



Department of Computer Engineering

Government Polytechnic for Girls, Surat

February-2020 : Vol.- 5

TechTrends

E-Newsletter



Vision:

To empower girls of diploma computer engineering to excel in IT Industries and serve the society.

Mission:

- To strive for academic excellence and professional competence among students and staff.
- To encourage innovative ideas among students to enhance their entrepreneurship skills.
- To provide high tech educational resources and supportive infrastructure.

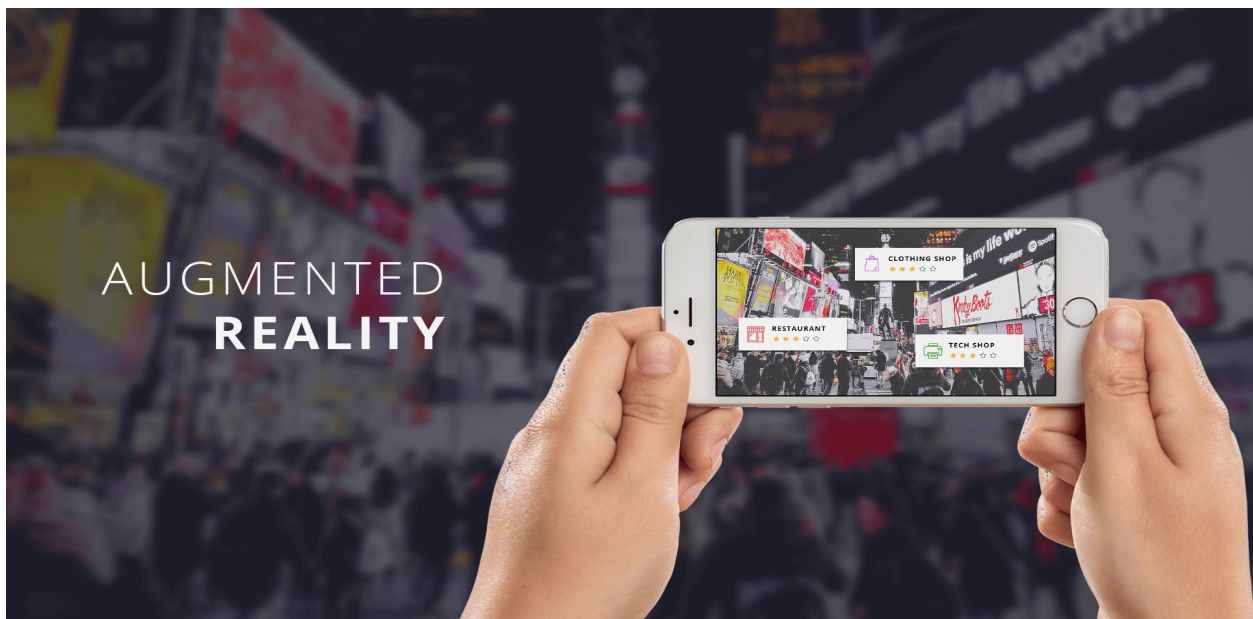
Follow us on



gpgdceenewsletter@gmail.com



gpgdceenewsletter@gmail.com



What is Augmented Reality?

“Augmented reality is the technology that expands our physical world, adding layers of digital information onto it. Unlike Virtual Reality (VR), AR does not create the whole artificial environments to replace real with virtual one. AR appears in direct view of an existing environment and adds sounds, videos, graphics to it.”

AR can be defined as a system that fulfills three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects.

Augmented reality is a technology that works on computer vision based recognition algorithms to augment sound, video, graphics and other sensor based inputs on real world objects using the camera of your device.

Commercial augmented reality experiences were first introduced in entertainment and gaming businesses. Subsequently, augmented reality applications have spanned commercial industries such as education, communications, medicine, and entertainment. An example of AR relevant to the construction industry is an AR helmet for construction workers which display information about construction sites.

Types of Augmented Reality

Superimposition Based Augmented Reality Whether partially or dull developed, most AR app development companies employ superimposition based augmented reality to create a newly augmented view of an object that can be used to replace the original view of the very same object. The app will only be able to effectively replace the original view of an object with an augmented one only when it can determine the object model.

Projection-Based Augmented Reality

With this technology, users can easily get involved with a new form of AR which simply projects artificial light onto real-world surfaces. It allows for human interaction by releasing light onto a real-world surface and then stimulating the human interaction of the projected light

Marker less Augmented Reality

This technology is one of the most widely utilized applications of augmented reality. Also known as GPS, position based, or location-based, marker less AR employs an accelerometer, velocity meter, digital compass, or GPS embedded in the device to provide data based on the user's location. This technology is commonly featured with location-centric mobile apps

that are used for finding nearby businesses and mapping directions.

Marker Based Augmented Reality

Also known as Image Recognition, any AR app development company can employ the marker based AR technology to create application-based results. Basically, it involves the use of a distinct, but simple pattern such as a QR/2D code and a camera to produce results. This is only achievable when a reader is used to sense the marker. The camera on the device plays an important role in helping to distinguish a marker from other real-world objects.

How AR Works on Different Devices?

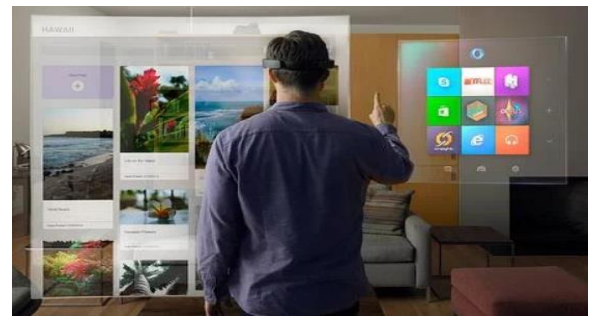
Mobile Phones:

In case of **mobile devices** like smart phones and tablets, augmented reality technology can be used either through *location services* or camera or a combination of both. The viewer can see the input from the camera being modified on the screen. There are many location-based apps available for Android and iOS platform.



PC and Smart TVs:

PC and connected TV players support Augmented Reality by relaying the virtual objects over the input from a webcam. Since it a hectic process to manipulate a tracker in front of your screen there aren't many applications of AR on PCs or smart TVs.



Smart Glasses:

Head-mounted displays, glasses, and lenses also support the Augmented Reality technology by making it an integral part of your entire field of view. This gives a more life-like AR experience giving a much broader scope of applications. For instance, there is an *AR helmet* that can give you life-like augmented reality experience while driving. This means you can get information about directions, speed, etc. without the need to look at the speedometer or mobile phone.



Applications of AR

Medical Training

From operating MRI equipment to performing complex surgeries, AR tech holds the potential to boost the depth and effectiveness of medical training in many areas. Medical students use AR technology to practice surgery in a controlled environment. Visualizations aid in explaining complex medical conditions to patients. Augmented reality can reduce the risk of an operation by giving the surgeon improved sensory perception. This technology can be combined with MRI or X-ray systems and bring everything into a single view for the surgeon.



Design & Modeling

Use of headsets enables architects, engineers, and design professionals step directly into their buildings and spaces to see how their designs might look, and even make virtual on the spot changes. Urban planners can even model how entire city layouts might look using AR headset visualization.



AR Apps for Navigation

Navigation applications are possibly the most natural fit of augmented reality with our everyday lives. Enhanced GPS systems use augmented reality to make it easier to get from point A to point B. Using the Smartphone's camera in combination with the GPS, users see the selected route over the live view of what is in front of the car.

Classroom Education

While technology like tablets has become widespread in many schools and classrooms, teachers and educators are now ramping up student's learning experience with AR. Students learning about astronomy might see a full map of the solar system, or those in a music class might be able to see musical notes in real time as they learn to play an instrument.



Repair & Maintenance

One of the biggest industrial use cases of AR is for repair and maintenance of complex equipment. Whether it's a car motor or an MRI machine, repair and maintenance staff are beginning to use AR headsets and glasses while they perform their jobs to provide them with useful information on the spot, suggest potential fixes, and point out potential trouble areas.

Public Safety

In the event of an emergency today, people will immediately reach for their smartphone to find out what's going on, where to go, and whether their loved ones are safe. Moreover, first responders arrive on the scene of a fire or earthquake trying to figure out who needs help, and the best way to get them to safety. For those in need, geolocation enabled AR can show them directions, and the best route to, safe zones and areas with firefighters or medics.

Retail

In today's physical retail environment, shoppers are using their smart phones more than ever to compare prices or look up additional information on products they're browsing. Users can view a motorcycle they might be interesting in buying in the showroom, and customize it using the app to see which colors and features they might like.

Business Logistics

AR presents a variety of opportunities to increase efficiency and cost savings across many areas of

business logistics. This includes transportation, warehousing, and route-optimization. Shipping company DHL has already implemented smart AR glasses in some of its warehouses, where lenses display to workers the shortest route within a warehouse to locate and pick a certain item that needs to be shipping. Providing workers with more efficient ways to go about their job is one of the best ROI use cases in today's business environment.

Field Service

Whether it's something as small as an air conditioner, or as large as a wind turbine, every day field service technicians get dispatched to repair a piece of mission critical equipment that needs to get up and running as soon as possible.

Entertainment Properties

In the entertainment industry, it's all about building a strong relationship with your branded characters and the audience. Properties like Harry Potter are immensely successful because readers of the books and watchers of the movies feel like they know the characters, and are hungry for additional content. Entertainment brands are now seeing AR as a great marketing opportunity to build deeper bonds between their characters and audience.

The future of augmented reality

The ultimate goal of augmented reality is to create a convenient and natural immersion, so there's a sense that phones and tablets will get replaced, though it isn't clear what those replacements will be. Even glasses might take on a new form, as "smart glasses" are developed for blind people.

Like any new technology, AR has a lot of political and ethical issues. Google Glass, for example, raised privacy concerns. Some worried that conversations might be surreptitiously recorded or pictures snapped, or thought that they might be identified by face recognition software. AR glasses, contacts and more, like the Glass - X and Google Lens, though, are moving ahead in production and sales.



Kum. Khyati H. Patel,
Lecturer,
Department of Computer
Engineering



QUIZ (5)

1. Letters D to Z is categorized into 4 groups. Assume the font we used here is Arial. Which group does the letter G belong to? Which group does the letter I belong to?

1	K	j		
2	D	E		
3	u		V	M
4		N	S	O

2. Solve following KenKen puzzle

2+		7+	4
1-	3-		2-
		4×	
1-			

Rules:

The only numbers you may write are 1, 2, 3, or 4. (A 6x6 puzzle requires 1 through 6.)

No numbers may appear more than once in any row or column. (That is, all required numbers must appear in every row and column.)

Each "cage" (region bounded by a heavy border) contains a "target number." If there's more than one cell in the cage, the target is also accompanied by an arithmetic operation. You must fill that cage with numbers that produce the target number, using only the specified arithmetic operation. Numbers may be repeated within a cage, if necessary, as long as they do not repeat within a single row or column.

In a one-cell cage, just write the target number in _____ that _____ cell.

3. If GOOGLE is coded as 4 and ABSENTEE as 6, then what is the code for LETTERS?



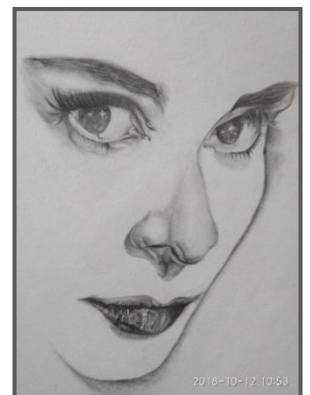
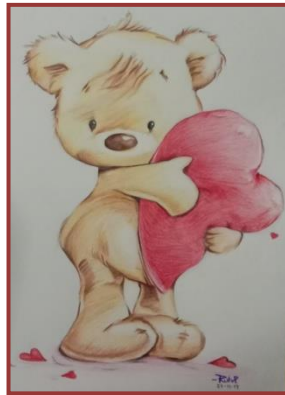
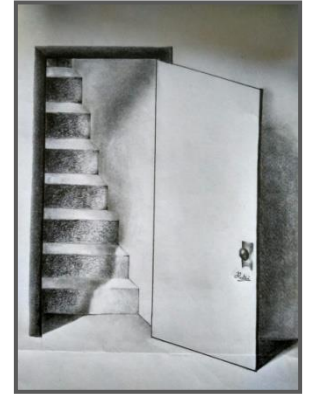
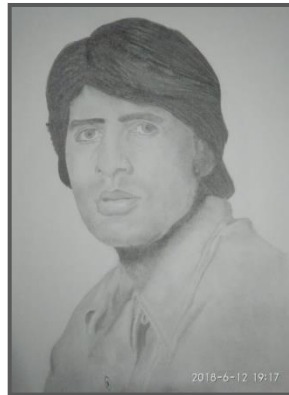
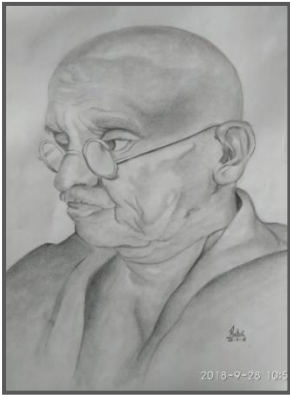
Answer of Last Quiz (4)

- Option D** Explanation : The second and forth letters in the series, L and A, are static. The first and third letters consist of an alphabetical order beginning with the letter E.
- Option A** Explanation: All of the trees in the park are flowering trees, So all dogwoods in the park are flowering trees.

Student Corner:



Rupani Rutvi Manishbhai
Enrollment No. :
186150307107-4th. B
Department of Computer
Engineering



GOVERNMENT POLYTECHNIC FOR GIRLS, SURAT

COMPUTER ENGINEERING DEPARTMENT

A Seminar Report

On

WORDPRESS

Date: 04-01-2020

Computer department of Government polytechnic for girls, Surat has organized a seminar on 04/01/2020 for 2nd year students on topic “WORDPRESS” at Sardar Patel Hall of Government Polytechnics For Girls, Surat. The experts from “TOPS TEHONOLOGY” had conducted this seminar on WORDPRESS technology. Student were able understand how to download, install, design and develop effective website using word press and also how to use PHP as front end and MYSQL as back end by using Xampp server for local host. Seminar Session was very interactive for students who are going to develop mini-project in Web Development Tools (WDT) subject of their curriculum. Total 82 student of 4thsem have participated in this seminar. Queries Solving session and demonstration session was very interactive. Lastly a small event of MCQ marking was organized for evaluating performance of students.



REPUBLIC DAY 2020



SPORTS WEEK 2020



