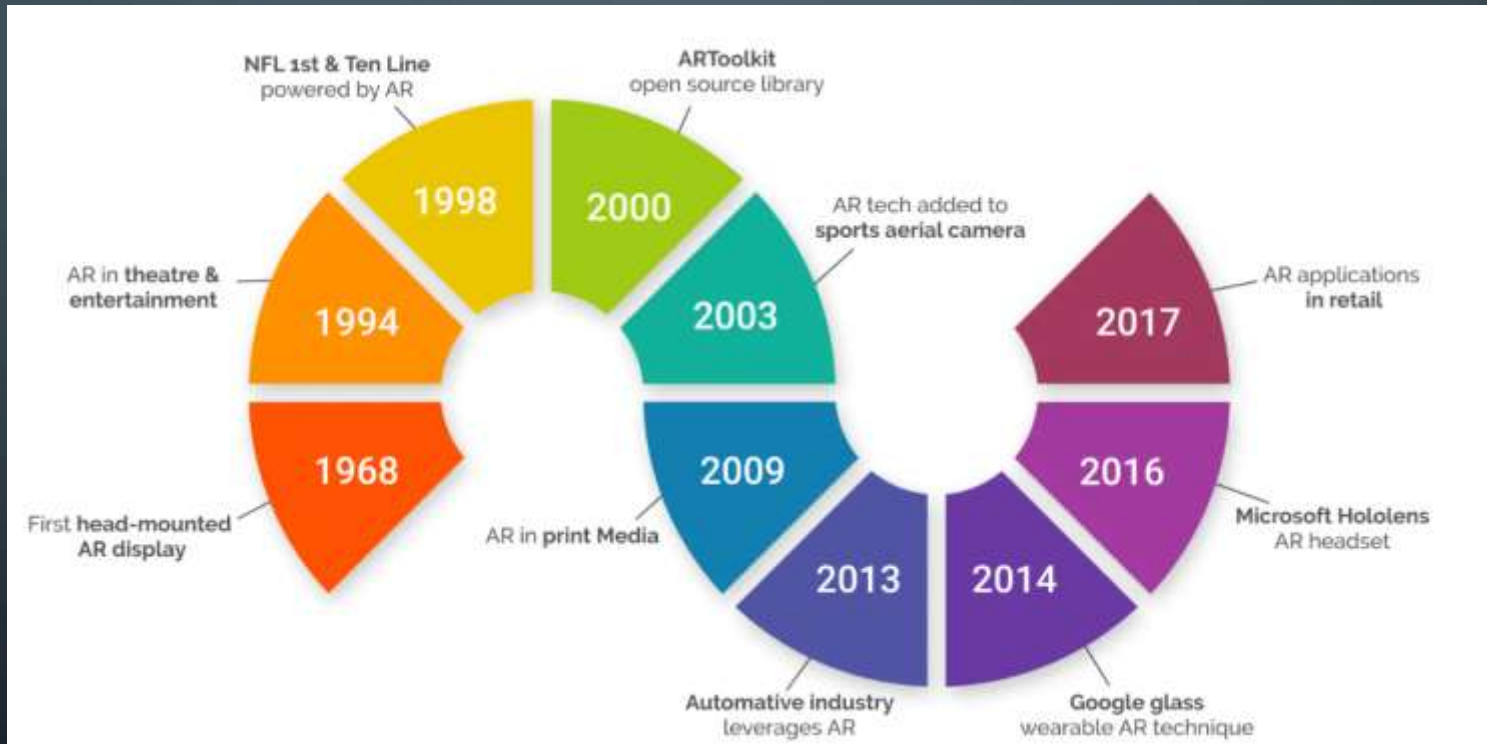# AR GLASSES

ABOUT US

We are a team of IIT-Guwahati, looking forward to give our contribution to

this tech world.

The team consists of budding engineers, ranging from various departments and study programmes offered at IIT-G, working to gain hand on knowledge and currently we are working on **Hand Gesture Recognition.**

WHAT IS AR?

Augmented reality (**AR**) is an interactive experience of a real-world environment where the objects that reside in the real world are enhanced by computer-generated perceptual information, sometimes across multiple sensory modalities,
including visual, auditory, haptic, somatosensory and olfactory. AR can be defined as a system that incorporates three basic features: a combination of real and virtual worlds, real-time interaction, and accurate 3D registration of virtual and real objects.

HISTORY OF AUGMENTED REALITY

IDEATION

- The objective of our project is to build a full fledged smart glasses through which we can completely operate a smartphone just by reading our hand gesture in air.

- A description of how we planned to achieve our intent.

- Basically what we have planned to do is by using AR Glasses with camera attached at its two ends. For complete mobile operation we will use computer vision and machine learning to recognize hand gestures and then these gestures will be sent to smartphones via Bluetooth thereby making our smartphones respond to those instructions.

HARDWARES

- Camera
- Processor
- GPS
- Display Drivers
- Display
- OLED
- Microphone

OLED TECHNOLOGY

- OLED technology enables thin, efficient and bright displays and lighting panels. OLEDs are currently used in many mobile devices, some TVs and lighting fixtures. OLED displays offer a better image quality compared to LCD or Plasma displays - and can also be made flexible and transparent.

APPLICATIONS

Top uses cases of AR glasses

- Workout Path Tracking
- In-store Comparison Shopping
- Advertising
- Secure Payment Application
- Smart Shopping
- Location Services
- Educational Training
- Gaming
- TV Alerts – Notifications
- Business Aid
- Complex Manufacturing
- Logistics and Warehousing

- **Security applications**

- Smart glasses could be used as a body camera. In 2018, Chinese police in Zhengzhou and Beijing were using smart glasses to take photos which are compared against a government database using facial recognition to identify suspects, retrieve an address, and track people moving beyond their home areas.

- **Healthcare applications**[

- Several proofs of concept for Smart Glasses have been proposed in healthcare. In July 2013, Lucien Engelen started research on the usability and impact of Smart

- Glass in health care. Engelen, who is based at Singularity University and in Europe at Radboud University Medical Center, is participating in the Glass Explorer program

EXTENSIONS AND ADVANCEMENTS

Some further extensions/advancements that can be done in our project-

- Voice Recognition

This is a bit advanced feature that we can add to our project. In this just like camera we can attach microphone which will receive commands through our voice and sent those instructions to smartphones and our device will respond to corresponding instructions. This relies on artificial intelligence and so somewhere advanced and so will make our project better.

- Eye Detection

On moving a little more high, there is no doubt that our mobile device can be controlled through movement of eye. However this will not be full fledged control but still it will bring more ease than before. In this we will use a sensor technology that makes it possible for a computer or other device to know where a person looks. It can detect the pressure, attention and focus.

THANK YOU!