Project 2 [6 FP “Fluency Points”]:

Explain, Annotate, and Run a Sample Code in a 1-minute Video

Description:

In a video that lasts no longer than 60 seconds:

- Show that you are able to run a stripped-down sample code, included on the last page of this document, *as is* in Matlab, showing the output of the code on a digital display
- Verbally explain the sample code by discussing:
  - What it does
  - Its general structure (i.e., identify “sections” of the code and what those sections are for)
  - The key aspect (or line, or command) that this code utilizes
  - Its limitations
  - Bugs, if any
  - Any other interesting observations
- Annotate/comment/label the code as much as possible
- Reflect on your journey of working on this project

Deliverable:

Present your work in a video uploaded to YouTube, and submit your YouTube URL to Gradescope.

Rules and Formatting:

- Your video must be in landscape orientation (this is YouTube, not Tiktok...)
- Your video must be less than 60 seconds in duration
- You must show your face for the entire running time of the video
- You must voice narrate your presentation; simply showing written notes without narration is a violation of this rule
- Your video must be uploaded to YouTube, with the upload date coinciding with (or no later than) your URL submission date on Gradescope
- This is an individual project
- Violation of *any* of these rules will invalidate your submission altogether – read this document carefully (srsly)!

Tips:

- Make it fun yet educational
- Shoot plenty of raw footage, then edit using a free software

- Speak close to the mic
- Avoid using copyrighted material (music, images and footage) to minimize the risk of infringement
- Make your YouTube video “unlisted”
- Test your YouTube link before submitting to Gradescope
- See below for how to upload videos to YouTube and how to submit URL in Gradescope

Submission:

Submit your Youtube URL in Gradescope only. Submissions by email or other means will be disregarded.

Due on Feb 22, 2021 (Monday), at 11:59 pm CST.

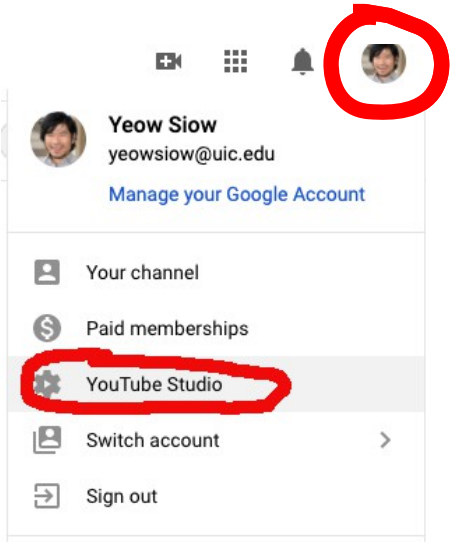
Late submissions will be subject to the “half-life” reduction policy according to the syllabus.

Grading Rubric:

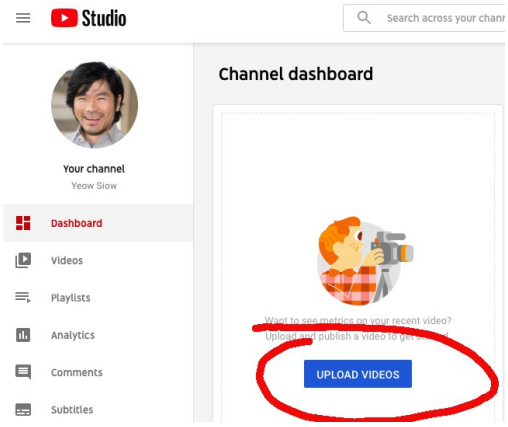
	Fluency			**Scaling**	**Max Possible**
	2 (“Wow”)	**1 (“Hmm”)**	**0 (“UGH”)**		
Technical Rigor	Explanation is logical, concise, and accurate; code is well annotated and executed	Some details are missing; contains some inaccuracy	Mostly inaccurate; or missing most details; or missing altogether	1	2
Production Quality	Stunning visuals, clear audio, smooth and creative editing; educational and fun; a joy to watch	Some issues with visuals, audio, and/or production relevance	Can't make out most visuals, barely audible; or production unrelated to project topic	1	2
Reflection	Thoughtful and authentic; acknowledges limitations/inaccuracy and suggests future (self-)improvements	Insubstantial or vague	Missing altogether	1	2
				Total:	6

How to Upload Your Video to YouTube

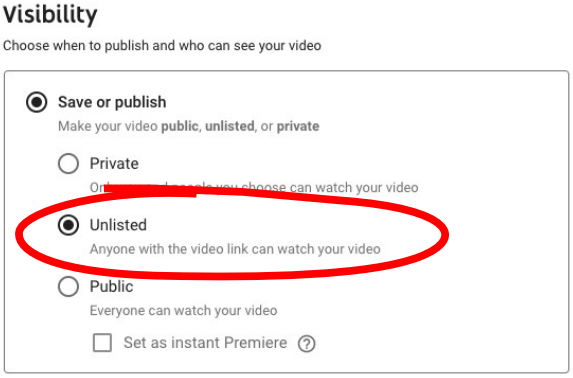
1. Sign in to your YouTube account (using your UIC credentials).
2. Go to “YouTube Studio”:



3. Upload Videos:



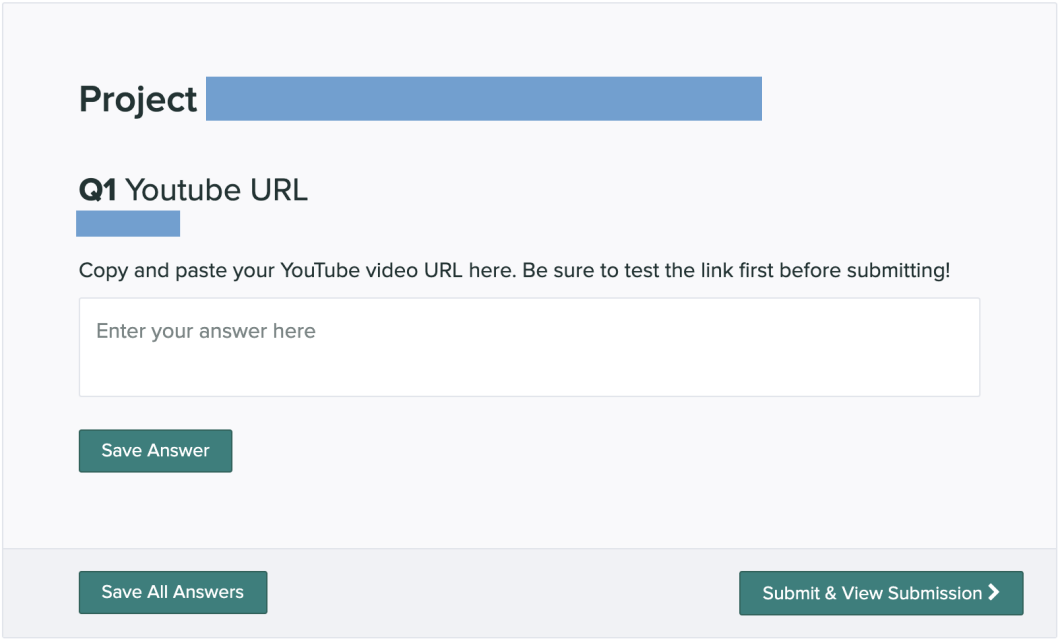
4. Select your video file, enter your video title and description, and (optional) upload a thumbnail photo
5. Under “Visibility, select “***Unlisted***” as publishing type:



How to Upload Your YouTube URL to Gradescope

1. Log in to Gradescope.
2. Select the project:

3. Follow the instructions there. Nice and easy!



Sample Code

```
syms x(t)
m=3;
c=0;
k=25;
F0=5;
wf=2;
phi=0;
t1=0;
t2=40;
x0=0;
v0=10;
y0=[x0 v0];
dx=diff(x,t);
eq1=diff(x,2) == F0/m*cos(wf*t+phi) -c/m*dx -k/m*x;
vars=[x(t)]
[V]=odeToVectorField([eq1])
M=matlabFunction(V,'vars', {'t','Y'})
interval=[t1 t2];
sol=ode45(M,interval,y0);
fplot(@(x)deval(sol,x,1),interval)
```