DIGITAL IMAGING
Image development on different Graphic Software

Diploma in Multimedia and Animation (DMA)

DMA-02
BLOCK-3
Digital Imaging

Block – III: Image Development on different Graphic software

Odisha State Open University
Digital Imaging

This course has been developed with the support of the Commonwealth of Learning (COL). COL is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.

Odisha State Open University, Sambalpur (OSOU) is the first Open and Distance learning institution in the State of Odisha, where students can pursue their studies through Open and Distance Learning (ODL) methodologies. Degrees, Diplomas, or Certificates awarded by OSOU are treated as equivalent to the degrees, diplomas, or certificates awarded by other national universities in India by the University Grants Commission.

© 2018 by the Commonwealth of Learning and Odisha State Open University. Except where otherwise noted, Digital Imaging is made available under Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0) License: https://creativecommons.org/licenses/by-sa/4.0/legalcode

For the avoidance of doubt, by applying this license the Commonwealth of Learning does not waive any privileges or immunities from claims that it may be entitled to assert, nor does the Commonwealth of Learning submit itself to the jurisdiction, courts, legal processes or laws of any jurisdiction. The ideas and opinions expressed in this publication are those of the author/s; they are not necessarily those of Commonwealth of Learning and do not commit the organisation.
Acknowledgements

The Odisha State Open University and COL, Canada wishes to thank those Resource Persons below for their contribution to this DMA-02:

Concept / Advisor

Dr. Srikant Mohapatra  
Vice-Chancellor  
Odisha State Open University, Sambalpur

Course Writer

R. Mohana Sundaram  
Creative Director  
Jai Ram Institute of Visual Academy, Khurda, Odisha  
Guest Faculty, National Institute of Fashion Technology (NIFT), Bhubaneswar

Course Editor

Dr Bhupesh Little  
Assistant Professor, Applied Art at University of Lucknow

Video Production

Sanjay Kumar Sahoo  
Manager, Corporate Communication, JSW Steel Ltd.

Simple Sujata Mishra  
Lecture, Deptt. Journalism and Mass Communication, NISWAS

Published by:

Dr. Jayanta Kar Sharma  
Registrar on behalf of Odisha State Open University, Sambalpur

Contribution of following staff members of Odisha State Open University is acknowledged:

- Sambit Mishra
- Debidatta Behera
- Prashansa Das
- Radhakanta Suna

OSOU and COL acknowledge the support extended by Prof. Madhu Parhar, STRIDE, IGNOU, New Delhi in conducting several workshops in the process of preparation of course material for DMA.
# Contents

## Course Overview

- Welcome to Image Development on different Graphic Software ........................................ 3
- Introduction to Krita ........................................................................................................... 3
- Familiarization to Inkscape ............................................................................................... 3
- Illustration and Vector Design using Inkscape ................................................................. 4
- Professional Projects ........................................................................................................ 4
- Course outcomes ............................................................................................................... 4
- Timeframe ......................................................................................................................... 5
- Study skills ....................................................................................................................... 5
- Need help? ......................................................................................................................... 6
- Assignments ..................................................................................................................... 6
- Assessments ..................................................................................................................... 7
- Video Resources .............................................................................................................. 7

## Getting around this Course material

- Margin icons .................................................................................................................. 8

## Unit-1

- Introduction to Krita ....................................................................................................... 9
- Introduction ...................................................................................................................... 9
- Outcomes ........................................................................................................................ 9
- Terminology ..................................................................................................................... 10
- Use of Krita ..................................................................................................................... 10
- Job Prospects after learning Krita .................................................................................. 11
- Tools of Krita .................................................................................................................. 11
- Menu Bars of Krita ........................................................................................................ 34
- Summary ........................................................................................................................ 61
- Assignments ................................................................................................................... 61
- Assessment ..................................................................................................................... 62
- Resources ....................................................................................................................... 62

## Unit 2

- Familiarization to Inkscape ........................................................................................... 63
- Introduction ...................................................................................................................... 63
- Outcomes ........................................................................................................................ 63
- Terminology ..................................................................................................................... 64
- A Brief History of Designing .......................................................................................... 64
- Tools of Inkscape .......................................................................................................... 64
- File Menu ....................................................................................................................... 87
| Contents |
|------------------|--------|
| Edit Menu .................................................. | 96     |
| Duplicate .................................................... | 101    |
| Delete .......................................................... | 103    |
| Create Guides around the page .................................. | 105    |
| View Menu ...................................................... | 107    |
| Unit Summary .................................................. | 112    |
| Assessment ..................................................... | 112    |
| Assignment ..................................................... | 112    |
| Resources ........................................................ | 113    |

**Unit 3**

| Introduction .................................................. | 114    |
| Outcomes ....................................................... | 114    |
| Terminology .................................................... | 115    |
| Menu Bars of Inkscape .......................................... | 115    |
| Object Menu ..................................................... | 120    |
| Path Menu ........................................................ | 145    |
| Text Menu ........................................................ | 155    |
| Filters Menu ..................................................... | 158    |
| Extension Menu .................................................. | 159    |
| Unit Summary .................................................... | 160    |
| Assignment ........................................................ | 160    |
| Assessment ....................................................... | 160    |
| Resources ........................................................ | 161    |

**Unit 4**

| Professional Projects ............................................. | 162    |
| Introduction ..................................................... | 162    |
| Outcomes .......................................................... | 162    |
| Terminology ........................................................ | 163    |
| Creating a 3D ball using Krita .................................. | 163    |
| Create a 3D button using Krita .................................. | 165    |
| Create a Pen design using Krita .................................. | 168    |
| Create a Jewellery Design using Krita ........................ | 172    |
| Create a Digital Painting using Krita .......................... | 173    |
| Create a Greeting Card Design using Krita ...................... | 177    |
| Create a Visiting Card Design using Krita ........................ | 188    |
| Unit summary ..................................................... | 194    |
| Assignment ........................................................ | 194    |
| Assessment ........................................................ | 194    |
| Resources .......................................................... | 195    |
Course Overview

Welcome to Image Development on different Graphic Software

In this block, you are going to study about the software and tools and techniques used in the software to create a Graphic Design. The design works which used to be done manually in the old era, using pencil, paint and brush, are being replaced by modern computers on which we can draw or make anything with the help of different software. Now the computer hard disk works as the canvas and software work as various types of paints, pencil or charcoal.

You will learn about different kinds of professional project works which are done in the industry using these software.

Introduction to Krita

This course is intended for people who want to create Digital Design using Computer software. Krita is an open software Graphic Design software with the help of which a person can create excellent designs and showcase them in his/her portfolio. As it is open source software any person can download it from the internet for free of cost and use it for learning.

Familiarization to Inkscape

This course is intended for people who want to create designs using shapes, text and images. This software specialises in creating Vector type of designs which are used mostly in professional works today. You can create texture designs, logo designs and any type of scalable designs using this software – Inkscape.
Illustration and Vector Design using Inkscape

This course is intended for people who want to create illustrations using vector based software. Inkscape offers different varieties of tools and features with the help of which you can create a neat and clean design with perfect measurement and alignment. There are also lots of in-built designs in the software which you can use and create outputs.

Professional Projects

This course is intended for people who want to get their hands on live and professional projects. Whenever you see a design on any place, it creates curiosity in you to create those kinds of designs. This unit will teach you to create professional projects with each and every step explained in a detailed manner.

This video will provide a brief overview of this course.

<table>
<thead>
<tr>
<th>Topic</th>
<th>YouTube link</th>
<th>QR Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>UI and Features</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Course outcomes

Upon completion of Image development on different graphic software you will be able to:
**Outcomes**

- *Describe* the tools and features of Krita – a Graphic Design Software
- *Work* on Inkscape – a Vector Based Graphic Design Software
- *Learn* about creating illustrations using Inkscape.
- *Create* Professional Projects using Open Source Graphic Design Software’s.
- *Get acquainted* with the steps used for creating Project works.

**Timeframe**

This course will be completed within “1” classes.
This course is of “1” credits.
2 Hours of study time is required for this unit.

**Study skills**

This is a combination of theory and practical.
Hence, you should have access to personal computer or personal laptop for better understanding of this unit.

Each and every option is explained step by step in the course material.

Apart from this course material, the learner has to adopt the tendency of learning from multiple other sources too e.g.,

(a) *Internet tutorials*

(b) *Video tutorials on YouTube and other such sites containing tutorials*
(c) **Collaboration with people working in the industry etc.**

Only classroom study will not make you a professional. You have to be active to grab the opportunity of learning wherever you get a chance.

---

**Need help?**

In case of any help needed you can browse the internet sites like youtube.com for video tutorials about the subject.

Apart from that, you can contact the writer of this course material at jsrv2004@gmail.com.

---

**Assignments**

There will be some assignments at the end of each unit.

These assignments are mostly practical based and should be submitted in CD or DVD. Theoretical assignments are to be submitted neatly written on A4 size sheet.

All assignments will be submitted to respective study centre of Odisha State Open University or as directed by Co-ordinator.

All assignments should be unit wise on separate CD/DVDs clearly mentioning course title and unit on Top. Theoretical Assignment will be neatly filed or spiral bind with cover clearly mentioning necessary information of course, student details on top.
Assessments

There will be “1” assessments for each unit.

All practical assessment will be submitted to OSOU.

Assessment will take place once at the end of each unit.

Learner will be allowed to complete the assessment within stipulated time frame given by the university.

Video Resources

This study material comes with additional online resources in the form of videos. As videos puts in human element to e-learning at the same time demonstrating the concepts visually also improves the overall learning experience.

You can download any QR code reader from Google Play to view the videos embedded in the course or type the URL on a web browser.
Getting around this Course material

Margin icons

While working through this Course material you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task or change in activity; they have been included to help you to find your way around this Course material.

A complete icon set is shown below. We suggest that you familiarize yourself with the icons and their meaning before starting your study.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Assessment</th>
<th>Assignment</th>
<th>Case study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>Group activity</td>
<td>Help</td>
<td>Note it!</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Reading</td>
<td>Reflection</td>
<td>Study skills</td>
</tr>
<tr>
<td>Summary</td>
<td>Terminology</td>
<td>Time</td>
<td>Tip</td>
</tr>
</tbody>
</table>
Unit-1

Introduction to Krita

Introduction

Open source software’s mean the software’s which are developed by a group of software developers and provide for free on the internet. Anyone can download the software from the internet and use it without paying. It has got all the capabilities and options of professional software which makes it very much useful to the user. In today’s life designing and image editing has become a requirement for each and every person. Everyone wants to make their own design whether it is a book cover design, a profile design for their social networking sites, a greeting card design and so on. People want to create their own custom oriented designs.

Krita is open source software which is used for Image Editing. It is very easy software for learners to download and learn. In this unit you will learn about this open source software, which is Image Editing software.

Outcomes

Upon completion of this unit you will be able to:

- Use the tools and techniques of Krita software.
- Identify the Menu Bar options of Krita.
- Create designs using Krita.
Terminology

**Krita:** Open source software for Image Editing.

**Interface:** The look or design of software in which the tools and features are arranged in a systematic manner.

**Menu bar:** Top most panel of any software where we have File, Edit, etc.

**Shortcut Keys:** The keys used to execute commands.

Use of Krita

Krita can be used for creating almost all types of designs. It is the choice of the user to design in Krita or in any other software. It is the user friendly interface and ease in using the tools which attracts the person towards the software. Krita can be used for the following purposes categorically:

- **Image Processing**
  - Mixing Photographs
  - Retouching & Cleaning Old and Damaged Photographs
  - Converting Black & White Photo to Colour

- **Design**
  - Digital Painting
  - Cover Design
  - Banners
  - Logo Design
  - Leaflets and Brochures
  - Stickers
  - Card Design
  - Visiting Card
  - Identity Card
There are unlimited types of designs which can be made using Krita. It is the creativity and idea of the user on how to use the software.

**Job Prospects after learning Krita**

There are lots of Job Prospects after learning designing in Krita. These are the following categories and Places where different types of designing are done:

- Advertising Agencies
- Textile Designing Agencies
- Illustration / Book / Magazine Publishing Industries
- Designing for Webpage Interfaces
- Designing for Software Interfaces

Practice the Practical tools point wise as mentioned.

**Tools of Krita**

**Freehand Brush Tool [Shortcut – B]**

- File – New
- Image Size – Predefined – A4 Size (300 ppi (pixels per inch))
- Choose the Freehand Brush Tool
- Left Click and Drag on the Screen roughly
- Change the colour.
  - Change the Upper Colour for drawing with that colour on the screen.
- Left Click and Drag on the Screen

**Change the Brush Shape and Size**

- Select from the pre-defined Brush as above.

**Edit Brush Settings**

- Diameter: 36.00 px
- Ratio: 1.00
- Fade:
  - Horizontal: 0.50
  - Vertical: 0.90
- Angle: 90°
- Spikes: 2
- Randomness: 0
• Change the options one by one and create a trial on the white screen which is on the right hand side.
• After choosing the right kind of brush and being satisfied that it is the brush you want for a particular type of effect, click outside and starting drawing on your main board.

**Brush Engines**

- **Pixel**
  - Select this in default settings of brushes.
  - Choose the Brush
  - Left Click and drag on the screen.

- **Color Smudge**
  - Choose the Brush
  - Left Click and Drag on the screen

- **Quick Brush**
  - Choose the Brush
  - Left Click and Drag on the screen
Unit-1 Introduction to Krita

**Sketch**
- Choose the Brush
- Left Click and Drag on the screen

**Bristle**
- Choose the Brush
- Left Click and Drag on the screen

**Shape**
- Choose the Brush
- Left Click and Drag on the screen

**Spray**
- Choose the Brush
- Left Click and Drag on the screen
• Choose the Brush
• Left Click and Drag on the screen

Hatching

• Choose the Brush
• Left Click and Drag on the screen

Grid

• Choose the Brush
• Left Click and Drag on the screen

Curve

• Choose the Brush
• Left Click and Drag on the screen

Dyna
Choose the Brush

Left Click and Drag on the screen

Clone Stamp is used to clean damaged portions of a photograph, cleaning of patches on the faces etc.

Open a Photo with patches on face.

Hold Ctrl and Click on a Good Place
Click and Drag on the affected area.
You have to Ctrl and click on the place which is similar to the affected area so that the pasted portion completely matches and looks natural.

A completed cleaning of the above photo is shown.

<table>
<thead>
<tr>
<th>BEFORE</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Screenshot" /></td>
<td><img src="image2.png" alt="Screenshot" /></td>
</tr>
</tbody>
</table>

Create any shape or design on the screen. For i.e. a filled Rectangle Shape.

Choose the Free Hand Tool – Deform Brush.

Choose the desired brush.

Change the settings one by one and click and drag over the rectangle.

It will deform the shape as per the click.

This tools is used to draw in multiple colours.
Unit-1 Introduction to Krita

- Choose the desired brush.

- Click and drag on screen.

- Open a Photo or Image
  - Choose the Freehand Brush Tool – Filter Brush
  - Choose the Filter

- Click and drag on the photo to apply the filter on the dragged area.

- Choose the Brush

- Left Click and Drag on the screen

- Line Tool
  - Click and drag on the screen
  - Change the Size
  - Hold Shift and Drag to draw straight lines
Rectangle Tool

- Click and drag on the screen
- Click and drag on the screen + Hold Shift to draw perfect squares.
- Choose from the Tool Options to define Fill and Outline properties.

Ellipse Tool

- Click and drag on the screen
- Click and drag on the screen + Hold Shift to draw perfect circle.

Polygon Tool

- Left click on the screen on the required end points of the polygon.
- Hold Shift + Click to end the polygon
Polyl ine Tool
- Left click on the screen on the required end points of the polyline.
- Double click to end the Polyline

Be zier Curve Tool
- Left click on the screen on the required end points of the Bezier Curve.
- Left click and drag to create a smooth edge
- Double click to end the Bezier Curve

Fre ehand Path Tool
- Left click and drag on the screen as a freehand paint tool.
Dynamic Brush Tool

- Tool Options – Increase the Mass to 0.10

- Click and Drag on the screen

Multi Brush Tool

- Choose from the Tool options

- Click and Drag on screen
- If you draw once, it will create 4 symmetrical copies
Transform a Layer Tool

- File – Open – Open a Photo
- Rectangular Selection Tool

Title: Globe
Attribution: qimono (User name as per pixabay)
Source: Pixabay

- Select a portion of the photo
- File – New – A4 Size
- Edit – Paste
- Transform a Layer Tool
- Tool Options

- Click and Drag from the corners to adjust the image
- Change the Tool Options as required.

<table>
<thead>
<tr>
<th>Position Settings</th>
<th>Rotation Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Position Settings" /></td>
<td><img src="image" alt="Rotation Settings" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale Settings</th>
<th>Shear Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Scale Settings" /></td>
<td><img src="image" alt="Shear Settings" /></td>
</tr>
</tbody>
</table>

- Mirror Vertical, Mirror, Horizontal, Rotate 90 degree CW, Rotate 90 degree CCW

---

**Move Tool**

- File – Open – Open a Photo
Rectangular Selection Tool

- Select a portion of the photo
- File – New – A4 Size
- Edit – Paste
- Move Tool
- Move and Place at the required place.
- Copy and 4 different images from different files in a single file.

Tool Options

- Move Current Layer – It will move the layer which is selected in the layer list.
- Move layer with content – It will automatically select the layer when the image on the layer is clicked on the drawing screen. We can select any image and move without going to the layer box to select the layer.
- Move the whole group – It will select the total group of the layer selected if any.

Crop Tool

- File – Open
Title: Building
Attribution: Mabelamber (User name as per pixabay)
Source: Pixabay

- Crop Tool
- Click and drag on the area you want to keep.

- Press Enter
- It will crop the selected area and delete the remaining part of the image.

Gradient Tool

- File – New – A4 Size
- Gradient Tool
- Choose the Gradient Style –
Unit 1 Introduction to Krita

- Click on “Edit” -

- Click on the Marker, Change the Colour
- Click in between to Add Marker
- Right click on the marker to delete.
- Change the opacity as required.
- Tool Options

- Change the Shape
**Colour Selector Tool**

- File – Open
- Choose the Colour Selector Tool
- Click on any colour on the screen.
- The colour will get selected.

**Fill Tool**

- File – New – A4 Size
- Rectangular Selection Tool
- Select an area
- Fill Tool
- Choose the colour
- Click on the selected area
- The selected area will fill with the selected colour.

**Assistant Tool**

- It is used as an Assistant while drawing to know the straight line, perspective, guidelines etc.
- Tool Options
- Choose the type of assistant needed.

- Click and drag on screen
- The displayed design will not appear in the printout. It is for reference purpose only.
Measure Tool

- It is used to Measure the distance and angle.
- Click and drag on the screen

[Screenshot]

- The output will be displayed in the Tool options.

[Screenshot]

Selection Tools

- Selection Tools are used to select a particular area for the purpose of copying, deleting, filling with colour and moving.

Rectangular Selection Tool
- File – New – A4 Size
- Select an Area

- Shift + Backspace – Fill with Foreground colour

**Elliptical Selection Tool**
- File – New – A4 Size
- Select an Area

- Shift + Backspace – Fill with Foreground colour

**Polygon Selection Tool**
- File – New – A4 Size
- Select an Area
Outline Selection Tool

- File – New – A4 Size
- Select an Area

- Shift + Backspace – Fill with Foreground colour
Contiguous Selection Tool

- File – Open an Image with a flat colour in the background.
- Title: Parrot
- Attribution: christels (User name as per pixabay)
- Source: Pixabay
- Contiguous Selection Tool
- Click on the Blue Colour
- It will select the Blue colours all over
- Select Menu – Invert Selection
- Edit – Copy
- File – New – A4 Size
- Edit - Paste

Similar Colour Selection Tool

- It will select the similar colours on the screen

Bezier Curve Selection Tool

- File – New – A4 Size
- Select an Area
- Shift + Backspace – Fill with Foreground colour
Selection Tool Options

Addition

- File – New – A4 Size
- Rectangular Selection Tool
- Click and drag on screen
- Elliptical Selection Tool
- Tool Options – Addition
- Click and Drag on screen

Subtraction

- File – New – A4 Size
- Rectangular Selection Tool
- Click and drag on screen
- Elliptical Selection Tool
- Tool Options – Subtraction
- Click and Drag on screen

Intersection

- File – New – A4 Size
- Rectangular Selection Tool
  - Click and drag on screen
- Elliptical Selection Tool
  - Tool Options – Intersection
  - Click and Drag on screen

Zoom Tool

- It will zoom the clicked area.
- Scroll the Mouse using Scroll Button

Pan Tool

- It will Pan the selected area
- Hold Space Bar and Click and drag on the screen.
Menu Bars of Krita

Edit Menu

Undo

- It is used to undo the command or tool used.
- We can set the number of undo’s under Settings – Configure Krita – General – Miscellaneous – Undo Stack Size. By default it is 30 times.

PRACTICAL
- File – New – A4 Size
- Choose a Brush tool
- Click and Drag on the screen 30 times.
- Edit – Undo (Ctrl + Z is the shortcut of Undo)

Redo

- Once the Edit – Undo is done, you can use the Redo immediately to cancel the Undo. It has to be used immediately after doing the Undo. If you do some other work after Undo, then the Redo won’t work.

PRACTICAL
- File – New – A4 Size
- Choose the Brush Tool
- Click and Drag on the Screen One time.
- Edit – Undo [The subject drawn will get erased]
- Edit – Redo [It will bring back the erased subject]
- It will work on most of the tools and commands.

Cut Command – Paste Command

- File – Open a Photo
Choose any Selection Tool. For i.e. Rectangular Selection Tool
Select an area.
Edit – Cut [ It will delete the selected area ]
File – Open Another File
Edit – Paste [ It will paste the cut area here ]
File – New – A4 size
Edit – Paste [ We can paste the cut subject anywhere and as many times as we want ]

Copy Command – Paste Command

File – Open a Photo
Choose any Selection Tool. For i.e. Rectangular Selection Tool
Select an area.
Edit – Copy [ It will copy the selected area ]
File – Open Another File
Edit – Paste [ It will paste the cut area here ]
File – New – A4 size
Edit – Paste [ We can paste the cut subject anywhere and as many times as we want ]

Cut (Sharp) – The Process is same as Cut, but the edges will be sharp.

Copy (Sharp) – The Process is same as Copy, but the edges will be sharp.

Copy Merged Command – Paste Command

File – New – A4 Size
Create a Filled Rectangle.
New Layer
Create another Filled Rectangle.
New Layer
Create a Filled Circle.
New Layer
Create another Filled Circle.
Rectangular Selection Tool
Select an area covering all the shapes.

Edit – Copy Merged
File – New – A4 size
Edit – Paste
It will paste all the shapes in a single layer.
This process is applicable for photos in different layers also.

Paste into New Image

File – Open a Photo
Rectangular Selection Tool
Select an area
Edit – Copy
Edit – Paste into New Image
It will paste the copied section into a New file.

Clear

File – Open a Photo
Rectangular Selection Tool
Select an Area
Edit – Clear
It will delete the selected area.

Fill with foreground colour

File – New – A4 Size
Choose the Foreground Colour
- Rectangular Selection Tool
- Select an Area

- Edit - Fill with Foreground colour [Shift + Backspace]

**Fill with background colour**

- File – New – A4 Size

- Choose the Foreground Colour

- Rectangular Selection Tool
- Select an Area

- Edit - Fill with Background colour [Backspace]

**Fill with Pattern**

- File – New – A4 Size
- Choose the Pattern
Rectangular Selection Tool
Select an Area

Edit - Fill with Pattern

Stroke Selected Shapes
File – New – A4 size
New Layer - Vector Layer
• Create a Rectangle Shape.
• Click and Drag on screen

![Rectangle Shape](image)

• Choose the Path Editing Tool
• Click on the Rectangle
• Edit – Stroke Selected Shapes
• It will create a new layer with the border of the shape.

![Stroke Selection](image)

**Stroke Selection**

• File – New – A4 Size
• [Rectangular Selection Tool](image)
• Select an Area

![Shape Manipulation Tool](image)

• Shape Manipulation Tool
• Tool Options – Choose the type of stroke wanted.
Introduction to Krita

- Edit – Stroke Selection

View Menu

Show Canvas Only [Tab]
It will show the Canvas only in Full View

Full Screen Mode
It will show the Canvas in Full Screen view without any options

Wrap Around Mode
It will continue the subject area like a Tile all around the screen

Instant Preview Mode
It will decrease the memory of high resolution images for the smooth functioning of the software.
**Soft Proofing**

It is the software setting for soft display of the output.

**Out of Gamut Warning**

It is the software settings to display warning about the colour contents of the image.

**Canvas**

**Mirror View** - It will Mirror the Canvas.

**Reset Zoom** - It will reset the Zoom to 100%.

**Rotate Canvas Right** - It will Rotate Canvas to Right by a few degrees.

**Rotate Canvas Left** - It will Rotate Canvas to Left by a few degrees.

**Reset Canvas Rotation** - It will Rest the Canvas to its default angle i.e. straight canvas.

**Zoom In** - It will Zoom in the Canvas.

**Zoom Out** - It will Zoom out the Canvas.

**Show Rulers** - It will Show the Rulers on the Screen

**Show Guide** -

- It will Show the Guides drawn on the Screen.
- File – New – A4 size.
- View Menu – Show Rulers On.
- Click and drag from inside the Ruler to draw a Guide.

**Lock Guide**

- It will lock the guide which is created.

**Show Status Bar**

- Status Bar is the Bar which is shown at the bottom which highlights some tips about the tool or option selected.

**Show Grid** - It will show grid on the screen.

**Snap to** - While using the Tools and Option it will automatically get snapped or attracted towards the following if selected.
Guides, Grid, Orthogonal, Node, Extension, Intersection, Bounding Box, Image Bounds, Image Center

**Show Painting Assistants**
- It will show Painting Assistants while drawing which was set using the Assistant Tool

**Show Assistant Previews**
- It will display the Assistant Preview on the screen when created.

**Image Menu**

**Properties**
- It will display the properties of the opened and selected file.

![Image Properties - Krita](image.png)

**Image Background colour and Transparency**
- The image background colour and the Transparency (Alpha) can be set
Convert Image Colour Space

• The colour settings of the current file can be changed.

Trim to Image Size

• It will Trim all the layers to the Image Size.
• It will delete all the image areas of the layer outside the Image Size.
• It will help in reduction of the file size.
Trim to Current Layer

- It will Trim the Image to the Size of the contents of the current layer.

Trim to selection

- File – Open – Open an Image
- Rectangular Selection Tool
- Select an area
- Image – Trim to Selection
- It will crop the image to the selected area.

Rotate

- File – Open – Open an Image.
- Image – Rotate – [Try the four options as mentioned]

![Screenshot](https://pixabay.com/en/architecture-city-panorama-old-3052486/)

Rotate Image

Rotate 90 degree to the Right

Title: Building
Attribution: bogitw (User name as per pixabay)
Source: Pixabay
Rotate 90 degree to the Left

Input - 

Output -

Rotate Image 180 degrees

Input -

Output -

Shear Image

- File – Open an Image
- Image – Shear Image

Mirror Image Horizontally

It will create a Mirror of the image Horizontally.
Mirror Image Vertically
It will create a Mirror of the image Vertically.

Scale Image to New Size
- File – Open an Image
- Image – Scale Image to New Size
- It will resize the Image according to the dimensions specified by the user.
Offset Image

- File – Open an Image
- Image – Offset Image

It will offset the image by the numbers specified by the user.

Resize Canvas

- File – Open an Image
• Image – Resize Canvas

![Screenshot]

- It will resize the canvas according to the dimension specified by the user.

**Layer Menu**

**Cut Layer – Paste Layer**

- File – Open an Image
- Layer – Cut Layer
- File – New – A4 size
- Layer – Paste Layer

**Copy Layer – Paste Layer**

- File – Open an Image
- Layer – Copy Layer
- File – New – A4 Size
- Layer – Paste Layer

**New**

**Paint Layer**

- File – Open an Image
• Layer – New – Paint Layer
• It will create a new Paint layer

New Layer From Visible
• File – Open an Image.
• Layer – New – New Layer From Visible.
• It will create a new layer from the visible layer.

Duplicate Layer or Mask
• File – Open an Image.
• Layer – New – Duplicate Layer or Mask.
• It will create a duplicate layer of the selected layer.

Cut Selection to New Layer
• File – Open an Image
• 
  Rectangular Selection Tool
• Select an area
• Layer – New – Cut Selection to New Layer
• It will cut the selection from current layer to New layer

Copy Selection to New Layer
• File – Open an Image
• 
  Rectangular Selection Tool
• Select an area
Layer – New – Copy Selection to New Layer
It will copy the selection from current layer to New layer

Select
All Layers - It will select all the layers in the file.
Visible Layers - It will select all the Visible Layers in the file.
Invisible Layers - It will select all the Invisible Layers in the file.
Locked Layers - It will select all the Locked Layers in the file.
Unlocked Layers - It will select all the unlocked layers in the file.

Group-
Quick Group

- File – New – A4 Size
- Create a filled rectangle
- New Layer
- Create a filled rectangle again
- New Layer
- Create a filled Ellipse again
- New Layer
- Create another filled Ellipse
Select all the Layers. Click on Layer 6
Hold Shift and Click on Layer 2.
It will select all the layers.
Layer – Group – Quick Group

Quick Clipping Group

File – New File – A4 Size
New Layer
Create a filled Ellipse [It is the mask which is created first]

Layer – Group – Quick Clipping Mask

Create the Shapes. It will be drawn inside the shape mask only.
Quick Ungroup

- It will ungroup the selected Group.

<table>
<thead>
<tr>
<th>Transform</th>
<th>File – New – A4 Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mirror Layer Horizontally</td>
<td>New Layer</td>
</tr>
<tr>
<td>Mirror Layer Vertically</td>
<td>Create a filled rectangle or any shape or an Image</td>
</tr>
<tr>
<td>Scale Layer to new Size</td>
<td>Layer – Transform [Use the options in the left hand side one by one]</td>
</tr>
<tr>
<td>Rotate</td>
<td></td>
</tr>
<tr>
<td>Rotate Layer</td>
<td></td>
</tr>
<tr>
<td>Rotate 90 degree to the Right</td>
<td></td>
</tr>
<tr>
<td>Rotate 90 degree to the Left</td>
<td></td>
</tr>
<tr>
<td>Rotate Image 180 degrees</td>
<td></td>
</tr>
<tr>
<td>Shear Layer</td>
<td></td>
</tr>
<tr>
<td>Offset Layer</td>
<td></td>
</tr>
</tbody>
</table>

Split

Split Layer

- File – Open an Image with flat vector colours from Internet.

Title: Bee Fun
Layer – Split – Split Layer

The layer is split according to the colours automatically according to the settings.
Clones Array

- File – New – A4 Size
- New Layer
- Create a Filled Rectangle

- Layer – Split – Clones Array

- Apply
Merge with Layer Below
- File – New – A4 Size
- New Layer
- Create a Filled Rectangle
- New Layer
- Create a Filled Ellipse
- Select both the layers
- Layer – Merge with Layer Below

Flatten Layer
- File – New – A4 Size
- New Vector Layer
- Create a design with Bezier Tool
- Select the layer
- Layer – Flatten layer

Rasterize Layer
- File – New – A4 Size
- New Vector Layer
- Create a design with Bezier Tool
- Select the layer
- Layer – Rasterize Layer

Flatten Image
- File – New – A4 Size
- New Layer
- Create a Filled Rectangle
- New Layer
- Create a Filled Ellipse
- Layer – Flatten Image
It will merge all the layers into one layer.

Layer Style

- File – New – A4 size
- Create a New Layer
- Create a filled rectangle
- Layer – Layer Style

Practice the options one by one-
- Drop Shadow
- Inner Shadow
- Outer Glow
- Inner Glow
- Bevel and Emboss
- Contour
- Texture
- Satin
- Colour Overlay
- Gradient Overlay
- Pattern Overlay
- Stroke

Select Menu

Select All - It will select the whole image.
Deselect - It will deselect the selected image.
Reselect - It will again reselect the deselected image.

Invert Selection - It will select the opposite selection of the selected image.

Convert to Shape

- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Selection – Convert to Shape

Display Selection - It will display the Selection.

Show Global Selection Mask - It will display the Global Selection mask if any.

Scale

- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Selection – Scale

![Screenshot]

Select from Colour Range

- File – Open an Image
- Select – Select from Colour Range
- It will select all the colours in the file of similar range.

Feather Selection
- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Select – Feather Selection. [It will feather and fade the edges]

![Screenshot]

- Edit – Fill with Foreground colour.

- Grow Selection
- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Selection – Grow Selection

![Screenshot]

- Shrink Selection
- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Selection – Shrink Selection

![Shrink Selection – Krita]

Border Selection
- File – New – A4 Size
- Rectangle Selection Tool
- Select an area
- Selection – Border Selection

![Border Selection – Krita]

- Smooth
  - File – New – A4 Size
  - Rectangle Selection Tool
  - Select an area
  - Select – Smooth

Filter Menu
- File – Open an Image
- Filter Menu – Try all the filters one by one as specified in the software.
Summary

In this Unit we have described about the tools and features of Krita. After using the tools and menu bar options you can create designs according to requirement. In the practical world of design, only a few percent of the options of software is used extensively and a major portion of tools and options are used occasionally on requirement only.

Assignments

- Practice all the tools taught in the Unit and save each and every file.
- Write (Process of copying the softcopy into CD/DVD) all the above Assignments in DVD using Nero software with the video output, raw source files of the software used and submit it to the University.
Assessment

- Krita is an ________ source software used for ________ ________.
- Write down any three categories of Image Processing.
- Write down any five categories of Design works.
- Write down any five job prospects after learning Krita.
- Which tool is used for cleaning spots on a face?
- What is transparency called in Krita?

Resources

Krita Learning Tutorials

- https://docs.krita.org/Category:Getting_Started
- https://dev.krita.org/en/learn/tutorials/
- http://www.davidrevoy.com/article185/tutorial-getting-started-with-krita-1-3-bw-portrait
Unit 2

Familiarization to Inkscape

Introduction

Learning to create a design goes through the process of Digital Technology and the software’s related with it. If you want to be a good designer you have to effectively use the tools and techniques provided by the software. Now-a-days software’s have lots of in-built capabilities which make the manual work easier and perfect. Options like Alignment, Colour settings, Geometrical shapes etc. are already there in the software which we can use at a single click. These works used to take lots of time and gives stress to the designer for bringing perfection when done manually. It was an Art when the design was done manually, but when it comes to the digital, the same thing becomes a Science.

Inkscape is an open source Vector based software used for designing. It has got almost all the capabilities of commercial software available in the market. With the knowledge of Inkscape one can create visiting cards, posters, hoardings, advertisement materials, books cover designs etc.

After learning the Inkscape, digital software, the designer has a variety of choices he can use to immediately create outputs and choose the best out of them. Human being has to just have the knowledge of using software’s to create Designs.

Outcomes

Upon completion of this unit you will be able to:

- Use the tools of Inkscape.
- Create designs using the tools and menus.
- Select the import and export options of the software.
Unit 2  Familiarization to Inkscape

Terminology

Vector: Vector designs are created using software’s which has the capability to expand without any pixel distortion.

Import: If we want to bring some design made in different software’s together in single software, we need to Import the file if the format of the file is supported.

Export: If we want that the file which we are currently working to be used in some other software, then we have to Export the file in the format supported by other software’s.

A Brief History of Designing

Tools of Inkscape

Select and Transform Objects

- Create a Rectangle

- Choose the tool
• Click on the corners named “A” for uniform scaling from all sides.

• Click on the corners named “B” for non-uniform scaling from all sides.
• Click on the Rectangle again. The corner adjustment symbols will change as follows.

• Click on the corners named “C” for Rotation of the subject

• Click on the corners named “D” for skewing the subject.
• Moving the Object – Click from the middle of the shape and move the object.

**Edit Path by Nodes**
• Choose the tool "Draw Bezier curves & Straight lines"
• Create a curve drawing with 5 to 6 nodes (or clicks)

• Choose the tool -

• Click on the square points to move the nodes

• Click on the tangent to adjust the smoothness of the curve

• Insert new nodes into selected segments
  - Select two or three nodes in between by click and drag over the nodes.

• Output will be as follows

• Delete Selected Nodes
  - Select the nodes you want to delete
• **Join Selected Nodes**
  - Select two or three nodes in between
  - Click on
  - The selected nodes will join together in their selected center

• **Break path at selected Nodes**
  - Select a single node in between

  ![Diagram showing the break path at selected nodes]

  - Click on

  ![Diagram showing the break path at selected nodes]

  - Click outside
  - Click on the node and move

  ![Diagram showing moved nodes]

  - You will find two nodes one over the other which are broken
  - Move and place as required

• **Join Selected end nodes with a new segment**
  - Select two open end point nodes.
Unit 2 Familiarization to Inkscape

- Click on
- Output will be as follows

- Delete segment between two non-end point nodes
  - Select two non end point nodes

- Click on
- Output will be as follows

- Make selected nodes corner
  - Select nodes with smooth corner
- **Make selected nodes smooth**
  - Select nodes with pointed corners

- **Make selected nodes symmetric**
  - Select some smooth nodes
  - Click on
  - The selected handles or tangents of the nodes will get symmetric.

- **Make Selected Nodes Auto smooth**
  - Select node or nodes in between
  - Click on
  - The selected nodes will become smooth as per the default settings of the PC

- **Make Selected Segments Lines**
Select node or nodes in between

Click on

The Selected segments in between the nodes will become straight lines

- **Make Selected Segments Curves**
  - Select node or nodes in between
  - Click on
  - The Selected segments in between the nodes will become curves

- **Convert Selected object to path**
  - Create a Rectangle using Rectangle tool

  ![Rectangle](image1)

  Click on

  Move the nodes as required

  ![Polygon](image2)

  You can use Circle Tool, Polygon tool etc. in this option to move their individual nodes as per your requirement.

- **Convert Selected object stroke to path**
  - Create a rectangle with stroke thickness of 20

  ![Rectangle](image3)
Tweak Objects by sculpting or painting

- Create any shape using any tool
- Choose
- Change the settings of the tool one by one and click and drag on the screen over the shape
  - Width: 20
    - It is the width of the tool which will affect the brush area only.
  - Force: 20
    - It is the force of the brush which will drag the shape to the pixels as described in the force.
- Use the pressure of the input device to alter the force of tweak action.
- Mode:
  - Move Objects in any direction.
  - Move Objects towards cursor, with shift from cursor
• Move objects in random directions
• Shrink objects, with shift enlarge
• Rotate objects, with shift counter clock wise
• Duplicate objects, with shift delete
• Push parts of paths in any direction
• Shrink (inset) parts of path, with shift grow (outset)
• Attract parts of paths towards cursor, with shift from cursor
• Roughen parts of the paths
• Paints the tools colour upon selected object
• Jitter the colours of selected objects
• Blur selected objects more, with Shift, blur less
  Fidelity is the level of blur.
  It is the colour channels

Zoom In or Zoom Out
• Create a New File
• Draw shapes all over the screen
• Practice the zoom options one by one. The name of the zoom options itself describes the output. The shortcut of the tool is mentioned in square brackets.

  - Zoom in [ + ]
  - Zoom out [ - ]
  - Zoom to 1:1 [ 1 ]
  - Zoom to 1:2 [ 2 ]
  - Zoom to 2:1
  - Zoom to fit selection in window [ 3 ]
  - Zoom to fit drawings in window [ 4 ]
  - Zoom to fit page in window [ 5 ]
  - Zoom to fit page width in window [ 6 ]
  - Preview Zoom (from the history of zooms) [ ` ]
  - Next Zoom (from the history of zooms) [ Shift + ` ]

**Measurement Tool**

  - Click and drag on the screen
  - It is used to measure distance while drawing
- This is a temporary scale and is for information only
- The design and text shown will vanish after the tool is deselected
- It will not appear in printout
- For visibility purpose the font size may be increased or decreased as per self-convenience.
- If the measurement line passes over object will also show the measure of its segments.

Create Rectangle and Squares

- Click and drag on the screen

- Setting fill colour – Click on the colour as required from the colour screen

- Setting stroke colour – Right click on the colour and click on “Set stroke”

- Remove fill colour – Click on ❌ [cross symbol] in the colour palette

- Remove stroke colour – Right click on ❌ [cross symbol] in the colour palette and click on “Set stroke”

- Change the width and height of the rectangle
- Change the roundness of the rectangle

[Image of a rectangle]

- Make corners sharp

Create 3D Boxes

- Click and drag on the screen

[Image of a 3D box]

- Change the above settings as required for modification

- Choose the [Tool] move and adjust

[Screenshot]

- You can move the node points and adjust the 3D shape
Create Circle, Ellipse and Arcs

- Click and drag on screen

- Switch to segment (closed shape with two radii)

- Switch to Arc (unclosed shape)

- Make the shape a whole ellipse, not arc or segment
Create Stars and Polygons

- Click and Drag on the screen for Polygon

- Click and drag on the screen for star

- Change the options to view the changes

<table>
<thead>
<tr>
<th>Option</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corners</td>
<td>5</td>
</tr>
<tr>
<td>Spoke ratio</td>
<td>0.500</td>
</tr>
<tr>
<td>Rounded</td>
<td>0.000</td>
</tr>
<tr>
<td>Randomized</td>
<td>0.000</td>
</tr>
</tbody>
</table>
Reset shape parameter to default – This will set all the options as it was in the beginning.

Create Spirals

- Click and drag on the screen
- You can increase or decrease the number of turns.
- The proportion of the gap in between the turns will be unequal.
• We can specify the amount of spiral as required from its corners.

• Reset shape parameters to default.

---

**Draw Freehand lines**

• Click and drag on the screen to create freehand lines with the settings as required.

• Reset shape parameters to default.
• The settings of the shapes can be defined from the shape option.

• Choose Ellipse and draw

• Choose the Tool

• Move and adjust the nodes as required.

**Draw Bezier curves & Straight lines**

• Click and drag on screen to draw with the defined settings.
Digital Imaging

Choose the Tool
Move and adjust the nodes as required.

Draw Calligraphic or brush strokes

Click and drag on the screen with defined settings.
Create and Edit Text Objects

- Click on the screen to type text
- Change the font (style of text or typography) as required
- Change the font size as required
- Choose Normal, Italic, Bold or Bold Italic
- Type a paragraph with 4 or 5 lines. Practice the Alignment options.
  - Alignment Left
  - Alignment Center
  - Alignment Right
• **Alignment Justify**

• **Superscript**
  - Click on the Text Tool
  - Type \(a^2 + b^2\)
  - Select 2 only
  - Click on
  - Output \(a^2 + b^2\)

• **Subscript**
  - Click on the Text Tool
  - Type \(H_2O\)
  - Select 2 only
  - Click on
  - Output \(H_2O\)

• **Spacing between lines**

• **Spacing between letters**

• **Spacing between words**

• **Horizontal kerning**

• **Vertical Shift**

• **Character Rotation**

• **Horizontal Text**-The text will be displayed in Horizontal form.
Vertical Text-The text will be displayed in Vertical form.

Spray objects by sculpting or painting

- Create a Star
- Keep the Star in selection
- Choose the Spray Tool
- Click and drag on screen with the defined settings.

Change the settings as required and click and drag on the screen as many times as desired.
Erase existing paths

- Create a rectangle or any shape
- Choose the
- Click and drag over the rectangle on the areas which you want to erase.
- Delete objects touched by eraser
- Cut-out from objects

Fill bounded Areas

- Create Rectangle, Circle, Polygon and other shapes with no fill and black outline.
- The shapes need to overlapping as shown
- Click on the Tool
- Click on the intersecting areas.
- A new shape will be generated
- Fill it with colour.

---

Create and Edit Gradients

- Create a Rectangle or any shape.
• Click on Tool
• Click and drag inside the rectangle

• Change the options one by one view the changes.

• Create Linear Gradient
• Create Radial Gradient

• Link gradients to change all related gradients.

• Reverse the direction of the gradient.

• Insert New Stop – It will add a new colour marker.
• Click on the color marker
• Click on the color as required in that place of the marker.

File Menu

New
• Click on File Menu – New.
• It will create a new file for making the design.

**New from Template**

• Click on File Menu – New From Template

![Screenshot](image)

• Choose the setting as required from the template

**Open**

• Click on File Menu – Open
• Choose the file to open from the saved list of folders.
Open Recent

- Go to File Menu – Open Recent
- Choose the recently done file from the list of files

Revert

- Go to File Menu – New
- Create Some designs

Go to File Menu – Save – [Give a name for i.e. trial1]
- Now do some modification in design or add a few more design.
Go to File Menu – Revert
- It will bring back to the position of the file when it was saved earlier.
- It will revert back the changes to the last saved file and save the time of continuous undo in a single click.

Save
- Go to File Menu – click on New
- Create some designs
- Go to File Menu – Save
- Choose a folder and a file name to save the created design.

Save as
- Go to File Menu – click on New
- Create some designs
- Go to File Menu – Save
- Choose a folder and a file name (a1) to save the created design.
- Do some modification or create some extra design.
- Go to File Menu – Save As
- Choose another file name (a2) to save.
- Now, there will be two version of the file. One which was saved in one name (a1) and the other which was saved in another name (a2).
- The current open file is a1.

Save a Copy
- Go to File Menu – click on New
- Create some designs
- Go to File Menu – Save
- Choose a folder and a file name (b1) to save the created design.
- Do some modification or create some extra design.
- Go to File Menu – Save A Copy
- Choose another file name (b2) to save.
- Now, there will be two version of the file. One which was saved in one name (b1) and the other which was saved in another name (b2).
- But, the file which is currently open will be “b1” WHICH DIFFERENTIATES it from “Save As”

**Import**

- Go to File – Import
We can import files from the works done on other software’s similar to Inkscape like Coreldraw, AutoCAD, and Illustrator etc.

Export PNG Image

- PNG Image is a file which can maintain the transparency in the edges so that it can be easily pasted over another image with transparency.
- Go to File – New
- Create a Design

- Select all the design
- Go to File – Export PNG Image –

Set the Settings as required. In this case choose “Selection”
• Choose the folder and file name to save –
• Click Export.

**Import Clip Art**

• Go to File – Import Clip Art
• Click on Search
• If there are any clip arts loaded in the system, then it will appear.

[Screenshot]

**Print**

• Go to File – New from Template
• Choose A4 Size document
• Create a design
• Go to File – Print
• Set the settings as per your printer
• Print
Clean-up Document

- When we create a design, we use lots of options, undo’s etc. which are stored in the temporary memory which becomes a part of the file size.
- Hence, after completion of the total design, it is suggested to click on File – Clean-up Document
- After that click on File – Save
- It will save the cleaned file without unnecessary and unused definitions.

Document properties

- Go to File – Document Properties
• It will display all the properties of the document which we can change according to our requirement like Page Size, Guides, Grids, Snap, Colour etc.

Close
• Go to File – New
• Create a Design
• File – Save [Give a name to save]
• Go to File – Close
• It will close the opened file, but not the software.

Quit
• Go to File – Quit
• It will close the software. Before closing if there are any unsaved open files, it will ask the option to Close without Saving or Close with Saving.
Edit Menu

Undo

- Create 4 to 5 shapes or use any options.
- Go to Edit – Undo
- The shortcut of Edit – Undo is (Ctrl + Z)

Redo

- In case you have done undo wrongly, then you can immediately click “Edit – Redo” to get back.
- This has to be done immediately else it will not work. It will work for the immediate previously used options only.

Undo History

- In case you want to undo more than 1 time, then you can choose undo history.
- It will appear on the right hand side screen of the software.

Cut Command+ Paste Command

- File – New
- Create a Rectangle or any shape
- Select the shapes using Tool
- Edit – Cut
- It will cut the selected shape into the memory of the computer. The selected shape will get deleted.
- File – New
- Edit – Paste
- The cut subject will get pasted here.
- File – New
- Edit – paste
- The cut subject can be pasted as many times as wanted.
- Move the subject
- Edit – Paste
- The subject can be pasted as many times in the same file also.

**Copy Command + Paste Command**

- File – New
- Create a Rectangle or any shape
- Select the shapes using Tool
- Edit – Copy
- It will copy the selected shape into the memory of the computer. The selected shape will not get deleted.
- File – New
- Edit – Paste
- The cut subject will get pasted here.
- File – New
- Edit – paste
- The cut subject can be pasted as many times as wanted.
- Move the subject
- Edit – Paste
- The subject can be pasted as many times in the same file also.

**Copy Command + Paste in Place Command**

- File – New
- Create a Rectangle or any shape
- Select the shapes using Tool
- Edit – Copy
- It will copy the selected shape into the memory of the computer. The selected shape will not get deleted.
- File – New
- Edit – Paste in Paste
- The copied shape will get pasted in the same place from where it was copied in the previous file.

**Copy Command + Paste Style Command**
Unit 2 Familiarization to Inkscape

- File – New
- Create a Rectangle [any shape]
- Set a Fill Colour
- Set a Stroke Colour
- Set the Stroke width to 3
- Select the Rectangle
- Edit – Copy
- Create a Circle [any shape]
- Now, the purpose is to copy all the properties of Rectangle to Circle i.e. Fill colour, stroke colour, stroke width etc.
- Select Circle
- Edit – Paste Style
- It will paste the properties of the Rectangle onto Circle. We don’t have to set the properties of new shapes again.

**Copy Command + Paste Size Command**

- Create a Rectangle

```
[Image: Rectangle with dimensions]
```

- Note the width and height.

```
W: 59.739 H: 41.454 mm
```

- Select the Rectangle
- Edit – Copy
- New File
- Create another Rectangle
- Edit – Paste Size – Paste Size
- The selected rectangle will get the properties of the size of the copied rectangle in the previous file.
- Create a Circle
- Select the Circle
- Edit – Paste Size – Paste Size
- The width and height of the circle will also become the same as of the copied rectangle.
- This is essential for designing purpose where the properties of one drawing need to be same as another
drawing. It will be time taking to note the properties one by one and paste onto another. Hence, this option is very useful.

**Note:** If 2 or more shapes are selected together and we use Paste Size, then the size of all shapes will combine together to match the size of the copied shape.

**Paste Width**
- It will paste only the width of the copied shape.

**Paste Height**
- It will paste only the height of the copied shape.

**Paste Size separately**
- Create a rectangle
- Select the rectangle
- Edit - Copy
- Create 4 rectangles
- Select all the 4 rectangles
- Edit – Paste Size – Paste Size Separately
- In this case, the width and height will be individually pasted onto the rectangles.

**Paste Width separately**
- Create a rectangle
- Select the rectangle
- Edit - Copy
- Create 4 rectangles
- Select all the 4 rectangles
- Edit – Paste Size – Paste Size Separately
- In this case, the width will be individually pasted onto the rectangles.

**Paste Height separately**
- Create a rectangle
- Select the rectangle
- Edit - Copy
- Create 4 rectangles
- Select all the 4 rectangles
Edit – Paste Size – Paste Size Separately
In this case, the height will be individually pasted onto the rectangles.

Find/Replace

- Choose the Tool
- Type “College”
- Choose the Select Tool
- Edit – Duplicate. Shortcut is Ctrl+D [Step A]
- Move the Text here and there [Step B]
- Repeat the Step A and Step B around 9 times

College
College
College
College

College

College

College

Now repeat the same process for the text “School”

School
School
School
School

School
School
School
School

Go to Edit – Find/Replace
[Screenshot]

- Type – College in the Find Section and click on Find
- It will display the College text one by one
- Now Type – University in the Replace Section
- Now click – Replace All
- You will see that all the text containing College will be replaced by University.
- In the Same process we can replace all the School text by Institute

**Duplicate**

- Create a Rectangle
- Select the Rectangle
- Edit – Duplicate
- Selection Tool
- Move
- You will find a duplicate copy.
- The shortcut of Duplicate is Ctrl + D

**Clone**

**Create Clone**

- Create a Rectangle
- Select the Rectangle
- Edit – Clone – Create Clone
- Move the Rectangle
- Select the original Rectangle
- Change the Width, Height, Colour etc.
- You will see that the changes are getting effected in the Cloned copies also.

**Create tiled clone**

- Create a Circle
• Select the Circle
• Edit – Clone – Create tiled clone

Choose from the option and click on Create Tiled Clones
There are lots of options associated with it. It has to be practiced one by one.

Unlink clone
The clones will be unlinked and will become individual or standalone identities.

Relink to copied
The clones will be relinked to the object which was copied in the clipboard.
Select original

- The original object from which the clone is created is selected automatically.

Clone original path

- The original shape of the object is cloned as original path.

Delete

- Create some shapes on the screen
- Selection tool
- Select all the shape
- Edit – Delete [Shortcut is Delete button on the keyboard]

Select All

- Create some shapes on the screen
- Edit – Select All
- It will select all shapes on the screen automatically without taking the mouse over it.

Select All in All layers

- It will select all the shapes in all the layers

Select same

Fill & Stroke

- Create a Rectangle
- Give a fill colour and a stroke colour
- Edit – Duplicate 6 nos.
- Move here and there
- Click outside
- Create a circle or any shapes
- Give the same fill colour and stroke colour as given to the Rectangle.
- Select any one rectangle
- Edit – Select same – Fill and stroke
- It will automatically select all the objects with the same fill and stroke properties.

Fill colour
- Create a Rectangle
- Give a fill colour.
- Edit – Duplicate 6 nos.
- Move here and there
- Click outside
- Create a circle or any shapes
- Give the same fill colour as given to the Rectangle.
- Select any one rectangle
- Edit – Select same – Fill
- It will automatically select all the objects with the same fill colour

**Stroke colour**

**Stroke Style**

**Object type**
- The same process is applied to Stroke colour, Stroke Style and Object type also. This option will select similar properties. It helps in reducing the time and effort for manually choosing a type of object.

**Invert selection**
- Create 4 to 5 shapes on the screen
- Select any one shape
- Edit – Invert Selection
- It will automatically select all the shapes which were not selected.

**Deselect**
- Create 4 to 5 shapes on the screen
- Select any shape
- Edit – Deselect
- It will Deselect the shape.
- This can be done by clicking outside also.
- But in some cases there are background filled objects which makes difficult to click outside in the vacant space. In that case, we can use Deselect.

**Resize Page to Selection**
- File – New
• Create 4 to 5 shapes
• Select all the shapes

![Screenshot]

• Edit – Resize Page to selection.
• The width and height of the page will change to the border extent of the selection.

![Screenshot]

Create Guides around the page

• File – New
• Edit – Create Guides around the page

![Screenshot]

• It will create guides around the page for reference purpose. The guides will not come in the printout.

Lock All Guides

• File – New
• Create Guides from dragging them from the Ruler.
• Edit – Lock all Guides
• It will lock all guides and they will not move even if it is clicked.

Delete All Guides

• If you want to delete all the guides together, go to Edit Menu – Delete all Guides.

XML Editor

• It will show the XML editor or the programming tree of the file. It is theoretical information.

Input Devices

• Professional Artists use Wacom tables and Pens which are pressure sensitive and draws just like a normal brush.
• Edit – Input Devices is used to configure such instruments if being used.
Preferences

- These are the by default software settings. It is recommended not to alter any options in it. It may result in software corruption.

View Menu

**Zoom**

- Zoom In - It will help in Zoom into the details of the work area.
- Zoom Out - It will help in Zooming out.
- Zoom 1:1
- Zoom 1:2
- Zoom 2:1

**Selection**

- It will zoom the selection objects to the screen.
Drawing-
It will zoom in such a way that all the drawings will be fitted in one space.

Page-
It will zoom till the page fits the screen.

Page Width-
It will zoom till the page width fits the width of the screen area.

Previous Zoom-
It will display the previous zoom area. It is like undo button for Zoom.

Next Zoom-
It will display the next zoom area. It is like the redo button for Zoom.

Display Mode Toggle-
It will switch the display between Normal and Outline.

Normal-
It will display in Normal quality.

No filters-
It will display without Filters although the Filters are applied. It is used to save memory while working.

Outline-
It will display the objects in outline only. It will now show the fill or gradient. It is used to save memory while working.

Colour display Mode Toggle-
It will switch the display between Normal (colour) and Greyscale.

Normal-
It will show the display in full colour.

Greyscale-
It will show the display in Black and White & Grey Shades.
Page Grid-
It will display the Page Grid.

Guides-
It will display the Guides if they are created by clicking and dragging from the rulers.

Colour Managed View-
It will switch between the original colour and the colour managed view.

Show/Hide-
The following can be shown or hidden by this option as per the convenience of the user.

- Commands Bar
- Snap Control Bar
- Tool Control Bar
- Toolbox
- Rulers
- Scrollbars
- Palette
- Status Bar

Show/Hide Dialogs
Dialog Box is the box with settings of tool and options shown in the right hand side of the software. We can Show or Hide it as per our requirement.
Swatches-
Swatches are pre-defined colour setting which are packed in a dialog box. We can choose our colour shades as required.

Messages-
We can view or hide the messages in a dialog box.

Previous Window-
If there are 4 or 5 files opened at a time. Then we can switch between the files.

Next Window-
If there are more than one files opened at a time. We can switch between files.

Icon Preview-
The file created can be viewed as icon in small and big size.
Duplicate Window-
A duplicate window of the selected file will open. We can do changes and compare it with the original one.

Fullscreen-
The work area turns into Fullscreen covering the total area of the PC or laptop.

Default-
Settings of the area to work in default.

Custom-
Settings of the area to work as per our custom settings.

Wide-
Settings of the area to work in wide screen.
Unit Summary

In this Unit we have described the uses of each and every tool of Inkscape. The description of the tool is supported by the step by step instructions for practical use of the tool and creating the output out of the tool. After learning this unit, you can do designs, save them; export them in any format as required.

Assessment

- Describe the adjustment point of a line drawn using Pen tool called in Inkscape?
- Which format should be used for export so that the background transparency is maintained?
- Write the two commands which should be used for copying an object and pasting in the same place?

Assignment

- Practice all the tools and save them in Inkscape file format and export them in JPG format.
- Write all the files of your practice in DVD using Nero with the video output, raw source files of the software used and submit it to the University.
Resources

Here are some referral links to video tutorials which will give you some information about Inkscape.

Inkscape tutorials:

https://inkscape.org/en/learn/tutorials/
https://www.unixmen.com/31-best-tutorials-of-inkscape/
http://goinkscape.com/
Unit 3

Illustration and Vector Design using Inkscape

Introduction

Digital Illustration tools and techniques in vector based software are very important foundation for creating a Project work. Illustrations are done using various combinations of tools and techniques in software. A single type of work can be done in various ways. It is the user who has to choose the best and convenient process of doing the work. Most of the illustrations are done using Vector based software’s. Hence we have chosen Inkscape as a medium to demonstrate the vector capabilities of creating an output. Software’s have come a long way in designing which has made the manual artist to get converted into Digital Artist in a much easier way.

Inkscape has menu bars which have lots of advanced options with the help of which you can create lots of readymade designs.

Outcomes

Upon completion of this unit you will be able to:

- Use the entire menu bar options of Inkscape.
- Create a project work using menu bar options.
- Compose a vector based output using Inkscape.
Terminology

Inkscape: It is an open source vector based designing software.

Nodes: Nodes are the Vertex point which is used to create a polygon or a shape.

Project: The purpose of learning software is to create a Project out of it. The Project is the output purpose of learning which can be an Advertisement, Banner, Poster, Visiting Card etc.

Menu Bars of Inkscape

Layer Menu

- Go to Layer Menu – Layers [last option]
- It will display the docker in the right hand side of the software.

[Screenshot]

- File - New

Add layer

- Click on the symbol on the Docker OR Layer Menu – Add Layer
It will add a new layer on the file.
“Layer 2” is added above “Layer 1”

**Rename layer**
- Suppose we want to rename the “Layer 1” as “Background” and “Layer 2” as “Character”
- Select the “Layer 1” by clicking on it.
- Layer Menu – Rename OR Double click on “Layer 1” in the Docker
- Change the name.

**Show/hide current layer**
• We can hide the layer and then unhide whenever required by pressing the Eye Symbol in the Docker of the Layer OR from Layer Menu – Show/Hide current layer. It is like an ON and OFF button. One click will hide and another click on the same will unhide.
• Select the “Background” Layer
• Draw a Rectangle
• Select the “Character” Layer
• Draw an Ellipse
• Select the Layer “Background”
• Click on the Icon
• It will hide the contents in this particular layer
• Click on the Icon again
• It will unhide the contents in this particular layer

**Lock/Unlock current layer**

• We can lock the layer and then unlock whenever required by pressing the Lock Symbol in the Docker of the Layer OR from Layer Menu – Lock/Unlock current layer. It is like an ON and OFF button. One click will Lock and another click on the same will Unlock.
• If we Lock a Layer then we can see the contents of the layer but we cannot do any changes or modification to the subjects of that particular Layer.
• Select the “Background” Layer
• Click on the Icon
• It will Lock the contents in this particular layer
• Click on the Icon again
• It will unlock the contents in this particular layer

**Switch to layer above**

• It is used to select the layer above the current layer.
• Select the “Background” Layer in the docker.
• Layer Menu – Switch to layer above.
• It will automatically select the “Character layer” in the docker.

**Switch to layer below**
• It is used to select the layer below the current layer.
• Select the “Character” Layer in the docker.
• Layer Menu – Switch to layer below.
• It will automatically select the “Background layer” in the docker.

**Move selection to layer above**

• Create a New File
• Draw a Rectangle
• Layer Menu – Add Layer
• Draw an Ellipse
• Layer Menu – Add Layer
• Draw a Polygon
• Rectangle is in Layer 1
• Ellipse is in Layer 2
• Polygon is in Layer 3

![Screenshot](image.png)

• Select the Rectangle
• Layer Menu – Move selection to layer above.
• The Rectangle will be transferred to Layer 2
• Check by Hiding the Layer 2.
• Unhide Again.

**Move selection to layer below**

• Continue this from the previous option “Move selection to layer above”
• Now select the Ellipse which is in Layer 2
• Layer Menu – Move selection to layer below
• The Ellipse will move to the layer below which is Layer 1
• Check by Hiding the Layer 1
• Unhide Again.

**Move selection to layer**

• Continue this from the previous option “Move selection to layer below”
• Select the Polygon which is in Layer 3
• Layer Menu – Move Selection to Layer –

![Screenshot]

• Choose the Layer in which you want to move the selection into.
• Click on Layer 1
• Hide the layer to check.
• Unhide the layer again.

**Raise layer**

• This option is used to move the position of the selected layer above by one position.

**Lower layer**

• This option is used to move the position of the selected layer below by one position.

**Layer to top**

• This option is used to move the selected layer to the top of all layers.
Layer to bottom

- This option is used to move the selected layer to the bottom of all layers.

Duplicate current layer

- This option will create a duplicate layer of the selected current layer.

Delete current layer

- This option will delete the current layer.

Layers

- This option will bring the Layer docker on the right hand side of the software.

Object Menu

Objects

- New File
- Objects Menu – Objects
- A docker of the Objects will open in the right hand side of the software.

Create 4 to 5 shapes
The docker will look as following with the objects.

- We can add a Layer by clicking on this “+” button.
- We can delete the selected object by pressing this button.
- We can collapse i.e. expand the layer to display all the objects in it.
- Select an object. Click on this button to move it to the top of all objects.
- Select an object. Click on this button to move it above by one object.
- Select an object. Click on this button to move it below by one object.
- Select an object. Click on this button to move it to the bottom of all objects.
We can change the blend mode of the object using this options.

We can blur the selected object using this option.

We can increase or decrease the opacity i.e. transparency of the selected object using this option.

**Selection sets** – This will Act as an Open Group but not be a group. In this open group, one can add a single object to many groups or Selection sets.

- New File
- Create a Rectangle suppose “A”
- Create a Circle suppose “B”
- Create a Polygon suppose “C”

[Screenshot]

- Select “A” and “B”

[Screenshot]

- Object Menu – Selection Sets
- A docker will open in the right hand side of the software.
- Click on the “+” symbol [New Selection set]
- Expand the set

![Screenshot]

- Select “B” + “C”
- Click on the “+” symbol

![Screenshot]

- Now we have two sets where “path4517” or “B” shape is common in both the sets.
- Select “A” + “C” [Select “A”, Hold Shift and Click on “C”]
- Click on the “+” symbol
Now we have three sets.

- Now Click on “Set 1” & Move
- Click on “Set 2” & Move
- Click on “Set 3” & Move

**Fill & Stroke**

- Create a Rectangle or any Shape
- Object Menu – Fill and Stroke
- Fill Options

- × - No Fill
- Flat Colour
- Linear Gradient
- Radial Gradient
- Mesh Gradient
- Pattern Gradient
- Swatch Colours

Stroke Paint Options

The stroke colours options are the same as fill colour options. The colour type selected is applied to the border of the shape.

Stroke Style Options

Create a Rectangle
Object Menu – Fill and Stroke
Stroke Style
Width – Assign the width of the stroke
Dashes – The style of the stroke
Markers – Assign as required
Join – The corners of the shape can be round, straight or corner
• Cap – The segment corner can be straight, round or extendedly straight.
• Order – The position of the style.

Object Properties

• Create a Rectangle or any shape.
• Object Menu – Object Properties.

![Screenshot]

• ID: The name of the shape as per the software.
• Label: The identity of the shape as per the software.
• Title: We can manually add the title to the shape as per our subject.
• Image Rendering: The type of quality of output.

![Screenshot]

• Description: The details of the shape can be given if required.

Symbols

• Object Menu – Symbols
• A Docker of Symbols will open in the right hand side of the software.
It contains lots of in-built designs which can be used as per our requirement.

Click on any design and drag it to the screen.

There are different types of symbol categories also.

**Group**

- Create 4 to 5 shapes
- Select all the shapes together
- Object Menu – Group. [Ctrl + G is the shortcut]
- It will group the object as single object.
- Now Move the object, it will move in group.

**Ungroup**

- A group is created as above.
- If you do not want that group and break them into individual shapes again.
- Go to Object Menu - Ungroup

**Put selected objects out of group**

- Create 4 to 5 rectangles
- Select all the shapes together
- Object Menu – Group
- Double click on the Group
- Select any one shape
- Object Menu – Put selected objects out of group
- Now click outside
- Move the group
- You can see that the object which was put out of group is no more part of the group.

**Clip**

**Set**

- File – Import – (select an image)
- Create a rectangle or any shape over it

![Screenshot]

- Select the image and shape together
- Object – Clip – Set
- The image will get clipped inside the shape
Release

- After the Clip is Set, if you want to Release it Click on Object – Clip – Release
- It will separate both the image and shape as it was in the beginning.

Mask –

- The Process of Clipping and Masking is same. In the Clip, the image gets inside the shape with 100% transparency. In the Mask, the image gets inside the shape and the properties of transparency or gradient can be set manually by the user. Use Mask with Black, Gray and White colour separately, the difference can be seen.

Set

- File – Import – (select an image)
- Create a rectangle or any shape over it

- Select the image and shape together
- Object – Mask – Set
- The image will get clipped inside the shape

![Screenshot]

Release

- After the Mask is Set, if you want to Release it Click on Object – Mask – Release
- It will separate both the image and shape as it was in the beginning.

Pattern

Objects to Pattern

- Create a Pattern design using Shapes

![Pattern Design]

- Select all the shapes used in the pattern design
- Object – Pattern – Object to Pattern
- Create a Big Circle
- Go to Object – Fill and Stroke
- Under the Fill – Choose Pattern fill
The created pattern design is used as Pattern automatically. We can choose our own pattern from a group of patterns created.

**Pattern to Objects**

- Create a big Circle
- Go to Object – Fill and Stroke
- Under the Fill – Choose Pattern fill
- Choose a different pattern which you have not created.

Object – Pattern – Pattern to Objects

It will derive the pattern design.

We can do some changes and modify the design and again create a pattern out of it.

**Objects to Marker**

- Create a Marker design using shapes.

Select the design

Object – Objects to Marker
• Create a path

![Screenshot]

• Select the Path
• Object – Fill and Stroke
• Go to Stroke Style –

![Screenshot]

• Sometimes the Shapes of the marker will be displayed as a Box. Click on it. It will show the created design.
• The output will be as follows:

![Screenshot]

**Objects to Guides**

• Create a Rectangle
• Select the Rectangle
Object – Objects to Guides

Raise

- Create 4 to 5 filled shapes one over the other with different colours.
- Select a shape in between.
- Click on Object – Raise
- It will raise the object to one object above.

Lower

- Create 4 to 5 filled shapes one over the other with different colours.
- Select a shape in between.
• Click on Object – Lower
  • It will lower the object to one object below.

**Raise to Top**

• Create 4 to 5 filled shapes one over the other with different colours.
• Select a shape in between.
• Click on Object – Raise to Top
• It will raise the object above all objects.

**Lower to Bottom**

• Create 4 to 5 filled shapes one over the other with different colours.
• Select a shape in between.
• Click on Object – Raise to Bottom
• It will lower the object below all objects.

**Rotate 90° CW**

• Create a shape or a group of shapes
  
  ![Arrow CW]

• Select -
• Object – Rotate 90° CW
• The selected objects will rotate 90 degree clock wise.

**Rotate 90° CCW**

• Create a shape or a group of shapes
• Select
- Object – Rotate 90° CW
- The selected objects will rotate 90 degree counter clockwise.

Flip Horizontal
- Create a shape which needed to be flipped or mirrored horizontally

- Object Menu – Flip Horizontal -

Flip Vertical
- Create a shape which needed to be flipped or mirrored vertically
Unit 3 Illustration and Vector Design using Inkscape

- Object Menu – Flip Vertical –

Unhide All

- Create 4 to 5 shapes
- Object – Objects
- Hide all the shapes in the docker

[Screen shot]

- Object – Unhide All
  - It will unhide all the objects in one go. You need not unhide by clicking on shapes eye symbol on docker one by one.

Unlock All

- Create 4 to 5 shapes
- Object – Objects
- Lock all the shapes in the docker
• Object – Unlock All
  It will unlock all the objects in one go. You need not unlock by clicking on lock symbol on docker one by one.

Transform

• This option is used to Move, Rotate, Scale and Skew the Objects as per numerical data which will allow perfect measurement output.

• Create a Rectangle or any Shape
• Object Menu – Transform
• Move

• Scale
• Rotate

[Screenshot]

• Skew

[Screenshot]

Align and Distribute

Align is used to keep the objects in a perfect lining. Distribute is used to maintain equal spacing between the shapes.

• Create Shapes as shown

[Screenshot]

• Select the following shapes
• Object Menu – Align and Distribute

[Screenshot]

• Use the boxed options for this kind of selection.
• Alignment Left, Center and Right
• Select the following shapes

[Screenshot]

• Object – Align and Distribute
Unit 3  Illustration and Vector Design using Inkscape

- Use the boxed option for this type of selection
- Alignment Top, Center and Bottom
- Select the following shapes

- Use the Distribute options which is boxed
- Select the following shapes
[Screenshot]

- Use the Distribute options which is boxed

[Screenshot]

**Aligning a Shape in the Top Left corner of a Page**

- Create a Rectangle
- Select the Rectangle
- Object Menu – Align and Distribute
- Choose – Relative to – Page
- Choose Alignment – Left
- Choose Alignment – Top

[Screenshot]

**Aligning a Shape to the Center of the Page**

- Create a Rectangle
- Select the Rectangle
- Object Menu – Align and Distribute
- Choose – Relative to – Page
- Choose Alignment – Horizontal Center
- Choose Alignment – Vertical Center
Rearrange

- Create 4 to 5 shapes one over the other with different colours.

- Select all the shapes together. Click on the Rearrange options one by one to view the results.
  - Nicely Arrange selected connector network.
  - Exchange position of selected objects – selection order
  - Exchange position of selected objects – stacking order
  - Exchange position of selected objects – counter clockwise
- Randomize centers in both directions
- Unclamp Objects – Try to equalize end to end distance

Remove Overlaps

- It is used to remove overlaps of objects.

Arrange

- Create 3 or 4 Rectangles or any shapes
- Select the shapes together

- Object Menu – Arrange

[Screenshot]
- Choose the options and click arrange

**Arranging shapes along a circle**

- Create few shapes and a big circle

![Screenshot]

- Select all the shapes together
- Object Menu – Arrange
- Polar Coordinates

![Screenshot]
Choose the options one by one click to Arrange to experiment the outputs.

Path Menu

Object to Path

- Create a Rectangle

- Choose the Tool
- Try to move the corner nodes
- It will not move the nodes individually, it will scale the object.
- Select the Rectangle
- Path Menu – Object to Path
- Now choose the Tool
- Move the nodes, it will move individually.

This option is applicable to readymade shapes available in the software like Rectangle, Ellipse, and Polygon etc.

Stroke to Path

- Create a Rectangle
- Object Menu – Fill and Stroke
- Fill – None
- Stroke Style
- Width – 6 mm [Thick edges]
- Path Menu – Stroke to Path
- Now the outline stroke will get converted into a Fill Shape.

Choose the Tool
• Move the edge points to check

[Screenshot]

Trace Bitmap

• Go to Internet search engine like google and search for Vector Art, Black colour silhouette art etc.

• Save an individual file.
• File – Import – [choose an image downloaded]

• This is a Raster image of a Vector Art
• Path Menu – Trace Bitmap
Choose the Settings.
Live Preview and Update
After choosing from the preview – OK
Move the Shape which is created.
You can see two shapes, one is the vector shape which is created and other is the old shape.
Delete the old shape.
Choose the Tool
You can move the node points to edit.

Trace Pixel Art
It is basically used in small Pixel files in case of Icons, Video games etc. The files are of mostly in PNG format.
File – Import – Choose an Icon file
• Path Menu – Trace Pixel Art

![Trace Pixel Art dialog box](https://inkscape.org/doc/tutorials/tracing-pixelart/tutorial-tracing-pixelart.en.html)

• Experiment with the settings above and Click OK.

<table>
<thead>
<tr>
<th>Union</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create two or more intersecting shapes.</td>
<td>• Create two or more intersecting shapes.</td>
</tr>
</tbody>
</table>
Intersection
- Create two or more intersecting shapes.
- Select both the shapes
- Path Menu – Union

Exclusion
- Create two or more intersecting shapes.
- Select both the shapes
- Path Menu – Difference

Division
- Create two or more intersecting shapes.
- Select both the shapes
- Path Menu – Division

Cut Path
- Create two or more intersecting shapes.
- Select both the shapes
- Path Menu – Cut Path
**Unit 3 Illustration and Vector Design using Inkscape**

**Combine**
- Create two or more intersecting shapes.

```
  +-----------+   +-----------+
  |           |   |           |   |           |
  |           |   |           |   |           |
  +-----------+   +-----------+
```

- Select both the shapes
- Path Menu – Combine

```
  +-----------+   +-----------+
  |           |   |           |   |           |
  |           |   |           |   |           |
  +-----------+   +-----------+
```

- Both the shape will be combined and form a single object.

**Break Apart**
- Create two or more intersecting shapes.

```
  +-----------+   +-----------+
  |           |   |           |   |           |
  |           |   |           |   |           |
  +-----------+   +-----------+
```

- Select both the shapes
- Path Menu – Combine

```
  +-----------+   +-----------+
  |           |   |           |   |           |
  |           |   |           |   |           |
  +-----------+   +-----------+
```

- If you want to break the two shapes apart then click on Path Menu – Break Apart.
- The shapes will become individual again. Move to Check.

```
[Rectangle]  [Circle]
```

<table>
<thead>
<tr>
<th>Inset</th>
<th>Outset</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Create a Rectangle or any shape</td>
<td></td>
</tr>
<tr>
<td>- Path Menu – Inset</td>
<td></td>
</tr>
<tr>
<td>- It will decrease the size of the total shape.</td>
<td></td>
</tr>
<tr>
<td>- Try this option typing text, then select the text, Path Menu – Object to Path, Then Use Path Menu – Inset</td>
<td></td>
</tr>
<tr>
<td>- Create a Rectangle or any shape</td>
<td></td>
</tr>
<tr>
<td>- Path Menu – Outset</td>
<td></td>
</tr>
<tr>
<td>- It will increase the size of the total shape.</td>
<td></td>
</tr>
<tr>
<td>- Try this option typing text, then select the text, Path Menu – Object to Path, Then Use Path Menu – Outset</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dynamic Offset</th>
<th>Linked Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Create a Rectangle or (type a text, then select the text, Path Menu – Object to Path)</td>
<td></td>
</tr>
<tr>
<td>- Select the Rectangle or Text</td>
<td></td>
</tr>
<tr>
<td>- Path Menu – Dynamic Offset</td>
<td></td>
</tr>
<tr>
<td>- Click on the border area and drag to define the offset space.</td>
<td></td>
</tr>
<tr>
<td>- Create a Rectangle or (type a text, then select the text, Path Menu – Object to Path)</td>
<td></td>
</tr>
<tr>
<td>- Select the Rectangle or Text</td>
<td></td>
</tr>
<tr>
<td>- Path Menu – Linked Offset</td>
<td></td>
</tr>
<tr>
<td>- Click on the border area and drag to define the offset space.</td>
<td></td>
</tr>
</tbody>
</table>

- Simplify
  - Choose the  Tool
  - Click and drag on the screen to draw design.
Select the design
Path Menu – Simplify

- It will reduce the nodes and make the shape smoother.

Reverse
- It will reverse the starting point and ending point of the shape. The output will not be visible. This option is used while writing a Text on a path.

Path Effects
- Create any shape
- Path Menu – Path Effects –
- Click on the “+” symbol and choose the Path Effect
We can add more than one path effect also.

**Paste Path Effect**

- Create any shape
- Path Menu – Path Effects –
- Click on the “+” symbol and choose the Path Effect
- We can add more than one path effect also.
- Select the Shape
- Edit – Copy
- Create another shape
- Path Menu – Paste Path Effects
- It will paste the path effect of the copies shape.

Remove Path Effect

- Create any shape
- Path Menu – Path Effects –
- Click on the “+” symbol and choose the Path Effect

![Add Path Effect screenshot](Screenshot)
• We can add more than one path effect also.
• If we do not want any Path Effect, click on Path Menu – Remove Path Effect.

Text Menu

Text and Font
• Type a Text
• Text Menu – Text and Font
• Choose the font, size etc. as required

![Text Menu Screenshot]

osou study material

![SVG Font Editor Screenshot]

SVG Font Editor
• This is used to create Own Fonts

![SVG Font Editor Screenshot]

• This is a section for development purpose and not for learning design.

Glyphs
These are the readymade symbols as compared to a Character Map of Default Windows. The symbols are not visible in the original form in some computers.

![Screenshot]

**Put on Path**

- Create a Text

![osou study material]

- Create a Circle
- Select the Circle
- Path – Object to Path
- Select both the text and circle
- Text Menu – Put on Path
Select the circle and rotate

Select the Circle
Remove the stroke

Remove from Path

Select the Text which has put on the path.
Text Menu – Remove from path.
It will be back into the original form.

Flow into Frame

Create a Circle
Select the Circle
Path – Object to Path

Create a Paragraph Text
Sun is high in the sky. Moon is high in the sky. Stars

- Select both the circle and the text
- Text Menu – Flow into frame

Unflow

- Click on Unflow if you want to delink the text from the shape.

Check Spelling

- Type some text with wrong spellings.
- Check the spellings of the wrong words and correct them.

Filters Menu

- Filters are experimental effects.
• Create a Rectangle or any shape
• Select the shape
• Filter Menu – Apply all the filters one by one and practice.

Extension Menu

• Create a Rectangle or any shape
• Select the shape
• Extension – Apply all the extension one by one and practice.
Unit Summary

In this Unit you have learnt about the Inkscape options and certain examples of creating practical work using Inkscape. The knowledge of all the option of the software will help in accomplishing any project successfully with ease. An example of the projects done in this unit will help you explore the technical aspects of a project which will be needed at the time of publishing or printing the work.

Assignment

- Practice the examples of each and every option shown in this unit.
- Create a list of shortcuts of the tools and options which you feel important and frequently used.
- Save the files which have been practiced and submit it in a DVD to the University.

Assessment

- Which option should be used for repeating a same design or tiling a design?
- Which option should be used to keep the object in perfect line either to the left, right or center?
- Which option is used to maintain equal spacing between shapes?
- Which option is used to convert Raster image into Vector image?
Resources

Inkscape tutorials:
https://inkscape.org/en/learn/tutorials/
https://www.unixmen.com/31-best-tutorials-of-inkscape/
http://goinkscape.com/

Web Reading Reference

Flower Design using Inkscape step by step

Working with Inkscape Nodes

50 Tutorials using Inkscape
https://creativenerds.co.uk/tutorials/inkscape-tutorials/
Unit 4

Professional Projects

Introduction

The process of learning and the process of implementation of the knowledge learned are two different things. While learning the tools and techniques of software, you get acquainted with the use of the tools. When you are working on a project, you have to judge the combination of tools and options required to get a specified result. Sometimes, people learn perfectly, but when it comes to a Project work; we are not able to accomplish them perfectly.

The reason is due to lack of practice of a work. While learning a tool, you learn it once. But, when you have to do a Project you have to apply the tools multiple number of times which requires persistence and hard work; only knowledge will not work.

In case of project work, all the tools and techniques of software are not applied everywhere. There are projects which are done using only a few options of the software. It is about specialization of a particular type of work you practice which will make you a professional. When we come to software’s, there are many software’s available to create a single type of output. It is about your judgment based on your practice which will complete your project work perfectly and on time. In this unit you will learn about how professional projects are designed.

Outcomes

Upon completion of this unit you will be able to:

- Design professional Project works.
- Describe the process of doing a project work in particular software.
- Examine the format of Graphic design output.
- Employ the combination of software’s used to complete a certain work.
Terminology

Professional: Creating a work or a project which has a value in a systematic way and in stipulated time.

Output Format: Output format is format used to create an output in a Digital File. Every software has its own format for saving a file.

Creating a 3D ball using Krita

- File – New – Image Size - Predefined – A4 (300 PPI)

![Screenshot]

- Click on Create
- Choose Elliptical Selection Tool
- Click and Drag on screen holding Shift

Note it!

- Choose Elliptical Selection Tool
- First Click and drag on the screen, then Hold the Shift.
- DONOT HOLD THE SHIFT FIRST.
Gradient Tool
- Tool Options –
- Shape – Radial

![Screenshot]

- Click on the Gradients – Click on Edit

![Screenshot]

- Click on the First Colour – Change it to White colour.
- Create a Second colour maker – Change it to Red colour
- Click on the end Marker – Change the colour to the dark shade of second colour.
Now click and drag on the selection from a corner where you need the highlighter.

Output

Create a 3D Ball out of the following colours using the same process as shown above.
- Green Colour
- Blue Colour

Create a 3D button using Krita

- File – New – Image Size - Predefined – A4 (300 PPI)
- Click on Create
- Choose Elliptical Selection Tool
- Click and Drag on screen holding Shift

- Gradient Tool
- Tool Options –
- Shape – Linear

[Screenshot]

- Click on the Gradients – Click on Edit

[Screenshot]
• Click on the First Colour – Any colour [Red Colour]
• Click on the end Marker – Change the colour to the dark shade of first colour.

[Screenshot]

• Click and drag in the selection from top to bottom

[Screenshot]

• Select Menu – Shrink Selection by 60 pixels

[Screenshot]

• Gradient Tool
• Click and Drag from bottom to top [opposite direction of the previous]
Activity 2

- Create a 3D Button out of the following colours using the same process as shown above.
  - Green Colour
  - Blue Colour

Create a Pen design using Krita

- File – New – Image Size - Predefined – A4 (300 PPI)

- Click on Create
- Choose Rectangular Selection Tool
- Click and Drag on screen
- Gradient Tool
- Tool Options –
  - Shape – Linear
- Click on the Gradients – Click on Edit
- Create a gradient as shown –

- Click and drag on the screen from left to right.

- Create a New Layer

- Select as shown
- Gradient Tool – Click and drag from left to right.
- Select – Deselect

- New Layer
- Create a selection as shown
Gradient Tool – Choose a shade of Red colour (any colour) – Click and drag from left to right.

- Select the second layer containing the second design done by us. Right click on the layer – Duplicate Layer.
- Move Tool and Move as shown

Select the Red colour Body Layer. Right click – Duplicate Layer - Move and Place as shown.

- New Layer.
- Rectangular Selection Tool
- Gradient Tool.
- Choose the Gradient shade as of the first design.
- Click and drag on the screen from left to right as shown.

- Transform a Layer or Selection Tool
- Tool Options - Perspective
- Adjust as shown –

- New Layer
- Create a selection for the lead of the pen.
- Gradient Tool – Choose Grey shaded gradient.
• Transform a Layer or Selection Tool

Tool Options - Perspective
Adjust as shown –

• Create handles as per your creativity.
• Create each shape in a new layer.

Activity 3

Create a 3D Pen out of the following colours using the same process as shown above.
• Green Colour
• Blue Colour

Create a Jewellery Design using Krita

• File – New – Image Size - Predefined – A4 (300 PPI)
• Click on Create
• Create a 3D Ball using a colour in a new layer
• Create a 3D Button using a colour in a new layer

• Create duplicate copies out of the shape and arrange like Jewellery as shown.

Activity 4

Create a Digital Painting using Krita

• File – New – Image Size - Predefined – A4 (300 PPI)
Click on Create
- Image – Rotate – Rotate Image $90^\circ$ to the Right
- This will convert the canvas to Landscape.
- We have to first create a plan of contents for the design –

**Planning of Layers:**
- Background – sky
- Background – Bushes
- Background – Ground
- Grass
- Clouds
- Sun
- Birds flying – silhouette
- Stones

**Background sky** -
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen

**Ground**
- New layer
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen

[Screenshot]

**Bushes**

- New layer
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen

[Screenshot]

**Grass**

- New layer
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen
Clouds
- New layer
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen

Sun
- New layer
- Brush tool – choose type of brush
- Choose colour
- LC & drag on screen
• We can interchange the position of the layers as required.

Activity 5

• Create a Digital Painting of your own as per your creativity. You can take a reference of scenery or any subject.

Create a Greeting Card Design using Krita

There has to be complete pre-production process before creating any design in software. The pre-production includes the following:

Theme of the Design
The current theme of our design is HAPPY NEW YEAR. We are going to design a card with the contents related to this theme.

Size of the Design
After deciding the theme, it is the time to decide the canvas size upon which the design is to be made. It has to be decided whether it would be a single sided design, a double sided design, a multiple folded design etc.

The size of the design is decided to be 10 cm x 10 cm which would be single folded. That means the size of the design will be 20 cm x 10 cm. After designing and taking the printout, the print will be folded from the center. A look at the manual layout will help in understanding the size better.
Manual Layout of the Design

After deciding the Size of the Design, the designer creates a manual layout or a sketch drawing of the proposed output.

![Manual Layout of the Card](image)

[Created by the Author]

The draft of the greeting card will be divided into the following contents:

A – Upper Border of Right hand side
B – Upper Border of Left hand side
C – Bottom Border of Right hand side
D – Bottom Border of Left hand side
E – HAPPY NEW YEAR
F – 2018
G – Photo in Center
H – Logo of Gallery
I – JSR Gallery
J – Ellipse Tool
K – Copy of Ellipse Tool

PRACTICAL

- File – New
- Set the Settings as follows:

  ![Screenshot]

  - Width – 20, Centimetres
  - Height – 10, Centimetres
  - Resolution – 300 ppi (pixels per inch)
  - Colour Model – CMYK
  - View Menu – Show Rulers
  - Right Click on the Ruler Area – Change the unit to centimetres.
  - Create a Vertical Guide at the center i.e. half of 20 cm = 10 cm.
  - Click and drag from the vertical ruler to the 10 cm area. [You have to zoom and create it for perfection]
  - You will get a grey line in the center. The line will not appear in the printout.
BACKGROUND DESIGN

- Select any foreground colour. Press Shift + Backspace.
- Go to Layer menu – Layer Style – Colour Overlay – Choose the colour as required at any time. We can apply Gradient Overlay also.
- Blend Mode - Mix – Normal & Opacity – 100

A- UPPER BORDER OF RIGHT HAND SIDE

- Create a New layer
- Create a filled rectangle with any colour
- Tool Options – Warp Mode OR Liquify Mode
Liquify Mode

![Screenshot]

- Click on the screen over the Rectangle to do the adjustments.
- The output design will be as follows:

![Screenshot]

**B- UPPER BORDER OF LEFT HAND SIDE**

- We will create a copy of the right hand side design and create a mirror in the left hand side.
- Select the upper border of left hand side layer.
- Right Click on the Layer –Duplicate Layer
- Move Tool
- Move it to the Left hand Side
- Transform Tool
- Tool Options
C. BOTTOM BORDER OF RIGHT HAND SIDE

- We will create a copy of the Upper right hand side design and create a mirror in the bottom right hand side.
- Select the upper border of left hand side layer.
- Right Click on the Layer – Duplicate Layer
- Move Tool
- Move it to the bottom of right hand side.
- Transform Tool
- Tool Options
We will create a copy of the Upper Left hand side design and create a mirror in the bottom left hand side.

- Select the upper border of left hand side layer.
- Right Click on the Layer – Duplicate Layer
- Move Tool
- Move it to the bottom of left hand side.
- Transform Tool
- Tool Options

**D- BOTTOM BORDER OF LEFT HAND SIDE**
E – HAPPY NEW YEAR

• Choose the Text Tool
• Click and Drag on Screen
• Type the Text “HAPPY NEW YEAR”
• Choose the Shape Manipulation Tool
• Tool Options
• Change the colour of the Text
• Move and Place wherever required using Move Tool
F – 2018

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “2018”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool

![Screenshot]

G – Photo in Center

- [Download a vector design from internet in PNG format]
- File- Open

![Title: Vector Design
Attribution:
Source: Freepngimg
Link: http://www.freepngimg.com/png/18676-vector-high-quality.png]

- Select the Photo using Selection Tool
- Edit – Copy
- Go to the Greeting Card File
- Edit – Paste
• Adjust the size using the Transform Tool

[Screenshot]

H – Logo of Gallery

• File – Open [Open any Logo Design]
• Select
• Edit – Copy
• Go to the Greeting Card File
• Edit – Paste
• Resize using the Transform tool

[Screenshot]

I – Text of Gallery

• Choose the Text Tool
• Click and Drag on Screen
• Type the Text “University Gallery”
• Choose the Shape Manipulation Tool
• Tool Options
• Change the colour of the Text
• Move and Place wherever required using Move Tool
J – Ellipse Tool

- Create a New Layer
- Choose the Ellipse Tool
- Create an Ellipse

K – Copy of Ellipse Tool and Alignment

- Right click on the Ellipse Layer – Duplicate Layer 4 times
- Move the Layers and arrange as shown.
Create a Visiting Card Design using Krita

Size of the Design

The size of a visiting card is available in variety of sizes. The commonly used size of a visiting card is:

Width = 9 cm & Height = 5 cm

Extreme Corner: The extreme corner of the design.

Trim Line: Where the printer will cut your image.

Bleed Area: The area beyond the trim line that extends printing to the edge.

Safety Line: The border that contains all printable text.

We have to set a margin a visiting card. When the visiting card goes under the cutting machine, there is a possibility of deviation of a few percent either to the left or to the right. Hence, the design has to well behind the Trim line and only the extended design should be till the Bleed line.
Contents of a Visiting Card

The most common elements used in a Visiting Card are as follows:

- Background design
- Name of the Company
- Logo of the Company
- Address of the Company
- Quotation or Punch line of the Company
- Name of the Person
- Designation
- Mobile Number
- E-mail Id
- Website address
- Dealing in ......
- Images [if required]

Sample Output:

PRACTICAL

- File – New
- Set the Settings as follows:
• Width – 9, Centimetres
• Height – 5, Centimetres
• Resolution – 300 ppi (pixels per inch)
• Colour Model – CMYK
• View Menu – Show Rulers
• Right Click on the Ruler Area – Change the unit to centimetres.

Background design

• Select any foreground colour. Press Shift + Backspace.
• Go to Layer menu – Layer Style – Gradient Overlay – Choose the colour as required at any time. We can apply Gradient Overlay also.
• Blend Mode - Mix – Normal & Opacity – 100
Name of the Company

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “YYYYY Publications”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool

Logo of the Company

- File- Open [Open the logo file]
- Select the Logo using Selection Tool
- Edit – Copy
- Go to the Visiting Card File
- Edit – Paste
- Adjust the size using the Transform Tool

Address of the Company

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “Address”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool

Quotation or Punch line of the Company

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “Quotation”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool
Name of the Person

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “Name of the person”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool

Same Process for Designation, Mobile Number, E-mail Id, Website address, Dealing in etc.

- Choose the Text Tool
- Click and Drag on Screen
- Type the Text “Designation”
- Choose the Shape Manipulation Tool
- Tool Options
- Change the colour of the Text
- Move and Place wherever required using Move Tool

Images [if required]

- File - Open
- Select the Photo using Selection Tool
- Edit – Copy
- Go to the Visiting Card File
- Edit – Paste
• Adjust the size using the Transform Tool

The output will be as follows:

![Screenshot]

<table>
<thead>
<tr>
<th>Activity 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Create a Visiting Card of your own as per your creativity. You can take a reference of designs from internet.</td>
</tr>
</tbody>
</table>
Unit summary

In this Unit we have described about a number of Professional Project Works using Krita. After learning these projects, you can identify the type of work in a project and can decide the process required for completing the project. You can create a professional output matching the standards required.

Assignment

- Create the following using Krita and Inkscape and Save it in a PNG File format.
  - 3d Ball
  - 3d Button
  - Pen Design
  - Jewellery Design
  - Greeting Card Design
  - Visiting Card Design

Assessment

- Name the Projects done in this unit.
- Name the software used for creating the projects in this unit.

Write (Process of converting soft copy into CD/DVD) all the above Assignments in DVD using Nero with the video output, raw source files of the software used and submit it to the University.
Resources

Go through the following website for details of Krita Projects and Tutorials:
http://www.davidrevoy.com/categorie5/tutorials

Web Reading Reference