

Human interaction with the computer

Virtual reality is coming to Xbox



Group members:

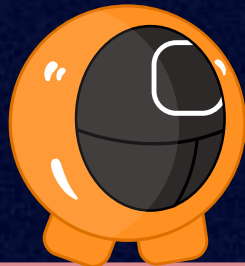
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Xbox & VR



Virtual reality (VR) refers to a computer-generated simulation that immerses users in a three-dimensional, interactive environment. VR technology has been evolving rapidly in recent years, and it has become increasingly popular in various industries, including entertainment, education, healthcare, and gaming. In a VR environment, users can interact with virtual objects and characters as if they were in the physical world, creating a highly immersive and engaging experience. VR technology typically involves the use of specialized head-mounted displays (HMDs) that track the user's head movements and adjust the visuals accordingly.

popular video game console brand developed and owned by Microsoft Corporation. The first Xbox console was released in 2001, and since then, the brand has expanded to include several other consoles, accessories, and online services for gaming enthusiasts. Xbox has become known for its high-quality graphics, immersive gameplay, and vast library of games, including popular franchises such as Halo, Gears of War, and Forza Motorsport. With its powerful hardware and online capabilities, Xbox has become a major player in the gaming industry, offering gamers a unique and engaging gaming experience.



What if we Provide VR for XBOX?



Providing virtual reality (VR) for Xbox would be an exciting and potentially transformative development for the gaming industry. Although Xbox has had limited support for VR in the past, there has been growing interest in bringing more robust VR capabilities to the platform. With the increasing popularity of VR and the rapid pace of technological advancements in the field, providing VR for Xbox could open up a new world of immersive gaming experiences for users. Bringing VR to Xbox would require the development of a dedicated VR headset that is specifically designed to work with the platform. This headset would need to be capable of delivering high-quality, high-resolution visuals and precise tracking to create a truly immersive VR experience. In addition, the Xbox console would need to be optimized to handle the demands of VR, including the need for high processing power and low latency.

If done successfully, providing VR for Xbox could revolutionize the way gamers interact with their favorite titles. Players could be fully immersed in the game world, interacting with characters and environments in ways that were previously impossible.

Additionally, with the Xbox's existing online capabilities, VR could enable players to connect and interact with each other in new and exciting ways.

providing VR for Xbox has the potential to be a major development for the gaming industry, and would likely be welcomed by gamers around the world.

PROBLEM



- The main problem with Xbox not having VR is that it may limit the platform's ability to offer a fully immersive and engaging gaming experience. While Xbox has a large library of games and offers high-quality graphics and gameplay, the absence of VR could mean that players are missing out on a truly immersive experience that goes beyond traditional gaming. This could be a disadvantage for Xbox compared to other gaming platforms that do offer VR, as it may mean that some gamers choose to play on those platforms instead.
- Another issue with Xbox not having VR is that it could limit the platform's ability to attract new users. As VR becomes more popular and mainstream, many gamers are looking for ways to experience this technology. If Xbox does not offer a high-quality VR experience, it may struggle to attract these users and could potentially lose market share to competitors that do offer VR.
- Finally, the absence of VR on Xbox could limit the platform's ability to innovate and stay competitive in the gaming industry. As VR technology continues to advance, it is likely to play an increasingly important role in gaming and other industries. By not offering VR, Xbox may be missing out on opportunities to innovate and stay ahead of the curve.
- the main problem with Xbox not having VR is that it may limit the platform's ability to offer a truly immersive and engaging gaming experience, attract new users, and stay competitive in the gaming industry.

— THE GOALS —

001

offer users a fully immersive and engaging gaming experience that goes beyond traditional gaming.

002

be fully immersed in the game world, creating a sense of presence and interaction that was previously impossible.

003

attract new users to the platform.

004

Microsoft stay competitive in the gaming industry and position the platform as a leader

005

strategic benefits for Microsoft. The company has been investing heavily in cloud gaming

006

offer users a unique and immersive gaming experience, attract new users to the platform



What is vr?

computer-generated simulation of a three-dimensional environment that can be experienced by a person through the use of specialized electronic equipment, such as a headset or gloves fitted with sensors.



How is it used today

VR is used in a variety of industries, from gaming and entertainment to education and healthcare.



How it's started

The concept of VR dates back several decades, but the modern era of VR began in the 1990s with the development of advanced graphics and computer hardware. The first commercial VR headset, the *Virtuality*, was released in 1991



SATURN

Immersive gameplay
Realistic graphics
Increased interactivity
Multiplayer experiences

Other projects and research

Pressure Mounts for Xbox's Missing VR Strategy as PSVR Revenue Exceeds \$2 Billion



Xbox

VS

Sony



Microsoft has not made a significant effort to develop VR technology for the platform, while Sony has invested heavily in the PSVR. This lack of VR strategy from Microsoft is seen as a missed opportunity to attract consumers who are interested in VR, resulting in lost revenue.

The article delves deeper into the reasons why VR support is important for gaming consoles and how it has helped Sony's PlayStation 4 gain an edge over the Xbox One X in terms of revenue.

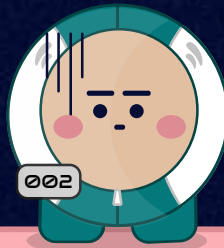
The potential reasons why Microsoft has not yet made a significant investment in VR. One reason is the high cost of developing VR games, which can be a barrier to entry for many developers. Additionally, there are concerns about the mainstream appeal of VR, with some industry experts suggesting that it may remain a niche technology for the foreseeable future. However, the author argues that by ignoring VR altogether, Microsoft may be missing out on a significant revenue stream and ceding an important advantage to Sony.

Why xbox without VR

Microsoft has been focusing on its Windows Mixed Reality platform, which aims to blend both virtual and augmented reality experiences into a single platform.

Microsoft has not released a dedicated VR headset for the Xbox platform, and support for VR has not been a major focus for the company.

complex, high-resolution environments, and the Xbox may not have the necessary hardware capabilities to deliver a smooth and immersive VR experience.



Discovery phase

comparison between VR systems in pc and ps5

Hardware	PC-based VR systems generally require more powerful hardware than the PS5. To run most PC VR systems, you need a high-end gaming PC with a powerful graphics card, while the PS5 is a dedicated gaming console designed specifically for gaming.
Graphics	PC-based VR systems generally offer better graphics than the PS5. This is because PC graphics cards are generally more powerful than the graphics chips in gaming consoles.
Game library	While both PC and PS5 have a decent selection of VR games, the PC has a much larger selection of games available. This is because the PC has been around longer as a gaming platform, and there are more game developers creating VR games for the PC.
Cost	While the PS5 itself is expensive, the cost of entry to VR is lower on the PS5, since the PS5's VR system, the PlayStation VR, is cheaper than most PC-based VR systems.
Comfort	The comfort of the VR system is an important consideration, especially for longer gaming sessions. While both PC and PS5 VR systems offer comfortable headsets, the PS5's VR headset is generally considered more comfortable, with a lighter weight and more ergonomic design.

Data Gathering

While the PS5's VR system, the PlayStation VR, is generally well-regarded among users, there are some common problems that users have reported experiencing. Here are a few:

1. Tracking issues: Some users have reported issues with the PlayStation VR's tracking system, which can cause the virtual world to jitter or move unnaturally. This can be especially noticeable when using the Move controllers.
2. Motion sickness: Like with any VR system, some users may experience motion sickness or dizziness while using the PlayStation VR. This is more likely to occur with games that involve a lot of movement or quick camera changes.
3. Limited resolution: The PlayStation VR's display has a lower resolution than some PC-based VR systems, which can make the graphics appear less sharp. However, this is generally not noticeable during gameplay.
4. Limited field of view: The PlayStation VR's field of view is also somewhat limited compared to some PC-based VR systems, which can make the virtual world feel less immersive.
5. Cable management: The PlayStation VR requires a number of cables to be connected between the headset, console, and other accessories, which can create a cluttered and potentially tripping hazard.

Steve story:

- Steve has a problem with the limited play area or (gameplay zone) if Steve moves one step out of the zone the game will stop, and the connection failure will display
- The current PlayStation VR headset requires a play area of 6 feet by 10 feet (2x3 meters), with a clear space in front of the PlayStation Camera. The camera tracks the position of the headset and the PlayStation Move controllers, which are used for tracking hand movement in VR.



John story:

Jon every time wants to enjoy playing with VR he keeps stepping on the wires sometimes when Stepping on the wires, it leads to disconnecting the wires and stopping the game, and the headphone wire specifically falls off when jumping.

The Ps5 VR contains many wires, which makes the user upset. Like most electronic devices, it requires some wires and cables to function properly. But today wireless devices are required especially in activity games that use VR.

These wires include the power cord of the VR, the headphone cable, the Handheld Controller cable, the HDMI cable, and other wires.



Shamam Story:

- shamam has Myopia and she can't see far, she has to wear her glasses under the VR glasses. its leads to Unstable virtual reality glasses, Head and eye pressure, And other problems encountered by users who suffer from myopia.
- This can be especially bad for users who wear glasses, as the headset may not fit comfortably over their glasses, leading to additional pressure on the bridge of their nose and around their eyes and Blue light exposure VR headsets emit blue light, which can potentially cause damage to the retina over time.



Xbox VS Sony



- 1- We will provide complete comfort in use, we will make the viewing area with wider angles
- 2- We will make the lens support cases of myopia by inserting lenses in a place designated to support clarity of vision
- 3- We will make all devices wireless based on Bluetooth
- 4 The device will be light in weight and the handles will be smooth to hold and use, as well as high-isolation wireless headphones
- 5- We will expand the playing area by using a high-resolution Xbox camera
- 6- With regard to eye comfort, we will provide the “eye protection” feature to reduce blue rays emitted during the game.
- 7- The control knob will support vibration and motion to support the feeling of adventure while playing
- 8- We will provide a headset connection with other control tools such as the steering wheel, arrows and pistols as well, to support the players' sense of adventure and realism

Survey

XBOX VR

We are doing research about what if XBOX provide VR?

If we can solve all this problems from users stories will you switch from PS5 VR to XBOX VR ?

- ☐ I agree
- ☐ Neutral
- ☐ I do not agree

Do you believe that XBOX needs this product to raise the quality of their games?

- ☐ I agree
- ☐ Neutral
- ☐ I do not agree

If our product of VR glasses added to XBOX, do you believe that it will be better than or equivalent to ps5 in terms of quality?

- ☐ I agree
- ☐ Neutral
- ☐ I do not agree

Submit

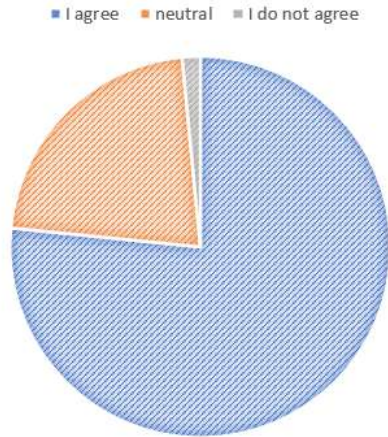
To ensure the success of this idea, we need to know the users' opinions and views on the product.

So we made a survey asking the users a questions to measure their likeability of the idea. Their age groups are between 10-30:

- If we can solve all this problems from users stories will you switch from PS5 VR to XBOX VR ?
70% of users liked and supported the idea.
20% of users said that it is possible to use it.
And 10% answered No!.

Survey

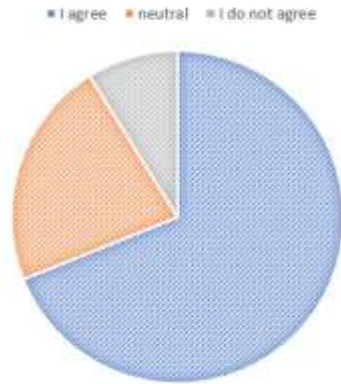
RESULT



- Do you believe that XBOX needs this product to raise the quality of their games?
62% agreed.
20% of users were neutral.
8% were disagree.

Survey

RESULT



-If our product of VR glasses added to XBOX, do you believe that it will be better than or equivalent to ps5 in terms of quality?

65% agreed.

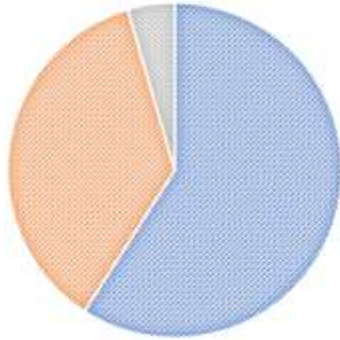
40% thinks its possible.

5% disagreed.

Survey

RESULT

■ I agree ■ neutral ■ I do not agree



Also, we find this disagreement was from the loyal user of PlayStashin but also there is over 40% from users who was loyal to PS are agreeing to our product because of all solutions we have added.

Findings

Based on survey results and user stories of the competing product in the market

We found that the effectiveness of our proposed solutions in developing this new product presented to Microsoft and Xbox, achieved the satisfaction of 66% of the target users, and we found that the opportunity to compete with our product in the market is of benefit and material returns to the company.

All problems that users encountered will be solved in our product, in addition to several characteristics that distinguish it in the market among competitors.

Conceptualization Phase

Prototype(sketch)

Identifying the needs

Before making a prototype, it is important to identify the needs of the user group that will make use our product is VR glasses with handheld control and headphones
also Myopia support lenses

XBOX VR glasses sketch

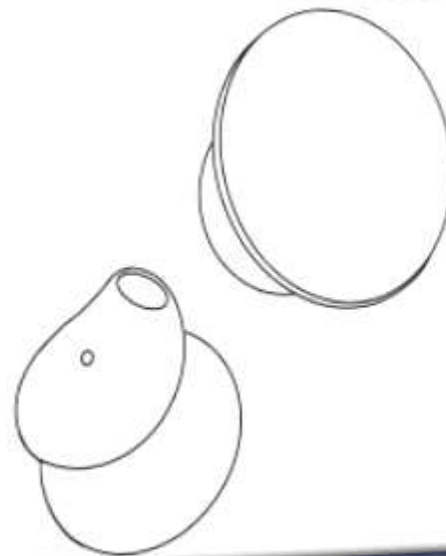


Survey

Handheld controller

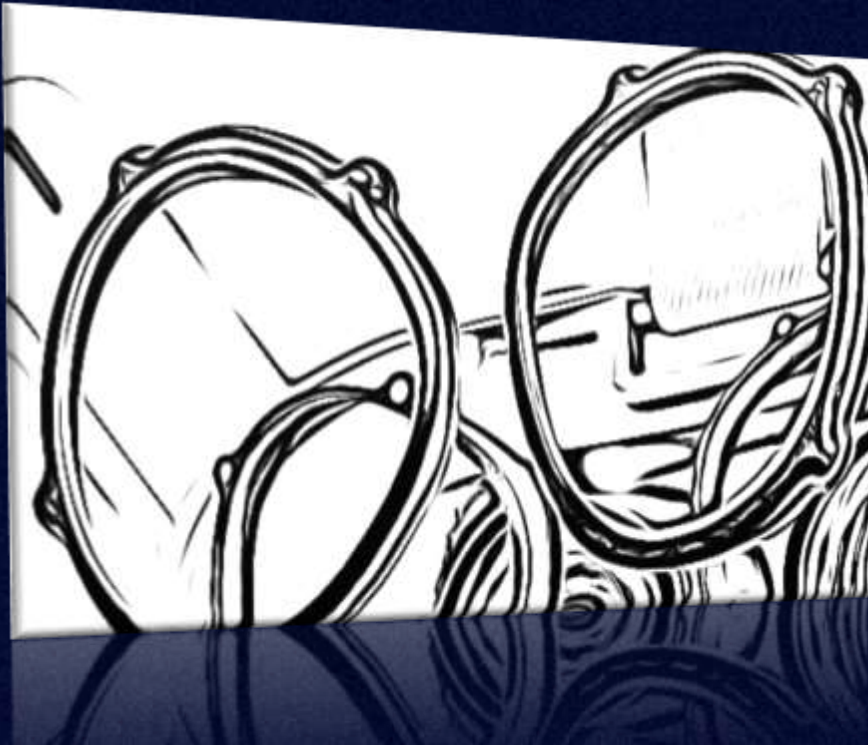


XBOX VR headphones.



Survey

Myopia lenses



Myopia lenses will be one of the most important advantages so that they can be added to the product when needed in a designated place without the need to wear medical glasses and also support complete comfort for users

Survey

3D prototype



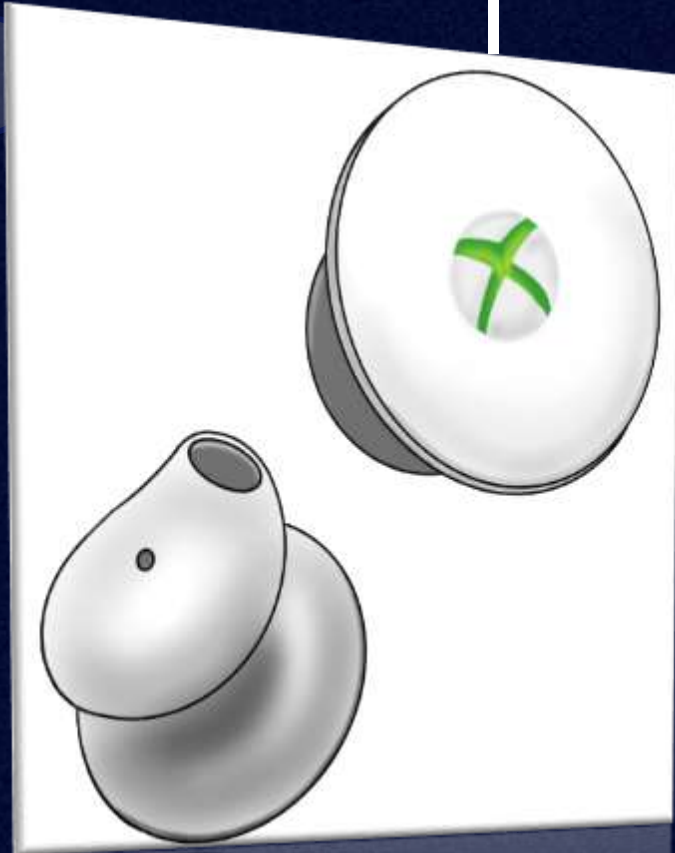
For virtual reality glasses, the product should be light in weight and easy to use, free of wires, support wireless communication, comfortable for the eyes, support wide spaces to satisfy players, with a modern and elegant design

Survey



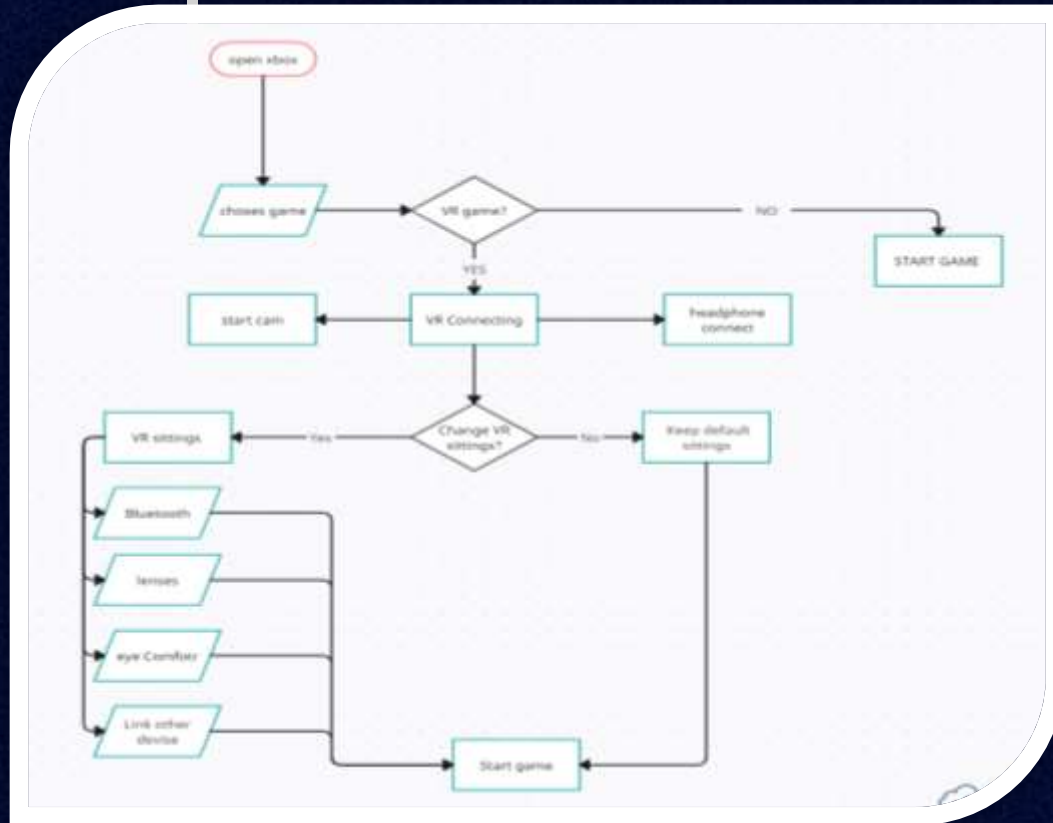
With regard to the control hand, we preferred that the control hand support the palm of the hand with a back rubber piece that helps in fixation with the basic control buttons, as well as side lights, and also supports the movement of synchronizing play during shots and shooting. Our product will be able to vibrate to support the player's sense of realism

Survey

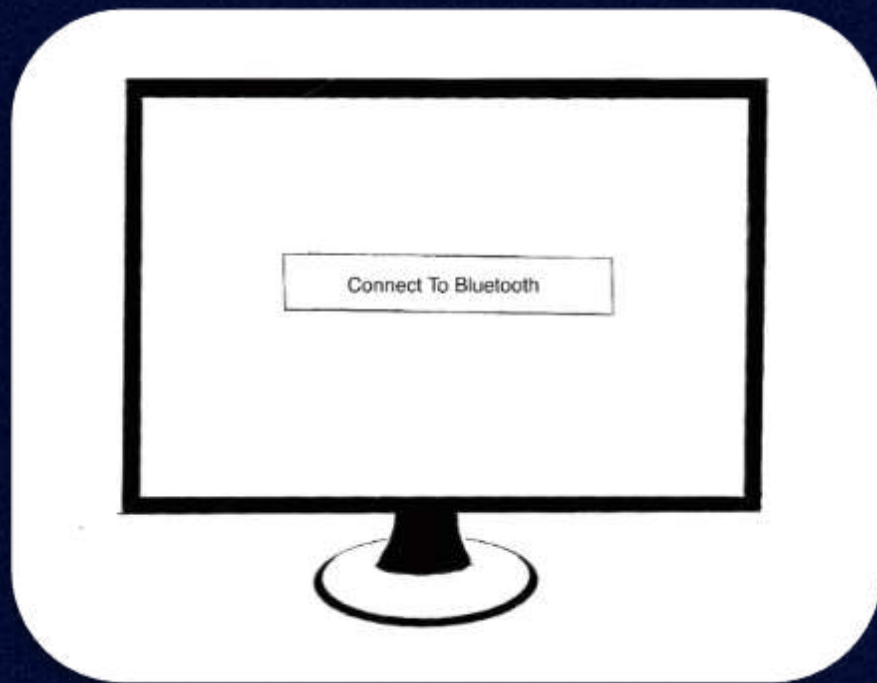


The headphones, our product, contain high isolation strength, inspired by a Microsoft product, easy and elegant to wear, with the ability to control volume on both sides, and also wireless.

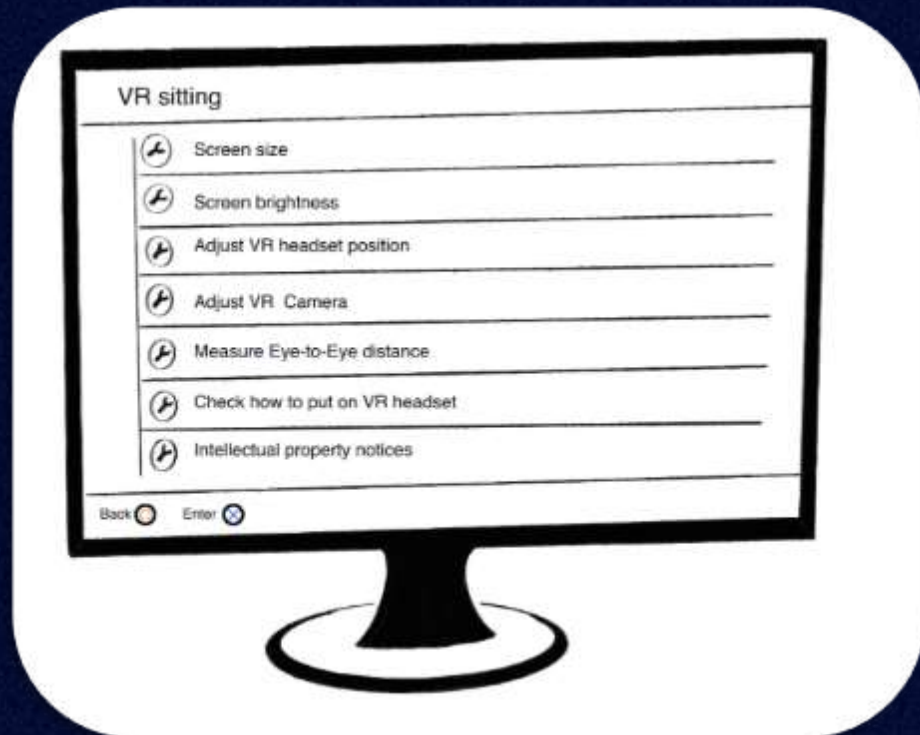
User flows



PROTOTYPE



PROTOTYPE



PROTOTYPE





Usability Testing



A usability test of a VR headset like the Xbox VR would involve measuring how easy it is for users to interact with the device and its software, and how effective it is at providing an immersive and enjoyable experience. Usability testing is important for identifying any issues or areas for improvement in a product, and can help developers create a more user-friendly and enjoyable experience for their customers.

- Ease of use test We called two people, one of whom is interested in playing (player) games and the other has no idea about these products We asked the two people to start using the product after a simple explanation.



Usability Testing

Then we asked these questions:

Setup and installation: How easy is it for users to set up the VR headset and connect it to the console? Are the instructions clear and easy to follow?

We found that the player was amazed at the absence of the usual wires while wearing.

On the other hand, the other person felt strange about this device while wearing it, but it aroused interest when he found myopic lenses supporting his problem.

But all of them were able to easily wear virtual reality glasses.

Comfort and fit: Is the VR headset comfortable to wear for extended periods of time? Does it fit securely and adjust easily to different head sizes?

We found that the player was very excited and continued to play for 5 hours of continuous movement and interaction

On the other hand, the other person was also persistent in playing for long hours, knowing that he refused to experiment at first with the excuse that he was not interested.



Usability Testing



3. Controls and navigation: Is it easy for users to control and navigate through the VR experience using the included controllers or other input devices? Are the controls intuitive and responsive?

We found that the player, despite the long hours of play, was interested in trying all the other devices available to support the experience, such as the steering wheel, pistols, and arrows.

On the other hand, the other person was surprised by the experience of these services and expressed it as a "new world".

All of them praised these additions as an important and important element for the fun and support of the player with a sense of adventure and realism.

4. Visual quality: How clear and detailed are the visuals in the VR experience? Is there any lag or distortion that affects the experience?

All of them were completely satisfied with the quality of the images, the speed of interaction, and the realism of the image, as well as the wide field of view.



Usability Testing

5. Audio quality: How immersive is the audio in the VR experience? Does it accurately reflect the user's movements and interactions in the virtual environment?

The reactions to the sound quality were wonderful, which is expected from Microsoft headphones. The isolation performance was realistic, and the use of AD4 technologies was effective in giving them a realistic feeling during movement within the game, such as the sounds of grass or air, with mentioning the isolation strength in our product.

6. Performance: Does the VR experience run smoothly and without any significant glitches or lag? Does the hardware meet the minimum requirements for running the VR software?

There was complete satisfaction with the performance of the product after trying this product from an expert and a beginner, and we achieved satisfaction from both parties, and high performance was not an obstacle for us. Xbox was a strong performance and amazed users





solution with others



Based on our provided features, it seems that the Xbox VR device is designed with the user's comfort and experience in mind. The wider viewing angle and myopia support cases will provide a more immersive experience, while the wireless and lightweight design with smooth handles will make it easy to use for extended periods of time. The high-resolution Xbox camera and eye protection feature will also enhance the visual quality and reduce eye strain.

The addition of vibration and motion support in the control knob, as well as the ability to connect to other control tools such as the steering wheel, arrows, and pistols, will further enhance the sense of adventure and realism for players.

Overall, the Xbox VR device seems to be a well-designed and user-friendly product that will provide an enjoyable and immersive gaming experience for users. However, it is important to note that after actual testing and feedback from users; we find effective these features will be in practice

solution with others:

Based on the work scheduled above, we hope that we had enough time to test such a project on the ground and present it to a great company like Microsoft, but due to lack of time, we could only work on it in theory. We hope that a major company like Microsoft has started working on such a great product that will serve many in the gaming world, including us in charge of this project, because the Xbox for us is the best gaming device that we have used, and therefore we have additional great expectations for what will be produced in the next stages.

