

## HWGP01 - User Stories

### Team Unicorn

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#### User Story #1:

- A. Statement: As a user, I would like to create various different geometric shapes.
- B. Description:
  - a. The user will be able to create shapes such as circle, triangle, rectangle, pentagon, etc.
- C. Tasks:
  - a. Create multiple shapes on the same plane of multiple colors.
- D. Tests:
  - a. Verify the creation of shapes on a plane through visual analysis.
- E. Assignee: Felix: Develop overall class design and UML.  
Kevin: Develop specific algorithms for displaying each shape
- F. Estimation: 28 hours
- G. Priority: High
- H. Done: TBA

#### User Story #2:

- A. Statement: As a user, I would like to be able to create customizable text objects.
- B. Description:
  - a. The user will be able to create text on the plane that can vary in size, font family, font style, and font-weight.
- C. Tasks:
  - a. Create text that has many properties that can be changed while on a 2D plane with multiple other objects.
- D. Tests:
  - a. Verify that text can be customized in font size, font family, and such.
- E. Assignee: Brighton: Develop ability to display text and add font functionality.
- F. Estimation: 10 hours
- G. Priority: Medium
- H. Done: TBA

#### User Story #3

- A. Statement:
  - a. As a user, I want to be able to compare the areas and perimeters of multiple shapes.
- B. Description:
  - a. The user will be able to compare the areas between multiple shapes whether

- it'd be a circle, square, triangle, rectangle, pentagon, etc.
  - b. The user will be able to compare the perimeters between multiple shapes.
- B. Tasks:
  - a. The user can choose which two shapes they want to compare.
- C. Tests:
  - a. Compare the areas and perimeters of two squares.
  - b. Compare the areas and perimeters of one square and one circle.
- D. Assignee:
  - a. Nathan, implement code for member class data, member class functions, and implement a way for the user to display the result.
- E. Estimation: 3 hours
- F. Priority: Low
- G. Done: TBA

#### **User Story #4:**

- I. Statement: As a user, I want to be able to resize the shape.
- J. Description:
  - a. Any selected shape can be made either bigger or smaller
- K. Tasks:
  - a. Set a default size of the shape when the user initially chooses it.
  - b. Provide a context menu for the user to change shape size.
- L. Tests:
  - a. Verify all shape categories follow the default shape size.
  - b. Verify the user's ability to select a size for a selected shape.
- M. Assignee: Lee: Make menu for the user and default shape size.  
 Benia: Prompt the user to enter values on width and height so that they can resize the shape.
- N. Estimation: 1-3 hours
- O. Priority: Medium
- P. Done: TBA

#### **User Story #5**

- a. Statement
  - i. As a user, I want to replicate (copy and paste) my drawn object
- b. Description:
  - i. The user can select the indicated object and copy and paste it onto another part of the canvas
  - ii. The user can utilize a keyboard shortcut or an appropriated button on the GUI in order to perform this operation
  - iii. The newly replicated object will be a complete separate entity from its original object
- c. Tasks:
  - i. The object must be a separate item from the canvas in order for the user to isolate just the object, not a portion of the canvas that the object has merged with.

- ii. The user must be allowed options to work with the object. The object cannot be permanent in terms of location, size, color, etc.
  - iii. The user must be allowed to cancel or undo the copy-and-paste operation.
- d. Tests:
  - i. Verify that the object is distinguished from the canvas.
  - ii. Verify that the object and the newly created object are allowed to be manipulated after creation.
  - iii. Verify that the newly replicated object is just like any other independent object but carries exact qualities and characteristics of the original object.
  - iv. Verify that the copy-and-paste can be applied to the new object and repeat the process with no errors.
- e. Assignee: Lina: Develop ability to copy paste shapes.
- f. Estimation: 16-20 hours
- g. Priority: Medium
- h. Done: TBA

### **User Story #6**

- A. Statement:
  - a. As a user I want to be able to move the drawn shape, after it has been drawn.
- B. Description:
  - a. A user of the client can after creating and drawing a shape, move it around the screen.
- C. Tasks:
  - a. After creating a shape prompt the user if they would like to translate it horizontally, vertically, or diagonally
  - b. Alongside moving the shape prompt the user to keep the original shape on screen as well
- D. Tests:
  - a. Verify that a move functions is working properly
  - b. Verify that entering distances moves the shape an appropriate distance
  - c. Entering a negative distance should move the shape to the left, positive to the right
  - d. If the user wants too, the original shape should still be present after the move
- E. Assignee:
  - a. Jay, implement the function to prompt the user into entering new coordinate location, or translation distance.
  - b. Felix, implement the ability for the original shape to remain on screen after a move.
- F. Estimation: 30 hours
- G. Priority: High
- H. Done: TBA

### **User Story #7**

- A. Statement:
  - a. As an admin, I want to be able to modify the drawn shape's properties.

- B. Description:
  - a. An admin is the only one who can change the shape dimensions, pen color, pen width, pen style, pen cap style, pen join style, brush color, brush shape.
- C. Tasks:
  - a. An admin should be able to change the shape's selected property by modifying their values in a separate text file or having a pop up window for it?
- D. Tests:
  - a. Verify that when clicking a button or sliding a slider, the shape's width is modified visually on the screen.
- E. Assignee: Benia, implement code so that there is a way for admin only to change the shape's properties. Whether it's from a pop up window or the admin entering values to an executable file or sliding a slider for the values.
- F. Estimation: 40 hours
- G. Priority: Low (Extra Credit feature)
- H. Done: TBA

### **User Story #8**

- A. Statement:
  - a. As a user, I want to rotate any shape.
- B. Description:
  - a. User can rotate the shape in any direction as needed.
- C. Tasks:
  - a. Implement a simple interface to allow for easy shape rotation based on given values.
  - b. If possible, implement a click-and-drag solution with real time rendering of movement.
- D. Tests:
  - a. Rotate the shape in a variety of increments such as 45°, 90°, -90°, and 450°.
- E. Assignee: Benia, implement a prompt for the user to choose which degree they want the shape to be rotated to
- F. Estimation: 4 hours
- G. Priority: Medium
- H. Done: TBA

### **User Story #9**

- A. Statement:
  - a. As a user, I can contact the software vendor with questions using a built-in contact form.
- B. Description:
  - a. A user can contact the software vendor, 2D Graphics Modeler Inc..
  - b. The user can submit feedback or questions through a contact form embedded in the software.
  - c. Messages will be emailed to the software team lead.
- C. Tasks:

- a. As a user, I can send a feedback message at any time during program execution.
  - b. As a user, bug/crash reports can be sent upon discovery of exploits.
- D. Tests:
  - a. Verify that the contact form menu page can be opened successfully.
  - b. Verify that the contact form functions properly, and all text written by the user is stored.
  - c. Verify that an email is sent within 1 minute of completion of form to the team lead.
- E. Assignee: Felix: Develop functions to send user inquiries through email.  
Lee: Create user interface for the contact form menu
- F. Estimation: 12 hours
- G. Priority: Low (Extra Credit feature)
- H. Done: TBA

### **User Story #10**

- I. Statement:
  - a. As a user, I can change the color of any shape.
- J. Description:
  - a. A user can change the color of a shape using predetermined colors (blue, red, green, black, purple, pink, etc.) or enter in a custom RGB value
  - b. The user can see immediate feedback for hovering over a color option (e.g. hovering over a color will temporarily display the shape in that color for as long as the user hovers over
- K. Tasks:
  - a. As a user, I can change the color of any shape
  - b. As a user, I can enter an RGB value to create a custom color to change a shape to
  - c. As a user, I can see immediate feedback for hovering over a color option
- L. Tests:
  - a. Verify that all predetermined colors can be used on all possible shape categories
  - b. Verify that RGB colors can be used on all possible shape categories
  - c. Verify that color selection menu works properly
- M. Assignee: Brighton - implement a basic menu that alters RGB values based on given input and, if possible, an additional menu that allows real-time color selection via color wheel
- N. Estimation: 14 hours
- O. Priority: Low
- P. Done: TBA