Escape Room

An immersive puzzle experience where participants must solve clues to unlock the mystery and escape within a set time limit

Documentation for the final project submitted as a part of the AR/VR course

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Introduction:

Step into the documentation of my culmination project in the AR/VR realm! Within this detailed compendium, I unveil a thorough examination of my immersive creation, illuminating its inception, evolution, and standout features. As a trailblazer in augmented and virtual reality, I'm eager to unveil my groundbreaking solution, forged with unwavering commitment, imaginative flair, and technical acumen. Embark with me on this exhilarating odyssey as we navigate the frontiers of AR and VR, reshaping the landscape of interactive experiences.

About the AR Application:

Welcome to my AR application, a glimpse into the future of interactive experiences. With two captivating scenes, this project showcases the power of augmented reality in gaming and problem-solving.

In the first scene, users are immersed in a dynamic environment where they must use AR technology, specifically the Oculus ray, to interact with virtual objects. By grabbing and placing colored balls into their respective sockets, players engage in a hands-on challenge that tests their spatial awareness and dexterity. This demonstrates how AR can

seamlessly blend digital elements into the real world, offering immersive and interactive gaming experiences.

Moving to the second scene, users are presented with a puzzle that requires observation and critical thinking. By analyzing visual clues within the augmented environment, players must deduce the solution to unlock a door. This showcases AR's potential in educational and problem-solving applications, as it encourages users to explore their surroundings and think creatively to overcome challenges.

Overall, this AR project offers a glimpse into the endless possibilities of augmented reality in gaming, education, and beyond. By merging virtual elements with the real world, AR technology has the potential to revolutionize how we interact with digital content and solve real-life problems, paving the way for exciting advancements in various fields.

Features and Functions:

1. **Immersive Scenes**: Engage in two distinct environments, each designed to immerse users in a challenging and interactive experience that leverages AR technology to blend virtual and real-world elements seamlessly.

2. **Interactive Object Manipulation**: Use intuitive hand gestures, facilitated by the Oculus ray, to grab and manipulate virtual objects within the scenes, providing a tactile and engaging interaction experience.

3. **Real-time Feedback**: Receive instant feedback on actions performed, such as successful ball placements or incorrect puzzle solutions, ensuring a dynamic and responsive gameplay environment that keeps users engaged and motivated.

4. **Time-based Challenges**: Test your speed and accuracy with time-based challenges, adding an element of urgency and excitement to the gameplay as you race against the clock to complete tasks and unlock rewards.

5. **Problem-solving Puzzles**: Exercise your cognitive skills with puzzles that require observation, deduction, and critical thinking to decipher clues and unlock doors, offering a stimulating mental challenge that encourages strategic thinking and exploration.

Empowered by these features, users can dive into a dynamic realm of creativity and innovation, where immersive experiences await at every turn.

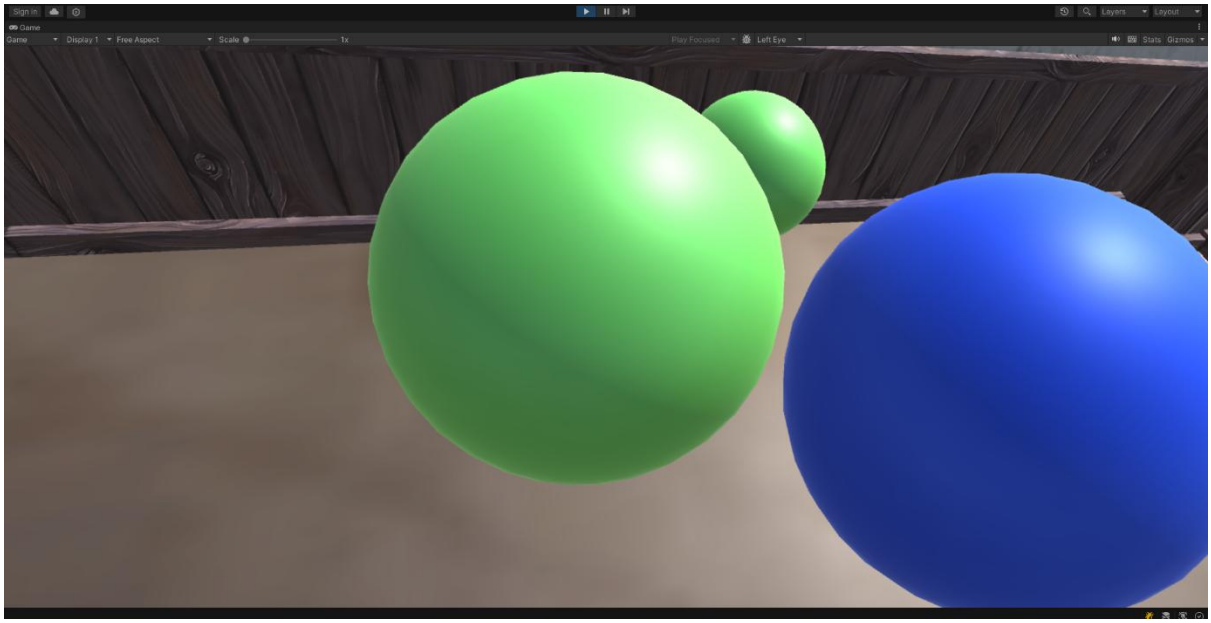
Video Walkthrough of the Application:

(use this link to access the walkthrough video of the application)

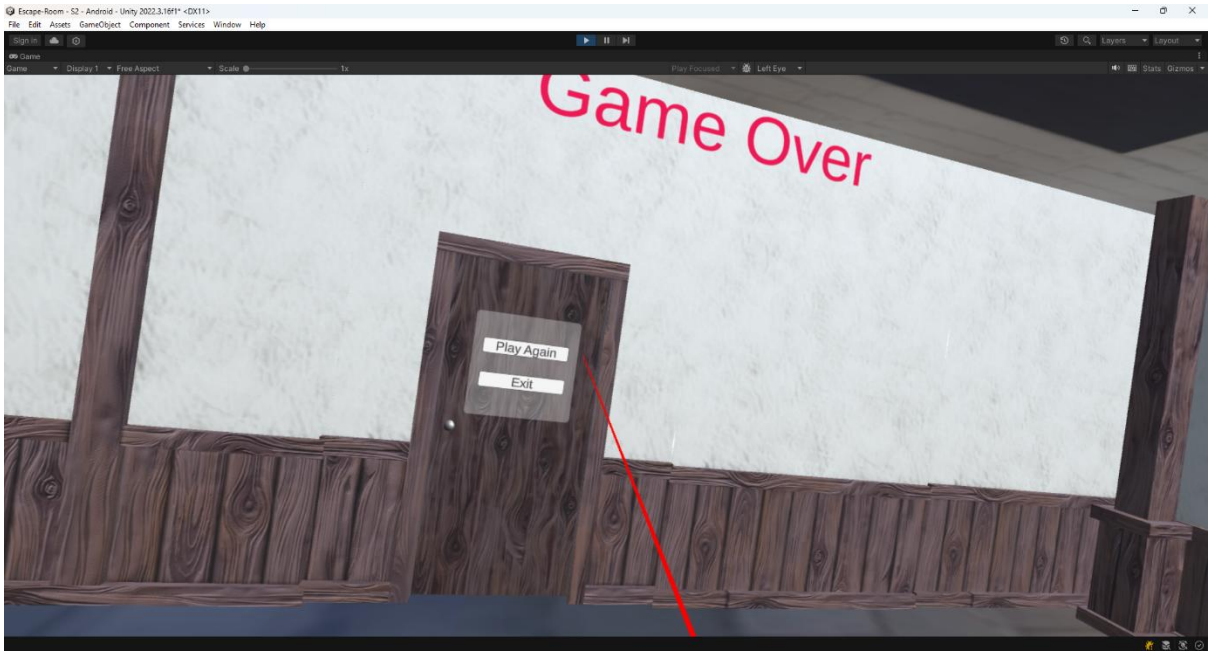
https://drive.google.com/file/d/1Sp7IMdjd34XZP7idGsfWb6_TkDSatRe2/view?usp=drive_link

Screenshot Gallery:

Scene 1:




13s
Play Again
Exit


Escape-Room - S2 - Android - Unity 2022.3.16f1* <DX11>
File Edit Assets GameObject Component Services Window Help
Sign in
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Layout
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Display 1
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Left Eye
Stats
Gizmos
Game Over
Play Again
Exit

Scene 2:


consist of 3 digits
serve things around you
git one is a odd number whereas 3rd digit is
Even
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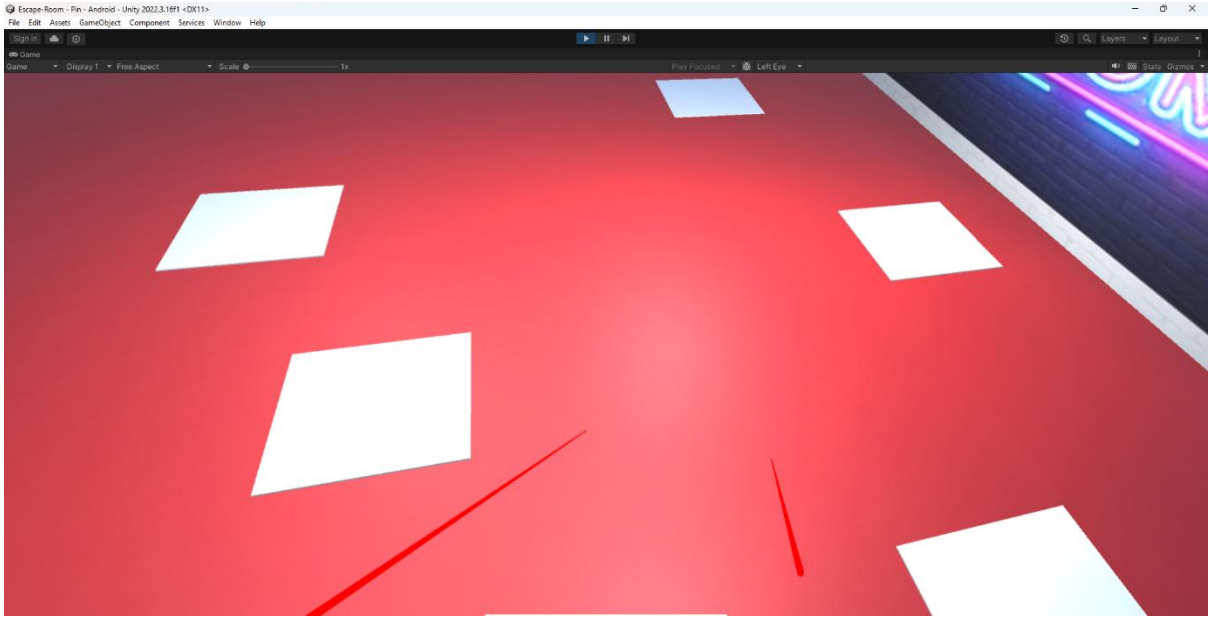
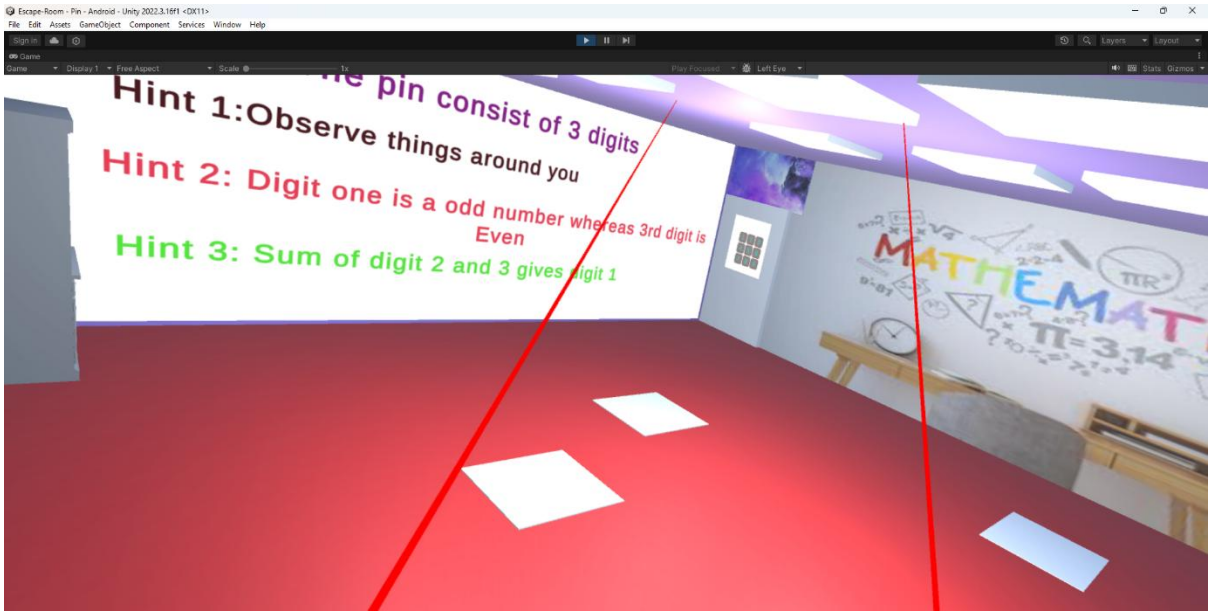
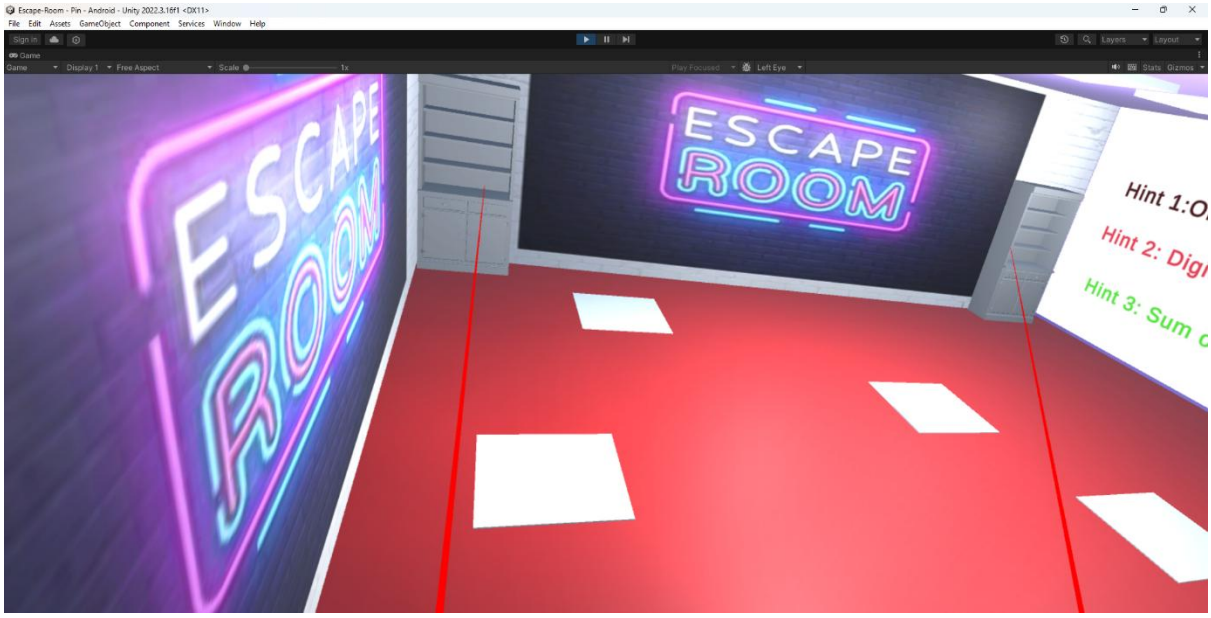
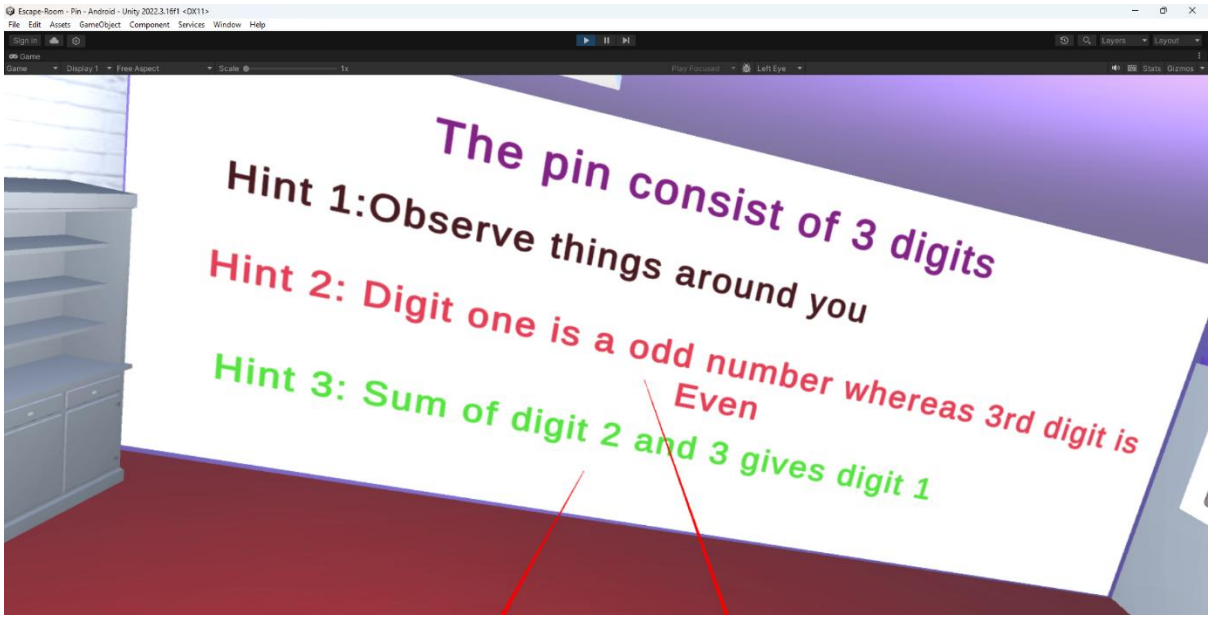
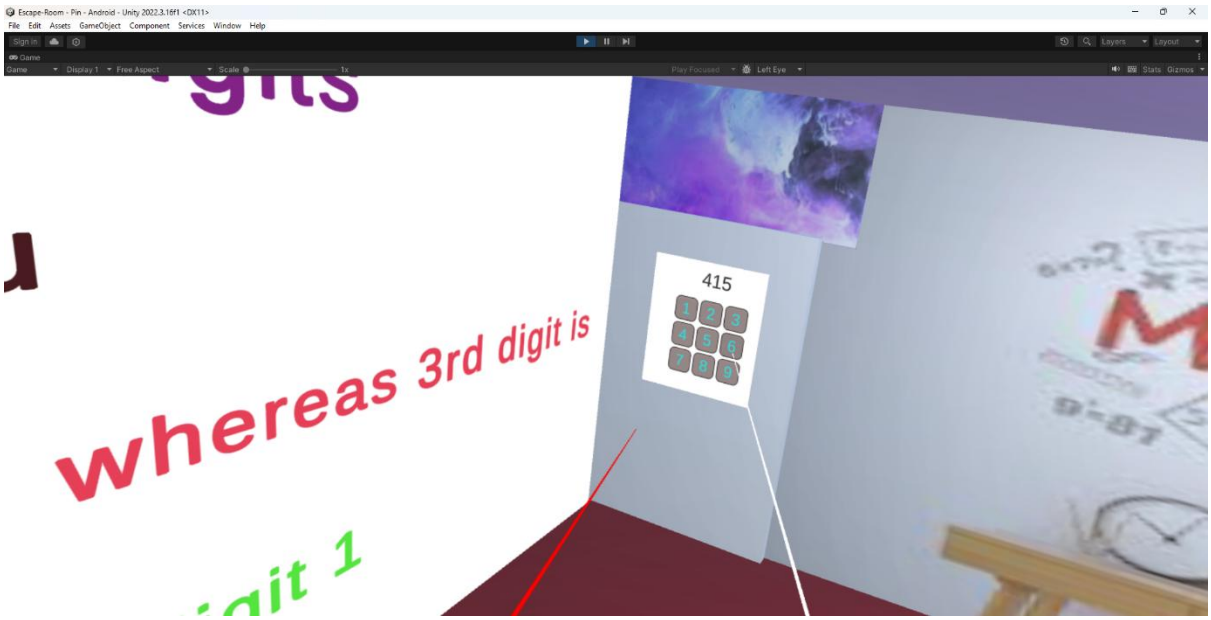
MATHEMATIC
π=3.14

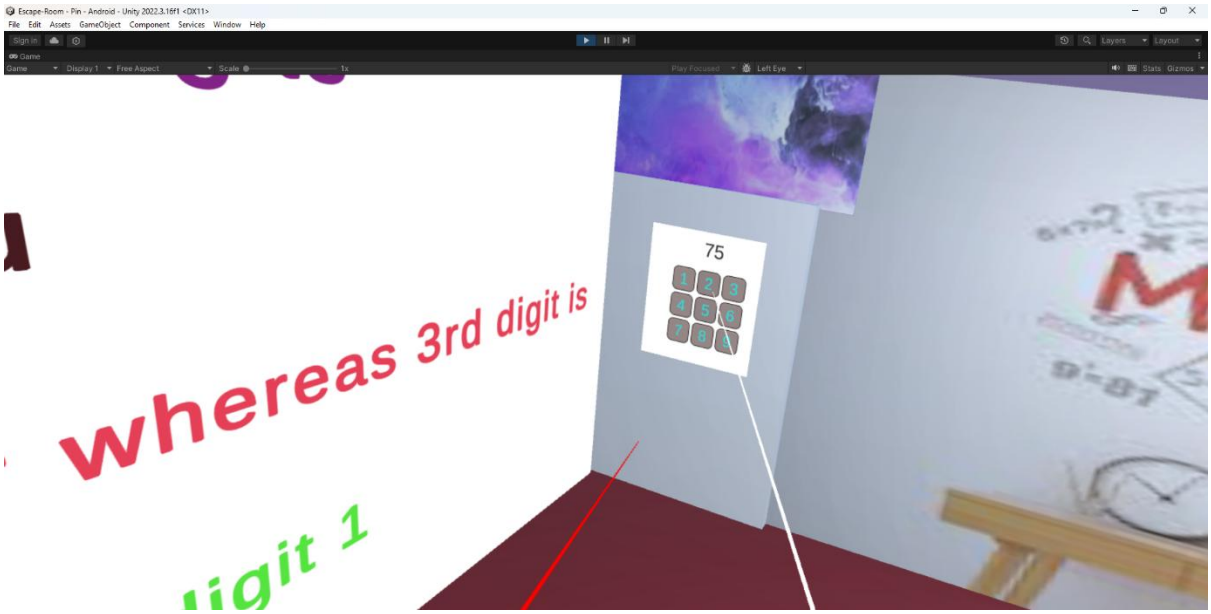



Hint 1:Observe things around you
Hint 2: Digit one is a odd number whereas 3rd digit is Even
Hint 3: Sum of digit 2 and 3 gives digit 1


ESCAPE ROOM
ESCAPE ROOM


The pin consist of 3 digits
Hint 1:Observe things around you
Hint 2: Digit one is a odd number whereas 3rd digit is Even
Hint 3: Sum of digit 2 and 3 gives digit 1


whereas 3rd digit is
415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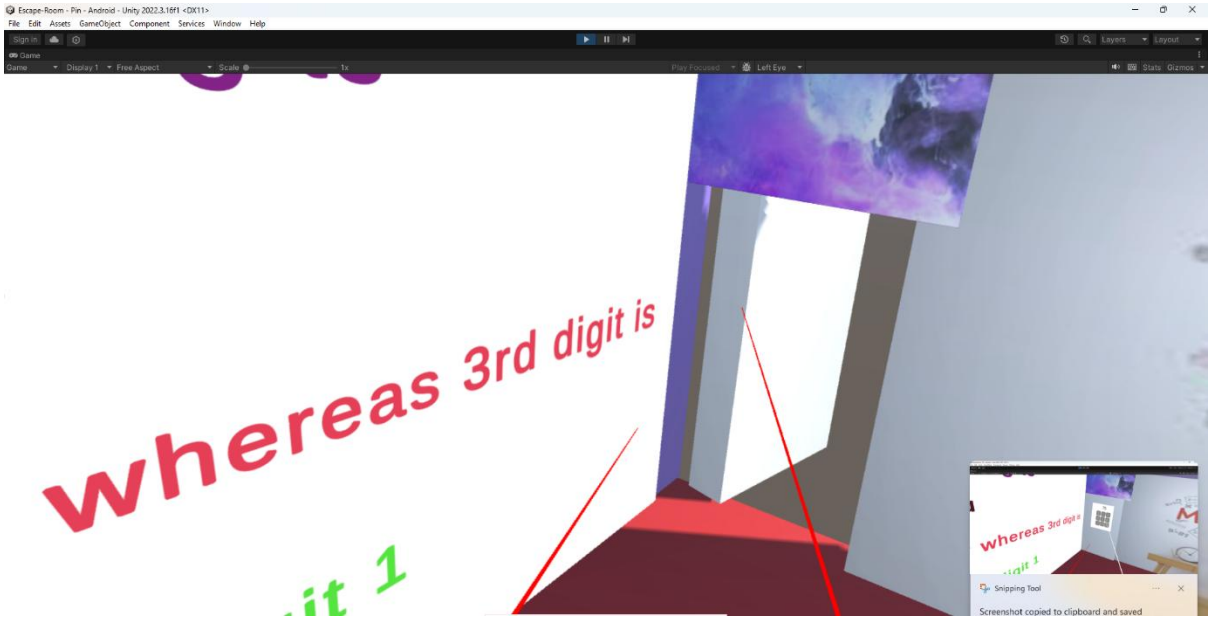
whereas 3rd digit is
75


Escape-Room - Pin - Android - Unity 2022.3.16f1 <DX11>
whereas 3rd digit is
Snipping Tool
Screenshot copied to clipboard and saved

Script Excerpts:

1. Timer Script

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using TMPro;


// TimerScript class responsible for managing the game timer
public class TimerScript : MonoBehaviour
{
    // Serialized fields for current time, display time, text display, and game over box
    [SerializeField] private float currentTime; // Current time left in the game
    [SerializeField] private float displayTime; // Rounded display time for UI
    [SerializeField] private TMP_Text displayText; // TextMeshPro text component for displaying time
    [SerializeField] private GameObject gameOverBox; // Game over UI box


    // Start is called before the first frame update
    private void Start()
    {
```

```
        // Set the time scale to 1 at the start of the game
        Time.timeScale = 1;
    }

    // Update is called once per frame
    void Update()
    {
        // Decrease the current time by the time elapsed since the last frame
        currentTime -= Time.deltaTime;
        // Round the current time for display purposes
        displayTime = Mathf.Round(currentTime);
        // If the current time is less than 0, the game is over
        if(currentTime < 0)
        {
            // Display "Game Over" text and activate the game over box
            displayText.text = "Game Over";
            gameOverBox.SetActive(true);
            // Pause the game by setting the time scale to 0
            Time.timeScale = 0;
        }
        else
        {
```

```
            // Update the display text with the current time in
seconds
            displayText.text = displayTime.ToString() +  "s" ;
        }
    }
}
```

2. Button Manager

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;

// ButtonManager class responsible for managing button
actions
public class ButtonManager : MonoBehaviour
{
    // ResetGame method called when the reset button is clicked
    public void ResetGame()
    {

        // Load the scene named "S2"
        SceneManager.LoadScene("S2");
    }

    // ExitGame method called when the exit button is clicked
    public void ExitGame()
    {
        // Quit the application
```

```
        Application.Quit();


    }
}
```

3. Score Script

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.Events;

public class ScoreScript : MonoBehaviour
{
    // Serialized fields for the current score, final score, and Unity event to invoke upon winning
    [SerializeField] private int score; // Current score
    [SerializeField] private int finalScore; // Final score to achieve
    [SerializeField] private UnityEvent winAction; // Unity event to invoke upon winning

    // Updatescore method called to increment the score
    public void Updatescore()
    {
        score++; // Increment the score
```

```
        // Check if the current score equals the final score
        if (score == finalScore)
        {
            winAction.Invoke(); // Invoke the winAction Unity event
        }
    }
}
```

Future plans:

1. **Enhanced Interactivity:** Integrate more interactive elements and mechanics into the AR/VR experiences to provide users with richer and more engaging interactions.

2. **Multiplayer Support**: Implement multiplayer functionality to allow users to collaborate or compete with friends in the AR/VR environments, opening up new avenues for social interaction and gameplay dynamics.

3. **Expanded Content**: Develop additional scenes, puzzles, and challenges to expand the content and replay value of the project, offering users a diverse and immersive experience each time they engage with it.

4. **Cross-Platform Compatibility :** Ensure compatibility across multiple AR/VR platforms and devices to reach a broader audience and maximize accessibility for users with varying hardware setups.

5. **Integration with Learning and Training:** Explore opportunities to integrate the project into educational and training settings, leveraging the immersive nature of AR/VR to facilitate learning and skill development in fields such as education, healthcare, and professional training.

6. **User Customization**: Introduce features that allow users to customize their AR/VR experiences, such as choosing avatars, adjusting difficulty levels, or creating personalized environments, enhancing user engagement and satisfaction.

7. **Analytics and Feedback**: Implement analytics tools to gather data on user interactions and performance within the AR/VR environments. Utilize this data to gain insights into user behavior, identify areas for improvement, and tailor future updates to better meet user preferences and needs.

Conclusion:

In conclusion, this project represents a significant step forward in the realm of augmented and virtual reality technologies. Through meticulous design, creative innovation, and technical expertise, the project has successfully delivered immersive and engaging experiences that blur the lines between the physical and virtual worlds.

The incorporation of interactive elements, multiplayer support, and diverse content has elevated the project beyond mere entertainment, offering users opportunities for collaboration, learning, and personalization. Additionally, the project's commitment to cross-platform compatibility ensures that its benefits are accessible to a wide audience, regardless of their device or platform preferences.

Looking ahead, the project holds immense potential for further growth and development. By embracing user feedback, leveraging analytics insights, and continuing to push the boundaries of AR/VR technology, future iterations of the project can aspire to even greater heights of innovation and impact.

In summary, this project stands as a testament to the transformative power of augmented and virtual reality, reshaping the landscape of interactive experiences and paving the way for a future where the boundaries between reality and imagination are increasingly blurred.

Your attention and support are greatly appreciated. Let's collaborate to craft something truly remarkable.