# Video Annotations - Real World Navigation

Use these instructions to annotate the videos used in the RWN/Event Perception study.

RWN – Event Segmentation Protocol

Step One: Accessing the Rolston Server

1. Go to https://access.med.utah.edu/ and enter your uNID credentials.
   a. If you do not have Access Med credentials, contact Kiersten or Krista
2. Click on the "Remote Desktop" application on the page.
   a. If you do not have the "Remote Desktop" application as an option, talk to Kiersten.
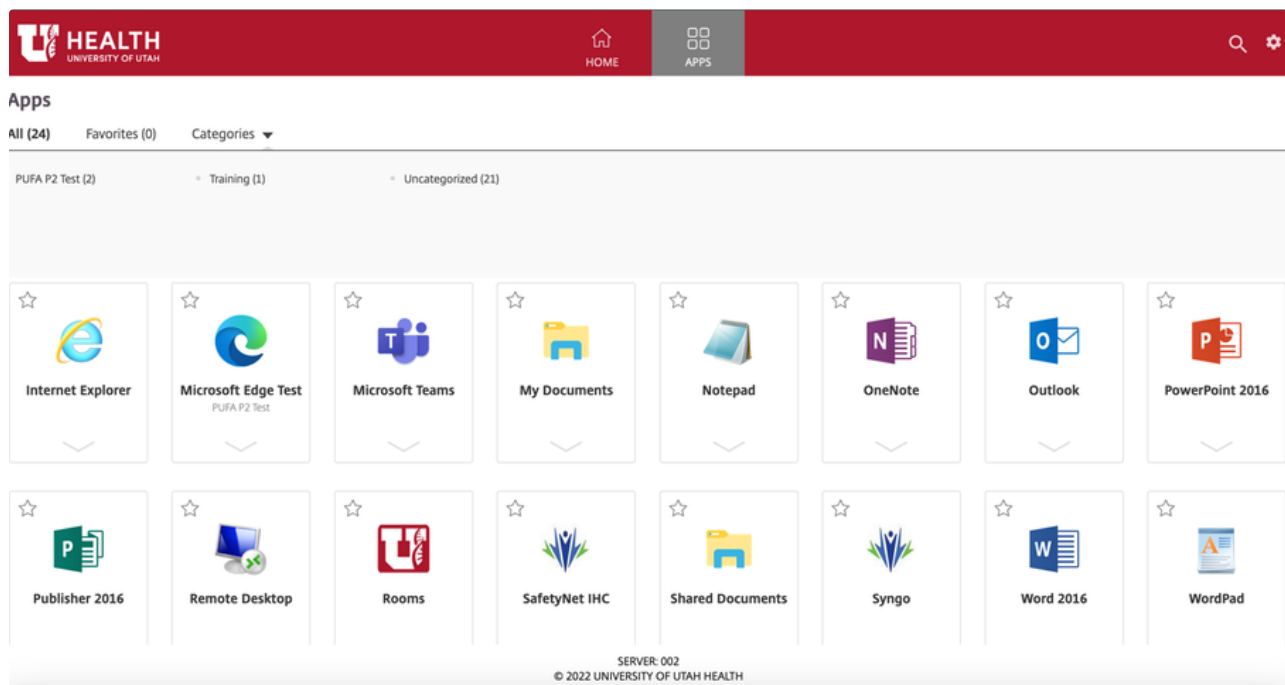
3. Enter in your login credentials to access the Rolston server.
   a. See the Confluence article "Remote Connection" in the "How-To Articles" section if you need help.

Note: If the GUI is not loading in the Rolston server, you can access it through the Inman Server instead. Use the "Remote Connections" How-To article on Confluence to access the Inman Server. Then use file path Network → ROLSTONSERVER → d → Data → RealWorldNavigationCory → RWNApp_v1.1
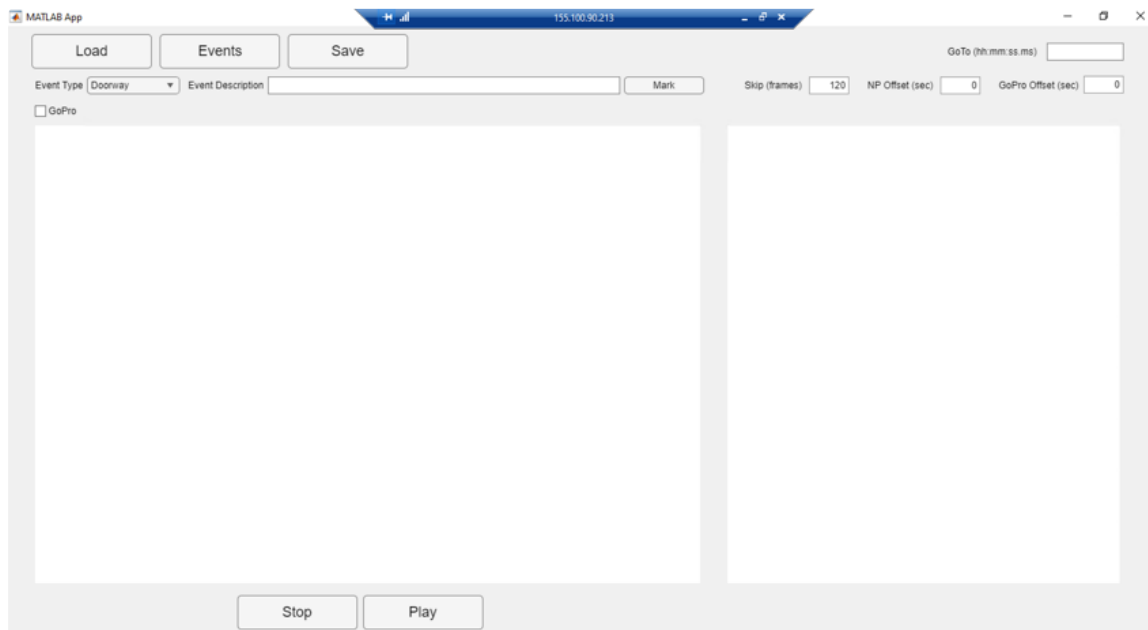
Step Two: Uploading Media Into the GUI

1. Go to ThisPC → Storage (D:) → Data → RealWorldNavigationCory → RWNApp_v1.1
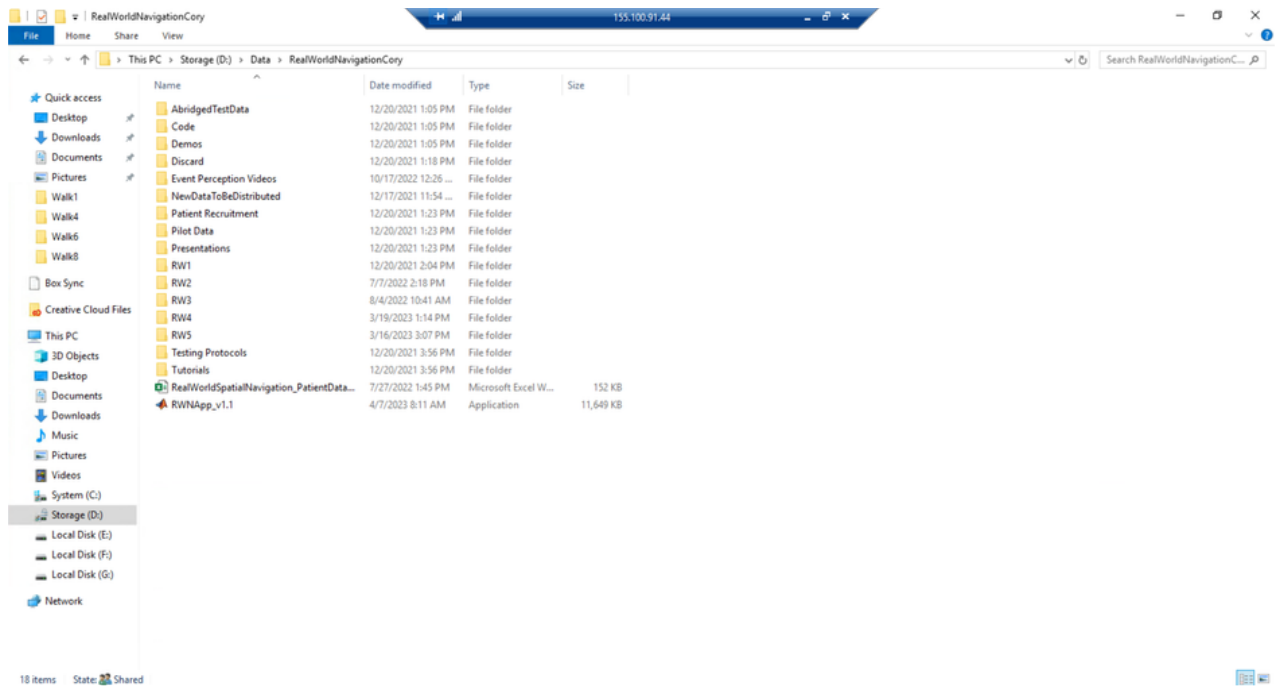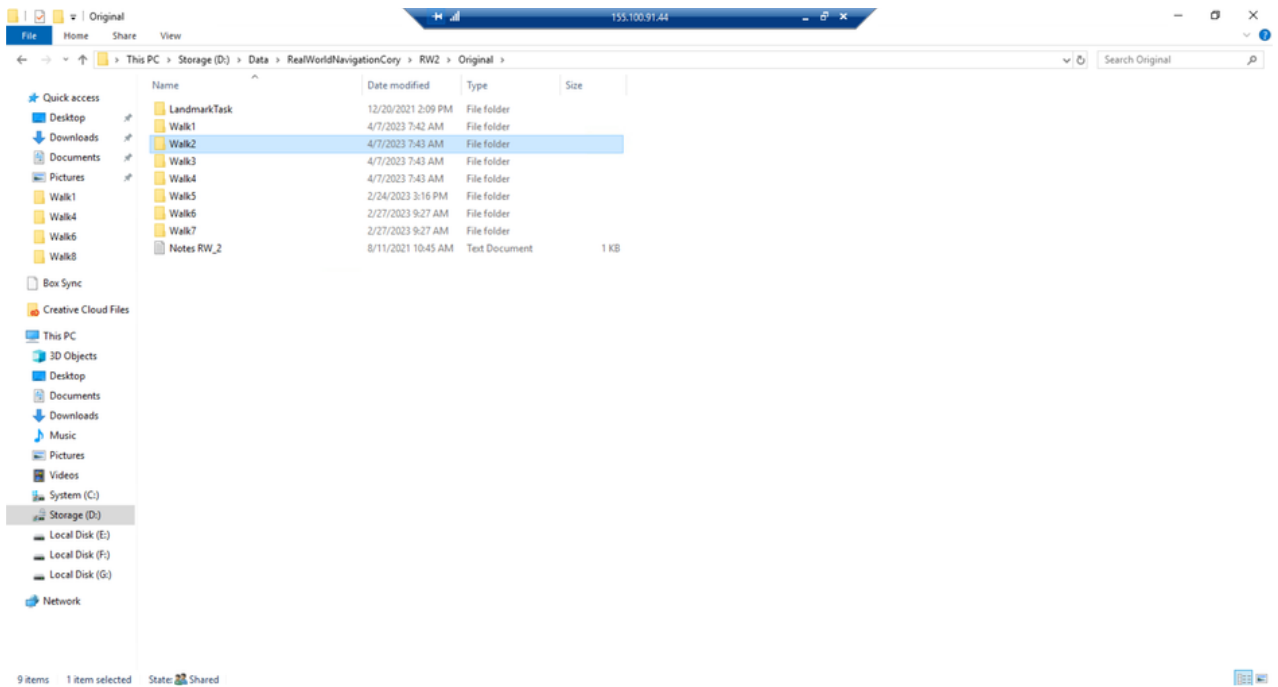
a.

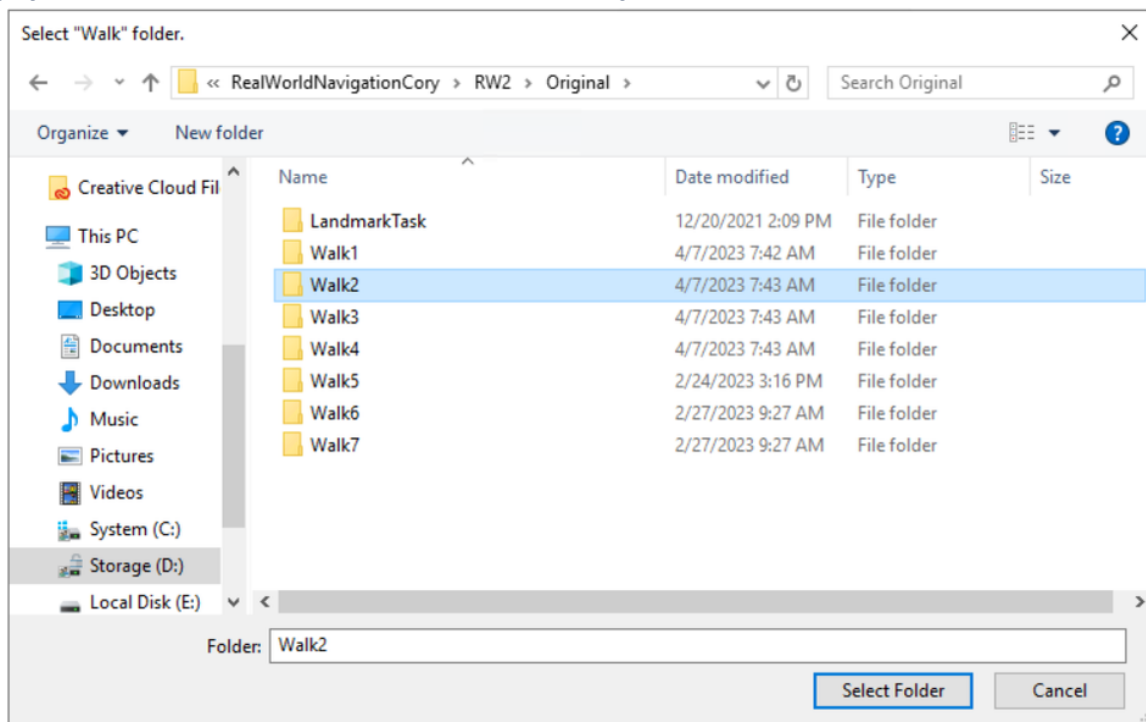2. In the top left of the window that opens, click "Load". Locate designated RW patient and walk.

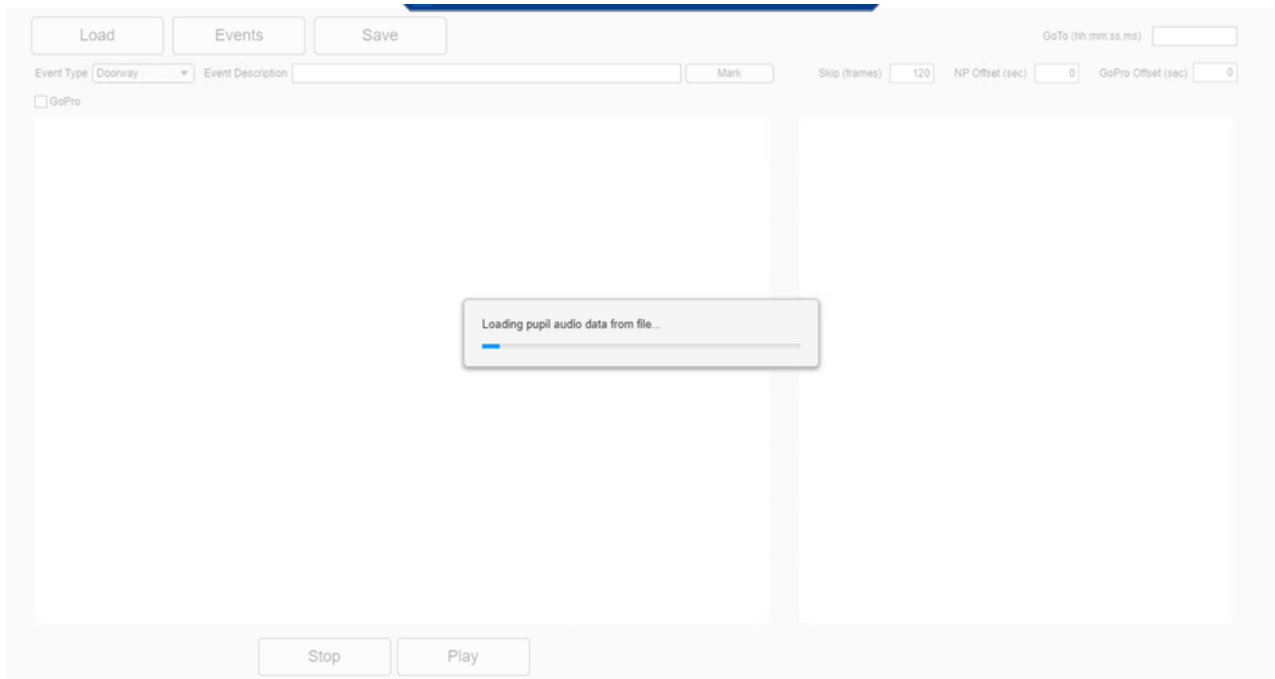   a. ThisPC → Storage (D:) → Data → RealWorldNavigationCory → RW# → Original → Walk#"

b.

3. Highlight the "Walk#" folder and click "Select Folder" at the bottom right of the window.
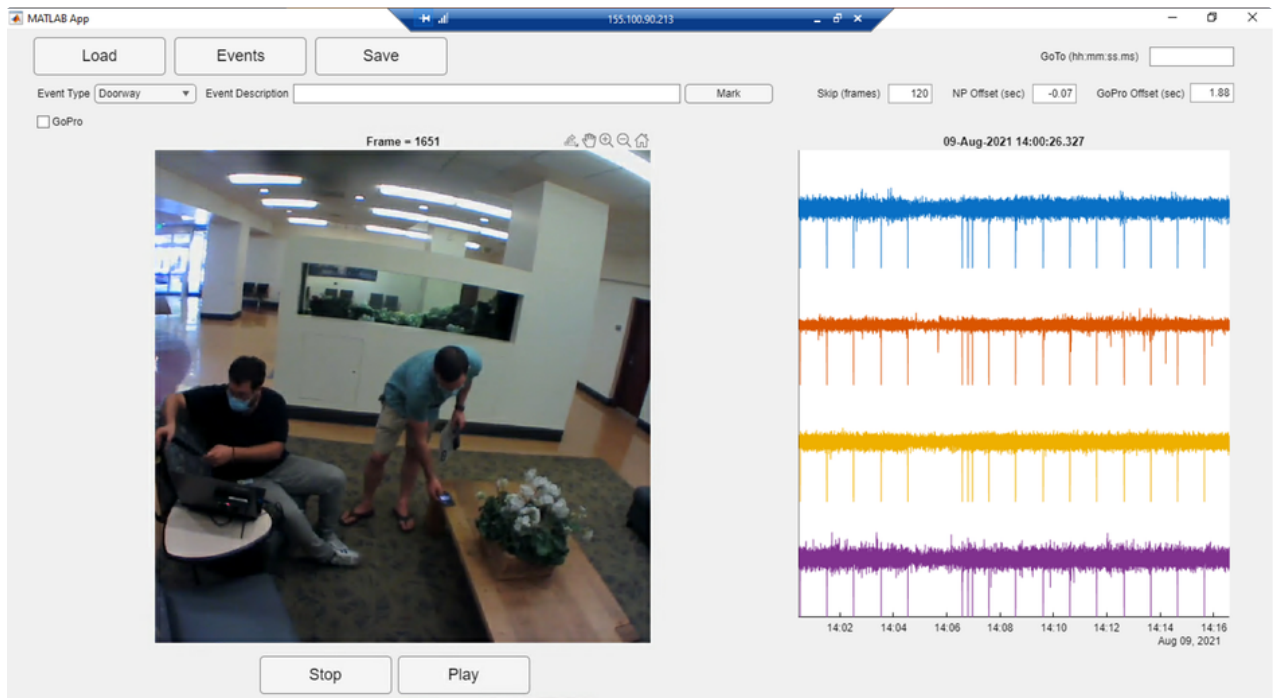

a.

4. This loading screen should pop up if loaded in successfully.

a.

5. After the video loads in (may take awhile), you should see the ==video along with the NeuroPace on the right.==

a.

Step Three: Annotation (using GOPRO video)

1. To navigate to different parts of the videos, you can either use the left and right directional keys or click in the spaces of the NeuroPace to the right of the videos. Once you have marked an event, you can also click the "Events" box next to "Load" and click on any event to navigate to it.

2. Click on the drop-down menu beside "Event Type" to define the specific event you are looking to examine.

3. Here are descriptions of each event type:

   a. Doorway: Press the "Mark" button next to "Event Description" to mark the exact video frame where the door frame is officially out of view. This indicates that the participant is in the door frame.

   b. Talking Beg/End: Change the event type to "Talking Beg" and press the "Mark" button once any sort of talking begins. Once the talking ends, change the event type to "Talking End" and press the "Mark" button. In the "Event Description" box, add a short description about what was said during the duration of the talking. Additionally, for longer durations of speech with content change,

press "Mark" the end of the previous conversation and press "Mark" the "Talking Beg" when the conversation changes. Also note who is talking each time someone is talking.

c. Correct Turn Beg/End: Change the event type to "Correct Turn Beg" and press the "Mark" button once the participant starts to turn. Once the turn ends, change the event type to "Correct Turn End" and press the "Mark" button. (The turn will begin when the participant physically moves. The end of the turn can be indicated from the camera moving forward.)

d. Incorrect Turn Beg/End: Change the event type to "Incorrect Turn Beg" and press the "Mark" button when the participant starts turning in the wrong direction. Once the participant starts moving in the correct direction, change the event type to "Incorrect Turn End" and press the "Mark" button. (The incorrect turn will begin when the participant physically moves in the wrong direction.)

   i. Note: The end of an incorrect turn is usually the beginning of a correct turn.

e. Lost Beg/End: Indicate when the participant does not seem to know where to go next on the route. (Can be simultaneously happening with a stop or an incorrect turn.)

f. Stop Beg/End: Indicate when the participant completely stops moving. In the "Event Description" box, indicate whether a long stop or a short stop occurred. (Short stop: ½s – 2s; Long stop: >2s)

g. Abnormal: Change the event type to "Abnormal Beg" and press the "Mark" button at the start of anything unusual, unexpected, or out of the ordinary that occurs throughout the walk. (i.e. anything that doesn't simply only include just the participant walking the route. For example, people walking in front of the camera or in view would be considered unexpected.) Mark the end of the event when the event is out of frame. In the "Event Description" box, give a short description of what the abnormal event was.

h. Pointing: Indicate any time when [Cory's] hand appears in the video to either direct the participant in the right direction or to hold the door.

i. Notes: Use this event type to indicate anything the participant does out of the ordinary (e.g., If the participant turns around to ask a question.) Similar to "Abnormal Beg/End".

j. Outdoor: Indicate the start of the outdoor period where the doorframe transitions from inside to outside. The end of the outdoor period will be at the doorframe that transitions from outside to inside.

k. Choice Point: Indicate when a participant has many different paths to choose from. Press the "Mark" button when the right corner of the path goes out of view indicating the participant is choosing a path (including if that turn is incorrect). Below is the map of the route with all the choice points marked.

   i.
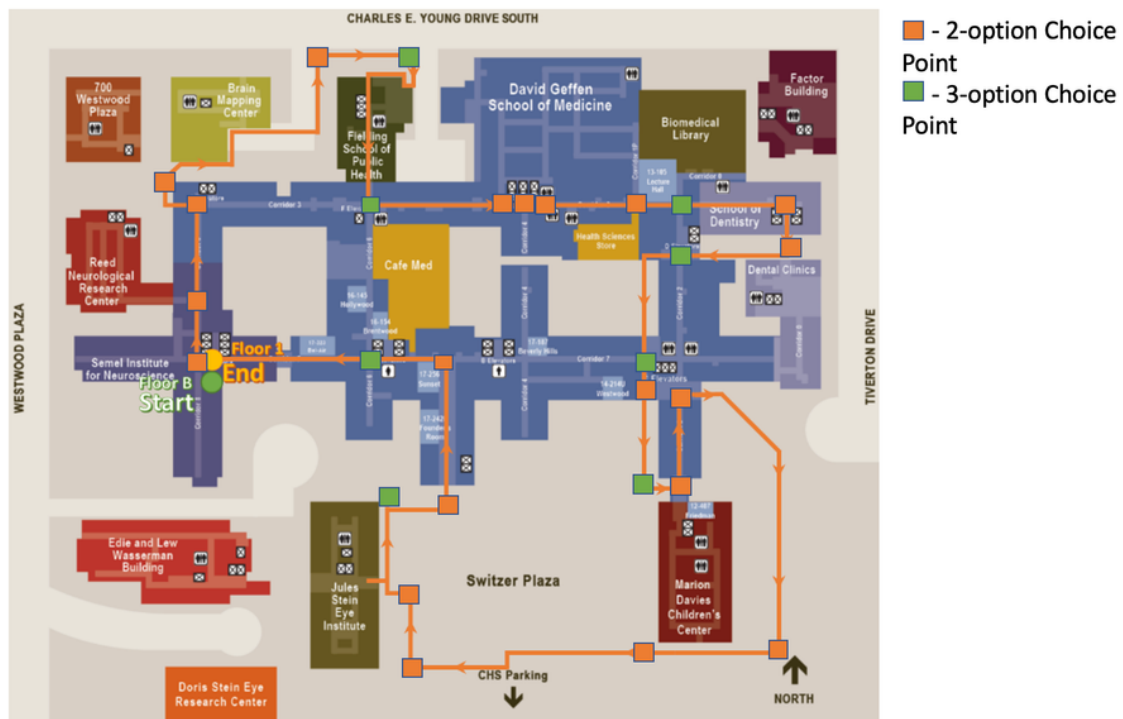
l. Stare: Indicate whenever anyone throughout the route stares at the participant.

m. Held Door: Indicate the beginning/end of when someone starts to hold the door open and ending when the participant is within the doorframe. (May be simultaneous with "Pointing").

n. Clapper: Press the "Mark" button when the clapper is first clapped and last clapped. This is found at both the beginning and end of the walk.

o. Landmark Beg/End: Change the event type to "Landmark Beg" and press the "Mark" button when one of the predetermined 150 landmarks are visibly present to the annotator in the video. In the "Event Description" box, type the file name of the landmark that is present in that frame. The landmarks can be found via *Box → RealWorldNavigationCory → LandmarkTask → Stimuli → All Landmarks and Scenes Pictures → Landmarks*. Once the landmark is completely out of view, change the event type to "Landmark End" and press the "Mark" button.

p. New Context Beg/End: Change the event type to "New Context Beg" when the participant gets to a new context based on the map below. In the annotation box, type which context they are entering and then press the "Mark" button. When they come to the end of that context, change the event type to "New Context End" and press "Mark". This will usually happen simultaneously with the beginning of the next context.
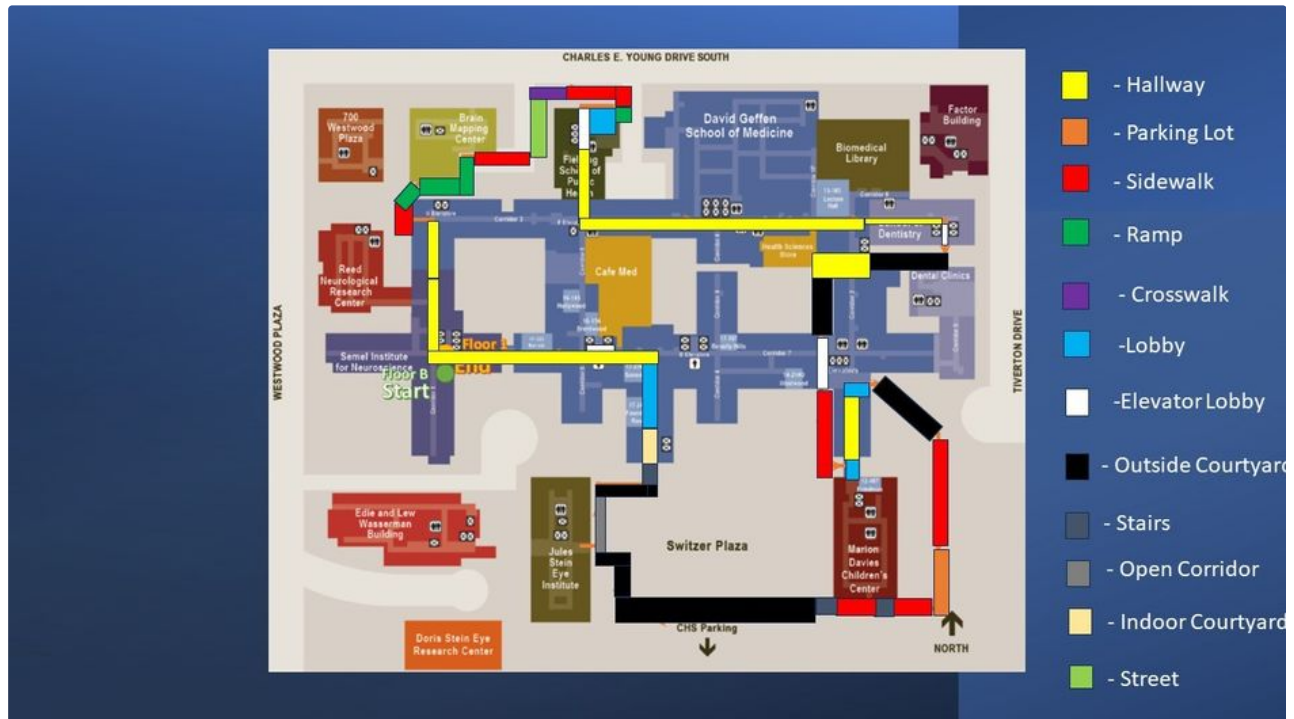

Note: <mark>Quite a few of these events may overlap in the videos. Make sure to indicate every single event at those frames.</mark>

4. To double check if you marked an event, click the "Events" button at the top left of the GUI next to "Load". If events are incorrectly marked or marked twice, you can delete an event by selecting the event and pressing the backspace button on your keyboard.
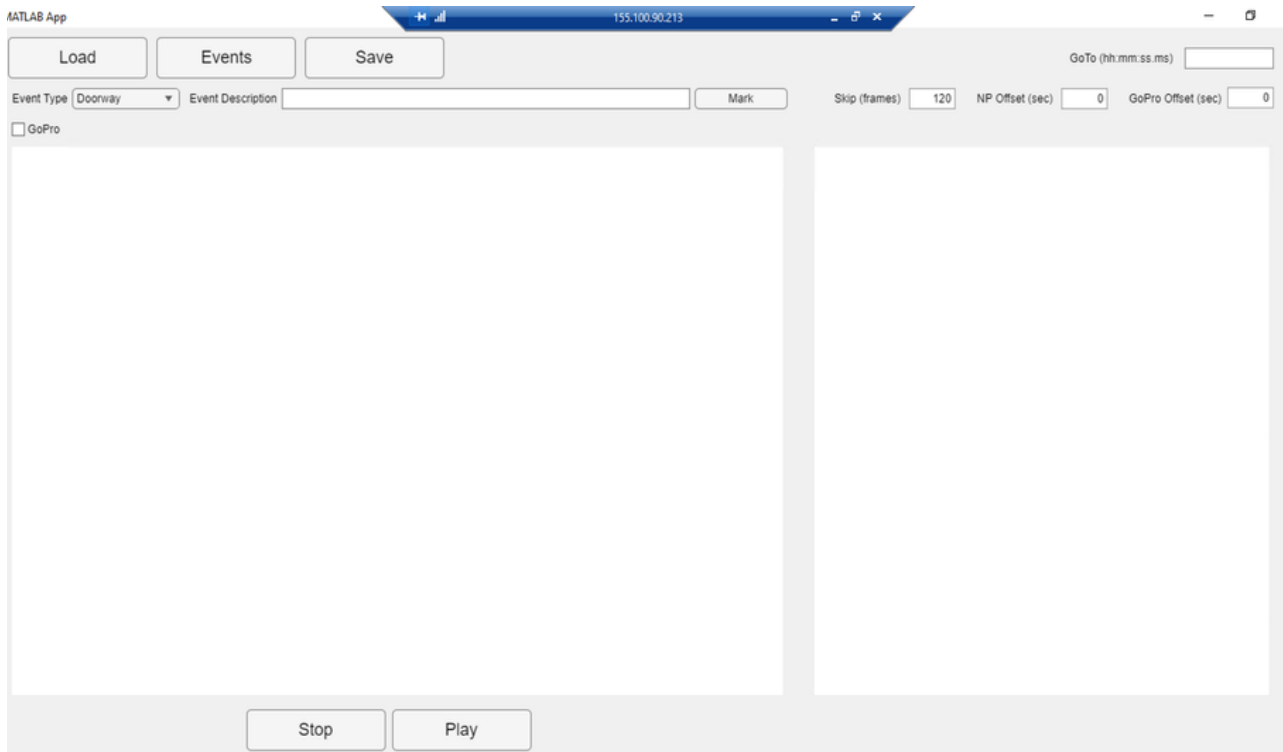
Step Four: Saving and Checking for .mat File

1. Once you are finished annotating a video, press the "Save" button. To check that the marked events saved properly, check for a .mat file within that Walk# file.
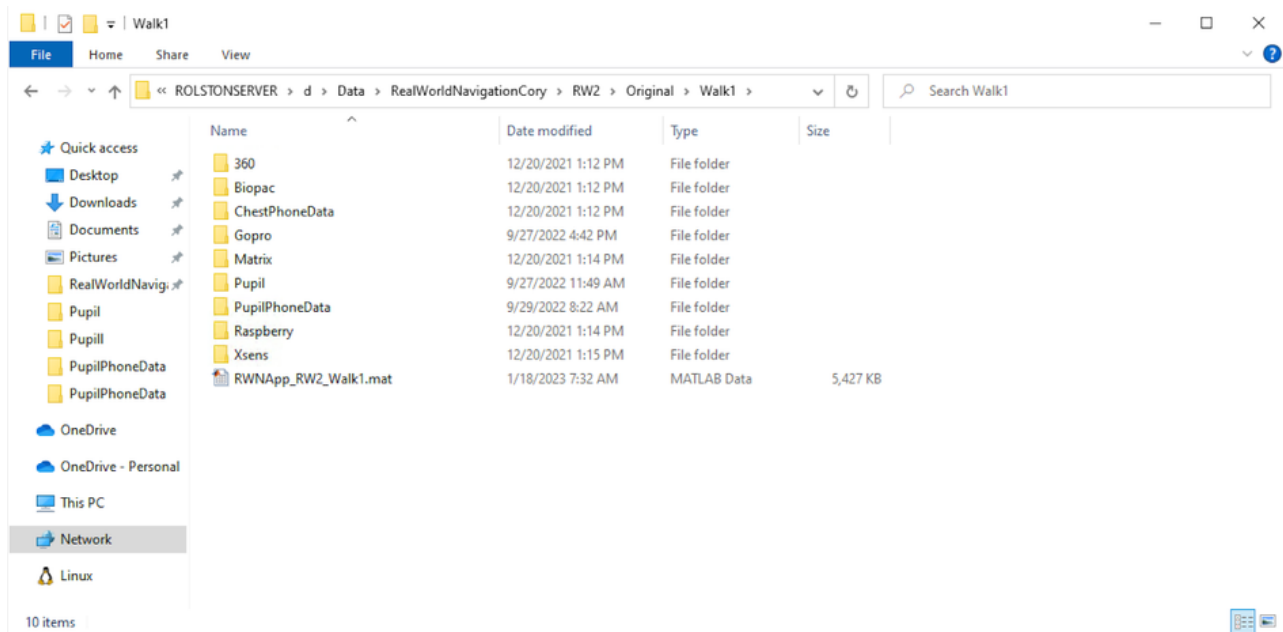
2. In the walk folder, create a copy of the .mat file and rename it by appending your name to the end. (The GUI will always load in the file named RWNApp_RW#_Walk#, so you need to create the copy so the next annotator can write over the annotations in the original file.)
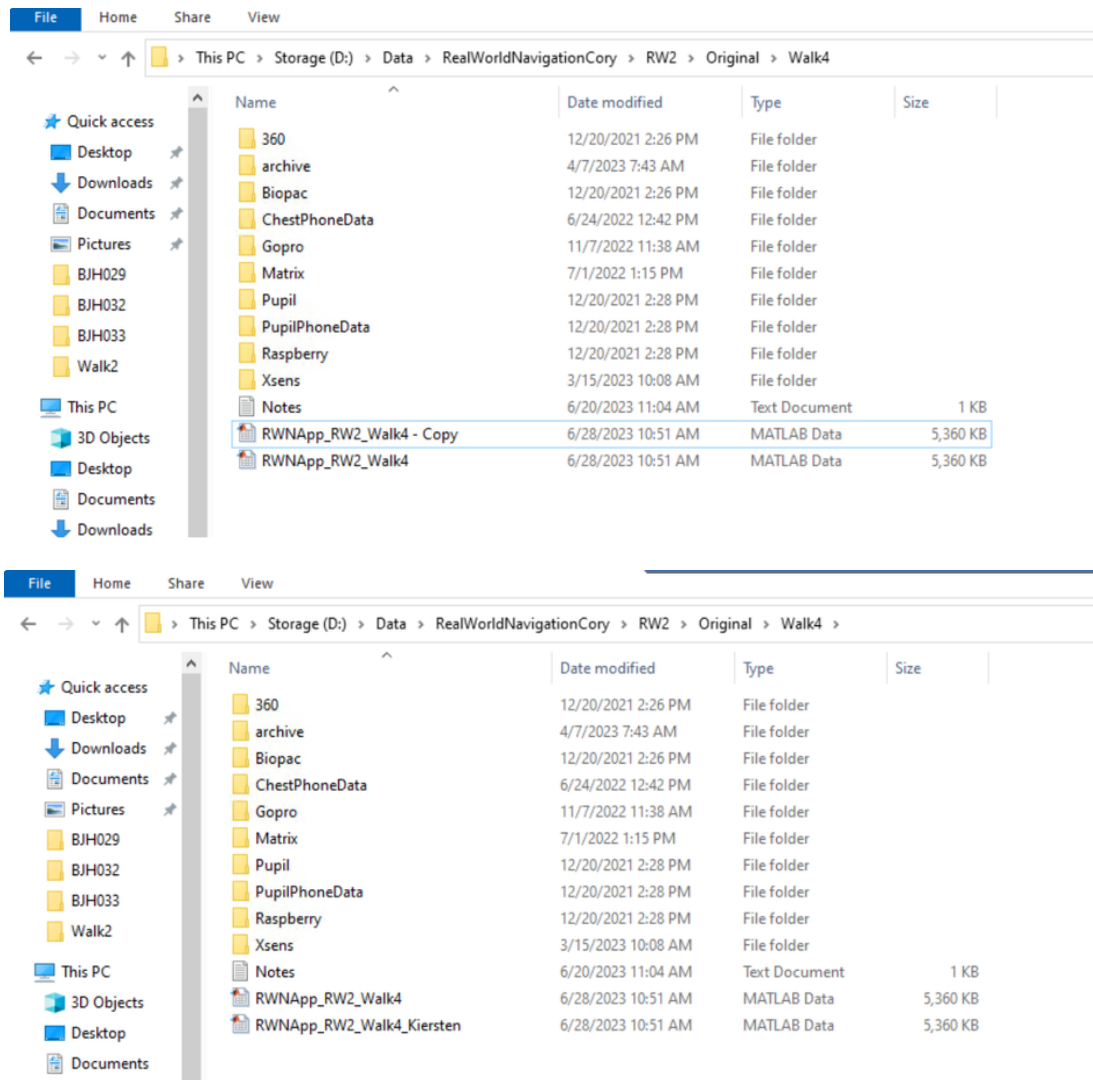
3. You can check that your events table is saved by double-clicking the copied file to open it in MATLAB. Highlight the name of the file on the left and press enter. Then highlight "evnts_tbl" on the right and press enter. This file should load.
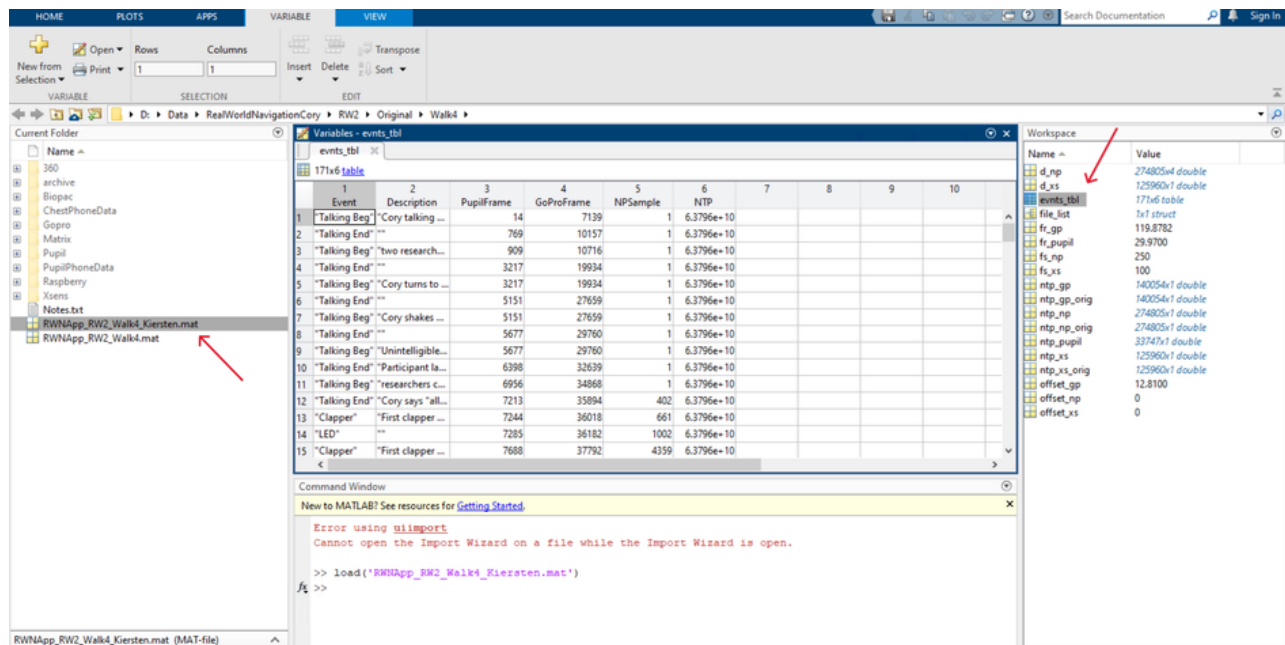
4. If marking another video, close out of the GUI, reopen the GUI, and load in the next video for marking.