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About

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Social Computing.

Social computing is interactive and collaborative behavior between computer users. It is based on the use of software and technology to create or recreate social conventions and social settings. Personal computing is an individual user activity in that one user generally commands computing.



Web 2.0

- the current state of the internet, which has more user-generated content and usability for end-users compared to its earlier incarnation, Web 1.0
- these websites enrich the user experience by encouraging user participation, social interaction, and collaboration



Tools Web 2.0

Social Media Sites

a collection term for websites & applications that focus on communication, interaction, content sharing and collaboration.

Microblogs

a type of blog in which users can post small pieces of digital content like pictures, video, or audio on the Internet.

Blog

personal website, open to the public, in which the site creator expresses their feeling or opinions via a series of chronological entries.

Wikis

a collaborative website, a page or collection of web pages designed to enable anyone who access it to contribute or modify content.

Instant messaging

form of text-based communication in which two persons participate in a single conversation over their computers or mobile devices within an Internet-based chatroom.

Mashup

a website that takes different content from a number of other websites and mixes them together to create a new kind of content.

Social Computing in Business

definition

- refers to the delivery of electronic commerce activities and transactions through social computing.
- supports social interactions and user contributions, allowing customers to participate actively in the marketing and selling of products and services in online marketplaces and communities.
- individuals can collaborate online, obtain advice from trusted individuals, and find and purchase goods and services.

Benefits to customers

- Better and faster vendor responses to complaints, because customers can air their complaints in public (on Twitter, Facebook, YouTube).
- Customers can assist other customers.
- Customers expectations can be met more fully and quickly.
- Customers can easily search, link, chat, and buy while staying on a social network's page.

Social Computing in Business: Marketing

- a method of electronic commerce that takes all of the key aspects of social networks friends, groups, voting, comments, discussions, reviews, and others—and focuses them on shopping.
- helps shoppers connect with one another based on tastes, location, age, gender, and other selected attributes.

- process of building profitable customer relationships by creating value for customers and capturing value in return.
- there are many components to a marketing campaign.
- Social advertising refers to advertising formats that make use of the social context of the user viewing the ad.

Social Computing in Business: Shopping



Social Computing in Business: Customer Relationship Management

- use social computing applications outside their organizations (recruiting) and inside their organizations (employee development).
- Enterprise recruiters are scanning online social networks, blogs, and other social resources to identify and find information about potential employees.

- The customer service profession has undergone a significant transformation, both in the ways that customer service professionals conduct business and in the ways that customers adapt to interacting with companies in a newly connected environment
- allows a company to monitor public perception of its brand and respond swiftly to customer complaints.

Social Computing in Business: Human Resource Management

WHAT IS ARTIFICIAL INTELLIGENCE?

- Artificial intelligence (AI) is computer with the ability to mimic or duplicate the functions of the human brain
- Artificial intelligence systems is the people, procedures, hardware, software, data and knowledge needed to develop computer systems and machines that demonstrate the characteristics of intelligence



Major Branches of Al

Perceptive System

• A system that approximates the way a human sees, hears and feels objects

Vision System

• Capture, store and manipulate visual images and pictures



Robotics

 Mechanical and computer devices that perform tedious tasks with high precision



Expert System

 Stores knowledge and makes inferences



• Computers understand and react to statements and commands made in a "natural" language such as English

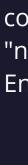
Learning System

• Computer changes how it functions or reacts to situations based on feedback



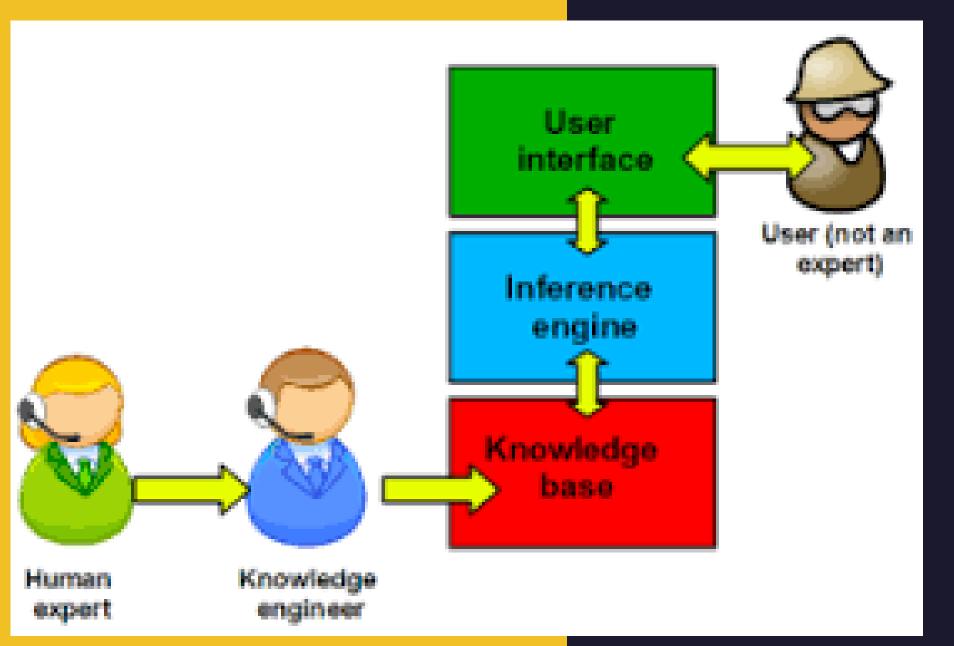
Neural Network

• Computer system that can act like or simulate the functioning of the human brain



LIMITATIONS OF EXPERT SYSTEMS





- Not widely used or tested
- Limited to relatively narrow problems
- Cannot readily deal with "mixed" knowledge
- Possibility of error
- Cannot refine own knowledge base
- Difficult to maintain
- May have high development costs
- Raise legal and ethical concerns

Capabilities of Expert Systems

Explore the impact of strategic goals.

Strategic goal setting

Planning

Integrate general design principles and manufacturing limitations.

Design

Decision making

Monitor quality and assist in finding solutions.



Diagnosis

Impact of plans on resources.

Provide advise on decisions.

Look for causes and suggest solutions.

When to Use Expert Systems?

Provide a high potential payoff or significantly reduces downside risk.

Capture and preserve irreplaceable human expertise.

Provide expertise needed at a number of locations at the same time or in a hostile environment that is dangerous to human health

Provide expertise that is expensive or rare

Develop a solution faster than human experts can

Provide expertise needed for training and development to share the wisdom of human experts with a large number of people

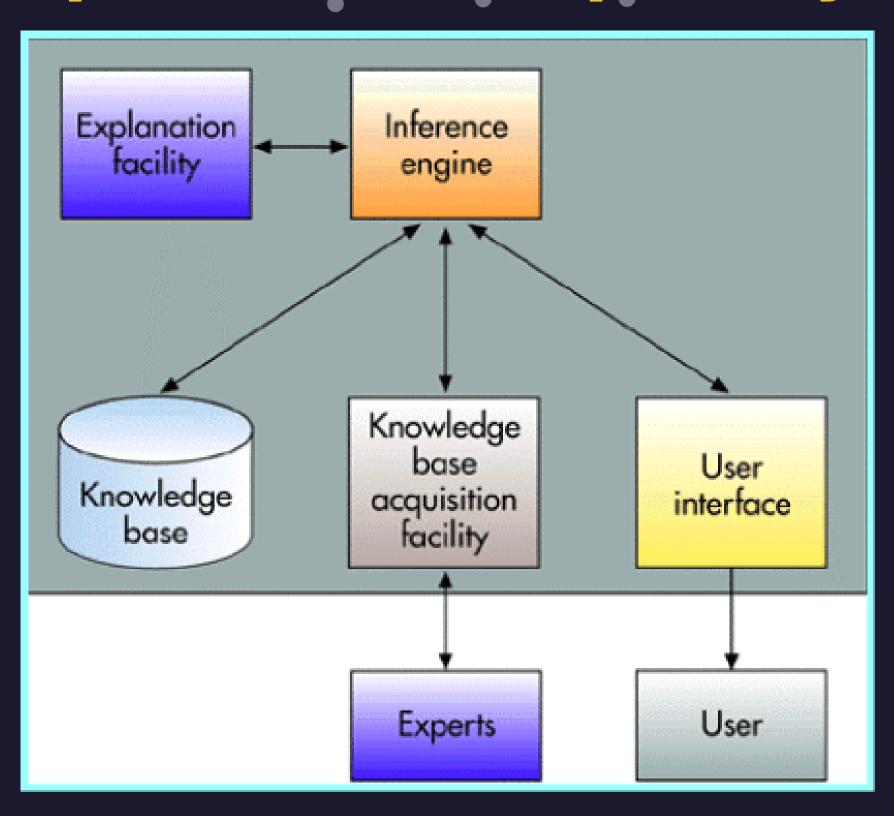
Components of Expert Systems

FACILITY

A part of the expert systems that allows a user or decision maker to understand how the expert system arrived at certain conclusions or result.

KNOWLEDGE BASE

Stores all relevant information, data, rules, cases and relationships used by the expert system.



<u>INFERENCE ENGINE</u>

Seeks information and relationship from the knowledge base and provides answers, prediction and suggestions in the way a human expert would.

KNOWLEDGE ACQUISITION FACILITY

Provides a convenient and efficient means of capturing and storing all component of the knowledge base.

Expert Systems Development

Domain

The area of knowledge addressed by the expert system.

Determining requirements

Identifying experts

Implementing results

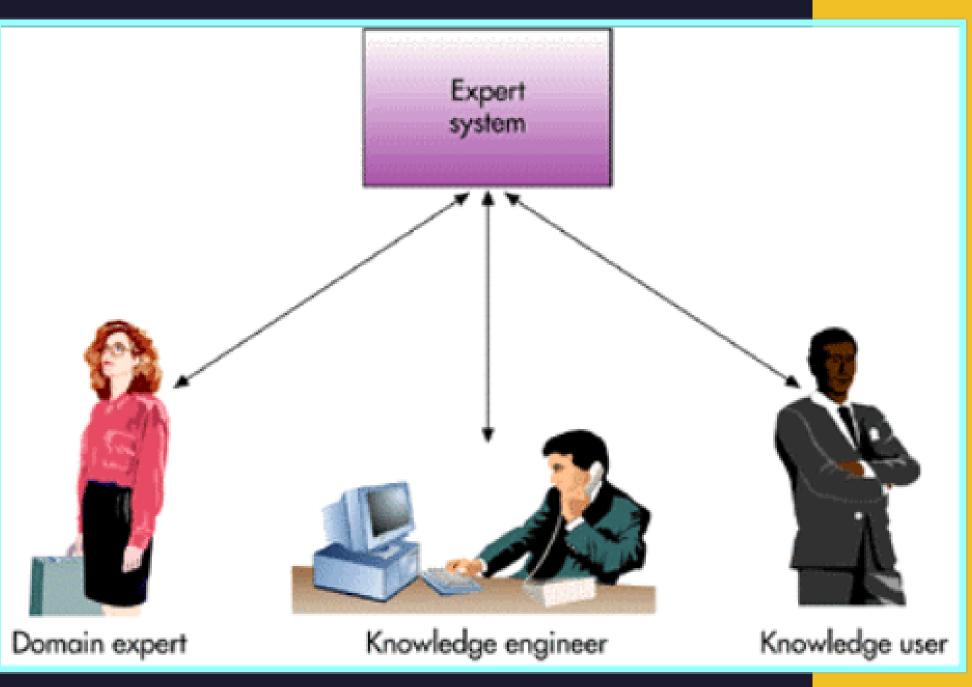
Constructing experts system components

Maintaining and reviewing systems

PARTICIPANTS IN EXPERT SYSTEMS DEVELOPMENT AND USE

Domain Expert

The individual or group whose expertise and knowledge is captured for use in an expert system.



Knowledge User

The individual or group who uses and benefits from the expert system.

Knowledge Engineer

Someone trained or experienced in the design, development, implementation and maintenance of an expert system.



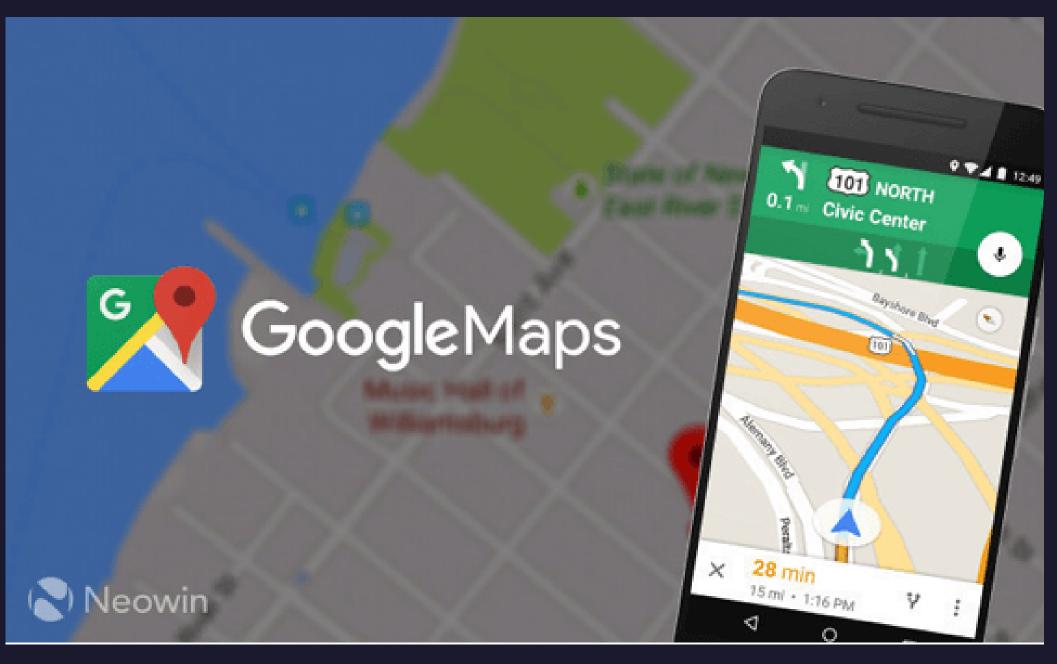
Application of Expert Systems and Artificial Intelligence

- Credit granting
- Information management and retrieval
- Al and expert systems embedded in products
- Plant layout
- Hospital and medical facilities
- Help desks and assistance

- Employee performance evalution
- Loan analysis
- Virus detection
- Repair and maintenance
- Shipping
- Marketing
- Warehouse optimization

Artificial Intelligence Examples

1. Google Maps and Ride-Hailing Applications



The app algorithm uses machine learning to recall the building's edges that are supplied into the system after the person has manually acknowledged them This enables the map to provide simple visuals of buildings.

Another feature is identifying and understanding handwritten house numbers, which assists travelers in finding the exact house they need. Their outline or handwritten label can also recognize locations that lack formal street signs.

The application has been trained to recognize and understand traffic. As a result, it suggests the best way to avoid traffic congestion and bottlenecks.

2. Face Detection and Recognition



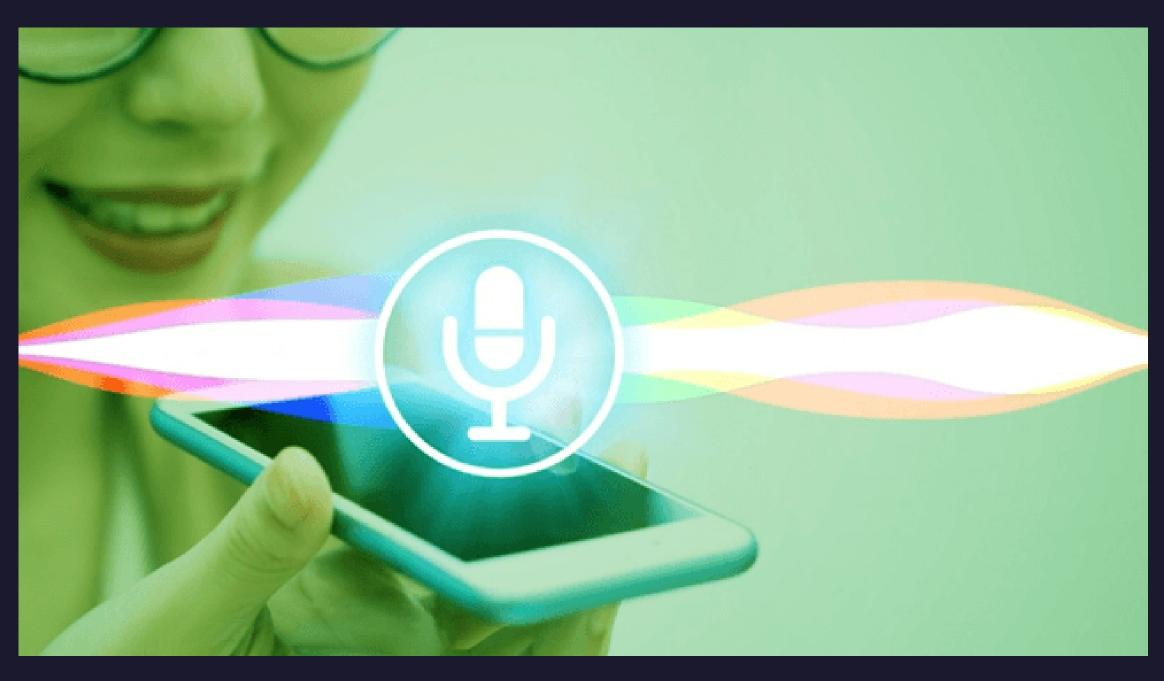
Utilizing face ID for unlocking our phones and using virtual filters on our faces while taking pictures are two uses of AI that are presently essential for our day-by-day lives.

Intelligent machines often match-and some cases, even exceed human performance!

- Human potential. Human babies begin to identifying facial features such as eyes, lips, nose, and face shapes. A face, though, is more than just that.

A number of characteristics distinguish human faces. This improves the human ability to identify faces by several factors. Face recognition is also used by government facilities or at the airport for monitoring, and security.

3. Digital Assistants



When our hands are full, we often enlist the help of digital assistants to complete tasks on our behalf. We might ask the assistant to call our father while we are driving with a cup of tea in one hand. For instance, Siri would look at our contacts, recognize the word "father," and dial the number.

Siri is an example of a lower-tier model which can only respond to voice commands and cannot deliver complex responses. The new digital assistant is fluent in human language and uses advanced NLP (Natural Language Processing) and ML (Machine Learning) techniques. They are capable of understanding complex command inputs and providing acceptable results. They have adaptive abilities which can examine preferences, habits, and schedules. It enables them to use prompts, schedules, and reminders to help us systemize, coordinate, and plan things.

Virtual Reality & Augmented Reality

Virtual Reality

Virtual Reality (VR) is a computergenerated environment with scenes and objects that appear to be real, making the user feel they are immersed in their surroundings.

This environment is perceived through a device known as a Virtual Reality headset or helmet.



Basic Components of VR headsets

Lenses and screens

Immersive audio

Controllers

There are stereoscopic lenses positioned between the screen and your eyes that distort the image into appearing threedimensional

Two images are passed through the lens, one for each eye, similar to how our eyes perceive and process visuals in the real world.

Additionally, images in VR headsets appear to move side-to-side to recreate a 360degree experience and is achieved by subtly companies like Apple marks another moving the display content in response to head tracking data

A stereo audio feed comes from two directions or one for each ear, but in the real world, users have a much more layered experience of sound where audio is directly linked to our perception of distance and space.

VR headsets mimic this experience using 360-degree or immersive audio technology. Binaural audio is one such technology, and the new spatial audio pioneered by milestone in VR audio innovation.

VR headset controllers are your bridge between the real and the virtual worlds

There are a variety of controllers you can use

Virtual Reality (VR) allows us to...





immerse ourselves in video games as if we were one of the characters











2 learn how to perform heart surgery



improves the performance of athletes

no longer necessary to go to the golf course to improve your swing technique or be on a basketball court to practice shooting as many times as you need

Virtual reality makes it possible for an athlete to train in 'real' conditions simply by connecting to a machine, and the data it collects is so accurate that it allows you to compare your results and perfect your technique

Shaving a few milliseconds off the clock, having a better vision of the game, anticipating your opponent's actions, improving your individual technique, 'being' in your place of training without leaving your home





Previous coaching method



Coaches have traditionally used video sessions to prepare for future matches or to show their players the mistakes they have made

But virtual reality can show much more: it enables you to analyze and optimize an athlete's performance to levels that were unthinkable until recently. It allows you to visualize a game before playing it

VR coaching method



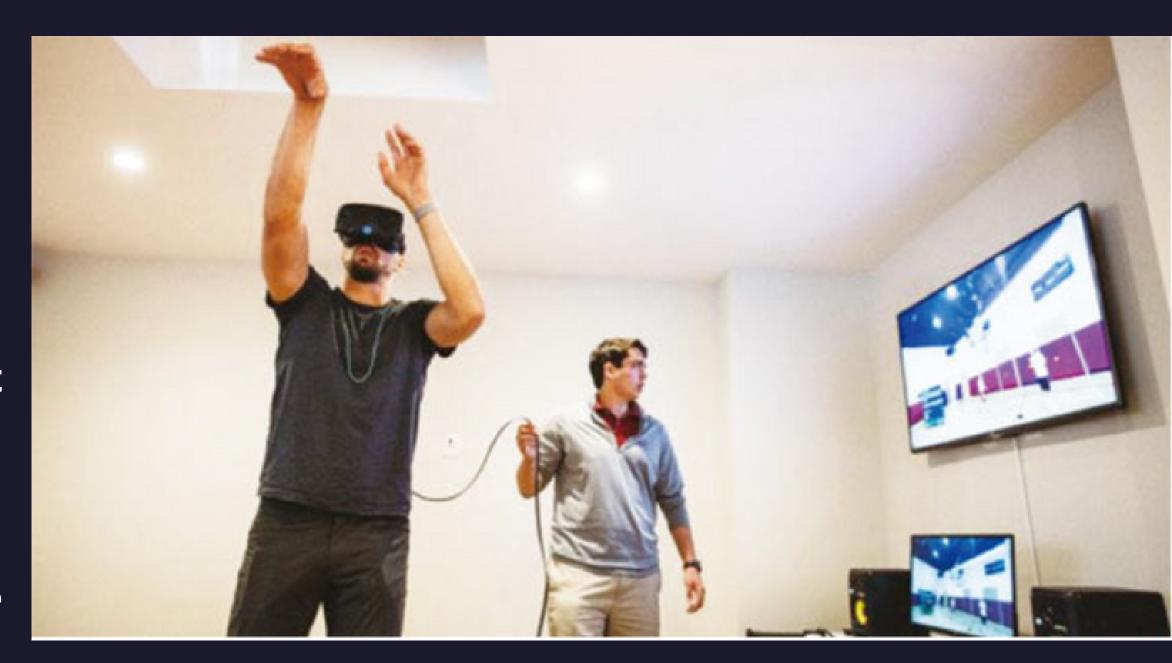
Basketball

lan Mahinmi



Due to the injuries, his overall hit rate decreased by 58.7% from 2015 to 2016.

By using VR, his overall hit rate increased by 30%



First VR Device



machine with a built-in seat that played 3D movies, gave off odours and generated vibrations to make the experience as vivid as possible

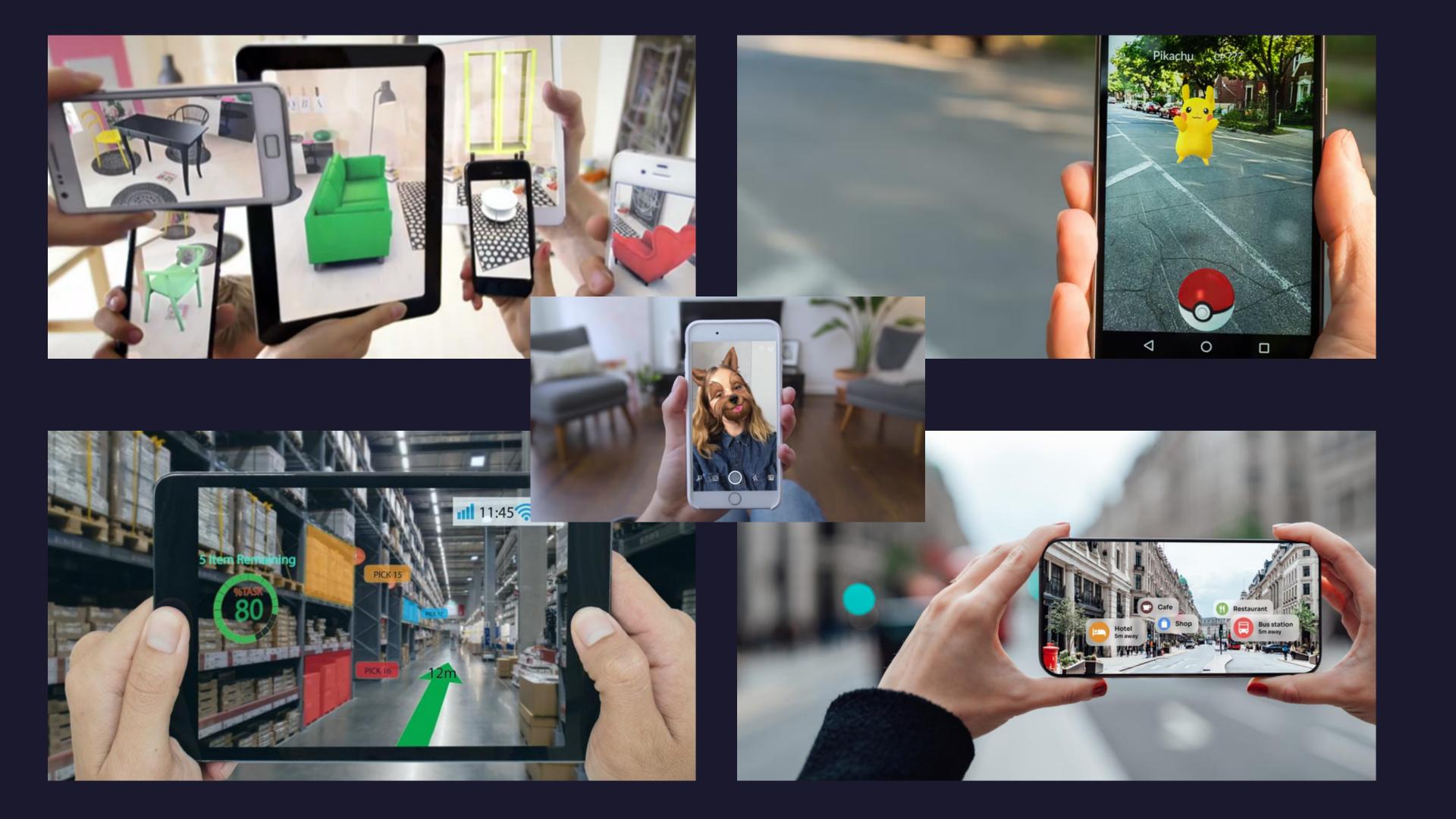
The invention dates back as far as the mid-1950s

Augmented Reality

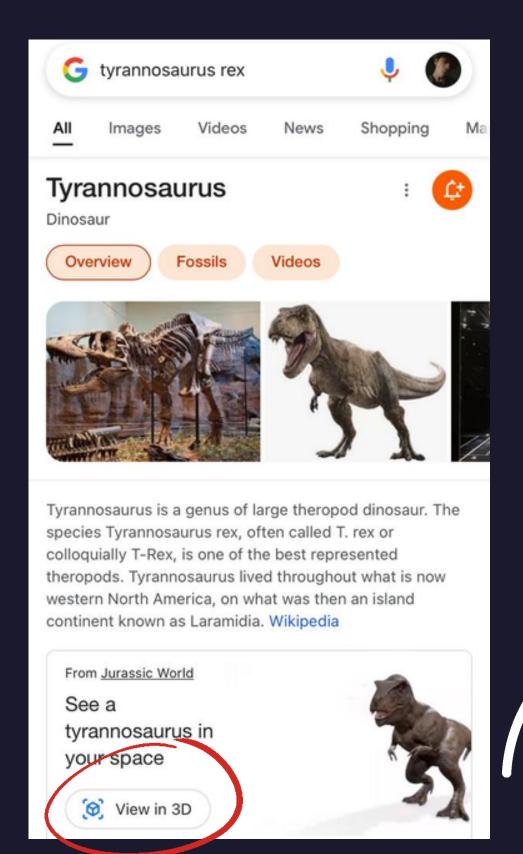
Augmented reality (AR) is an experience where designers enhance parts of users' physical world with computer-generated input.

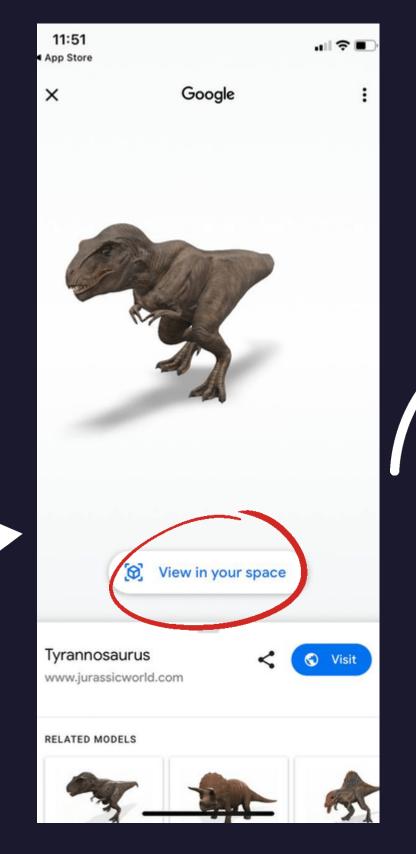
Designers create inputs—ranging from sound to video, to graphics to GPS overlays and more—in digital content which responds in real time to changes in the user's environment, typically movement.

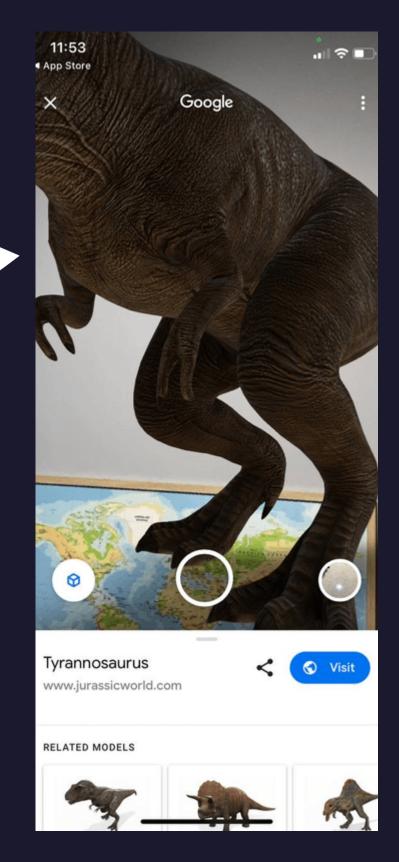




Get a dinosaur in your room by using AR







1. Pokemon Go

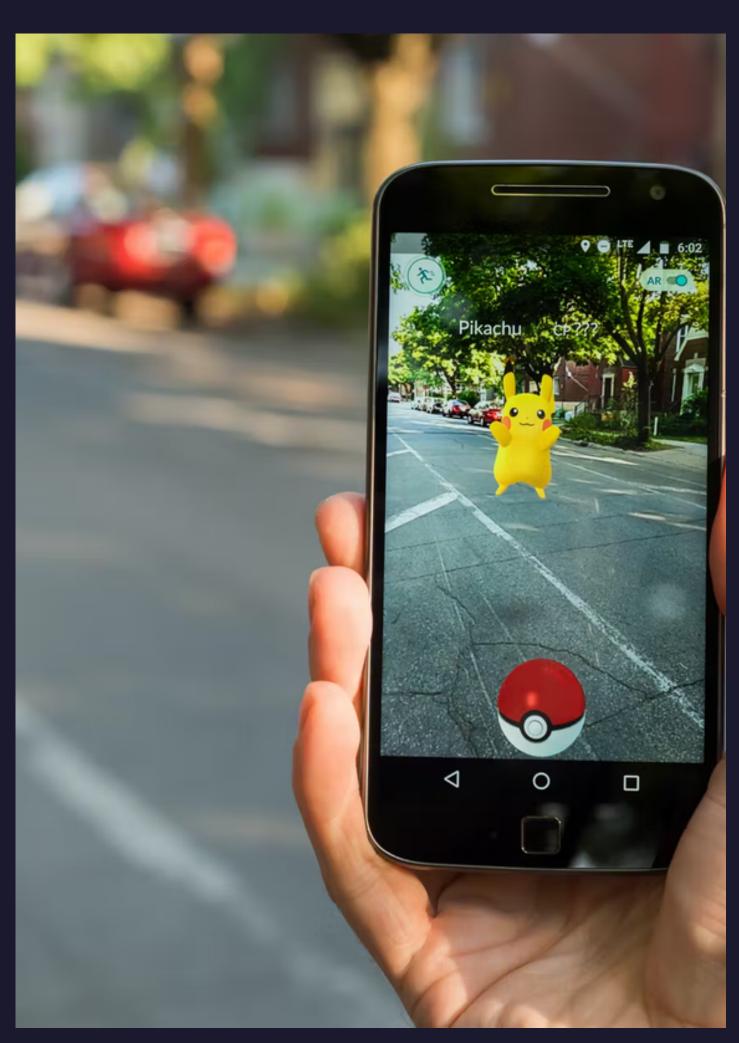
Pokemon go is one of the best examples of AR

It was first introduced in 2016 and within a few months, it got popular among people of all age groups.

The disadvantage that online games make people obese was successfully suppressed by this game

The main task of the game is to locate and catch a cartoon character virtually present in the surrounding

With the help of augmented reality, the game characters and the experience appear extremely authentic and genuine.



2. Interior Decoration Apps

We all want our home to be perfect, and we do everything to make it possible

However, making a permanent change such as changing the wall color, buying new furniture, etc. is risky because such huge changes can not be undone easily.

This is why a lot of apps have been developed that allow us to virtually impose a picture over the physical objects to get an idea of how the change that we desire would look like after getting implemented.

This provides us with the flexibility to try all available combinations and choose the best product.

Asian paints, IKEA place, etc. are some examples of augmented reality-based interior decoration apps.





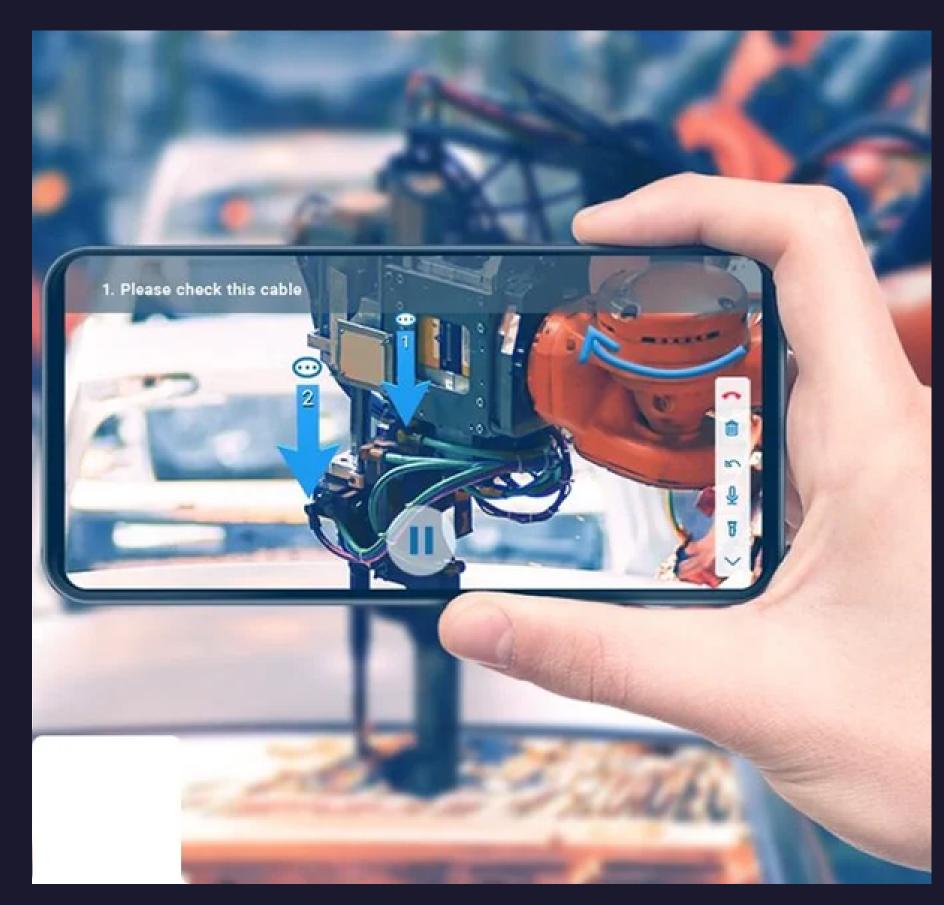
3. AR Maintenance

An augmented reality-equipped maintenance system provides remote assistance to the user

It provides a detailed procedure to repair certain machinery by running a virtual show and by highlighting the parts of the machinery that need fixing

These tactics are very helpful to beginners that have limited knowledge and experience in repair and renovation

These applications are often used in the automobile industry to assist consumers in regular servicing of the vehicles



4. Google Glass





Google Glass is a gadget that eliminates the need to continuously hold a cell phone in hand, in order to operate it.

It allows us to access the phone virtually with the help of voice commands and gestures.

Google Glass can be connected to the phone with the help of Wi-Fi or Bluetooth.

It can perform various operations such as access the internet, manage phone calls and messages, take a picture, record a video, etc.

This hands-free operation makes the mobile phone seem almost real, and it is possible only with the help of augmented reality.

Google Glass Introduction



Difference between VR and AR

Virtual Reality (VR)- builds the world in which we immerse ourselves through a specific headset It is fully immersive and everything we see is part of an environment artificially constructed through images, sounds, etc.

Augmented reality (AR)- our own world becomes the framework within which objects, images or similar are placed. Everything we see is in a real environment and it may not be strictly necessary to wear a headset. The clearest and most mainstream example of this concept is Pokémon Go.



Thankyou