

# **VISION**

## **User Guide**

Team Atlantis

CSC289.0001

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## 1.0 General Information

### 1.1 System Overview

The VISION system is designed to allow a user to display a message or image on a 16 x 96 dot matrix marquee to a large group of viewers. The VISION system has an easy-to-use interface and pre-programmed special effects that the user will pick from to display their message or image to their viewers. Users will be able to store and retrieve previous messages and images with the account they will make when they open the VISION system.

### 1.2 Points of Contact

The following table is a list of contact information that users should reference in case of questions pertaining to the VISION program.

Name	Role	Phone	Email
A. Lloyd Walters	Project Manager	(919) 614-8739	<a href="mailto:lewalters@my.waketech.edu">lewalters@my.waketech.edu</a>
B. Augustine Abban	Assistant Project Manager	(334) 492-1644	<a href="mailto:aabban@my.waketech.edu">aabban@my.waketech.edu</a>
C. Hector Gonzalez	Design Engineer	(919) 720-5607	<a href="mailto:hmgonzalez1@my.waketech.edu">hmgonzalez1@my.waketech.edu</a>
D. Tayyab Razzaq	Test Engineer	(919) 961-7349	<a href="mailto:trazzaq@my.waketech.edu">trazzaq@my.waketech.edu</a>
E. Carter Oakes	Documentation Lead	(919) 600-4949	<a href="mailto:cloakes@my.waketech.edu">cloakes@my.waketech.edu</a>

### 1.3 Organization of the User Guide

This User Guide is divided into 3 major sections:

- 1.0 — General Information: Contains the basic information of the VISION system, including the functions, references, and points of contact.
- 2.0 — System Summary: Contains the general overview of the system.
- 3.0 — Getting Started: Contains a walk-through guide of the VISION system, from beginning to end.

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## 2.0 System Summary

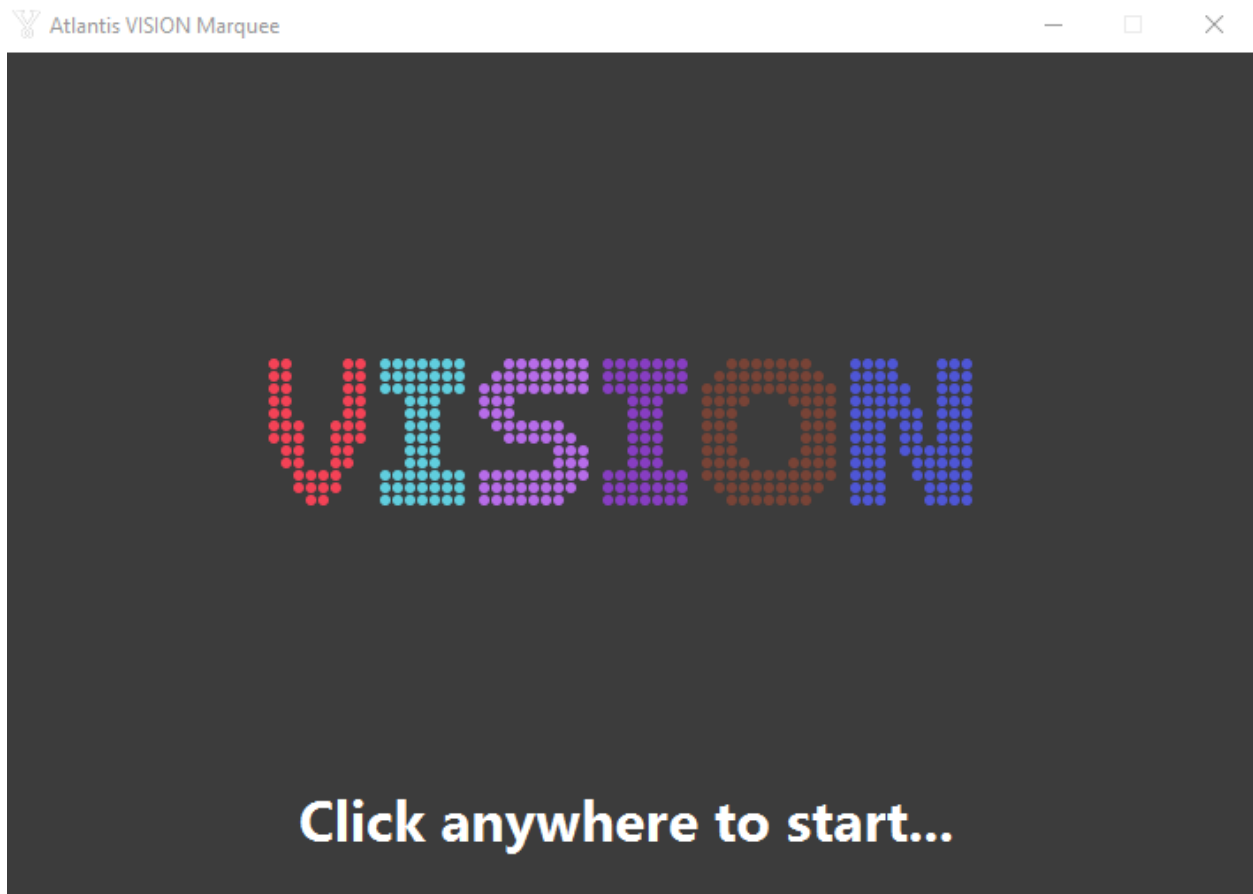
### System Configuration

The VISION application provides users with a GUI to interact with the matrix marquee to help them decide what kind of message or image they would like their customers to view, decide special effects, message/image run time, and storing and retrieving previous messages/images.

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## 3.0 Getting Started

The figures below will show a walkthrough of the VISION program. The user will be welcomed to the VISION program and be prompted to click anywhere on the screen to continue.



*Figure 1 Welcome Screen*

Once the user clicks on the screen they will be sent to the VISION GUI which will be the main screen for the VISION program where users will be able to set up their marquee to their preferences.

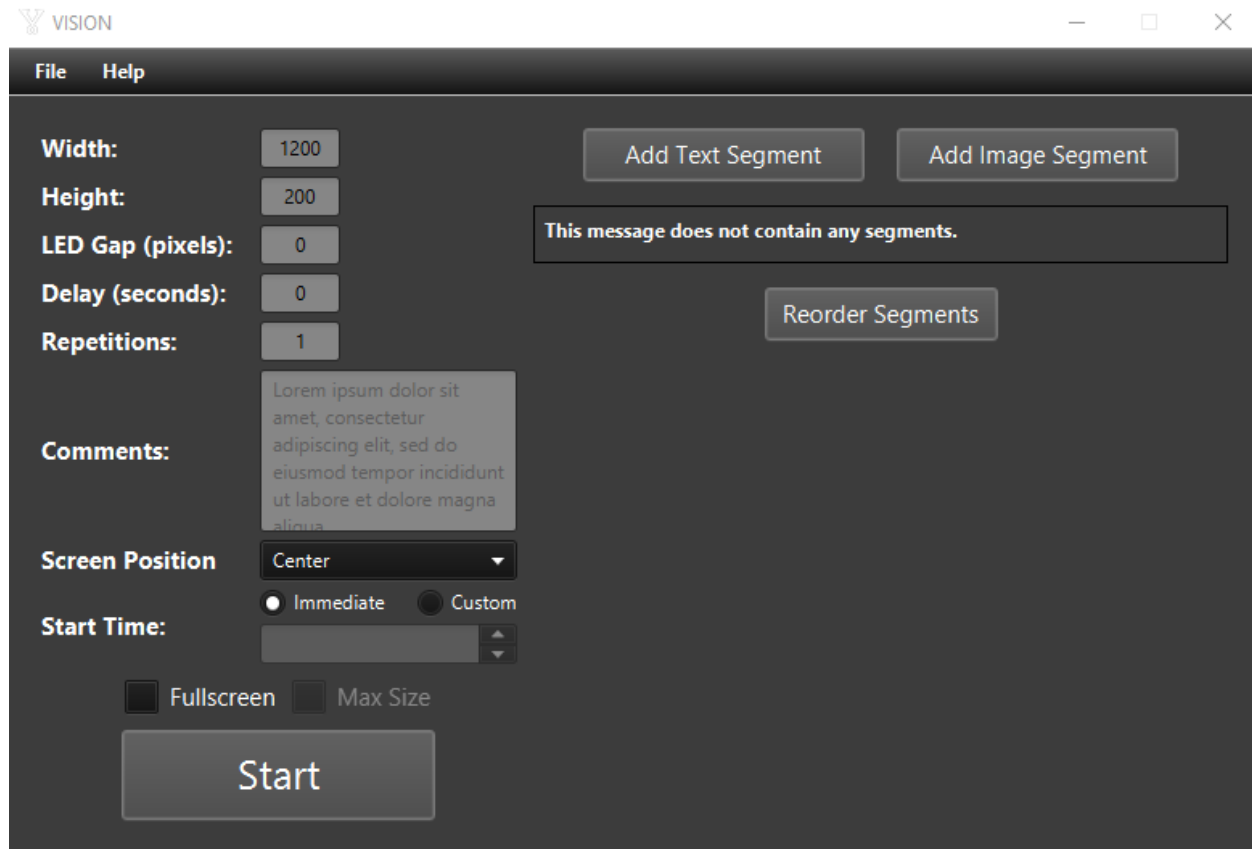


Figure 2 Settings Pane

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The user will be prompted to enter the settings for the message and how the marquee will display the message.

The image shows a 'Message Settings' dialog box with a dark background. It contains several input fields and controls, each with a red circle and a number indicating its function:

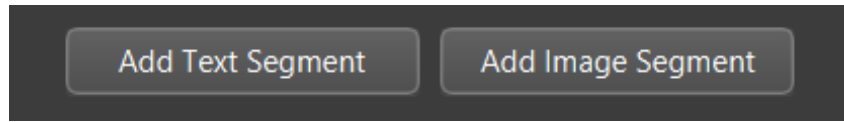
- Width:** A text input field with the value '1200' and a red circle with the number '1'.
- Height:** A text input field with the value '200' and a red circle with the number '2'.
- LED Gap (pixels):** A text input field with the value '0' and a red circle with the number '3'.
- Delay (seconds):** A text input field with the value '0' and a red circle with the number '4'.
- Repetitions:** A text input field with the value '1' and a red circle with the number '5'.
- Comments:** A text area containing placeholder text ('Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua') and a red circle with the number '6'.
- Screen Position:** A dropdown menu with 'Center' selected and a red circle with the number '7'.
- Start Time:** A section with two radio buttons, 'Immediate' (selected) and 'Custom', and a red circle with the number '8'.
- Fullscreen/Max Size:** Two checkboxes, 'Fullscreen' and 'Max Size', both unchecked, with a red circle with the number '9'.

*Figure 3 Message Settings*

- 1 - Width controls how wide the Marquee will display after clicking start.
- 2 - Height controls how tall the Marquee will display after clicking start.
- 3 - LED Gap controls how the gap between dots that display on the Marquee.
- 4 - Delay controls the timing of the message until it is repeated for a certain amount of times.
- 5 - Repeat controls how many times the message is repeated.
- 6 - Comments explain what the message is doing and is for user input.
- 7 - Screen Position controls where on the screen will the Marquee display.
- 8 - Start Time controls the time when the message on the Marquee will display.
- 9 - Full screen controls if the Marquee box will be full screen or not.
- 9 - Max Size displays the Marquee at the max size of the screen the user is using.

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If the user would like to create a text or image segment there are two buttons, if pressed the user will be sent to another location to enter data for the segment of choice.



*Figure 4 Segment Creation*



If the user clicks the “Add Text Segment” button they will be brought to the Text Segment Settings screen where they can create and control how the text segment is displayed on the Marquee. If you validate the Text Segment and it is valid you are able to click the “Preview” button and it will show you an example of the settings you chose and how it will look on the Marquee.

The screenshot shows the 'Text Segment Settings' dialog box. It has a title bar with a close button (X) and a 'Segment Settings' label. The main area is divided into several sections:

- Text:** A text input field with the placeholder 'Enter display message...' (Callout 1).
- Text Color(s):** Radio buttons for 'Single' (selected), 'Random', and 'Custom' (Callout 2). Below 'Single' is a color picker showing 'White' (Callout 3).
- Duration (seconds):** A numeric input field set to '1' (Callout 3).
- Repetitions:** A numeric input field set to '1' (Callout 4).
- Delay (segment):** A numeric input field set to '0' (Callout 5).
- Delay (subsegment):** A numeric input field set to '0' (Callout 6).
- Segment Animation:** A section with radio buttons for 'Static' (selected), 'Continuous Scroll', and 'Effects' (Callout 10). Below 'Continuous Scroll' are two examples: '10 B' and '10 C' (Callout 10 B and 10 C).
- Border Color(s):** Radio buttons for 'None' (selected), 'Random', and 'Custom' (Callout 7).
- Border Effect:** A dropdown menu set to 'None' (Callout 8).
- Padding Color:** Radio buttons for 'None' (selected) and 'Custom' (Callout 9).

At the bottom are 'Apply' and 'Cancel' buttons. A 'Preview' button is located at the top right of the main area.

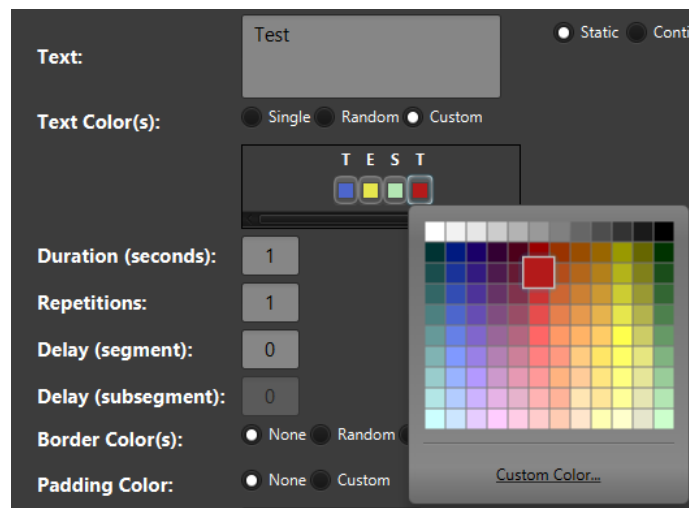
Figure 5 Text Segment Settings

(On the next page is definitions for each number)

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1 – Text controls what text will be displayed on the Marquee for the Text Segment.

2 – Text Color(s) controls what color the text will be when displayed on the Marquee. There are three options that you can choose from which include Single (which will display the whole Text Segment in one color), Random (which displays each character in the Text Segment with random colors), and Custom (which allows the user to choose a separate color for each character in the Text Segment). Below is an example of how to choose Custom colors for the Text Segment.



3 – Duration controls how long the Text Segment will display on the Marquee.

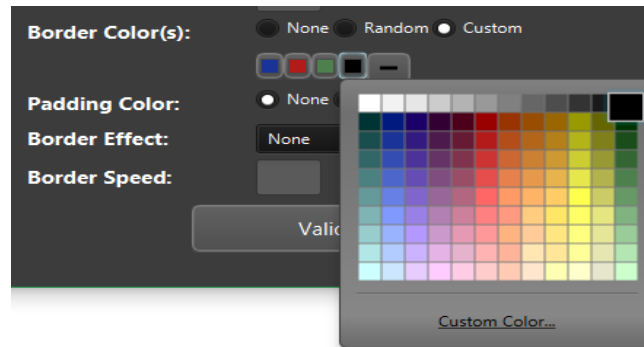
4 – Repetitions controls how many times the Text Segment will repeat on the Marquee.

5 – Delay controls the time in which the next Segment will display on the Marquee.

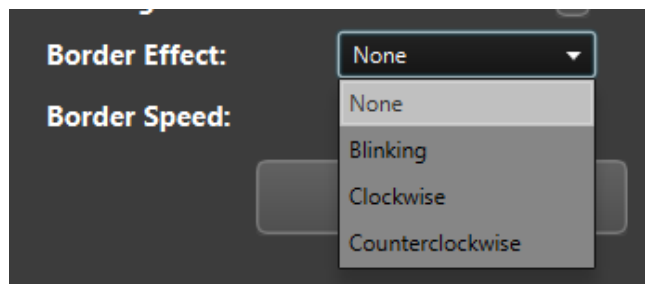
6 – Delay (subsegment) controls the time in which the next subsegment will display on the Marquee.

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7 – Border Color(s) controls what color you would like the border to have. There are three options that the user can choose from which include None (which will not display a border), Random (which will display the border with random colors) and Custom (which will give the user complete control over how many colors the user would like the border to have and which colors to make the border, you may also delete colors from the custom border with the (-) sign). Below is an example of the Custom border with multiple colors.



8 – Border Effect controls the effect you would like the border to display on the Marquee. The user has 4 options to choose from which include None (which displays no effect on the border), Blinking (which the border will turn the border dots on and off), Clockwise (which displays the dots going around the border in a clockwise direction), and Counterclockwise (which displays the dots going around the border in a counterclockwise direction).

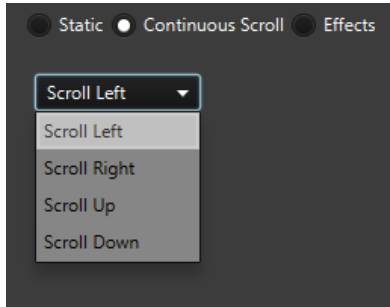


9 – Padding color controls the dot color between the border and the Text Segment and allows you to add a custom color to make your Text Segment pop!

10 – There are three options in which you can choose how the Text Segment will display on the Marquee. The Static option will display the Text Segment with no effects.

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10 B – The Continuous Scroll option will choose which direction the Text Segment will scroll across the screen. If the Text Segment is too long the user will not be able to choose this option. Below is an example of the choices you can make with the Continuous Scroll option.



10 C – The Effects option will control the Entrance Effect, Middle Effect, and Exit Effect of the Text Segment. Below is a list of each Entrance, Middle, and Exit Effect and what the effect does on the Marquee.

### **Entrance Effects**

None: Will not display any effects.

Random On: Turns on random dots on the Marquee to display the Segment.

Fade In: Slowly turns on dots on the Marquee to display the Segment.

Horizontal Split Scroll: Splits the Segment in half and will scroll the segment in horizontally to display the full segment.

Vertical Split Scroll: Splits the Segment in half and will scroll the segment in vertically to display the full segment.

Half Scroll Top Left: Splits the Segment in half and scrolls the segment in from the top left and the bottom right to display the full segment.

Half Scroll Top Right: Splits the Segment in half and scrolls the segment in from the top right and the bottom left to display the full segment.

Half Scroll Left Up: Splits the Segment in half and scrolls the Left side of the segment from the bottom of the Marquee and the Right Side of the segment from the top of the Marquee to display the full segment.

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Half Scroll Left Down: Splits the Segment in half and scrolls the Left side of the segment from the top of the Marquee and the Right side of the segment from the bottom of the Marquee to display the full segment.

Scroll Left: Scrolls the Segment in from the Right side of the Marquee until the whole segment is displayed.

Scroll Right: Scrolls the Segment in from the Left side of the Marquee until the whole segment is displayed.

Scroll Up: Scrolls the Segment in from the Bottom of the Marquee until the whole segment is displayed.

Scroll Down: Scrolls the Segment in from the Top of the Marquee until the whole segment is displayed.

**Middle Effects** (The effects display after the Entrance effect is complete.)

None: Will not display any effects

Blinking: Turns dots on and off in a “blinking” fashion

Inverted Blinking: Changes the color of the dots from the selected color to the opposite color in a “blinking” fashion.

Random Colors: Will display the Segment with Random colors for each dot.

**Exit Effects** (The effects display after the Middle effect is complete.)

Random Off: Turns off random dots on the Segment

Fade Out: Turns off the dots gradually on the Segment.

Horizontal Split Scroll: Splits the Segment in half and scrolls the segment off the Marquee horizontally.

Vertical Split Scroll: Splits the Segment in half and scrolls the segment off the Marquee vertically.

Half Scroll Top Left: Splits the Segment in half and scrolls the Top half of the Segment to the left and the Bottom half to the right.

Half Scroll Top Right: Splits the Segment in half and scrolls the Top half of the Segment to the right and the Bottom half to the left.

Half Scroll Left Up: Splits the Segment in half and scrolls the Left side of the Segment towards the top of the Marquee and scrolls the Right side of the Segment towards the bottom of the Marquee.

---

Half Scroll Left Down: Splits the Segment in half and scrolls the Left side of the Segment towards the bottom of the Marquee and scrolls the Right side of the Segment towards the top of the Marquee.

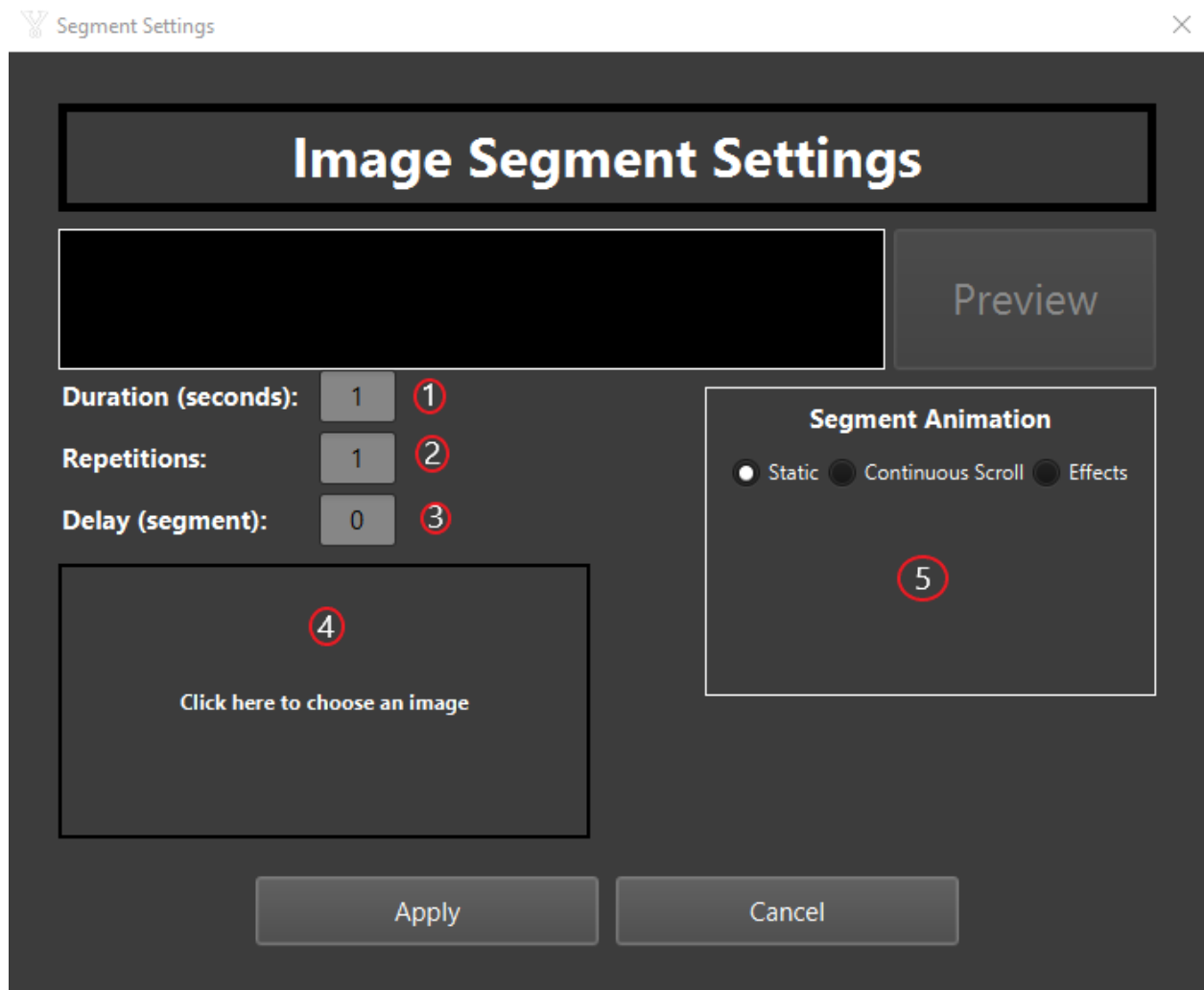
Scroll Left: Scrolls the Segment to the left until off the Marquee.

Scroll Right: Scrolls the Segment to the Right until off the Marquee.

Scroll Up: Scrolls the Segment up until off the Marquee.

Scroll Down: Scrolls the Segment down until off the Marquee.

If the user clicks the “Add Image Segment” button they will be brought to the Image Segment Settings screen where they can create and control how the image segment is displayed on the Marquee.



The image shows a 'Segment Settings' dialog box with a dark gray background. At the top, there is a title bar with a small icon and the text 'Segment Settings', and a close button (X) on the right. The main content area has a large black rectangle for the image, with a 'Preview' button to its right. Below the image area, there are three settings: 'Duration (seconds):' with a value of 1, 'Repetitions:' with a value of 1, and 'Delay (segment):' with a value of 0. To the right of these settings is a 'Segment Animation' section with three radio buttons: 'Static' (selected), 'Continuous Scroll', and 'Effects'. Below the animation section is a large black rectangle with the text 'Click here to choose an image'. At the bottom of the dialog are two buttons: 'Apply' and 'Cancel'. Red circles with numbers 1 through 5 are overlaid on the interface to indicate specific elements: 1 is on the Duration input, 2 is on the Repetitions input, 3 is on the Delay input, 4 is on the 'Click here to choose an image' text, and 5 is on the 'Static' radio button.

Segment Settings

## Image Segment Settings

Preview

Duration (seconds): 1

Repetitions: 1

Delay (segment): 0

**Segment Animation**

☒ Static ☐ Continuous Scroll ☐ Effects

Click here to choose an image

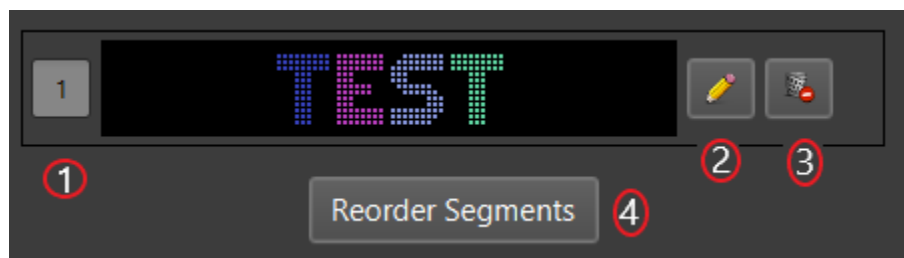
Apply Cancel

Figure 6 Image Segment Settings

(On the next page is the definition of each number)

- 
- 1 – Duration controls how long the Image Segment will display on the Marquee.
  - 2 – Repetitions controls how many times the Image segment will repeat on the Marquee.
  - 3 – Delay controls the time in which the next Segment will display on the Marquee
  - 4 – Displays the File chooser in which the user will choose an image that is a valid size to display on the Marquee.
  - 5 – Refer to 10 of the Text Segment Section.

If the user successfully creates a text/image segment it will be added to the Message information center where you can edit, delete, and reorder the segments in a message.



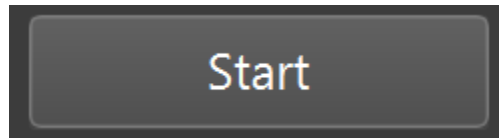
*Figure 7 Message Information Center*

- 1 – Is the order in which the Segments will display on the Marquee.
- 2 – Allows the ability for the user to edit the Text/Image Segment and will send you to the appropriate screen to edit the Segment.
- 3 – Deletes the Segment and will remove the segment from the Message.
- 4 – Allows the user to control the order of the Segments in which they will display on the Marquee.



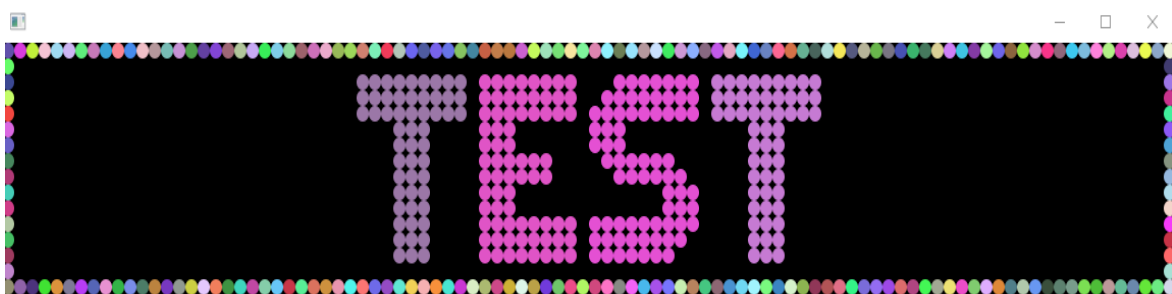
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When the user has successfully entered the correct data into the appropriate fields they will click the start button to display the marquee.



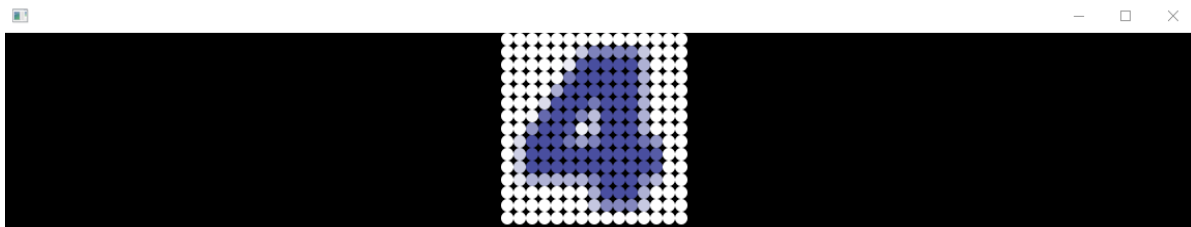
*Figure 8 Start Marquee*

When the user clicks the Start button the marquee will display the Message in order from the Message Information center.



*Figure 9 Text Segment Marquee*

Here is an example of an Image Segment on the Marquee.



*Figure 10 Image Segment Marquee*

The File menu allows the user to start a new message with the “New” button. Allows the user to save the Message to an XML file with the “Save” button and will bring them to a File Chooser in which they will pick a name and place to save the Message to an XML file. The “Load” button will bring up a file chooser in which the User will choose a XML file that will load the contents into the program and the user will be able to update or display the Message on the Marquee. The “Exit” button will close the program.

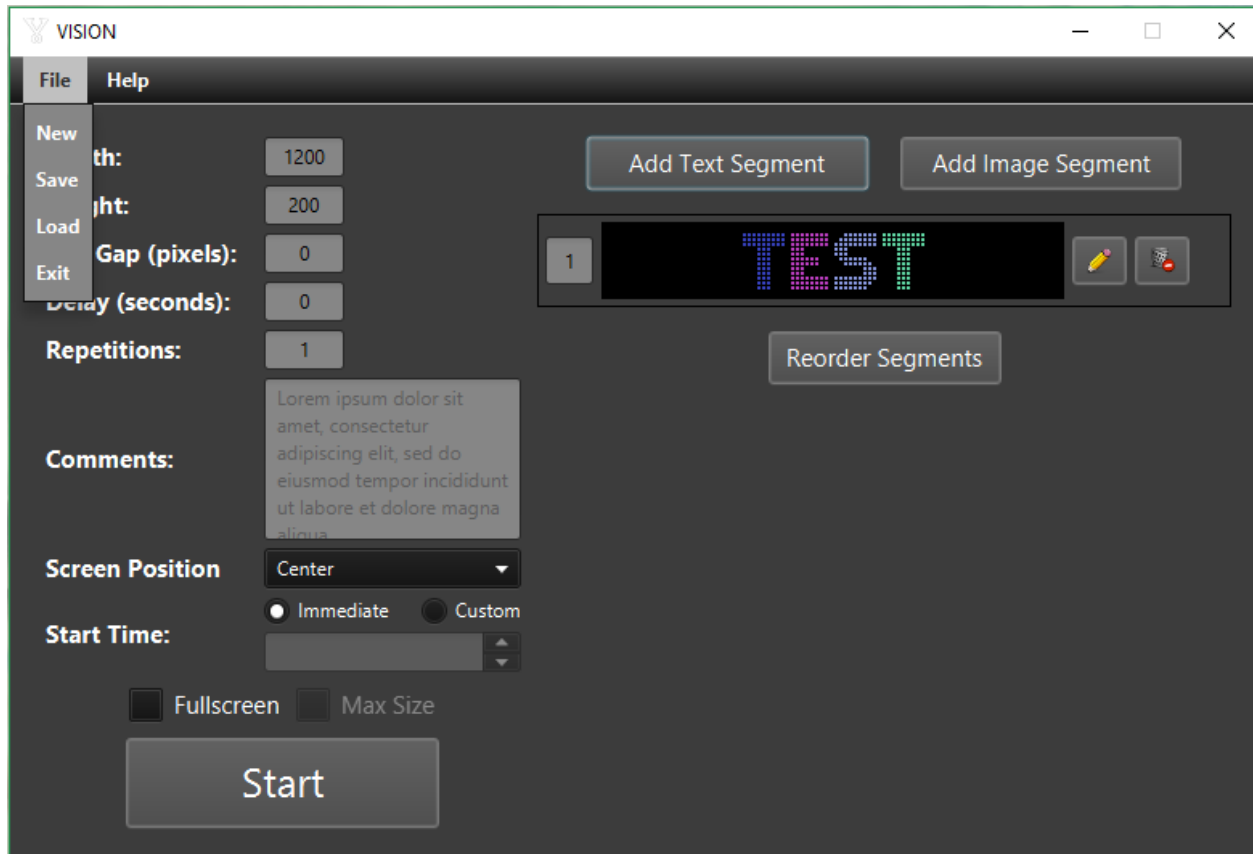


Figure 11 File Menu

The Help Menu Button will allow the user to learn more about the VISION program. The “How to Use Vision” will bring the user to the User Guide and help them with any issues the user might encounter. The “About” button will tell the user about the VISION program and Copyright section.

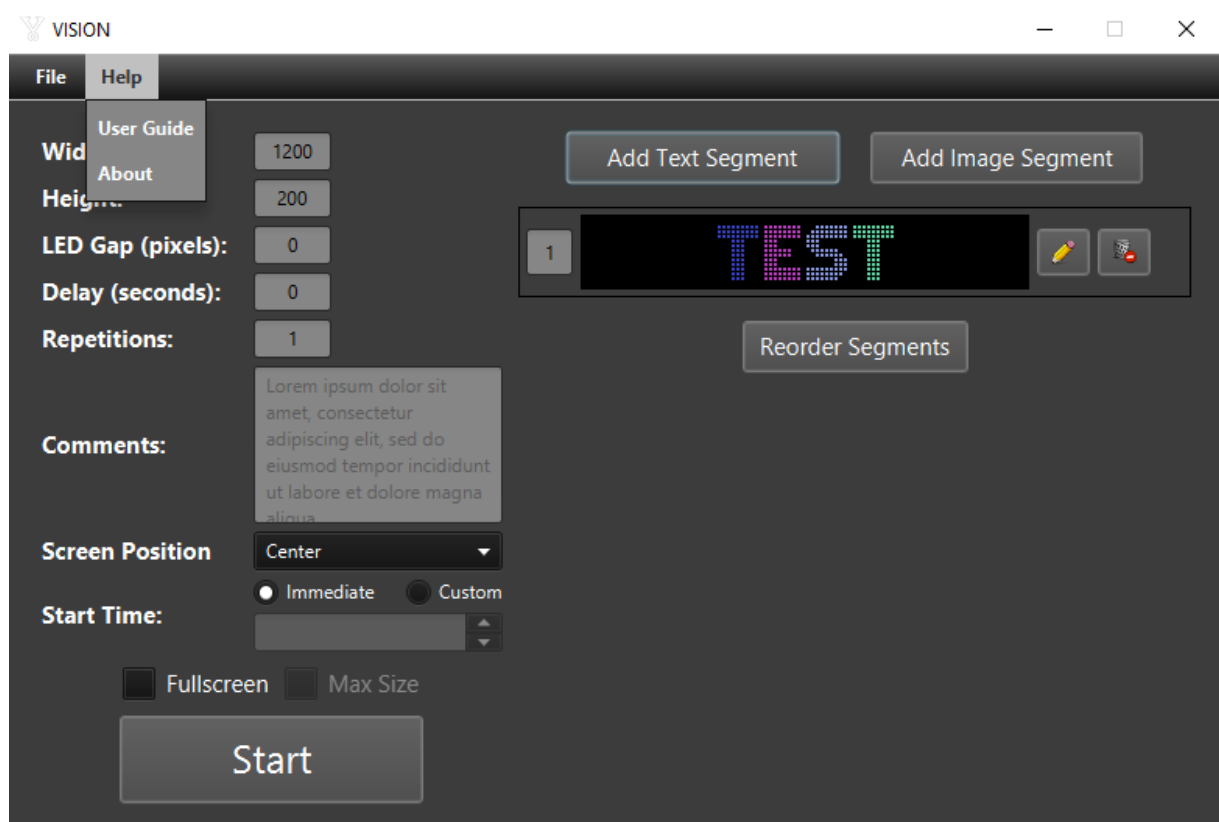


Figure 12 Help Menu

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