XINA SMS Tool

The XINA SMS Tool displays the state of samples within the SMS carousel on a cup-by-cup basis.

In the default view, a cup drawn in green represents a sample that has been placed and has not yet been pyrolized. A cup drawn in brown represents a used up sample. White cups have never had any sample placed in them. Yellow cups have had a history where a small nickel cup has been placed in them, used for an experiment on Earth (e.g. during TVAC for FM or anytime on the testbed) and then later the cup was removed.

When data is committed to the SVN repository, the smscuplog.py script is automatically executed to determine all the SMS motions that have been conducted during that run. Possible events include:

Event	Description
CupInOven	Cup is sealed in the oven (e.g., for preconditioning or after sample drop)
CupOutOven	Cup is removed from oven (e.g. after an EGA)
CupToSSIT	Cup is raised to the SSIT funnels presumably to receive sample
CupToShPunc	Cup is raised to shallow puncture station
CupToDePunc	Cup is raised to deep puncture station (e.g. prior to derivatization)

All of these event types result in an entry in the XINA database under Cup History, along with the TID and date. The CupInOven type also has an automatically populated Load value in lbf (pounds-force).

The database also includes fields which can be manually entered:

Field Name	Description
Sample ID	A two-letter designation, usually followed by an incremented digit for each (e.g. CB7)
Aliquots	Number of portions (typically 3 for early dropoffs and 4 during the FEST era)
Sample Used	Left blank until manually entering 'true' for the CupOutOven event after pyrolysis
Sample Desc	Any text may be entered here, but at minimum it should include the full name of the sample

Note: for testbed the aliquot value of 1 is typically used, since that is a term with meaning only in the FM Mars operations context

For those manually entering values, a CupToSSIT event where sample is received should be given a value for Sample ID, Aliquots and Sample Desc. A CupOutOven event should have the 'Sample Used' field set to 'true' if it was preceded by a pyrolysis.

In testbed operations, there is a special value for 'Sample ID' when the nickel cup-in-cup is removed. For this case, enter 'empty'. Then, the XINA app will display the cup in yellow indicating it can be used for future loads.

Revision #3
Created 24 May 2023 13:15:21 by Micah Johnson
Updated 24 May 2023 13:47:28 by Micah Johnson