

Watson Video Timeline

Brendan Watson Lab

Video Timeline 2019

2019

May 11/2020 : PhoPy Timeline Project

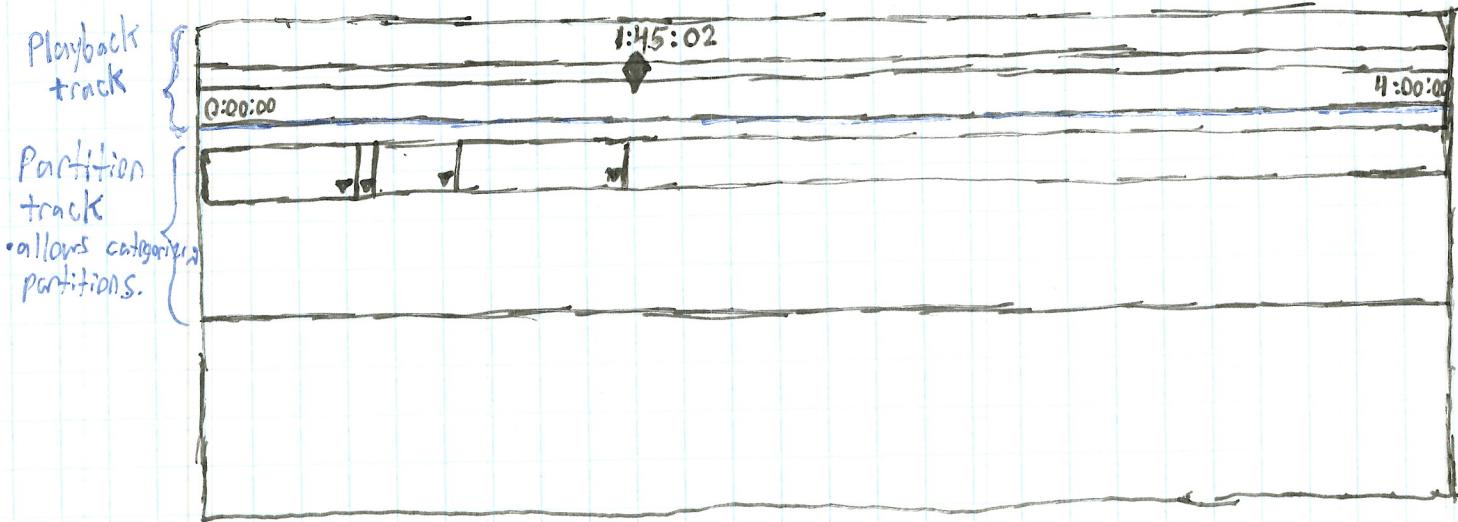
- multiple types of data file tracks:
  - deeplabcut
  - Actigraphy.mat

# Tracks GUI

Nov, 5, 2019

- all tracks same width
- number of units tall

- "recording" track receives input keys
- global commands navigate the timeline (width)  
for all tracks
  - Play/Pause
  - zoom



# Partition Track

11/6/2019

- User creates a cut at the current playhead
  - Draws a red thick line under the playhead cursor for a short while to indicate a cut has been made.
  - Colors each partition
- Sits over the top of (or extends) the general event box timeline component.
  - Starts with a single event spanning the entire duration
  - On each cut, replaces previous bisected event with two events

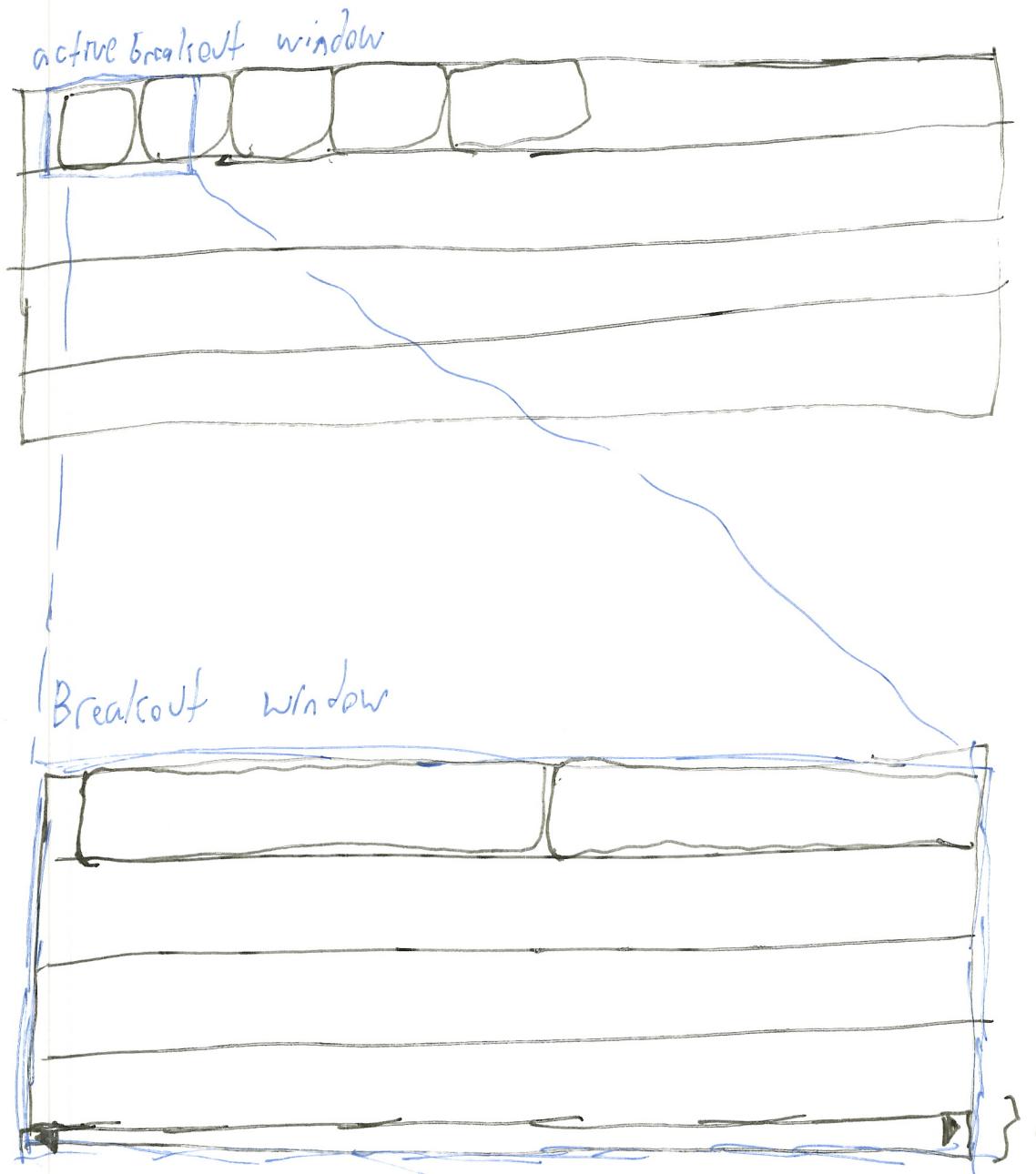
12-11-2019

### Partition Track Tools

- Cut** {
  - cut: creates a slice on the given partition
  - heal: removes a cut, merging the two partitions on each side
  - move: adjusts the position of a cut, adjusting the two adjacent partitions
- Options** {
  - checkboxes: [ ] [ ] [ ]

# Zoom Region Breakout

11/8/2019



11/21/2019:

- find gaps (linear fwd search) ▷ something similar was done in ScheduleIt for "Dose Mac OS" app
- add additional "behaviors" for partitions.
  - could use different tracks
  - need videos to test
- Find groups

~~Partition~~ Labeled Duration:  
like annotation but with strict  
types/subtypes.

## Sqllite Database Schema:

11/11/2019

## Videos:

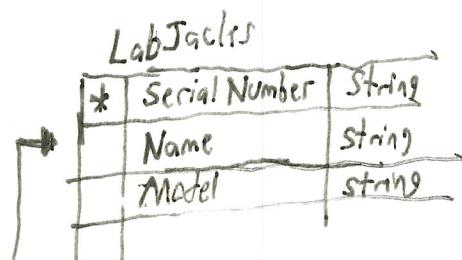
Inig

\* filename: string

box: String

recording Labjack's Serial Number: String

events: Events?



## Animals:

## Cohorts : Cohorts

experiments: Experiments

## Cage Martes: Animals?

## housing:

## Experiments

## Housing:

Location: Text

Start Date & Init

endDate: Int?

Reason For Removal: Text?

## Events

*name*

type

start Date : Int

end Date: Int?

## Event Types:

## Intervention

## Routine Maintenance

Extra Food

extra water

# Video Annotation System

11/4/2019

- allows machine dependent storage aliases:
  - Files in list specified as "`<MachineRoot-VideoStorageDisk>/Data/Behavioral Boxes Extended/Converted/BehavioralBox-BOO-T 20190725-2022590095.mkv`" where `<MachineRoot-VideoStorageDisk>` could be:
    - { " \ 10.17.157.153 \" // Detects when files are missing, and offers to change the paths.
    - " G:// " // Stores all previous locations used
    - " / " // also for extension.
- allows file-level: notes, tags
- allows timestamp-level: notes, tags (time-moment)
- allows time-range level: notes, tags (time-range)
  - optional (perhaps allows thumbnail generation)

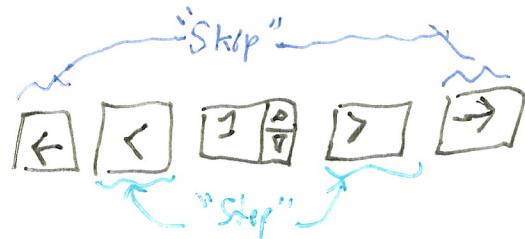
# "looper" Python video player project improvements

11/6/2019

- start by showing first frame instead of black frame.

- Forward/Back btns:

- Jump frames: 1
- Skip frames: 10



- Change video frames label to Stepper.

- Display Hr:Min:Sec. Msec timestamp

- parse filename
  - compute real world time }

- ▷ scroll wheel positioning not smooth enough

# Video Discovery / parsing + Remaining features

11/18/2019

- Zoom to single video
- Display current zoom (in terms of Viewport length)
- Allow selection of filesystem tree nodes to "filter" videos displayed in timeline
  - can also filter relevant annotations
  - could just make them "deEmph" if they're excluded from the filter.
- ~ Need Caching mechanism and reloading interface

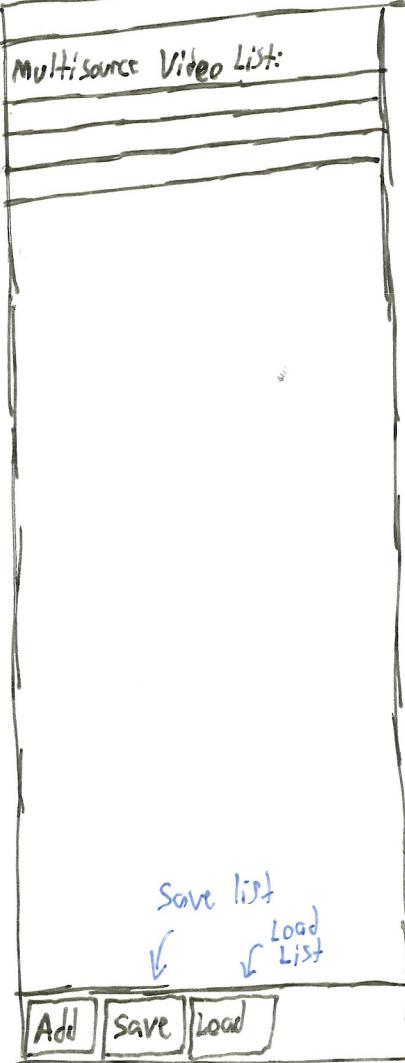
Optional: enable built-in DLNA/handbrake analysis/conversion

- Enable import/export of selection lists (video filter criteria)
- Needs hachoir or something similar to parse durations
  - ✓ "ffprobe" might work (comes with ffmpeg) ✓ } working as of 11/18/2019
  - ✓ maybe VLClib could work as well
  - ✓ also might be interested in "width" and "height" metadata
  - ✓ also maybe "CreationDate" and "LastModificationDate"
- Could use "deferred loading" of metadata
  - find files that match the filter
  - return them, populate a list/tree
  - then parse them for metadata in a non-blocking way} could be useful to see if metadata/cache changed } working as of 11/18/2019
- Enable creation of multiple video tracks: one for each box
  - ⚠ keep in mind comments/annotations/partitions will need to be **box-specific**

# Video Browser

11/11/2019

files sorted by time



↑ add files to list by regex

# Auto-Event Detection

11/4/2019

- "Intervention" Events
- Sleep events: must be "still" for more than certain duration.
- Running wheel Events: well-defined lines of running wheel disappear