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A04 Image Processing Adventure Quest

ITAI 1378 Comp Vision-Artificial Intelligence

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## **Reflection on Image Processing Adventure Quest**

### **INTRODUCTION:**

This project focused on understanding how pixels form digital images and how different color models represent these images. Pixels are the smallest unit of a digital image, and they work together to create visuals on screens. Different color models define how these pixels combine to produce colors:

- RGB (Red, Green, Blue) is used in screens where colors are formed by mixing light.
- HSV (Hue, Saturation, Value) is commonly used in design because it allows better manipulation of colors.
- CMYK (Cyan, Magenta, Yellow, Black) is used in printing, where colors are created by mixing ink.

To explore these concepts creatively, I developed a short story comic strip featuring a character (Pixie) traveling through these color realms. Using story-boards.ai, I created a visual representation of Pixie's journey and later transformed it into an animated video using Invideo.

### **APPROACH TO THE CHALLENGE:**

To bring this concept to life:

**Story Development:** I started with a structured script featuring Pixie's journey through different color models, ensuring an educational yet entertaining experience.

**Storyboard Creation:** Using story-boards.ai, I visually mapped out each scene, depicting Pixie's interaction with color models. However, the platform had limited free resources, making the process challenging.

**Video Creation:** After completing the comic, I used Invideo to animate Pixie's adventure.

This required careful scene transitions, text-to-speech narration, and visual effects to illustrate concepts dynamically. It could not map my animated storybook version due to limited free resources but came near to somewhat my story line.

### **WHAT I LEARNED:**

**Conceptual Understanding:** Breaking down models into a storytelling format deepened my understanding of how different models function in screens, design, and printing.

**Creative Problem-Solving:** Due to limited free tools, I had to experiment with various platforms and techniques to achieve the best output. However, I was able to deliver and depict something nearer to my framework.

**Practical Application:** This project demonstrated how image processing principles can be explained through visual storytelling, making complex topics more accessible.

### **CONCLUSION:**

This adventure quest was both educational and challenging, combining technical knowledge with creative expression. Overcoming tool limitations and animation difficulties made this experience more rewarding. If I were to improve it, I would explore more advanced animation tools and refine the character interactions for a more immersive learning journey. This was my first experience and it has motivated to develop storybooks for my toddler.

### **CITATIONS:**

<https://www.geeksforgeeks.org/difference-between-rgb-cmyk-hsv-and-yiq-color-models/>

<https://intelgic.com/what-is-pixel-in-digital-images>

<https://medium.com/@DIYCoding/color-models-in-image-processing-understanding-rgb-and-hsv-for-computer-vision-a629641cdc40>

Storyboard tool: <https://story-boards.ai>

Video tool: <https://invideo.io>