AcademiCS Application Framework

Use Case Descriptions for The Big Pixel
Associated with the Fourth Set of Milestones and Deliverables

UD1. Start the Application

Actors: User.

Preconditions: None.

Triggers: The User starts the application.

Flow:
1. The system presents an empty grid.
2. The title bar is blank.
3. New, Open, Print Image, and Quit are enabled in the File menu.
4. All items are enabled in the Options menu.

UD2. Open an Existing Document

Actors: User, File System.

Preconditions: A BigPixel (`.bpx`) file exists on the File System.
Open is enabled.

Triggers: The User clicks on File and then Open.

Flow:
1. The system presents the User with a file dialog displaying the appropriate files.
2. The User selects a file.
3. The User confirms the selection.
4. The system reads the selected file from the File System into the current document.
5. The system displays the file name in the title bar.
6. New, Open, Close, Print Image, and Quit are enabled in the File menu.
7. All items are enabled in the Options menu.

UD3. Quit the Application

Unchanged.

UD4. Create a New Document

Actors:	User.
Preconditions:	New is enabled.
Triggers:	The User clicks on File and then New.
Flow:	1. The system displays the new document.
	2. The system sets the title bar to "(No Name)".
	3. The system enables all menu items.
	5. New, Open, Close, Print Image, and Quit are enabled in the File menu.
	6. All items are enabled in the Options menu.

UD5. Print the Current Document

Actors:	User, Printer.
Preconditions:	Print is enabled.
Triggers:	The User clicks on File and then Print.
Flow:	1. The system presents the User with a printer dialog displaying the appropriate options.
	2. The User makes choices.
	3. The User confirms the choices.
	4. The system prints the current picture.

UD6. Set the Brush Color

Actors:	User.
Preconditions:	Set Color is enabled.
Triggers:	The User clicks on Options and then Set Color.
Flow:	1. The system presents the User with a color dialog displaying the appropriate options.
	2. The User makes choices.
	3. The User confirms the choices.
	4. If a color was chosen, the system sets the color that will be used the next time an element is painted.

UD7. Change the Brush Size

Actors: User.

Preconditions: Set Brush Size is enabled.

Triggers: The User clicks on Options and then Set BrushSize.

Flow: 1. The system presents the User with a a drop-down list allowing them to select the number 1 through 9.
2. The User selects a size.
3. The User confirms the selection.
4. If a size was chosen, the system sets the brush size that will be used the next time an element is painted..

UD8. Show/Hide the Grid

Actors: User.

Preconditions: Grid is enabled.

Triggers: The User clicks on Options and then Grid.

Flow: 1. The User checks/unchecks the grid option.
2. The system displays the current picture (with/without the grid, as appropriate).

UD9. Paint a Big Picture Element

Actors: User.

Preconditions: A current color has been selected.
The brush size is greater than 0.
A (modified or unmodified) document is available for painting.

Triggers: The user clicks on the upper-left cell of the big picture element.

Flow: 1. The system determines if the big picture element will fit in the picture (to the right and below the selected cell) given the current brush size.

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2. If the big picture element will fit the system adds a big picture element of the current brush size with the current color to the picture at the appropriate position.
3. The system appends a * to the current title to indicate that the current document has been edited.
4. The system displays the current document.
5. The system disables/enables the appropriate functionality.
6. Close and Print Image are enabled in the File menu.
7. All items are enabled in the Options menu.