Morning Everyone.

As you all know me, I am Kholofelo Motlhaka yes. I am going to present about Augmented Reality which in short is AR technology.

Throughout the presentation I’ll cover the following topics related to my chosen topic which are:

1. What is Augmented Reality
2. How does AR work?
3. Types of AR
4. Advantages and Disadvantages of AR
5. Difference between AR and VR
6. Then I conclude.

Without wasting anytime let’s get on it. What is Augmented Reality?

Is an interactive Experience that combines the real world with computer-generated content.

It overlays digital content into real-life environment objects using software, apps and hardware such as AR glasses. Meaning is a technology that virtually places a 3D visual into a real-world experience.

How does AR work?

AR works in many industries and applications. I’ll only focus mainly on 3 industries to give ya’ll light on how it really works which is: AR in Healthcare, AR in Entertainment and AR in Retail.

AR in Healthcare has become more efficient and effective. It helps healthcare professionals to interact with patients using a wide range of AR applications. It is used in various activities such as surgical simulation, diagnostic imaging and patient care management. It provides real guidance to surgeons during complex procedures such as operations. It creates immersive educational experience for medical students.

AR in entertainment is the latest technology that is starting to make a big impact in the world of entertainment. It is used to project images and information into surface providing viewers with immersive experience by photo edits on snapchat, Instagram and TikTok filters for video sharing. It can also be used to create games and other interactive content.

AR in Retail is used more frequently by customers viewing products in their homes before making a purchase through an app. Apps like IKEA for furniture purchase. Customers get virtual tour of a store before visiting in person.

Moving on to Types of AR which are classified into two main types, Marker based AR and Marker less based AR. Marker based AR works by scanning a marker to appear on the device while Marker less based AR doesn’t need a marker to be scanned. So, there are four types of Marker less which I will only cover now.

1. **Project based AR** - as the name clearly says, this type of AR projects digital images on a physical object in the physical space. For instance, it can project your keyboard on your desk or show you if your couch will fit into the space you reserved in the lounge by projecting it using an app in your smartphone.
2. **Recognition based AR** – Whenever you scan a code or scan an image and it comes to live you are using recognition-based AR. An example is scanning a Wi-Fi QR code and face recognition to unlock your phone.
3. **Location based AR** – this type of AR is taking advantage of smart device’s location detection feature. If you don’t know direction, and you want to discover a certain location, this method will use your current location by reading your smart device GPS and take you through.
4. **Outlining AR** – it uses object recognition to work and might look a bit like a projection-based AR, for example whenever you are parking your car, it recognizes the boundaries of the road and outlines the for you.
5. **Superimposition based AR** – it also uses object recognition in order to replace an entire object for instance in medicine, a doctor can use this technology to superimpose an x-ray view of a patient’s broken arm bone on a real image to see what the bone’s damage is.