Noah Hugill

The Three A's of Apple

Ability, Assistance, Augmented Reality?

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With the rise in popularity in apps like Pokémon GO and snapchat chances are you are aware of the existence of augmented reality by now, or at least use it on a daily basis. A software that allows you to create worlds, interact with people, explore many varying places and learning new information and all of that technology is tucked away in your tiny little device, an iPhone. But what exactly is augmented reality and what other opportunities does it present?

Augmented reality is a technology that implements computer-generated imagery into the physical world on the screen of a device which is achieved with the camera and sensors of the device. Augmented reality has a lot to offer in today's society, with the biggest focus being directed towards gaming. However before virtual reality advances enough to be able to move into the mainstream augmented reality also has some major advances to make in the technology world that will have a big impact on the quality of life. Some of these importance things that augmented reality
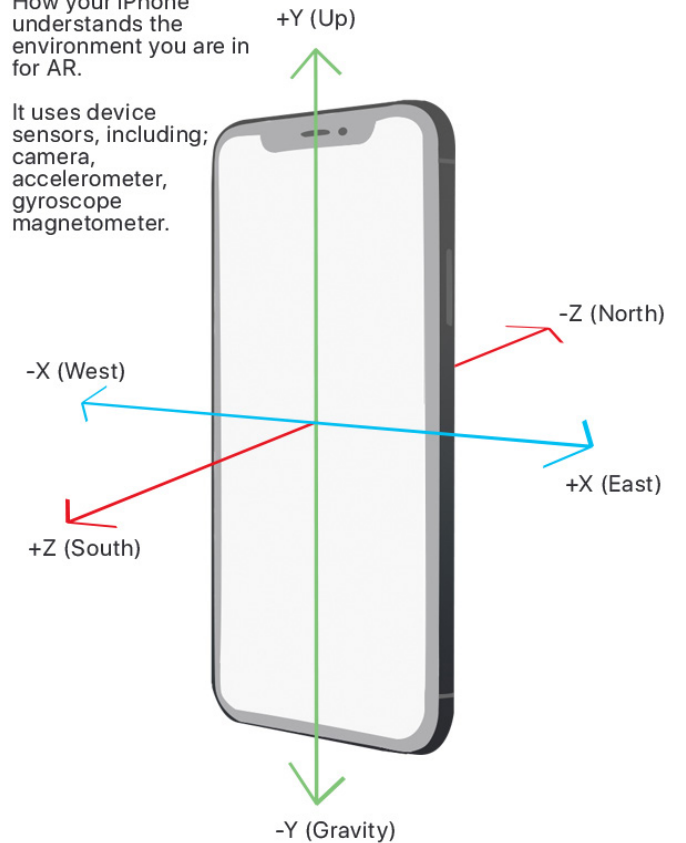
will impact include; work, education, gaming and the overall better quality of life. Apple is playing a big part in the augmented reality industry, investing in new products and programs to develop the technology to promote users to create their own high-quality and detailed AR apps for their devices using ARkit, a tool allowing for both experienced and beginner developers to take part in creating their own app centered around augmented reality.

ARKit is Apple's software development program that allows for developers, both experienced and inexperienced to create apps that are centered around augmented reality. ARKit's world tracking adopts visual inertial odometry which takes advantage of your device's sensors taking information, including tracking the scenery, orientation and position you and the phone are in and feeds it into the app to apply three-dimensional images and animations into your world.

World Tracking

How your iPhone understands the environment you are in for AR.

It uses device sensors, including; camera, accelerometer, gyroscope magnetometer.

+Y (Up)

-Z (North)

-X (West)

+X (East)

+Z (South)

-Y (Gravity)

One billion people make up the world population of disabled people, approximately 110 to 190 million people out of that one billion suffer from what is classed as significant disabilities. Within that population, 360 million people have hearing impairment, 217 million with visual impairment, and 36 million people being blind.

Education is a very well-known important system in society and augmented reality is starting to have a big impact on how education is conducted within schooling systems, such as replacing cutting up frogs in anatomy class and instead using virtual frog. Not only is it more sensitive to students it also saves frogs.

However, one of the most beneficial factors that augmented reality will have is not just the impact on regular schooling systems for normal kids but the impact it will have on the lives of the disabled. There is a large range of useful abilities that augmented reality can take advantage of when it comes to helping to improve the quality of life for disabled people, these include; Visual, voice and hearing impairments, education, consumerism, and the overall quality of life.

AR Apps can help those disabled and bound a to a wheelchair, when shopping it is difficult for many disabled people as the process is not designed to factor them in, this applies for speech, visual and hearing impairments, as well as many others. An AR app dedicated to shopping could bring up the information on the product on the device screen which could then be added to a virtual cart and a shop employee could make the physical purchases for the customer.

With the popularity of augmented reality has gained over the last few years from trends and apple maintaining the hype of it by investing and implementing augmented realities into their devices it's only a matter of time before its full potential is unleashed.

Virtual Shopping
How virtual shopping works with augmented reality. The barcode is scanned using the iPhone camera and information is presented on the screen which includes; name of item, price, size and details. The customer can then add the item to their virtual cart.
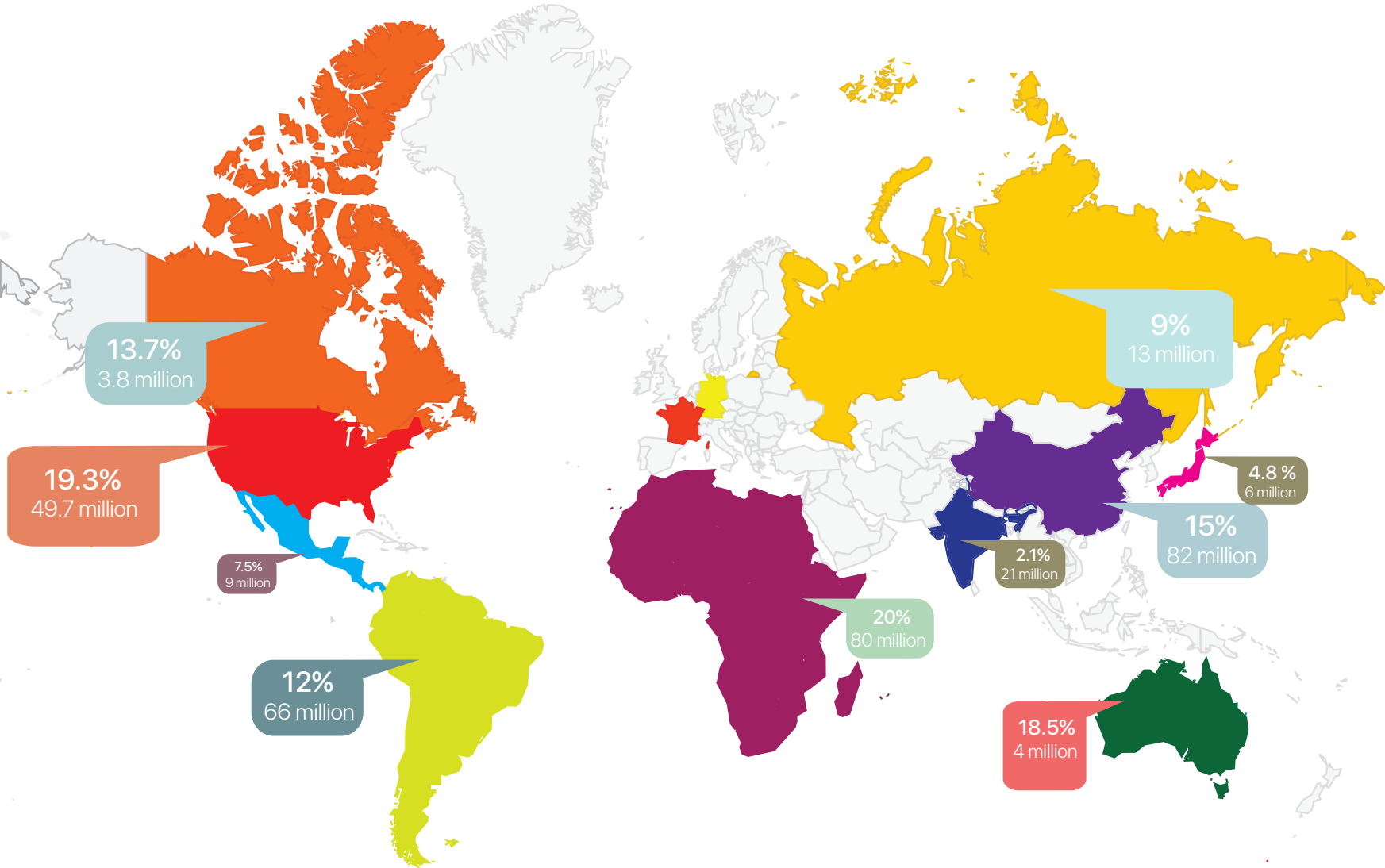
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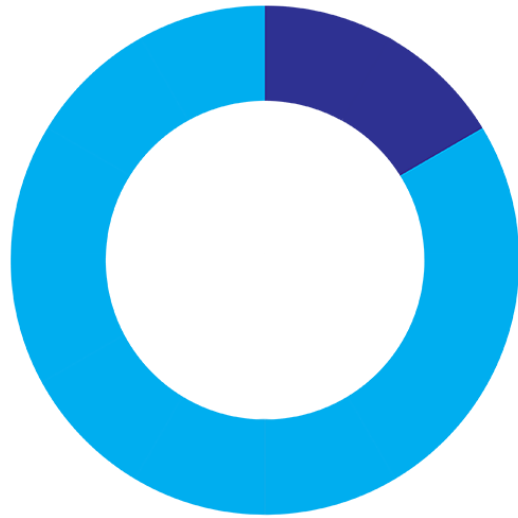MCGarry, C. (Jan 24, 2018). What Is Apple's ARKit? Everything You Need to Know. Retrieved from https://www.tomsguide.com/us/apple-arkit-faq,review-4636.html.

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Population of Disabled People

13.7%
3.8 million

19.3%
49.7 million

7.5%
9 million

12%
66 million

9%
13 million

4.8 %
6 million

15%
82 million

2.1%
21 million

20%
80 million

18.5%
4 million

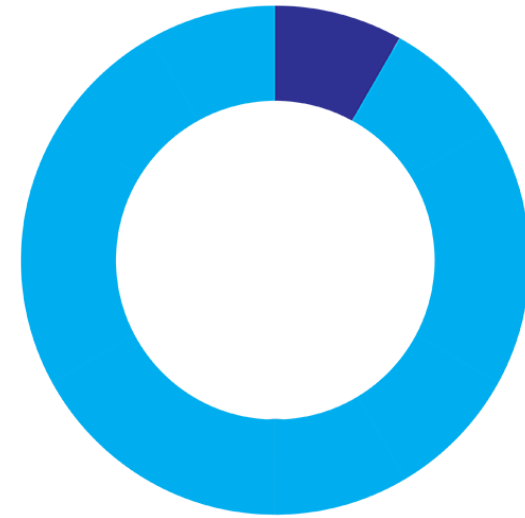# Survey: Augmented Reality helping disabilities

Does AR help with your shopping experience?

- ● Yes 83%
- ● No 17%

Does AR improve your overall quality of life?

- ● Yes 91%
- ● No 9%