DESIGN SPECIFICATION FOR

Goofy Lights Editor

Date: 03/09/17

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GOOFY LIGHTS EDITOR SSRS
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1 General

This Design Specification for Goofy Lights Editor outlines the anticipated program functions that will be needed.

1.1 Timeline

This timeline is a rough estimate for the future development of the Goofy Lights Editor Project for the Goofy Glasses. The timeline will be subject to change over time.

- Week One (3/6 - 3/13) - Complete rough draft of Design Specification.

- Week Two (3/13 - 3/20) - Spring Break

- Week Three (3/20 - 3/27) - Initial Development: Sections of the editor divided amongst team members. The separated program functions are : Edit show, Test show, File management, and Audio.

- Week Four (3/27 - 4/3) - Continued Development: Continue developing the individual parts. Keep documentation up to date.

- Week Five (4/3 - 4/10) - Continued Development: Build-in user interface using Qt.

- Week Six (4/10 - 4/17) - Continued Development: Complete main program by bringing all of the pieces together.

- Week Seven 4/17 - 4/24) - Continued Development: Finish the previous sprint and put the pieces into a prototype for presentation..

- Week Eight (4/24 - 5/1) - Continued Development: Present the prototype and update all documentation.

- Week Nine (5/1 - 5/8) - Finish Development: Have the final program with full documentation, run final testing, and turn in project.

2 File Management

2.1 Saving

- Grid configurations will be able to be saved locally so they don't have to be recreated every time.

- Entire animations will be able to be saved locally.

2.2 Loading

- Audio files will be able to be loaded in so that they can be paired up with the animation.

- Previously saved animations will be able to be loaded, overwriting the current animation project. A dialog box will appear to warn the user that they will be overwriting the current animation project.

- Grid configurations can be loaded to overwrite a single frame in an animation. This will help prevent re-creation of frequently used grid configurations.

2.3 Auto-save

- One file will be kept during the program's operation that will be continuously overridden once every five minutes. It will automatically save out the entire animation that is currently being worked on.

3 Goto State

The user will be able to move to any state.

3.1 Move Slider

Will set slider to go to any state at that particular point of time. The slider maximum time will be set to the total time it takes for all the frames.

3.2 State time

Will give option for the user to select how long the state should play. If user doesn't provide any value, then the default time the state stays would be set to 1 second.

4 Dimensions

This section contains dimensions for grid and tower.

4.1 Grid

There will be an option for user to select the grid dimensions and the condition would be set to provide the dimensions greater than tower grid. If the user doesn't provide dimensions, then the default would be set to 15*15.

4.2 Tower

The tower grid dimensions will be 4*10.

5 Show Preview

The Show Preview will allow the user to run the animation they've created in an emulator, which will give them an accurate representation of what their show will look like when played on the grid size they've selected.

5.1 Mock-up

{insert screenshot after final version}

5.2 Functionality

- Open Preview window or section

  - A button or menu option that will bring up the Show Preview window.

- Adjust playback grid size

  - The playback grid will default to whatever size the user initially set their show to. But there will be a way (inputs for number of rows and number of columns) for the user to change the grid size so they can see what their show might look like on smaller or larger grids.

- Manage Preview Playback

  - Start\Pause : The traditional Play triangle and double-bars Pause button to start and pause the preview playback.
  - Adjust playback speed : A few playback speed presets (0.5x 0.75x, 1x, 1.25x, 1.5x), default is 1x speed.
  - Stop : Traditional Stop button with square icon to stop the preview playback.

6 Stamps

The stamps function will allow the user to access previously saved images in a quick manner.

6.1 Functionality

When clicking on the "stamps" icon, a box will pop up with different previously saved stamps. The user will then click on one and it will be added to the current frame. Preset stamps include:

- Shapes

- Letters

- Numbers

6.2 Creating Stamps

The user will also be able to add stamps to the program. A "save as stamp" option will be added to the tool bar. This allows for the current frame to be added to the stamp feature.

7   Mass Editing

The user will be able to select multiple frames of an animation.

7.1   Copy

The user will be able to save a grouping of frames to a local clipboard, saved until the program is closed or a new set of frames is copied.

7.2   Paste

The user will be able to insert the copied frames before or after a selected frame. They will be able to do this with the same set of copied frames, until they copy a new set of frames or close the program.

7.3   Insert

The user will be able to insert frames before or after a selected frame. They may do this as many times as desired, within reasonable limitations, and will always insert a copy of the selected frame immediately before or immediately after the selected frame.

8 Audio Integration

The user will be able to import audio files for playback and time-line length creation

8.1 Playback

The user will be able the have the audio file play at the same time as a preview of their animation to give an accurate representation of the final output

8.2 Time-line Length

The user will be able to use the duration of the audio file to create an accurate working length for creating their animation

9   Color Editor

The user will have the ability to select any color from the color wheel. He can also select from an preset selection of common colors.

9.1   Color Selection

There will be two modes of color selection: the color wheel, and a list of color presets.

9.1.1   Color Wheel

The user will click their mouse on the color wheel to select a base color. Then, he can adjust the saturation and gray-scale by dragging his mouse within a colored box. He will see the currently selected color in a box nearby.

9.1.2   Color Presets

There will be a list of twelve preset colors. The user can click these squares to automatically assign a color.

9.2   Assigning Color

The user will be able to assign color to a square in the current state by left clicking the square with their mouse. He can clear a square of any color by right clicking on a square. If no color is assigned to a square, the default will be no color.

10   Additional Features

10.1   Preview Slider

The Preview window will have a "preview area" that shows the timeline of the current show. The preview area will also have a slider which can be dragged back and forth along the timeline to control the preview playback.

10.2   Sync with Audio

A simple checkbox to indicate whether the playback will start the designated audio track when the preview playback is started.

10.3   Paint Brush Coloring

The user will be able to hold left click and drag their mouse over squares. This will paint all the squares it touches. The user can also hold right click to erase the squares.

10.4   Assigning Personal Presets

The user will be able to assign personal colors to the presets. The user will select a color on the color wheel. Then, the user will right click on a preset to assign the current color to that preset.