SYNOPSIS : IPMV CA 23-24

PROJECT NAME(Group Number)	Recreate Zoopraxiscope and bitmap raster image (Group No:7)

ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Vivekanand Education Society's Institute of Technology

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SEM/Year/CAY	VI/TE/2023-24
Problem Statement (Initial Goal)	We aim to successfully recreate Zoopraxiscope and bitmap raster images in today's environment with modified methods but no shortcuts.
OBJECTIVE(s)	1. Achieve accurate reconstruction of the Zoopraxiscope and bitmap raster images using contemporary techniques. 2. Ensure adherence to historical authenticity while implementing modern methodologies. 3. Avoid shortcuts and prioritize thoroughness in the recreation process. 4. Optimize functionality and usability of the recreated devices for compatibility with today's environment.

SPECIFIC:	The aim of this project is to : 1. Achieve accurate reconstruction of the Zoopraxiscope and bitmap raster images using contemporary techniques. 2. Ensure adherence to historical authenticity while implementing modern methodologies. 3. Avoid shortcuts and prioritize thoroughness in the recreation process. 4. Optimize functionality and usability of the recreated devices for compatibility with today's environment. We are a team of 4 (Bhakti Daga, Nirmiti Mongane, Parul Pritamwani, Sanika Pawar) working on this project.
MEASURABLE:	The measurable end result of this project will be the accurate recreation of the Zoopraxiscope and bitmap raster images using modern methods, ensuring authenticity and quality without taking any shortcuts.
ACHIEVABLE:	Achieving the successful recreation of the Zoopraxiscope and bitmap raster images in today's environment requires meticulous planning, access to necessary resources, and the utilization of both modern technology and historical knowledge. Key steps include careful selection of materials, thorough research into historical techniques, and the use of contemporary design software for accurate replication.
RELEVANT:	Recreating the Zoopraxiscope and bitmap raster images aligns with the preservation of historical innovation through modern technological advancements.

Introduction :

Our project aims to recreate the Zoopraxiscope and bitmap raster images using contemporary methodologies while respecting their historical significance. By merging modern technology with insights from the past, we strive to revive these iconic inventions in today's digital realm, preserving their cultural heritage for posterity.

Description:

<u>Zoopraxiscope:</u>

Steps to be taken for Zoopraxiscope:

1. Create an image circle containing 3 phases (back leg of horse || still body of horse || front leg of horse).
2. Take a glass with a hole in it that will be smaller than the paper size.
3. Get a ready-made motor set to fix.

Flow chart of Zoopraxiscope :

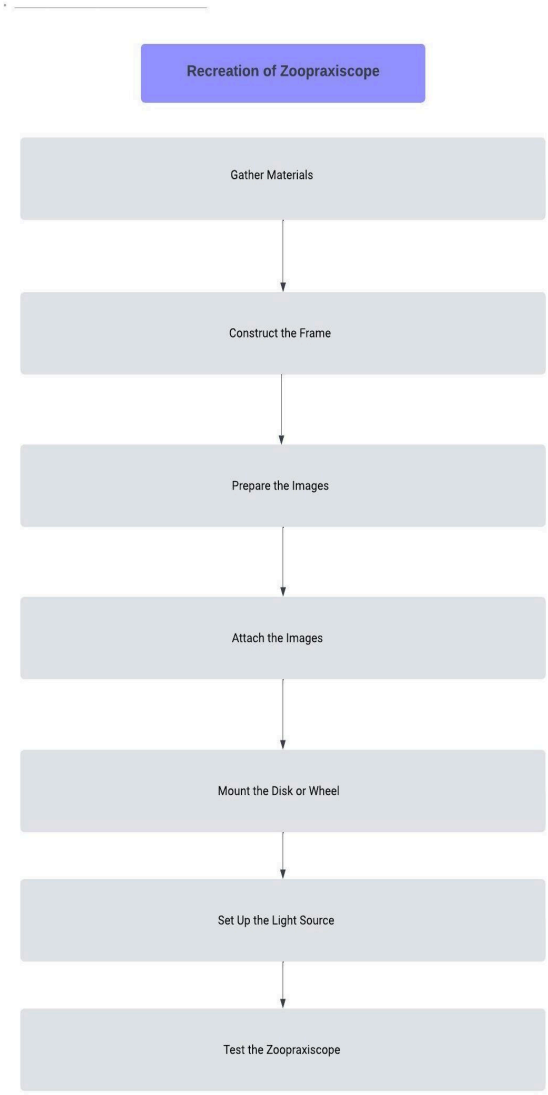


Fig. Flowchart of Zoopraxiscope

A zoopraxiscope is an early device for displaying moving pictures and essentially an early form of animation projector. Here are the basic steps to make a simple zoopraxiscope:

1. Gather Materials:
    - Cardboard or wood for the main frame.
    - Thin cardboard or paper for the strips with images.
    - Pins or thumbtacks.
    - A light source (like a flashlight or a small lamp).
    - A round disk or wheel (can be made of cardboard or wood).

- A motor (if you want to automate the rotation).

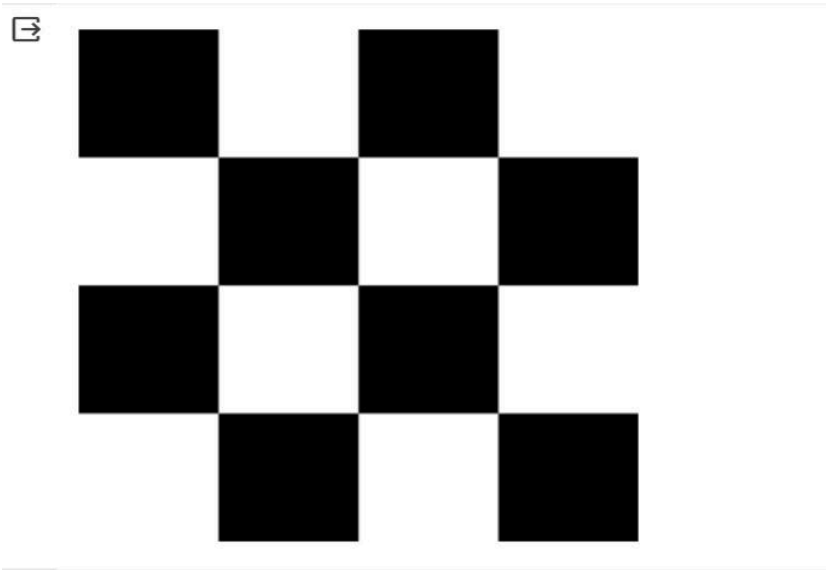
2. Construct the Frame:
    - Cut out a rectangular piece of cardboard or wood for the base.
    - Attach two upright supports to the base to hold the rotating disk or wheel.
    - Make sure the supports are tall enough to allow space for the images to be projected.
3. Prepare the Images:
    - Draw or print a series of images on thin cardboard or paper.
    - Each image should depict a slight progression of movement. For example, if you're animating a galloping horse, each image would show the horse in a slightly different position.
    - Make sure the images are evenly spaced and sized to fit on the rotating disk or wheel.
4. Attach the Images:
    - Attach the images evenly around the edge of the rotating disk or wheel.
    - You can use pins or thumbtacks to secure the images in place.
    - Make sure the images are spaced out evenly and securely attached.
5. Mount the Disk or Wheel:
    - Attach the rotating disk or wheel to the supports on the frame.
    - Ensure that it can spin freely without obstruction.
6. Set Up the Light Source:
    - Position your light source (flashlight or lamp) behind the rotating disk or wheel.
    - Make sure the light shines through the images as they spin.
7. Test the Zoopraxiscope:
    - Turn on the light source and spin the disk or wheel manually.
    - Watch as the images are projected onto a nearby surface.
    - Adjust the speed of rotation and the distance between the light source and the disk to achieve the best results.

<u>Bitmap Raster Images:</u>

1. Conducting thorough research on the original bitmap raster images, including their construction, operation, and historical context.
2. Analyzing existing examples and documentation to understand the principles behind their design and functionality.
3. Use the gathered knowledge to design and prototype the bitmap raster images using modern design software and manufacturing tools. Pay close attention to detail to ensure authenticity while incorporating any necessary modifications to improve performance or usability.
4. The Python code generates a 200x200 pixel bitmap image featuring a checkerboard pattern using the Python Imaging Library (PIL). Through iterative pixel manipulation, alternating black and white colors are assigned to create the checkerboard effect. The resulting bitmap image visually demonstrates the pattern without direct mention of its bitmap nature, showcasing a classic checkerboard motif. Finally, Matplotlib is employed to display the image,

enhancing its visualization without axis labels.

Results of Recreation of Bitmap Raster Images:



Mentor Name & Signature with date: