

Final Report

77th Conference of OK-AR Mathematical

Association of America Presentation

Principal Investigator: Marcel B. Finan

Department of Mathematics

Arkansas Tech University

Russellville, AR 72801

A. Restatement of Problem: The purpose of this proposal is to get financial support to attend and present a paper at the 77rd Conference of the OK-AR Mathematical Association of America to be held on the campus of University of Tulsa, Tulsa, OK from April 9 - April 11, 2015.

B. Brief Review of Work Presented: It has been argued that most students respond well to visual learning (i.e., sounds and images), stimulating their interest in a subject. In fact, a survey shows that the majority of the population finds visual learning as their preferred learning style. One of the most important uses of technology is that it makes it easy for instructors to incorporate multimedia into their teaching. In this presentation, we discuss incorporating sounds and images using videos found on YouTube into our teaching.

C. Outcomes: The purpose of the project is to share with the audience attending the 77th Conference of the Mathematical Association of America, Oklahoma-Arkansas Section, with ideas to enhance ones teaching methods.

D. Conclusion: The paper presented appears on the conference electronic proceedings at <http://sections.maa.org/okar/>

INCORPORATING YOUTUBE VIDEOS INTO YOUR TEACHING

MARCEL B. FINAN

ABSTRACT. It has been argued that most students respond well to visual learning (i.e., sounds and images), stimulating their interest in a subject. In fact, a survey shows that the majority of the population finds visual learning as their preferred learning style. One of the most important uses of technology is that it makes it easy for instructors to incorporate multimedia into their teaching. In this presentation, we discuss incorporating sounds and images using videos found on YouTube into our teaching.

1. THE PROJECT

The use of technology in learning is without doubt one of the great advancement in education in present time. Nowadays, an individual can earn a degree while sitting in front of a computer in the comfort of his/her home. As for educators, the use of technology makes it easy for instructors to incorporate multimedia into their teaching. Videos of educators presenting their lectures are now freely available on the internet such as on YouTube, the Khan Academy, the MIT OpenCourseWare, etc.

The purpose of this project is to go in details over a process of incorporating the online videos into one lecture notes. We apply the process to lecture notes written in \backslash Latex format.

2. THE PROCESS

To illustrate the process, let us consider the following portion of a lecture.

“A set can be represented in two different ways: The tabular form or the roster representation and the set-builder form. When we describe a set by listing its elements, without repetition, inside two braces then the set is said to be given in **tabular form**.”

We want to incorporate a video that discusses the highlighted concept of representing a set in tabular form. For that, we go to www.youtube.com and type in the search area “tabular form of a set”. A windows opens up showing the various videos discussing this concept.



Let's say that you want to incorporate the video titled "Description of a set (Roster form)" in such a way that by clicking on the highlighted word "tabular form" the video will play discussing this concept.

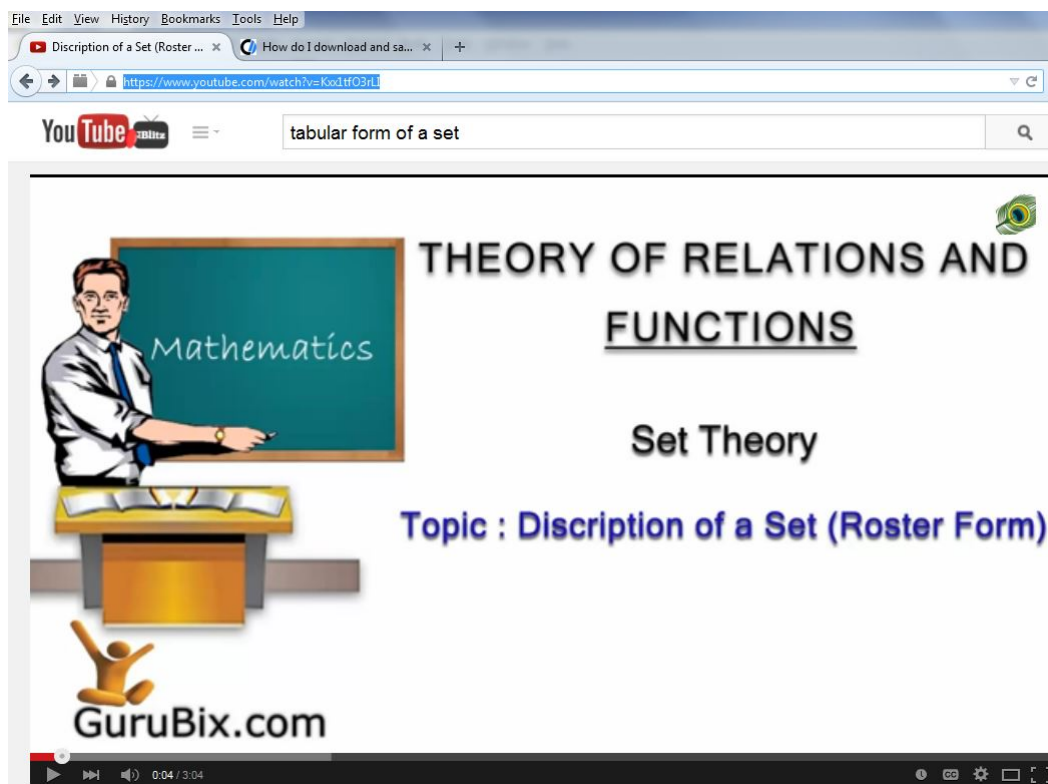
This can be accomplished by executing the following steps:

(i) In a new tab, access the internet address:

<http://www.computerhope.com/issues/ch001002.htm>

(ii) In the tab where the desired video is located, play the video by clicking on the title of the video.

(iii) In the tab where the video is playing, highlight the text in the address bar, and then press $\text{Ctrl} + \text{C}$ to copy the internet address of the video as shown below.

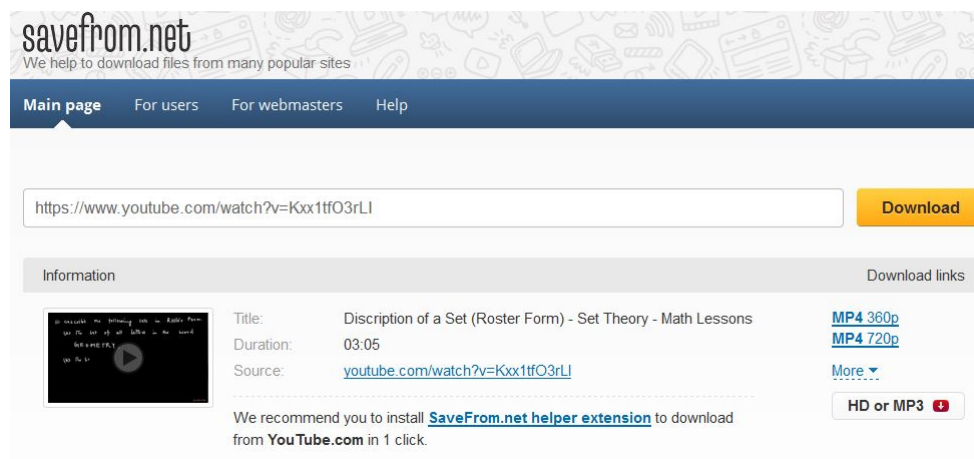


(iv) Once this address has been copied, paste that URL into the text field under item 2 in the tab of step (i) by clicking inside the box and pressing $\text{Ctrl} + \text{V}$ on your keyboard. Then, click the Download Video

button as shown next.

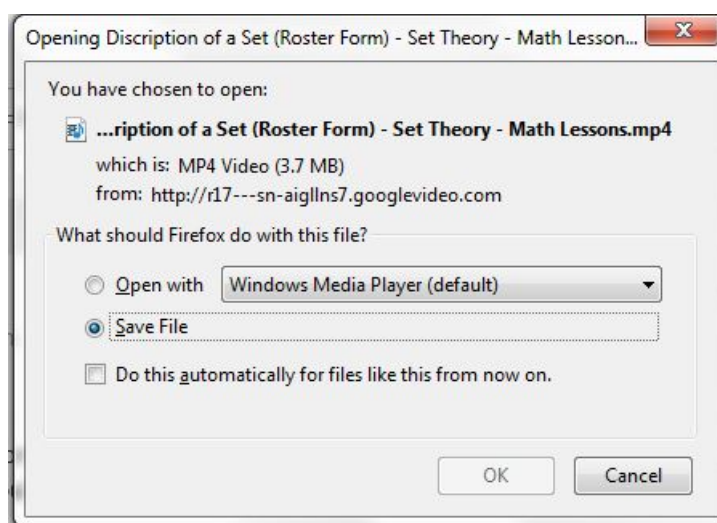
2. Once this address has been copied, [paste](#) that URL into the text field below by clicking inside the box and pressing **Ctrl + V** on your keyboard. Then, click the **Download Video** button.

(v) A new tab will appear as shown below.



The screenshot shows the savefrom.net website. At the top, there is a navigation bar with links for "Main page", "For users", "For webmasters", and "Help". Below this is a search bar containing the URL "https://www.youtube.com/watch?v=Kxx1tfO3rLI" and a yellow "Download" button. Underneath the search bar is an "Information" section with a small video thumbnail and the following details: Title: "Discription of a Set (Roster Form) - Set Theory - Math Lessons", Duration: "03:05", and Source: "youtube.com/watch?v=Kxx1tfO3rLI". To the right of the information is a "Download links" section with options for "MP4 360p", "MP4 720p", and "More". At the bottom right of the information section, there is a button labeled "HD or MP3". A recommendation at the bottom of the information section suggests installing the "SaveFrom.net helper extension".

(vi) In the tab of step (v), click on MP4360p and a window will pop up as shown below.



(vii) Select "Save file" and then click OK. This will save the file in

the **Downloads** directory. Go to that directory, rename your file (let's call it `tabular.mp4`) and copy the file and place it in the directory where it is needed.

(viii) Go to the source file of your lecture and include the following before the expression **tabular form**: `\href{tabular.mp4}{tabular form}`:

“A set can be represented in two different ways: The tabular form or the roster representation and the set-builder form. When we describe a set by listing its elements, without repetition, inside two braces then the set is said to be given in `\href{tabular.mp4}{tabular form}`.”

(ix) Latex your file and open it in pdf format. You will see that the tabular form is highlighted in blue as shown below.

“A set can be represented in two different ways: The tabular form or the roster representation and the set-builder form. When we describe a set by listing its elements, without repetition, inside two braces then the set is said to be given in [tabular form](#).”

Finally, by pointing the cursor on the blue highlighted “tabular form” and then left-click, a new window will display the video.

3. CONCLUSION

The use of free online videos can help you produce engaging course content in your presentations. It might even enhance the quality and effectiveness of your presentations. We hope that the process discussed in this project will benefit the students in terms of exposing them to various formats of presenting information.

REFERENCES

- [1] *Images, Sounds & Video Adding Multimedia to PowerPoint* (<http://http://tep.uoregon.edu/technology/multimedia/docs/multimedia.pdf>)
- [2] *YouTube* (<http://www.youtube.com>)
- [3] *MIT OpenCourseWare* (<http://ocw.mit.edu>)
- [4] *How do I download or save a YouTube video to my computer?* (<http://www.computerhope.com/issues/ch001002.htm>)

DEPARTMENT OF MATHEMATICS, ARKANSAS TECH UNIVERSITY, RUSSELLVILLE,
AR 72801

E-mail address: `mfinan@atu.edu`

URL: `faculty.atu.edu/mfinan`