
Software Requirements Specification

for

Graphics Editor Software

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to define the requirements for Graphics Editor Software (GES), version 1.0 must meet. This is the very first release of this software. This document contains all the necessary information to start the development process till the end.

1.2 Product Scope

The purpose of this project is to develop an JAVA based Graphics Editor Software. This application helps the user with no coding skills to create several types of geometric objects such as circles, ellipses, rectangles, lines, polygons, and texts associated with them. Also the software can be used for modifying various characteristics of the objects created, loading images and saving created graphics. The software is user friendly and also have a graphical user interface.

1.3 References

- https://www.google.co.in/search?q=paint+desktop&biw=1708&bih=849&source=lnms&tbm=isch&sa=X&sqi=2&ved=0ahUKEwjv45LYkOLRAhXMuY8KHRiiDVMQ_AUIBigB#imgrc=8gdPk-IQbZozHM%3A image has be used. It is the image of Microsoft Paint and has been used to Roughly depict the user interface in the software to be developed.
- SRS template provided by IEEE has be used to create this document.

2. Overall Description

2.1 Product Functions

Creating several types of geometric objects such as circles, ellipses, rectangles, lines, polygons, and texts associated with them .Modifying various characteristics of an object such as its shape, size, location, color, fill style,line width, line style (dashed, dotted, continuous), etc. can be changed. For texts, the text content can be changed. Copying or moving the selected object to a different location, or deleting a selected object. Saving the created graphics on the disk under a user specified name. Loading a previously created graphics file from the disk. Importing bitmap pictures into specified positions in the drawing. Defining a rectangular area on the screen and zooming the area to fill the entire screen.

2.2 Operating Environment

The software is platform independent and could be run on any operating system.

2.3 Design and Implementation Constraints

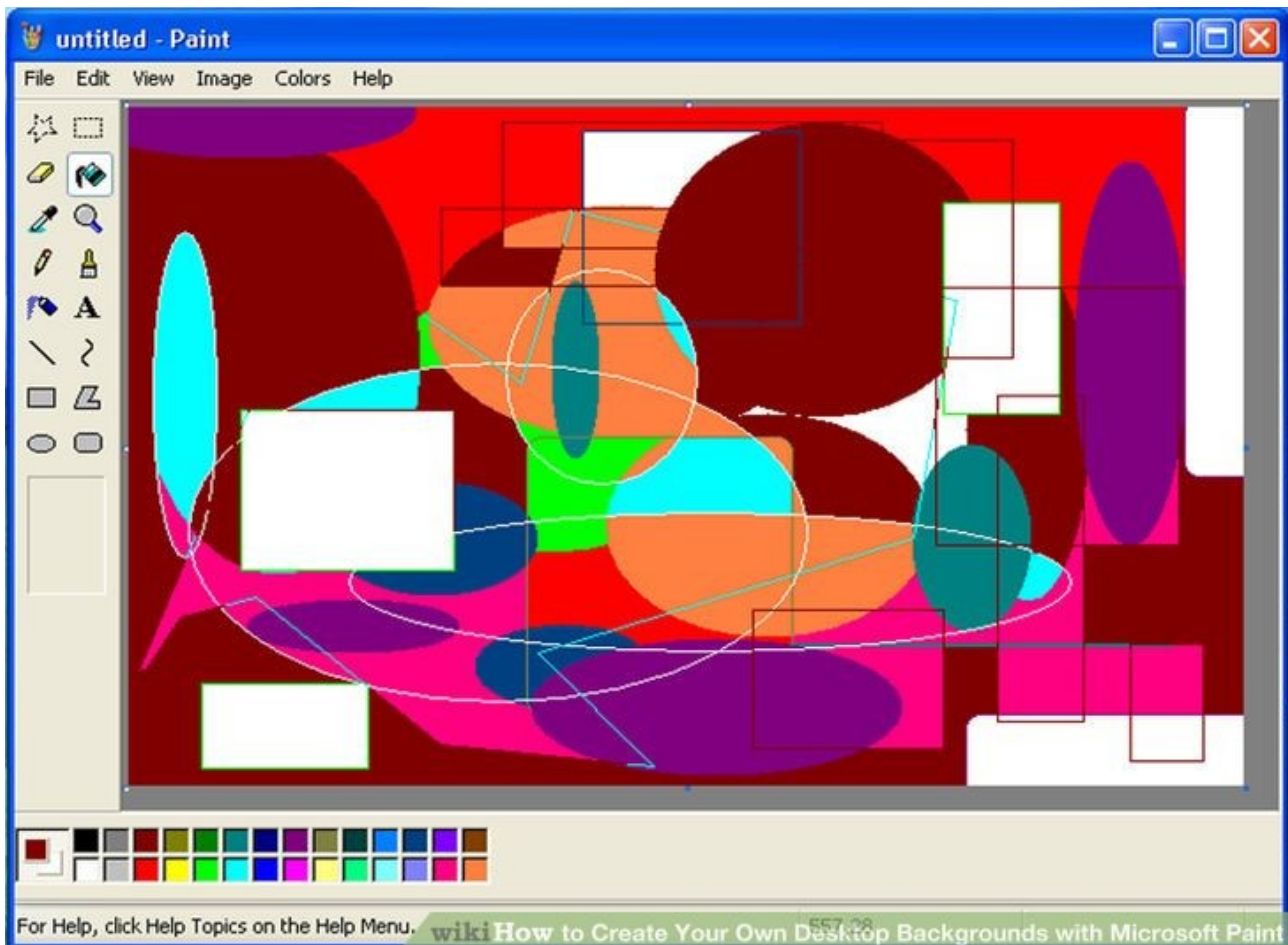
The images created will be restricted with limited no. of colors. Also the coloring used in fill color the enclosed

2.4 Assumptions and Dependencies

GES run without installation. Simply unzip the files into a directory of your choice and run GES.jar . So runs on any platform, any operating system

3. External Interface Requirements

3.1 User Interfaces



The following image is a Rough sample main window with all toolbars. On the top we can see the Menu bar with "Menu", "Edit", "View", etc. The last one is an about menu item. Below that we can see the Draw, Attributes and Align toolbars. At the bottom left corner we can see the two options for zoom and Toggle Grid tool.

Draw also provides some useful shortcuts:

- 1 Select All Ctrl + A*
- 2 Deselect All Ctrl + Shift + A*
- 3 New Ctrl + N*
- 4 Open Ctrl + O*
- 5 Save Ctrl + S*
- 6 Close Ctrl + F4*
- 7 Undo Ctrl + Z*
- 8 Redo Ctrl + Y*
- 9 Cut Ctrl + Z*
- 10 Copy Ctrl + C*
- 11 Paste Ctrl + V*
- 12 Delete Delete*
- 13 Also with right click program shows a menu with cut, copy, paste and select same choices.*

3.2 Hardware Interfaces

There are no special hardware interfaces . GES uses only Keyboard and mouse.

3.3 Software Interfaces

The only requirement of GES is JAVA.

3.4 Communications Interfaces

No Communication interfaces.

4. System Features

4.1 Creating several types of geometric objects:

Functional Requirement:

- It should be possible to select an object by clicking a mouse button on the object icon. This icon should be shown in a highlighted color. An object of default dimensions, and location will be created.
- User must be able to create objects such as circles, ellipses, rectangles, lines, polygons, and texts associated with them.
- Also user must be able to do an undo/redo for every change he created.

4.2 Modifying various objects' characteristics

Functional requirements:

- Characteristics of the object such as shape, size, location, color, fill style, line width, line style (dashed, dotted, continuous), etc. can be changed. For texts, the text content, font, bold, italic, underline feature can be changed/added.
- Moving the selected object to a different location .
- Copying and deleting the object must also be available.
- A grouping function to handle complex drawings. A group can be formed by selecting a set of objects. A group can include other groups as well. A drawing object can be a member of at most one group. A group behaves as a single entity for move, copy and delete operations.

4.3 Saving Created graphics

Functional requirements:

- User could save graphics created by him in a '.png' file.
- User can save the changes into a new file or a '.png' file loaded by him to edit.

4.4 Importing Bitmap pictures

Functional Requirements:

- User must be able to import images from file specified. The imported image will be placed at a default location in the graphics created till then.
- User shall then be able to move, copy, paste, delete, resize, rotate the imported bitmap image.
- A set of 10 clip boards should be provided to which one can copy various types of selected entities (including groups) for future use in pasting these at different places when required.

4.5 Zooming and Fitting features

Functional Requirements:

- Defining a rectangular area on the screen and zooming the area to fill the entire screen.
- A fit screen function to make the entire created graphics fit the screen by automatically adjusting the zoom and pan values.
- A pan function to shift the displayed drawing along any direction by a specified amount.

4.6 Drawing using pencil and paint brush

Functional Requirements:

- User must be able to draw/paint simply using the mouse, by clicking and moving it. Hence options like Pencil, Brush will be used.

4.7 User Color Palette

Functional Requirements

- A set of colors will be available which consists of 20 colors. Initially it will be given blank. But as user uses any color, that color is placed at position one of the palette and rest colors are shifted by one place toward the end. If 20th position was previously occupied, then is replaced by 19th one and this goes on.

4.8 Multiple Working Tabs

Functional Requirements

- The user must be enabled to work on more than single file on the same time. This can be achieved by opening each file in different tabs.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- *Performance:*
The software runs smoothly even when multiple images are loaded.
The OS must support multi-threaded applications
- *Readability:*
All the Text will be legible enough for the user to read and work on.

5.2 Software Quality Attributes

- *Usability:*
The software is easy to use since it has a user friendly GUI. The main audience of the software will consist of school students. Also a help documentation of functions usability of the software will be included in the menu bar.

6. Other Requirements

None.