

TOPIC :-



FOLDABLE SMART PHONE SCREENS

PHYSICS PROJECT WORK

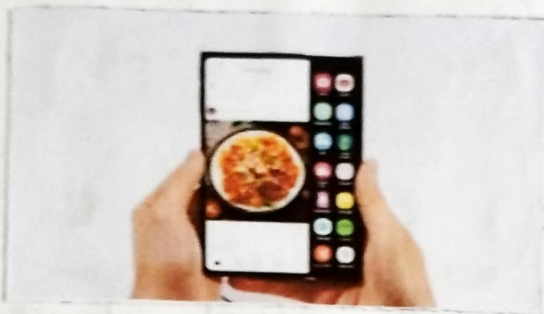
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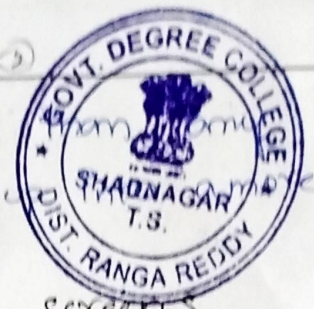
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They allow for a larger screen traditional phone while folding compact form.



How DO foldable smart phone screens

Work: :-

The idea of a foldable screen is hard to believe because smart-phone screens are typically made of multiple layers of - mostly inflexible - glass, however, foldable screens are now possible because of a not-so-new technology, often referred to as flexible Display technology, often referred to as flexible Display technology, built around organic Light Emitting Diode (OLED) screens.

OLED screens are made of organic materials that emit light when electricity is passed them. They do not require backlight to function, and as a result, can be made thin enough to the point where they become flexible, forming the basis of flexible screens.

Flexible OLED displays have been around for a while. older flagship phones like the iPhone X and Samsung Galaxy



How do foldable smart phone
Actually work?

If your regular smart phone screen is fragile how does a foldable smart phone screen keep working?

Foldable smart phone screens are the latest and greatest thing of smart phones.

These devices allow for a much larger screen while folding into a more compact form.

The world's first commercially available foldable smart phone was the Royole Flexpai, released 2018. Other companies like Samsung, Motorola, and Huawei have since followed suit with their own models.

As cool as they are, how does a foldable smart phone screen work? Why don't foldable smart phone screens break?

What is a foldable smart phone screen?
Foldable smart phone screens are a new

and innovative technology that allows for an extended screen size without sacrificing the portability of a smaller phone.



Edge series have flexible display technology was only used to give curved edges.

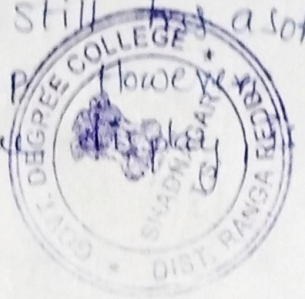
Now, flexible display technology has improved beyond allowing screens have just curved edges making screens that can actually be folded.

What are foldable screen made of?

Glass has always been thought to be rigid that is, it cracks when bent. This is why all first-generation foldable screens were made of plastic polymers. While their lightweight and flexibility made polymers the first point of call for foldable screen manufacturers. They've also been found to be more susceptible to blemishes and scratches compared to glass screens.

On February 11th, 2020, Samsung made what it called "a leap from polymer screens to ultra-thin glass technology" when it released its Galaxy Z flip, the first foldable smart phone that features an actual glass screen.

The Samsung galaxy z flip still has a soft scratchable plastic layer on top of the main component, that is, the display, which is made of glass.



Advantages of foldable smart phone screens:-

Foldable smart phone screens have many advantages - here are five to get you started.

Better screen protection:-

most foldable phones available on the market fold inward, and their screens are covered when folded. This protects the screen, as the casing bears the brunt of any accidental impacts.

Display vivid colors:-

Foldable smart phone screens are built around OLED screens. This means they provide better image quality than most smart-phones available today.

flexible OLED screens provide better contrast, higher brightness, faster refresh rates, and lower power consumption.

When compared to an LED device with the same screen size.

portable large screens & portable

with the amazing technology that ~~is~~ ^{is} making smartphones, it has become increasingly hard to draw a line between what a smart phone is supposed to be used for and what it is not.

smartphone users now use their devices to perform tasks that were previously possible only with computers. This trend is the inspiration for larger screen sizes for phones as well as the introduction of tablets.

Before now, larger screen sizes meant larger devices. But with a foldable screen, users can now get larger screens without sacrificing portability.

multi tasking:-

we're yet to meet anyone who doesn't love being able to do more than one task at a time. Foldable smart phone screens allow for multitasking on another level.

You can have up to three screens simultaneously. And the best large screen size ensures that you have to squint your eyes to see information (as you'd probably do when multitasking on a traditional smart-phone).



Productivity

Being able to run three apps at a go on a tablet-sized screen could potentially be a game changer for people for work. For example, you can be a living meeting on one app and be taking notes on another app simultaneously.

Disadvantages of foldable smartphone screens
Foldable smartphone screens are amazing but they are not without their downsides. Let's look at some concerns about flexible smartphone screens.

Cost
Foldable smartphones are expensive compared to traditional smartphones or tablets with similar features. The Samsung Galaxy price at launch was around \$2000, while a traditional smartphone with similar specs costs less than half of that price.

Reliability

Because these devices are folded frequently chances are the screens will wear away with time.

There is also a huge disparity in the number of folds a foldable smartphone can withstand before giving in. In a test conducted by CAJET, the Samsung Galaxy Fold lasted 120,000 rounds of folding before breaking, while the Motorola RAZR withstood just 27,000 folds.

Bulkiness

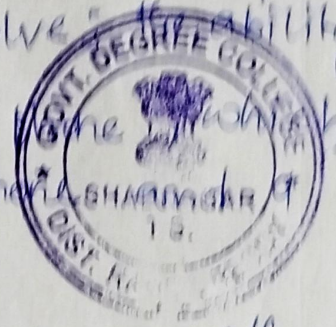
Smartphone users want portable devices. But portability goes beyond width. A foldable smartphone folds over itself making the device bulky and twice as thick as a standard phone.

Are foldable smartphone screens the future? Flexible screens are the biggest innovation in smartphone manufacturing in a long while. But there are some doubts as to whether they will ever become mainstream. Most critics point to cost, as well as their tendency to fail repeated folding.



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However, we believe that foldable smartphones are the future of phones. Flexible smartphones have a clear cut problem they solve; the ability to get a screen twice as the phone which eliminates the need to buy a phone and a tablet separately.



Speaking of the cost, history has repeatedly proven that as technology gets better, it also gets cheaper. This means you can expect the cost of foldable smartphones to drop as the technology behind them gets better.

