Stockholm, 2023-09-13

Technical Note   
Screens of Cognitive Assessment Software, as generated for the Orbital Architecture (ORBARCH) activity

The current Technical note aims to document all screens presented to crew within the Cognitive Assessment software, v. 2.0, which is to be used during upcoming missions.

All screenshots are presented in the order the crew will see them, in Annex I of this document.

Please note that screens 5, 7, 11, 12, 13, 16, 19, 22, 32, 33 are repeated during the assessment with slightly different stimuli as part of the assessment they are part of.

More specifically:

* Screen 5 – 7 are presented multiple (20) times in sequence, with variable times between screen 5 and 6 (1-8 seconds), each time.
* Screen 12-13, indicate on the lower part, the feedback the user receives while pressing the labeled keys, Left Shift Key and Right Shift Key, accordingly.
* Screens 11, 16, 19, and 22 are repeated 20 times each, with 3 seconds between each presentation, with different stimuli. These potential stimuli are:
  + The letter on the center which can take values:
    - 'C', 'H', 'K', 'N', 'R', 'W', 'X', 'Y'
  + The white square, which can appear in one of the 8 “free” spots of the grid, meaning any but the center.
* Screen 32 and 33, have “active elements that change during 9 minutes of assessment.
  + The elements on the top left of the screen
    - Button F5 is green and could occasionally go gray.
    - Button F6 is grey and can occasionally go pink.
    - Gauges F1 to F4 are grey with a sliding pointer.
      * If the user makes an error in their input, they will have a pink indication on their bottom.
      * If the user indicates a correct fluctuation in their levels, they will have a green indication on their bottom
  + The elements on the bottom left of the screen
    - The up and down arrows can change based on user input
    - The Numbers can change based on user input when the up and down arrows are on the corresponding column
    - The letters and numbers under the label communications change between assessments in a random manner, but retain the format XXXNNN, where X is any letter and N is any number.
  + The bottom center and bottom right of the screen:
    - The numbered arrows (1 through 8):
      * If the user uses the numpad corresponding numbers they can toggle them between grey (inactive) and green (active).
      * In certain cases the arrows turn pink for a while indicating that they are not togglable. They turn grey after 5 to 15 seconds of being pink.
      * The six green rectangles fluctuate based on certain “flow rates” (indicated on the bottom right). Their base and width is set, and the top side will fluctuate up and down.

Kind regards

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**ANNEX**Screens of ORBARCH Cognitive Assessment Software

