VIDEO CLIP SELECTION USING DROPDOWN MENU

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1. Create a csv file which will have all the options mentioned in the dropdown menu and corresponding video link for those options
2. Dropdown menu design with 5 questions (Who, What, Where, When and Why)
3. Check if the values selected in the dropdown menu are in the csv file or not
4. Select the row which corresponds to input given by the dropdown menu. And select the video given in the column named Path for that row
5. Play the video selected from the csv file

GOAL

Use dropdown menu to choose a video clip

STEP 1

Design the dropdown menu

We will create the Dropdown using the `ipywidgets library` in python.

pywidgets, also known as jupyter-widgets or simply widgets, are interactive HTML widgets for Jupyter notebooks and the IPython kernel.

Notebooks come alive when interactive widgets are used. Users gain control of their data and can visualize changes in the data.

Dropdown

```
what=widgets.Dropdown(
    options=['SELECT OPTIONS','Trampoline stunts','Bounce contest','Jump styles'],
    description='What:',
    disabled=False,)
```

It will be displaying the words `'SELECT OPTIONS'`, `'Trampoline stunts'`, `'Bounce contest'`, `'Jump styles'` as the dropdown choices:

Who: FuryPeg
What: Trampoline stunts
When: Night
Where: Trampoline park
Why: automate 3D animation

We then save the selected choice to a variable, as follows:

```
w1 = widgets.Dropdown(options=What.options,description='What:')
display(w1)
```

Here we have used 5 questions, What, Who, Where, When and Why, based on these we will select a video file from the device.

For example **WHO** will be FuryPeg

What can be the props used by them like a Trampoline Stunt or Bounce Competition

Where can be a place like a Trampoline Park or Bounce Place

When can be either during the Day or during Night or Mid-Night

Why, right now the only option provided is to create a 3d animation.

STEP 2

Create a csv file

We have used a csv file to store all the possible options for the given dropdown question. The csv file is as follows:

	A	B	C	D	E	F	G
1	Who	What	When	Where	Why	Path	
2	FuryPeg	Trampoline stunts	Night	Trampoline park	automate 3D animation	Frontdoubleflip.mp4	
3	FuryPeg	Bounce contest	Day	Trampoline park	automate 3D animation	Highbounce.mp4	
4	FuryPeg	Jump styles	Night	Bounce place	automate 3D animation	Colorchanging.mp4	
5	FuryPeg	Trampoline stunts	Day	Trampoline park	automate 3D animation	Backjump.mp4	
6	FuryPeg	Bounce contest	Mid-Day	Trampoline park	automate 3D animation	Jumpingjack.mp4	
7	FuryPeg	Jump styles	Day	Bounce place	automate 3D animation	Eyeroll.mp4	
8	FuryPeg	Bounce contest	Night	Trampoline park	automate 3D animation	Frontflip.mp4	

As you can see the combination of each option from the drop down corresponds to a row in the csv file which is linked to a particular video mentioned in the path column.

Hence using this method we can get the desired video by just selecting the options from a drop down menu.

STEP 3

Check if the dropdown inputs correspond to a row in the csv file

For this we define an on_change function which stores the selected dropdown menu option and checks if the selected value is in the csv file or not using an if condition.

```
def on_change(change):
    global a,b,c,d,e
    if change['type'] == 'change' and change['name'] == 'value':
        a = change['new']

    if change['new'] == 'Trampoline stunts':
        b = change['new']
```

We call this function as follows:

```
w1.observe(on_change)
```

Create 5 different variables to store the 5 selections from the dropdown.

STEP 4

Find the row id in the csv file that corresponds to the selected 5 options from the dropdown

We have defined function called find row to do this for us.

```
def find_row(filename, col_number1,value1, col_number2,value2,
             col_number3,value3):
    var = str(value1)
    coln = str(col_number1)
         var1 = str(value2)
    coln1 = str(col_number2)
         var2 = str(value3)
    coln2 = str(col_number3)
    o = open(filename, 'r')
    myData = csv.reader(o)
    index = 0
    for index, row in enumerate(myData):
            if row[col_number1] == var and row[col_number2] ==
var1 and
                row[col_number3] == var2:
                    return index
```

It takes 3inputs.first is the csv file name, next is any column number 1 and third is a variable based on which you want to do the search, similarly column number 2 and value that you want to search in it and column number 3 and its corresponding search value.

It returns the row number if it finds the variable that you have provided as input in any of the rows in the csv file.

Note that since we have 5 input questions from the dropdown we can have 5 factorial number of Combinations,

But in our example we have only 1 possibility for the question who that is FuryPeg and one possibility for why that's to create animation.

We can later add on to it as and when required.

```
if c == 'Trampoline stunts' and d=='Day 'and e=='Trampoline park':
        x = find_row('/content/properties.csv', 1, c, 2, d, 3, e)
        clip1 = (df['Path'][x-1])

elif c == ' Bounce contest' and d=='Night' and e=='Trampoline park':
        x = find_row('/content/properties.csv', 1, c, 2, d, 3, e)
        clip1 = (df['Path'][x-1])
```

We have used the logical and operator to find the combination which then can be compared with the csv file to find the row which as this combination.

STEP 5

Select the video from the csv file

Once we find the row number in the csv file then we just have to access the PATH column of that particular row in order to get the name of the video which we can then play.

We can use the Video command in python

```
from IPython.core.display import Video

Video(clip1)
```

This will play the video.
For example if our clip1 had got the path as `Frontdoubleflip.mp4`
It will play that video.

Try our code in jupyter notebook. The git link is provided below.

STAY TUNED FOR OUR NEXT TUTORIAL
where we try to label our data for training the AI to select the video for concatenation

https://github.com/PegHeads-Inc/PegHeads-Tutorial-2

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