

## Manually scoring a lifespan with the Marker application

The Marker application is an extremely lightweight cgi-app that allows you to score experiments in a web browser on any sort of device (tablet, smartphone, etc). However it is manual, so you will have to scroll through the movie and mark the death point of each worm. For a more automated approach we have a web app, Retrograde, that uses javascript and requires a three button mouse and will do much of the work for you. That said, some users still prefer the Marker application.

1. To open the Marker application, open a web browser on the server attached to the WormBot and go to: <http://127.0.0.1/cgi-bin/experimentbrowser>

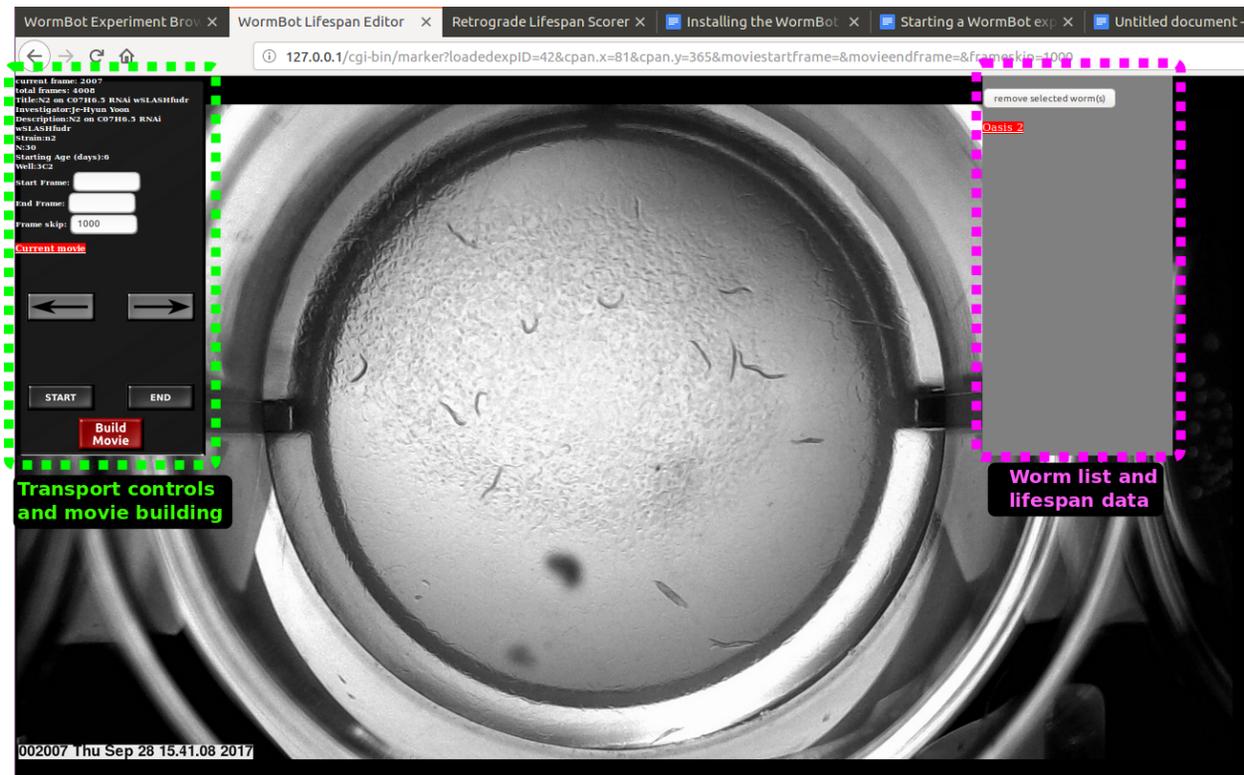
**Note:** If you take sufficient security precautions you can assign you server a domain name and make it accessible from outside your local network, thereby replacing the loop-back IP (127.0.0.1) with your actual domain name or IP address

2. From the experiment browser scroll to the experiment of interest and click on the ExpID or on the title or description to open the Marker application.

**Note:** If you already know the experiment ID you can also manually enter the URL such as: <http://127.0.0.1/cgi-bin/marker?loadedexpID=XXX> where you would replace XXX with the experiment ID number



3. When you open the Marker application you will be presented with the following interface:



4. The left hand side (highlighted in green above) are the transport controls for scrolling through the experimental data. In the top portion of this control window are some details of the experiment, the currently displayed frame, the total number of frames, the title for the experiment and the description, the strain name, the starting age and well number. Below that are 3 input fields. The field labeled Frame skip, controls the number of frames the will be moved when you left click on either the left or right arrow buttons in the control window. Right is forward in time, left, backwards in time. The START and END buttons will transport you to the first and last frames of the data set respectively.



**5. Manually scoring the data.** Use the transport arrow buttons to move through the data set. When you observe a worm that ceases all body movement left click on the center of the worm. This will produce a numbered red circle on the worm and will add the worm to the wormlist window on the right side of the screen.



6. Continue processing the data until all worm death events have been marked. At this point the wormlist will have an observed N, mean, median and max lifespans. If you make a mistake or want to change the time/location of a worm's death click in the checkbox next to the worm's number in the wormlist window and click the remove selected worm button, then remark the death event at the desired timepoint.



7. The bottom of the wormlist window contains the lifespan information in the format for the survival analysis web application OASIS 2 <http://sbi.postech.ac.kr/oasis2/> You can copy the data from the wormlist window and click the OASIS 2 link in the bottom of the window and then use OASIS to analyze the data.



