Project 1 [6 FPs “Fluency Points”] ME 308 Vibrations Dr. Siow

Demo the Tracker software or Phyphox app to track a moving object in a 90-second video

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Description:

In a video that lasts no longer than 90 seconds:

- Demonstrate how you use the free *Tracker* software (https://physlets.org/tracker/) or *Phyphox* (pronounced ‘*fee-fox*) app (download in Play/App Store) to track the path of a moving object
  - The object’s motion must be set up and recorded by you
  - Use *Tracker* if you have access to a camera
  - Use *Phyphox* if you have a phone equipped with a ToF or LiDAR sensor
- Verbally explain the following:
  - What the moving object is
  - Technical specs of the camera you use to record the object’s motion (e.g., description of the camera, frame rate, resolution, etc.)
  - How you set up *Tracker* or *Phyphox*
  - What the tracked data looks like in a plot
  - Any other interesting observations
- Conclude if the *Tracker* or *Phyphox* data and plot are accurate – why or why not?
- 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:

- This is an individual project, to be completed and submitted by you and you alone; however, I highly encourage collaboration with a classmate – not to share the work but rather to have a support, to brainstorm ideas together, and to review each other’s work
- Your video must be in landscape orientation (YouTube, not Instagram!)
- Your video must be less than or equal to 90 seconds in duration
- You must show your face for most of the video’s run time
- 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

Tips:

- Make it fun yet educational
- Record plenty of footage, then edit using a free software (there are plenty)
- Speak close to the mic
- Avoid using copyrighted material (music, images and footage) to minimize the risk of infringement and hence copyright strike
- Make your YouTube video “unlisted”
- Test your YouTube link (in incognito mode?) 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 14, 2025 (Friday), at 11:59 pm CST.

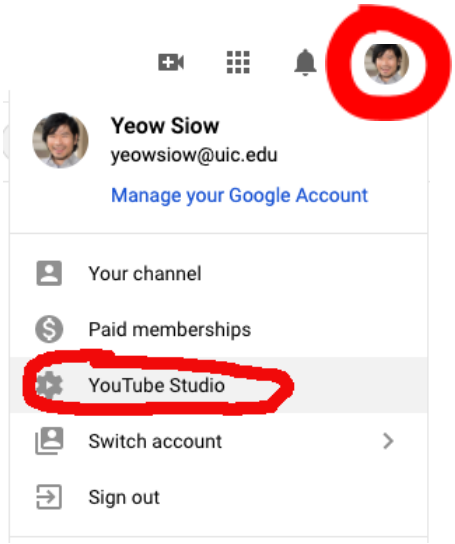
Late submissions are allowed, where partial FPs can be awarded according to the syllabus.

Grading Rubric:

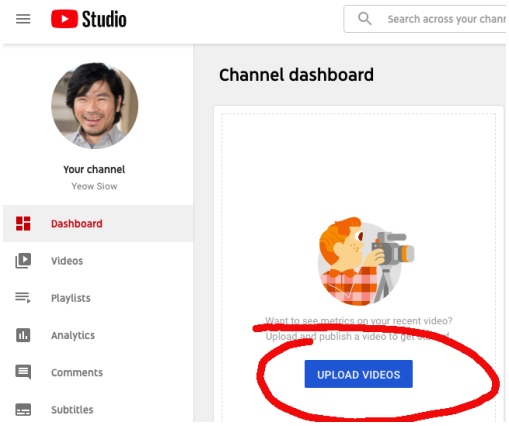
	Fluency			**Scaling**	**Max Possible**
	2	**1**	**0**		
Technical Rigor	Physics is not violated; data & graph are relevant and reflects real life; step-by-step demo and explanation are logical	Some obvious details missing	Farfetched, or missing most details	1	2
Professionalism	Video has good quality visuals, clear audio, smooth "flow" and 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
Rationale, Justification, Reflection	Thoughtful and authentic; acknowledges limitations/inaccuracy and suggests future (self-)improvements	Insubstantial or vague	Missing altogether	1	2
				Max Possible:	6

How to Upload Your Video to YouTube

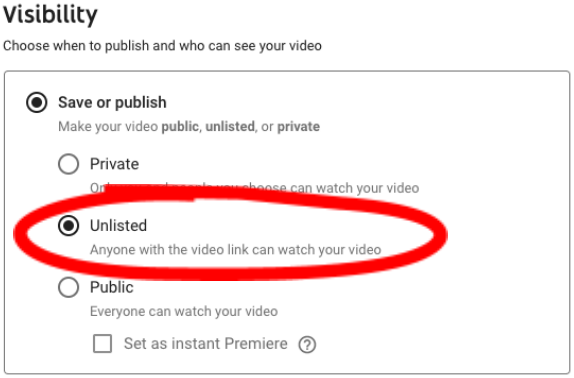
1. Sign in to your YouTube account (using your UIC credentials).
2. Go to “YouTube Studio”:



3. Upload Videos:



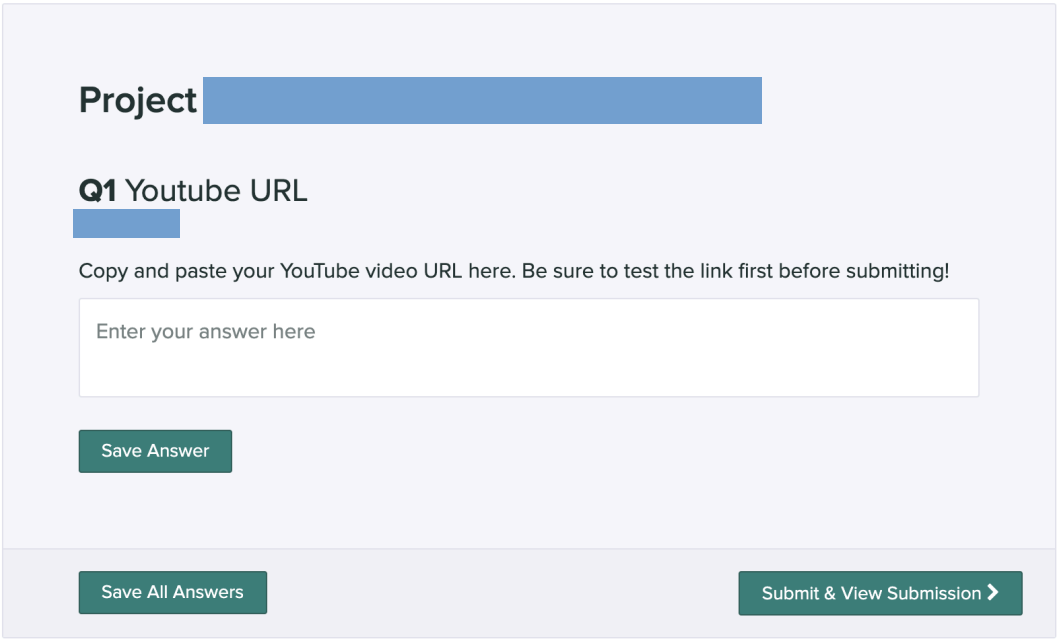
4. Select your video file, enter your video title and description, and (optional) upload a thumbnail photo
5. Under “Visibility, select “***Unlisted***” as publishing type:



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!



How to Tell if Your Phone or Tablet has a Time-of-Flight (ToF) sensor or LiDAR?

- Look up the specs of your device, or
- Install the *Phyphox* app, launch it, and if the “Depth sensor (LiDAR/ToF)” is grayed out then your device does not have one: