Lab no 3

Animate a bouncing ball using Adobe Animate

Objective: To create a animation of a bouncing ball using Adobe Animate, demonstrating principls of motion, timing, and squash and stretch effects

Materials: Adobe Animate Software

Steps:

1. Create a ball
   - Open Adobe Animate and create a new project with appropriate stage dirension.
   - Use Oval tool to draw a circle that represents the ball that represents the ball is centered on the stage.

2. Add layers
   - Create separate layers for the ball and the ground. This will help in organizing the animation and applying effects separately

3. Set up Motion
   - Convert the Ball to a symbol by selecting it and pressing 'F8'.
   - Creak a keyframe where the ball starts at the top of stage. Insert another keyframe at the point where the ball shall touch

4. Animate the Ball
   - Use the 'classic Tween' to animate the ball's motion from the top to the ground. Adjust the motion path to represent a realistic bounce.
   - Add additional keyframe and adjust the motion path to create a subsequent bounces, decreasing the height in each bounce.

5. Apply Squash and Stretch
   - Add a keyframe at the point of contact with ground and manually squash the ball to create a realistic impact effect.
   - Stretch the ball as it rise after each bound to enhance the sense of speed and energy

6. Adjust Timing
   - Modifing the timing between keyframes to achieve natural motion, considering gravity and deceleration.

7. Add Background and Final Touches
   - Draw or import a background at separate layer
   - Add any ornament to animation

8. Test and Export
   - Preview the animation to ensure smooth motion and timing
   - Export the final animation in appropriate format.

Discussion

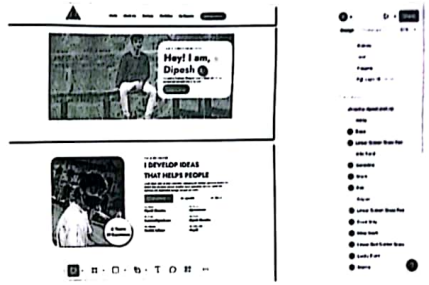
In this lab we created a bouncing ball animation using Adobe Animate. We began by designing the ball and the ball motion was animated using keyframes and classic tweens. The squash and stretch technique was applied to simulate the physical effect of impact and rebound. Adjustments were made and to timing to enhance realism and complete the animation

Conclusion

Thus, this lab helps us how to apply key animation principles, such as motion, timing, and squash. The outcome was a smooth and real like bouncing ball animation, demonstrating our understanding of the essential concepts in Adobe Animate.

OUTPUT

OUTPUT



Discussion

In this lab, we used Figma to design custom projects. We set up the file, created a layout, added and styled elements, and used text and components. The design was reviewed and refined. The process demonstrated the practical application of design tools and principles in Figma

Conclusion

Thus, this lab effectively showcased Figma's capabilities for creating custom design. We learned to use design tools to produce quality results, with the final design reflecting a clear understanding of layout, styling and interactivity.

Lab no 9

Create your own design using Figma

Objectives:

To use Figma to create custom design, applying various design tools and techniques to acheive a polished and professional result

Steps

1) Set Up File
   - Open Figma, create a new file, and set your canvas size or frame.
2) Create Layout
   - Use the frame tool to define your design layout and add grids for alignment
3) Add Elements
   - Use a shape tools to create elements and style them with colors, gradients or borders, Import images or icons as needed.
4) Add Text
   - Insert text boxes, choose fonts and styles, and adjust alignment and spacing.
5) Create Components:
   - Design reusable components (e.g buttons) and add interaction if required.
6) Review and Refine
   - Chek for consistency and make adjustments based on feed back.
7) Export Designs
   - Export your design in desired format with

newNode = Node(left.freq + right.freq, right.symbol, left, right)
heapq.heappush(nodes, newNode)

print("\nHuffman Codes:")
printNodes(nodes[0])

OUTPUT

Discussion

We implemented Huffman encoding
frequency-based binary tree to assign vari
codes to characters. This process inclu
calculation, tree construction and code
The resulting compressed data was ma
the effectiveness of Huffman encoding.

Conclusion

Thus, this shows Huffman encoding e
data based on character frequencies.
implement. The algorithm in python and
highlighted the ability to reduce
through variable length encoding.

Lab no 1:

Removing the background noise from recorded voice signal audio file.

Objective: To remove the background noise from a recorded voice signal using audacity and analyze the result.

Materials: Audacity software, Recorded voice signal audio file (with background noise.

Steps:

1) Import Audio File
   - Go to File > Open and select the recorded voice signal audio file.
2) Select a Noise Profile
   - Identify and highlight the segment of audio that contains only background noise using Selection tool (I-beam icon)
   - Go to Effect > Noise Reduction
   - Click get Noise Profile.
3) Apply Noise Reduction
   - Select the entire track by Select > All (Ctrl+A)
   - Go to Effect > Noise Reduction again (Ctrl+R)
   - Set the Noise Reduction (dB), Sensitivity and Frequency Smoothing. You can start with default and adjust as necessary
   - Click Ok to apply the noise reduction
4) Listen and Fine-Tune
   - Play the audio to check the quality.
   - If necessary, repeat noise reduction process with adjusted setting until desired quality is achieved
5) Save the Cleaned Audio
   - Go to file > Export and choose the desired format (e.g WAV, MP3)

Discussion:

In this lab, we used Audacity to remove background noise from a recorded audio signal. The process involved selecting

removal with voice clarity

2) Result

and effective tool for this purpose. Through this lab, we learned the steps to perform noise reduction and importance of fine-tuning the settings to acheive the best results.

Lab no 2:

Mixing the two audio files together

Objective: To mix the two audio files together and analyze the results.

Materials: Audacity software, Two audio files to be mixed.

Steps:

1) Import Audio Files
   - Go to File > Import > Audio and select the first audio File.
   - Repeat the process to import second audio file
2) Align Tracks
   - Use Time shift tool (older version) to align tracks as desired. (In newer version). Hold on top of waveform and drag the clip to align as you need
3) Adjust Volume Levels
   - Use the slider on the leftside of each track to balance the volume levels.
4) Mix and Render
   - Go to Tracks > Mix > Mix and Render. This will combine the tracks into one
5) Export the Mixed Audio.
   - Go to File > Export and choose the desired format (e.g. WAV, MP3)

Discussion

In this lab we mixed two audio files together using