Change Log

| **Revision** | **Submission Date** | **Affected Sections or Pages** | **Change Summary** |
| --- | --- | --- | --- |
| Initial | 08/02/2018 | All | Initial issue of document. |

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# Document Overview

## Identification

| **Property** | **Value** |
| --- | --- |
| Configuration ID (CI) | 621.712 |
| Element | MPSA |
| Program Set | SEQ |
| Version | 34.8.0 |

## Purpose

This document describes the inputs, outputs, methods and events available in each component created as part of RAVEN. The RAVEN Components is a set of Web Components that adhere to the W3 specification. Please refer to <https://www.w3.org/standards/techs/components#w3c_all> for a more complete description on Web Components.

As a developer for a Web Application, a complete API description for the RAVEN Components will make integration easier, by defining the available interfaces and providing examples on how to consume them.

## Terminology and Notation

| **Acronym or Abbreviation** | **Definition** |
| --- | --- |
| AMMOS | Advanced Multimission Operations System |
| API | Application Program Interface |
| DMS | Document Management System |
| MGSS | Multimission Ground System & Services |
| MPSA | Mission Planning, Sequencing and Analysis |
| RAVEN | Resource and Activity Visualization ENgine |
| SEQ | Sequencing Subsystem |
| SRD | Software Requirements Document |
| TOL | Time-Ordered Listing |
| XML | Extensible Markup Language |
| XMLTOL | Extensible Markup Language Time-Ordered Listing |

## References

Table 1: Applicable JPL Rules Documents

| **Title** | **DocID** |
| --- | --- |
| Software Development | 57653 |

Table 2: Applicable MGSS Documents

| **Title** | **Document Number** |
| --- | --- |
| MGSS Implementation and Maintenance Task Requirements | DOC-001455 |
| RAVEN Software Design Document (SDD) | 001519 Rev C |
| RAVEN Software Requirements (SRD) | 001498 Rev E |

# Environment

## Hardware Characteristics and Limitations

No hardware required in the interfaces since this is a software product.

## Interface Medium and Characteristics

The interfaces can be used in two different ways:

* Programmatically. Using JavaScript to set attributes, parameters, call functions, dispatch events and add event listeners.
* Declaratively. Using HTML to add attributes to the RAVEN HTML components.

## Standards and Protocols

RAVEN Components adheres to the W3 Specification of Web Components. This describes four main specifications that must be fulfilled in order to comply with the Web Components Standard:

* The Custom Elements specification
* The shadow DOM specification
* The HTML import specification
* The HTML Template specification

The Components generated are composed of pure HTML, JavaScript and CS3, as the building blocks of any Web Application.

## Software Initialization

The consumption of the RAVEN Components is intended for web applications. It is recommended to use NPM as the package manager for the application to download from JPL’s Artifactory service the correct components.

1. Identify the project to use to import the RAVEN Components.
2. If the project has been initialized with **npm** proceed to next step, else, execute **npm init** in the terminal at the level of the project main folder to create a **package.json**.
3. Add the dependencies for the RAVEN Component to use:

"dependencies": {

"@gov.nasa.jpl.mgss.seq/raven-timeline": "https://cae-artifactory.jpl.nasa.gov/artifactory/npm-develop-local/@gov.nasa.jpl.mgss.seq/raven-timeline/-/@gov.nasa.jpl.mgss.seq/raven-timeline-1.0.0.tgz”

1. Run **npm i** to install the newly added dependency
2. Import the components in your HTML

<script src="node\_modules/@gov.nasa.jpl.mgss.seq/raven-timeline/demo/state.js"></script>

<script src="node\_modules/@gov.nasa.jpl.mgss.seq/raven-timeline/dist/ctl/ctl.libs.min.js"></script>

<script src="node\_modules/@gov.nasa.jpl.mgss.seq/raven-timeline/dist/ctl/ctl.js"></script>

<script src="node\_modules/@gov.nasa.jpl.mgss.seq/raven-timeline/demo/webcomponents-loader.js"></script>

<script src="node\_modules/@gov.nasa.jpl.mgss.seq/raven-timeline/dist/main.js"></script>

1. Add the RAVEN Component node to the file:

<raven-time-band></raven-time-band>

# Additional Sections

For a thorough guide with description of inputs and outputs, available components and live examples please visit:

<https://github.jpl.nasa.gov/pages/MPS/raven-components/raven-timeline/documentation/index.html>