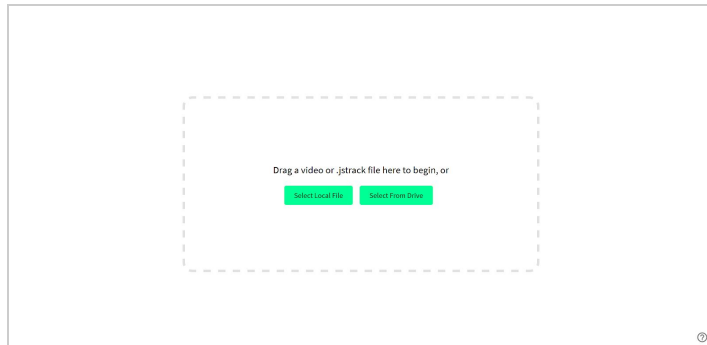


Using jsTrack

Introduction

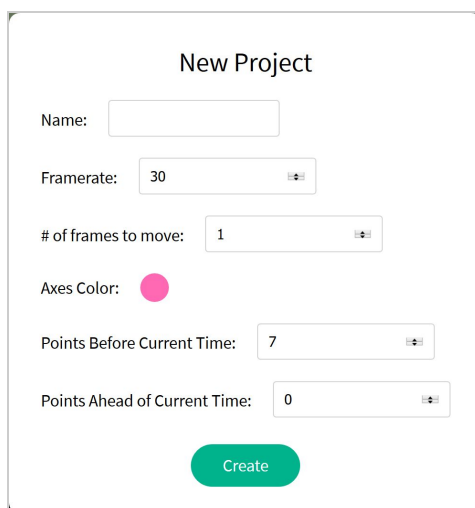
To begin using jsTrack, navigate to the URL given to you by your teacher. It should look like this when you open it:



To import your video or project file (.jstrack), you need to drag it over the dashed box, click the select local file button to select it from your computer, or click the select from drive button to select a file from your Google Drive.

New Project

Once you've imported your video to jsTrack, the New Project dialog box will popup.

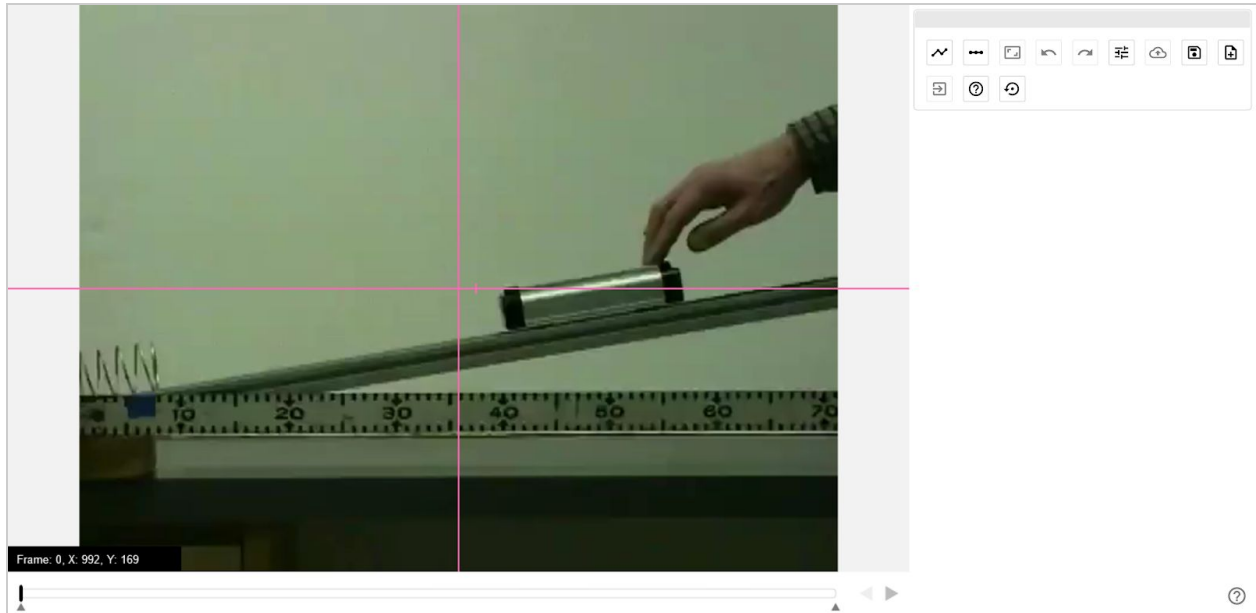
A screenshot of the "New Project" dialog box. It contains several input fields and a button. The fields are: "Name:" with an empty text box; "Framerate:" with a text box containing "30" and a spinner icon; "# of frames to move:" with a text box containing "1" and a spinner icon; "Axes Color:" with a pink circular color picker; "Points Before Current Time:" with a text box containing "7" and a spinner icon; and "Points Ahead of Current Time:" with a text box containing "0" and a spinner icon. At the bottom center is a green "Create" button.

The only box that needs to be changed is the Name box, which you will fill with the name of your project. The framerate box is auto-filled with the framerate detected from your video, but if you know it's wrong you can change it to any value you want. The "# of frames to move" box specifies how many frames to jump forward per click of the arrows or per point added, which is 1 frame by default. The axes color box is where you determine the color of the axes, which should be a bright color which will stand out from your video. The two final boxes specify what points you want to display, which is defaulted to showing 7 points

trailing behind the current point, and 0 in front of it. All the settings besides the framerate can be altered later on while you are editing your project.

App Layout

After you have filled out the new project dialog or imported your project file, the screen will look like this:



This may look overwhelming at first, but when broken down it is easier to understand.

Toolbox



The toolbox is where all the action buttons are. From left to right: New Track, New Scale/Edit Scale, Fit to Page, Undo, Redo, Project Settings, Export Data, Save Project, Logout of Drive, Help, Backup Status.



New Track: When you click this button, you will be asked to enter a name and color for your new track, which should be a color that will stand out from your background. After you have made your track you can start tracking, which will be explained later.



New Scale/Edit Scale: This will open a popup to change the color of the scale. If you haven't already created one, you will enter the new scale mode after closing this dialog. You click on where you want each end of the scale to go, and then you can enter the value for the scale. If you want to convert the scale to a different unit, you use the ">" character. For example, "3ft > in" will make the scale value "36 in". All your data tracks will match the unit of the scale.



Fit to Page: This button is only enabled after you zoom or translate your project, and it will lock your video to fit the page, which is the default.

NOTE: you can zoom the editor by using "Ctrl + =" to zoom in (control key and the plus key), or "Ctrl + -" to zoom out (control key and the minus key). To translate, hold the control key and drag on the editing area. The cursor will change to a movement cursor. You can also hold control and scroll up to zoom in, or hold control and scroll down to zoom out.



Undo and Redo: These buttons are how you can undo and redo your actions, which can also be done with "Ctrl + Z" and "Ctrl + Y" respectively.





Project Settings: This button opens the project settings dialog, which is the same as the new project window, but without the option to change the framerate.



Export Data: This button is how you can export your project data to different data formats, the default is .xlsx for Excel/Sheets. This button is disabled until you have made a track, because there is no data to export.



Save Project: Clicking this will open up the dialog box to save your project. Clicking the button with the  icon will save the file to your computer, and clicking the  icon will save it to your drive.



New Project: This will reload the page, allowing you to make a new project.



Logout of Drive: This will force you to re-select your account the next time you save to drive. It is disabled if you haven't logged in yet.



Help: This button opens the instructions document in a new screen. You can also click the question mark in the bottom right corner of the screen.






Backup Status: This will change color depending on the status of your project's backup, and will offer info when you hover. If it is green that means that it is successfully backed up, and if you accidentally reload the page or something you should be able to recover the complete project. If it is yellow that means that it was unable to backup the video, usually because it is too large a file, but you can still recover it by importing the video yourself. Red means that it was unable to backup for some reason.

WARNING: backup should not be used as a saving method, because it is very easy to lose the backup. You should be saving projects to Drive or to your computer as a file.

Track List



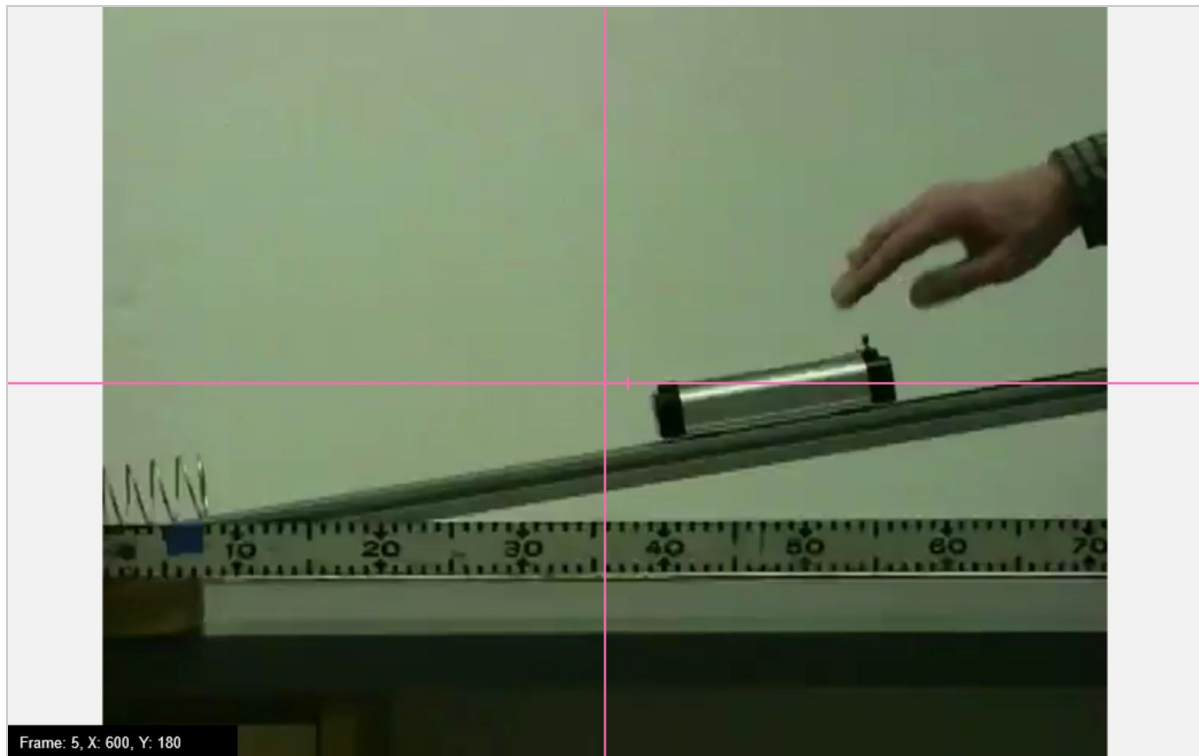
This box in the sidebar displays a list of all the tracks (it will only be visible after you've made your first track). The color of the track is on the left, right next to the name. On the right is the button that shows the visibility of the track, you can click on it to switch between the two states. This is visible: , and this is hidden: . Next to the visibility button is the delete button, , which you can click to delete the track.

Navigation Bar



The navigation bar is how you move through your video when you aren't tracking data. You can drag the little black bar to seek fast, or you can click the right and left arrows on the right side of this section to move by however many frames you specified in the project settings. The little arrows pointing up on the bottom of the bar mark the starting and ending points of your video, which you should drag to isolate where the action you are tracking is occurring.

Editing Area

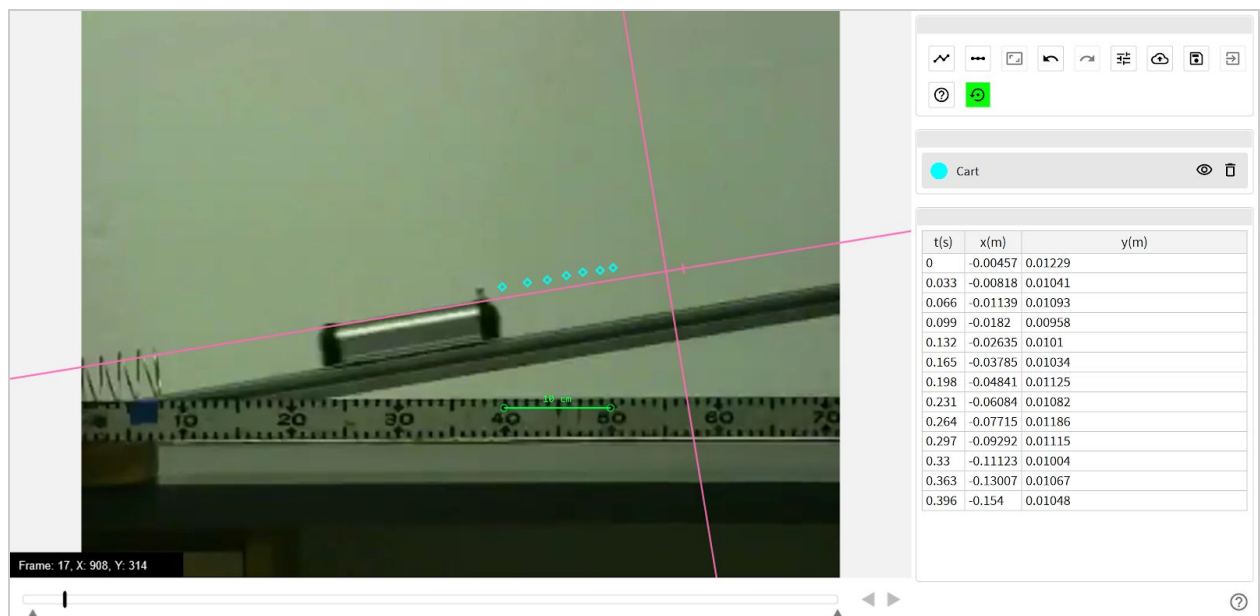


This is the most important part of the application because it is where you actually track your data. The pink lines are the axes with which points are positioned relatively to. To move the origin of the axes, simply drag the center point of the lines wherever you would like. To change the angle of the axes, you can drag on the right side of the x-axis, the one with the little perpendicular line. On the bottom left is the info center, which shows the current frame and the cursor position, or tips for what you're doing.

Zooming and Translating Your Video

You can zoom the editor by using "Ctrl + =" to zoom in (control key and the plus key), or "Ctrl + -" to zoom out (control key and the minus key). To translate, hold the control key and drag on the editing area. The cursor will change to a movement cursor. You can also hold control and scroll up to zoom in, or hold control and scroll down to zoom out.

Plotting Points



This shows a project with some points already plotted, and a scale created. The steps to get here are pretty simple:

1. After importing your video, position your axes by dragging the center point and rotating the arm that has the mark on it.
2. Position the start and end points to isolate the action.
3. Click the “new scale” button and create a new scale where you know the real world measurements of something in the video (in this case the meterstick).
4. Create a new track to plot the motion.
5. Once you have created a track, and you are at the point in the video where you want to start tracking, hold down the “shift” key to enter the point adding mode.
6. Just click the new point tool wherever the point you are plotting is in the video, and the video will jump forward however many frames you have specified in the project settings.
7. Continue doing this until you have finished plotting your data.

Adding jsTrack to your Chromebook's apps drawer

jsTrack is built to have Progressive Web App functionality, meaning it is able to partially function offline and launches in a special Chrome window almost like a native application. The steps to enable this are very simple:

1. Navigate to the URL your teacher gave you.
2. Click the menu button (the three dots) in the top right of the browser.
3. Click more tools > add to shelf.
4. The jsTrack icon should now be in your app drawer, ready to open as you would a normal app.

Any More Questions?

You can reach me here: jstrack.luca@gmail.com, or jstrack@lucademian.com.
Further contact info is on my website: lucademian.com. Please contact me with any suggestions or problems, or even if you just find the site useful!

You can also file an issue on the Github repository:
<https://github.com/lucademian/jstrack>