

Integrated Data Visualization for Human Missions

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OVERVIEW

Interplanetary missions produce exceptionally large and complex volumes of data that can be extremely difficult to navigate. This is especially true for human missions. This project seeks to develop an integrated data visualization environment that builds on the success of Apollo17.org allowing for integration of operational, engineering and scientific data while also preserving the context under which it was collected during the mission. We will build a product that integrates existing data from the Neutral Buoyancy Lab (NBL) to improve data visualization for extra vehicular activity and interplanetary missions.

INNOVATION

This technology utilizes a time-line based approach that allows data from multiple sources to be integrated in an intuitive manner while preserving context.

OUTCOME

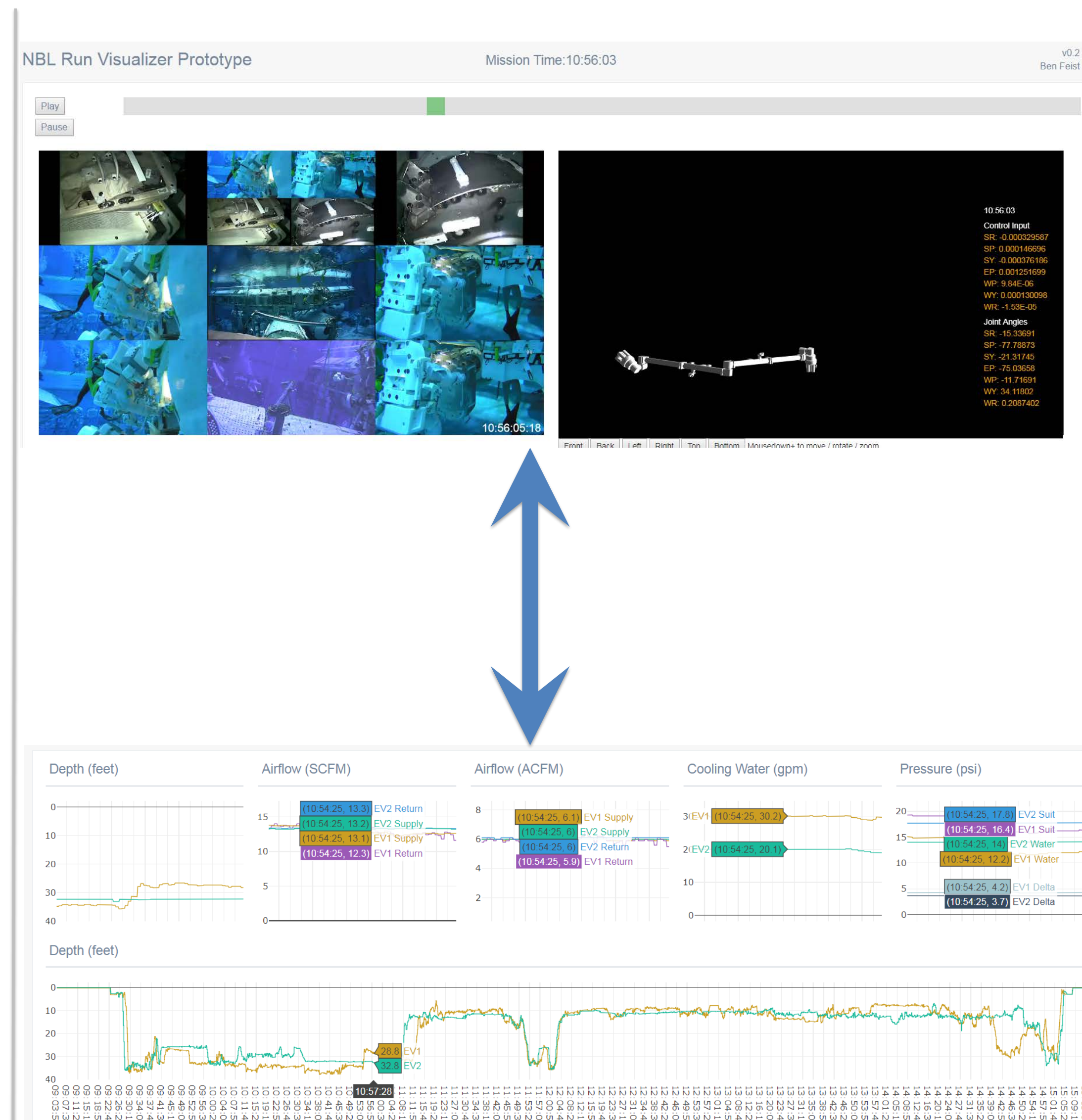
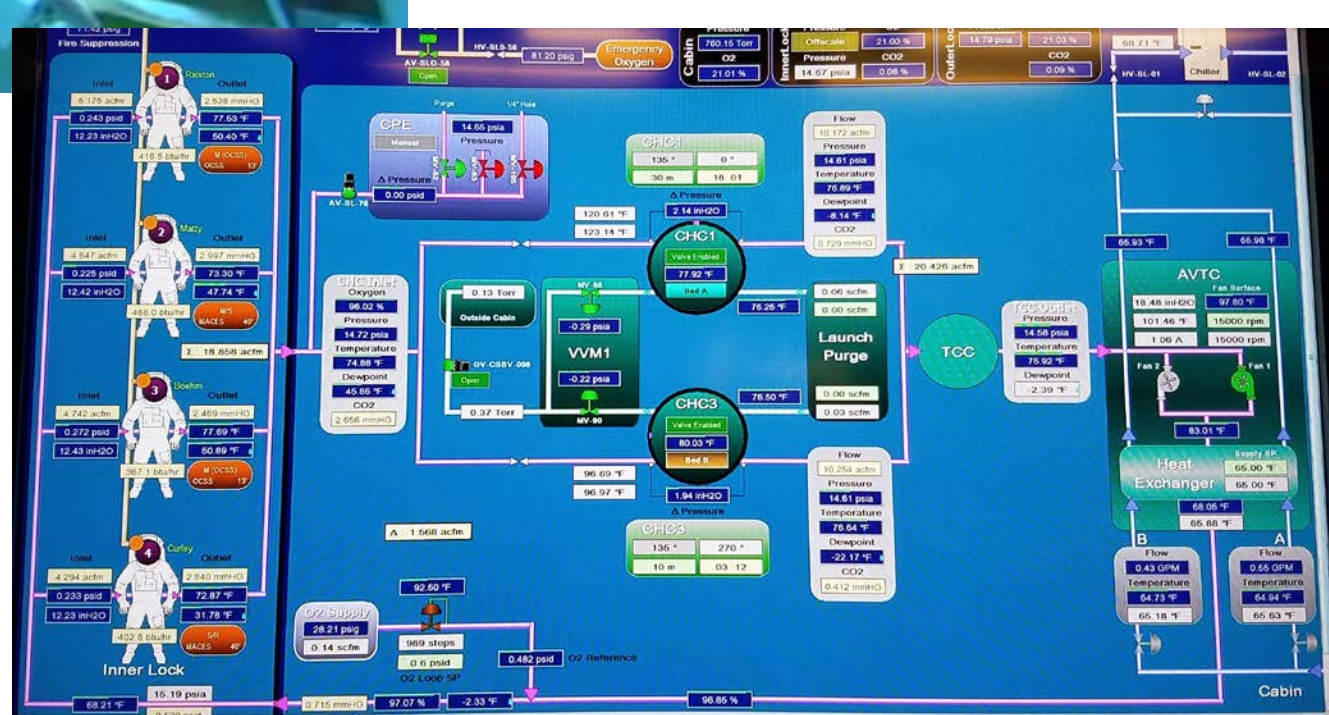
- NBL data received 8/2018
- Development ongoing

INFUSION SPACE / EARTH

- This technology will be improved during discussions with NBL and could be extended to document ISS EVAs.



NBL video is not currently synced with, audio or suit telemetry



NBL audio and video has been synced with suit telemetry (depth, airflow, temperature and pressure) and position of the Canadarm in an interactive visualization.

PARTNERSHIPS / COLLABORATIONS

We partnered with the NBL to collect video and suit telemetry data during an NBL run. We collaborated with Ben Feist, the creator of Apollo17.org to create the data visualization and user interface.

FUTURE WORK

We will continue to iterate with NBL to improve the usability and user interface of this prototype. This framework could eventually be applied to EVA from ISS or future crewed missions.