track is used by a lot of people to test their headphone/ earphone. The kick drum in this track was fast and precise. This was expected to be honest, planars are known for their fast and accurate bass reproduction. Any track that I played later that had a good amount of bass in it, I thoroughly enjoyed it. The bass was tight, controlled and did not bleed into the mids in any track. I am personally am a bit treble sensitive, but I had no problem with the Sundara's treble. The treble in these is very detailed without being fatiguing at all. The midrange is also very transparent and clear. I prefer a "lush" and "meatier" mids, so this was the only region that the Sundara left me wanting for more. But overall, the tonality of this headphone is excellent.

There is very little to complain about the sound in this price range. About the devices that I used, the Topping DX3 Pro was better suited for my taste. It sounded a bit more "whole" for a lack of better word. The NX4S is an excellent portable DAC+AMP and is probably unbeatable for this price, but it sounds too technical with the Sundara. The synergy between the DX3 Pro and the Sundara is better in my opinion.

That is not to say that I have no complaints overall, it would have been nice if Hifiman included a carrying case with these. The worst part of this headphone is the cable, I honestly expected a better cable than this, it gets tangled and it often remains like that. I also would have liked if the cable length was 3 meters like the Audio-Technica M30X

In conclusion, if you are in the market for planar (or for any headphone in most cases) in the \$350 budget, this thing is an absolute beast. Pair this with a good pair of DAC+AMP and you are good to go for years. I don't see myself upgrading to another planar anytime soon. There simply isn't any planar magnetic headphone that can match this in this price range.



## How designer face masks are becoming the new fashion statement

OROBI BAKHTIAR

As the coronavirus pandemic becomes part of everyday life, face masks are becoming the new must-have fashion item, going from small accessory to big business. Masks have proven to be one of the most affordable and effective tools for containing the spread of Covid-19. Overall, 63% of people in the country wear masks, but only 54% do so in Dhaka division, according to a survey by researchers. "The government has been trying to promote wearing masks to slow down the spread of coronavirus in Bangladesh for about four months. The number of people that have started wearing masks outdoors in this short period is a collaborative achievement for the health sector, policymakers, and the citizens of Bangladesh who are following the health guidelines," said Dr Ayesha Akhter, Spokesperson of Directorate General of Health Services (DGHS).

Most of us would probably ask how well a mask, especially a one made from cloth, may protect us from Covid-19. But the notion of "personal protection" misses the major reason why calls for increased use of masks and face-coverings have gained momentum around the world. "We are not defenceless against COVID-19," said Dr Robert R. Redfield, the director of the Centers for Disease Control in the United States. "Cloth face coverings are one of the most powerful weapons we have to slow and stop the spread of the virus—particularly when used universally within a community

setting. Everyone has a responsibility to protect themselves, their families, and their communities."

#### Who is making them?

While face masks began to surface as protective gear, their designer counterparts are more than that — they are as much about the visual statement. People are opting for fashionable masks, and the businesses of Bangladesh have already jumped on the bandwagon with designing trendy masks.

"As we embrace the 'new normal' living in the times of COVID-19, Broque intends to do right by the needs of the people and the environment, using its #mask4mask campaign. The campaign aims to provide quality recycled masks for marginalized communities, which in turn reduces the use of disposable masks by the mass consumers." said Mahenaz Chowdhury, Owner of Broque. Broque designer masks are made of cotton and are reusable, with the added artistic flair. Through this movement, Broque is seeking to reduce wastage and littering of single-use masks and promote consumers to take action against climate change. For every mask sold, there is a mask that is donated for a cause. As a part of the #mask4mask campaign, Broque has partnered up with an NGO to donate part of their proceeds to the flood victims.

Another take on the ordinary masks is denim. Home & Health essentials have taken on the task of making customizable denim masks. "Our masks are not for front liners, since there are non-medical masks but the responses we get from our young clients are amazing as they found comfort in our products", they stated. While Salmina Rahman Couture sells lace masks which mainly serves as a fashion accessory, they have made sure the users feel the luxury. It is suggested to wear their mask on top of a surgical mask for protection against the virus. "Our masks are gorgeous yet comfortable, serving up a fashionable look. The masks have a silk lining which makes it extremely comfortable" responded the team.

For anyone looking to express their artistic side while still playing safe, Maskyou has come up with exceptional designs. From local love, artistic, paintings to even colourful masks for the kids, this business makes them all. "Our customers love a matching look. Having a mask that matches their top makes the mask more fun and whimsical to wear. It comes with 4 layers of protection to ensure maximum protection against germs, respiratory droplets and dust particles. Printed in a hi-end automated machine using nontoxic inks for breathing safety. Besides, the last layer of the mask has a pocket to insert PM 2.5 activated carbon (meltblown replaceable filter) to enable extra safety." said Maskyou representatives.

#### Why should we buy them?

The most common question that pops up in our mind when we hear "fashionable

masks" is whether they actually help protect us against the virus. If the masks are made according to safety protocols, then it would be a sustainable and promising alternative.

'Unlike the other masks, these masks don't make my face sweat, nor do I face any breathing difficulties wearing them. Also, they're very comfortable to wear" said Farial Siddiqui, a student at Bangladesh University of Professionals (BUP), frequently having to travel during the pandemic. Zaria Amreen, the eldest daughter in her family responded, "Kids nowadays don't like to wear masks unless they enjoy it. These printed and colourful masks have made my siblings' lives easier and safer." What we can deduce from the users' statement is that these cloth masks are made of more breathable material and help encourage people of all ages to wear them as a fashion piece rather than a shield against the COVID-19 virus.

It looks like we are going to be wearing cloth face masks for a while, which is all the more reason to find one that you like. but wearing a fabric mask as a civilian is quite reasonable, provided you can afford and access one. So for the foreseeable future, we will be wearing masks to the grocery store, on walks and runs, and maybe even after the crisis abates. Given the prevalence of mask selfies, it is highly likely that masks will start to become fashion accessories, rather than merely functional.

## Google SketchUp: A simple but fun introduction to 3D model making

RAHBAR AL HAQ

It is safe to assume that most of us dreamed of making our own video games while playing them. But as soon most of us opened a 3D software, we gawked at its alien controls and immediately NOPED out of our ambition. However, most of us weren't aware of Google SketchUp, a simple version 3D software that is a great way to be introduced to the world of 3D modeling.



It is just that simple

#### It's as simple as MS paint

I'm serious. The basic tools found in SketchUp's are the same ones found in the good old MS paint. There is the line tool, shape tool, eraser, paint bucket and everything else. The only things that are new is the 3D environment and the push/



Look at all these stuff I can't be bothered to make

pull option, which let your shape your 2D figures into a 3D one. There is no need to go to edit mode, fix the vertices, yell loudly as you forget which hotkey gets your off the wireframe mode and struggle to merge two objects because that youtube tutorial was already confusing enough. Just grab the pencil and edit to your heart's content.

#### There is an endless library of assets to choose from

Supposed you are done with the basic design and now want to add some details. However, making every single piece of those extra 3D objects is not only time consuming, but it can also get very frustrating. Thankfully, the SketchUp community has got your back. The 3D Warehouse is a vast library filled with user-made contents, created by thousands of SketchUp users around the globe. It contains models for everything, looking for a doorknob? Sure. Looking for a PC tower? There is a fully built Cooler Master

Strom Trooper, complete with RGB fans.



#### For a free plugin, the Brighter 3D does a really good job

Whatever you are looking for, you will find something that will fit your need just fine.

It can't do \_\_\_\_\_? There's a plugin for that

As said in the beginning, SketchUp lacks many of the complexity found in other 3D software. That simplicity comes with some limitations. For example, making and working on curved surfaces can be a challenge and there is no inbuilt render option. But just like 3D Warehouse,

SketchUp has a vast array of third-party extensions to remedy most of its limitation. Want to make pipes and sphere without spending 30 minutes? Get the VBO extension. Want to render your finished work so you can show it off? There is Brighter 3D or IRender nXt. Most of these extensions are free or offer a free version. So feel free to experiment and mix and match until you find the right set of tools.

#### Mastered SketchUp? Take your models to the new frontier

Now that you are done with SketchUp and ready to move on to a more complex 3D software, what will happen to all the models you already made? Don't worry,



#### This is without a doubt one of my proudest achievements

SketchUp comes built-in with a model exporter. It can convert your model for Blender, 3Ds Max, and most of the other 3D softwares. Granted, the exporting part is a bit tricky and might require some trial and error, and parts of it might need to be redone after export. But you can bring your creations to your new frontier, and can finally fulfill your dream of putting them in a video game. Or you can just use to design a desk, like the author did.

