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COMPUTER GRAPHICS ASSIGNMENT 1

a)**Ai**-Adobe Illustrator, It is a vector based format.

Brief history: Illustrator, Adobes first s/w application was released in 1987 for Apple Macintosh.Among its significant features was its pen tool, which enabled the user to draw smooth curves and create high resolution shapes and images. In 1989 Adobe released Ilustrator for Microsoft Windows Personal computers.

Use: When you need to create a logo, icon or brand mascot.Every vector shape and line can be blown up to any size,making it ideal for images that need to be used in many different ways.

b)**WMF**-Windows Metafile, It is a vector based format.

Brief History: Originally designed for Microsoft Windows in the 1990s. The original Windows Metafile was not device independent, though it could be made more so using placement holders and may contain both vector graphics and bitmap componenents. WMF files were later superceded by Enhanced Metafiles which did provide device independence. EMF files were then themselves enhanced via EMF+ files.

Use:When modifying graphics in an image editor and printing high quality images. It supports 16 bit image data that can be scaled and output at a higher definition.

c)**Cmx**: Corel Metafile Exchange Image file, It us a vector based format.

Brief History: Was developed in 1989 to bundle the desktop publishing systems.Corel draw 1.x and 2.x ran under Windows 2.x and 3.0. Corel draw 3.0 came into its own with microsofts release of windows 3.1. The inclusion of Truetype in Windows 3.1 transformed Corel Draw unto a serious illustration program capable of using system installed outline fonts without requiring thirdparty s/w;paired with a photoediting program, afont manager and several other pieces of s/w.

Use: Used by corel programs such as Corel draw,Corel presentations and paint shop pro. It is usedc for storing vector based image files included with Corel Mega Gallery clip art.

d)**Cgm**: Computer Graphics Metafile; It’s a vector based format.

Brief History: Initially releasd in 1986 and is extended from Graphic Kernel System. Was later advanced by ISO,IEC AND W3C.

Use: Used for CAD drawings, storage and exchanging vector graphics(2D), raster graphics and text.

e*)* ***ODG***: Open Document Graphic File; It is a vector based format.

Brief History: Was developed by a technical committee (TC)under the Organization for the Advancements of Structured Information Standards(OASIS).

Use: It is an open standard file format for spreadsheets, charts,presentations and word processing document documents using zip compressed XML files.

It is used for logo illustrations and other drawings.

f) **EPS**: Encapsulated Post Script; It is a Vector Based format.

Brief history: Was developed in the late 1980s by Adobe Systems Incorporated to facilitate the incorporation of illustrations into textual documents for printing.

Use: When you need to send a vector logo to a client,designer or a printer.You don’t need to worry about where the logo will be placed or printed. No matter the size,it will always appear at the correct resolution.

g) **DXF**: Drawing Exchange Format; It is vector based format.

Brief History: It was introduced in 1982 with the purpose to produce the exact representations of AutoCAD native DWG files on other applications .

Use: Used In CAD programs because it can exist in atext based ASCII format that naturally makes it easier to implement in these type of applications .

h) **BMP**: Bitmap Image files; It is a raster based format.

Brief History: Original format was created for Windows 1.0 and was very simple.It had a fixed coor palette , did not support bitmap data compression and was designed to support the most popular IBM PC graphics cards in use at the time.

Use: Can be used for storing crisp and hjigh quality images because it can store color data for each pixel in the image without any compression . It supports various color depths , alpha channels, color profiles and optional data compression thus making it relatively versatile.

i)**JPEG**: Joint Photographic Expert Group ; It is a raster based format.

Brief History: In 1983 researchers with ISO started working on ways to add photo quality graphics to the text only computer terminal screens of the day. 3 years later JPEG was formed to create a new standard named the JPEG standard that used data compression to keep graphic files small.

Use: Offers you the most flexibility with raster editing and compression making them ideal for web images that need to be downloaded quickly

j)**GIF**: Graphics Interchange Format; It is a raster based format.

Brief History: Compuserve introduced GIF on june15 1987 to provide a color image format for their file downloading areas. Thos replaced the earlier run length encoding format which was black and white only. It became popular because it used LZW data compression.Now fairly large images could be downloaded quickly even with slow modems. Original version was called 87a, and later the enhanced version was called 89a.

Use: When you want to create web animation .GIF images hold all of the animation frames and timing information in one single file .

k) **TIFF**: Tagged Image File Format; It is a raster based format.

Brief History: It was created as an attempt to get desktop scanner vendors of the mid 1980s to agree on a common scanned image file format, in place of a multitude of proprietary formats. In 1988 October, Revison 5.0 was released and it added support for palette color images and LZW compression.

Use: when you need high quality print graphics, if ypu are printing photos especially at enormous sizes and when making high quality scans for documents, photos and artwork

l) **PICT**: It is a raster based format.

Brief History: It was developed by Apple Computerin 1984 as the native format for Macintosh graphics

Use:for interchange of graphics,both bitmapped and vector, and some limited textr support, between Mac applications.

m) **SVG** : Scalable Vector Graphics; It is vector based format.

Brief History: It was developed by the w3c SVG Working Group starting 1998 after 6 competing vector graphics. Versions: version 1.x.version 2.x

Use: When you want to create computer generated graphs and diagrams for publishing on the web. Can be searched,indexed,scaled,and compressed and can result in smaller file sizes than other file formats.

QUESTION 2.

1.DDA.

S(7,1),

E(14,3)

Δy/Δx=2/7;

M=0.3;

M,<1

AbsΔx>AbsΔy; steps=Δx=7

X Y

X

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7 | 1 | 8 | 1.3 | (8,1) |
|  |  | 9 | 1.6 | (9,2) |
|  |  | 10 | 1.9 | (10,2) |
|  |  | 11 | 2.2 | (11,2) |
|  |  | 12 | 2.5 | (12,3) |
|  |  | 13 | 2.8 | (13,3) |
|  |  | 14 | 3.1 | (14,3) |
|  |  |  |  |  |

2. MIDPOINT

ΔY=2, ΔX=7

Dinitial=2(2)-7=-3

ΔD=2(2-7)= -10

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | 7 | 1 |
|  | -3 | 1 | 8 | 1 |
|  | 1 | -9 | 9 | 2 |
|  | -9 | -5 | 10 | 2 |
|  | -5 | -1 | 11 | 2 |
|  | -1 | 3 | 12 | 2 |
|  | 3 | -7 | 13 | 3 |
|  | -7 | -3 | 14 | 3 |

3. BRESENHAMS.

Δy=2

2Δy-Δx=-3;

<0

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | 7 | 1 |
| -3 | 1 | 8 | 1 |
| 1 | -9 | 9 | 2 |
| -9 | -5 | 10 | 2 |
| -5 | -1 | 11 | 2 |
| -1 | 3 | 12 | 2 |
| 3 | -7 | 13 | 3 |
| -7 | -3 | 14 | 3 |