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Assignment 2

Features Implemented:

Used skeleton Program	✓
Program Loads a Video	✓
Users can select whatever video he/she wants	✓
There is a "click" sound between every two frames	✓
Implemented some optional features:	✓

Video Support:

Using the skeleton program that was given to us, we modified the controller to be able to play videos to the blind. To support video media in the application, we used the JavaFX VideoCapture class to load in a video as a dynamic MAT array. This would allow similar options to be performed on the video media and still images. This also worked well with the slider implementation as it is easy to change a "current position" in an array.
Note that it is assumed that all the videos to be opened by the program would have 30 fps.

Open File Support:

The user is also able to select whatever video he or she wants. This was made possible using the JavaFX FileChooser class. The restrictions we set as the allowable files that can be opened were that of type JPG, PNG, MP4 and other media files. The default directory to find the files is currently in the user's home directory, however the user can open his/her media anywhere in the user's file system.

Sound Click after every two frames:

Although there is a noticeable pause in between frames, we also added a click sound after every two frames to help the listener keep track of when every two frames pass. We used the JavaFX MediaPlayer to output the Click.mp3 sound whenever it has counted 2 frames has passed.

Optional Features:

Video Slider:

We decided that for viewing frames with sound in videos that it would be advantageous to be able to start and stop a video anywhere that the user chooses. For this we added a slider option that updates the frame in the video we play or start from. The slider will always be disabled when there is no media opened or when there is either a single frame video or a still image opened.

Voiceover on words:

To help the blind navigate through our application, we used JavaFX MediaPlayer again to output the words in text-to-speech whenever the mouse hovered over the buttons and the title of the application. For this, we used text-to-speech mp3 files that played whenever the appropriate button is hovered. You will also hear a voiceover notifying you the video has loaded.

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Instructions:

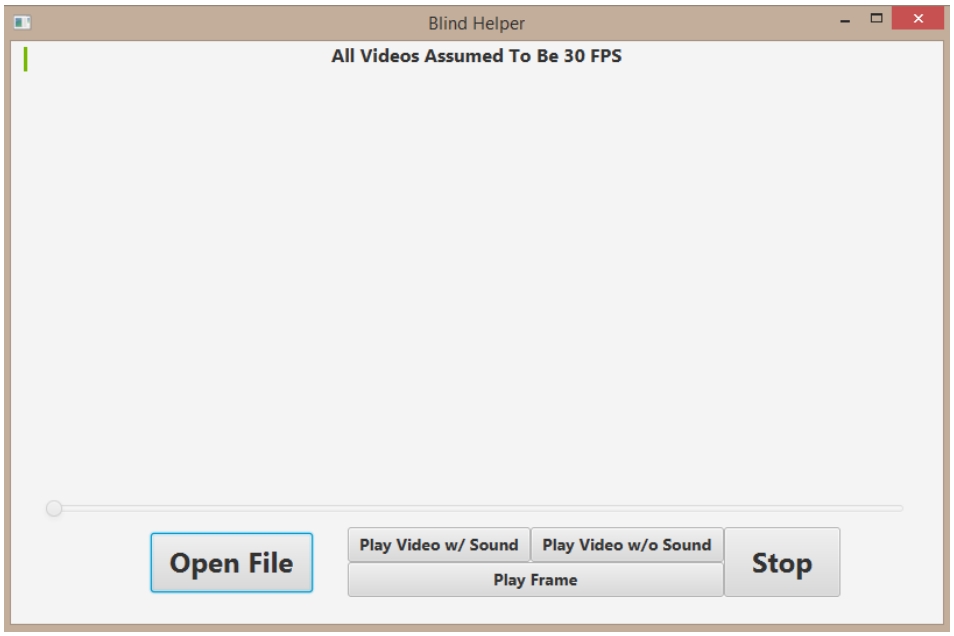

Figure 1. Blind helper.

Once the program is run, simply click “Open File” and choose the video you want to load in. This is shown in Figure 1. (Note: It may take a long time if the video is long)

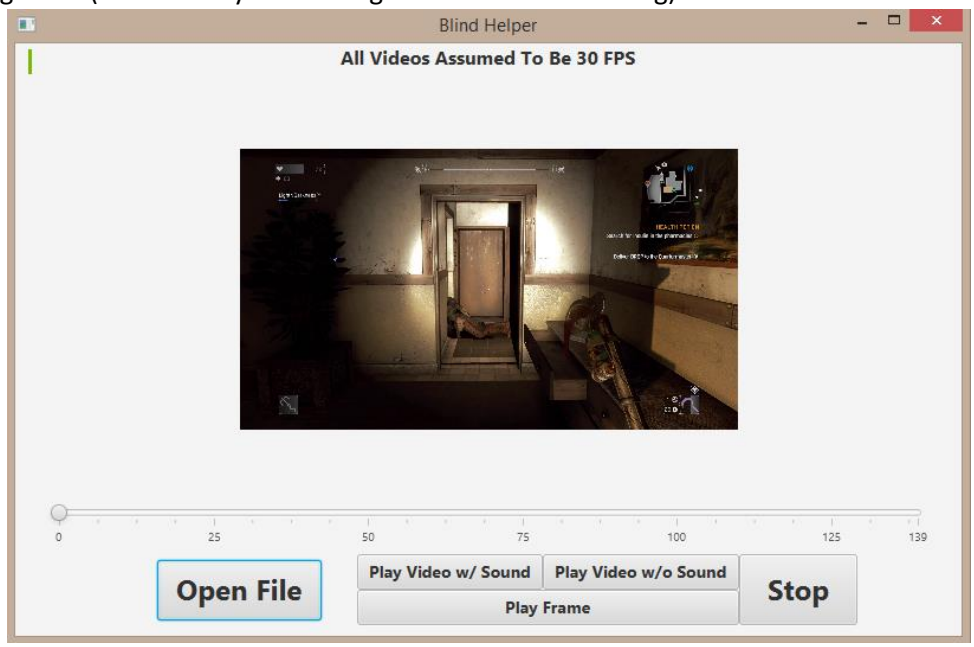

Figure 2. Loaded Video

Once the video has finished loading, you will hear a notification prompting you that has loaded.
Click on the “Play Video w/ Sound” button to play the whole video with sound helping a blind person.
Click on the “Play Video w/o Sound” button to play the video without the sound.
Click on the “Play Frame” button to play only the current image.
Click on the “Stop” button to stop.