**MSU Virtual Lab Assistant Lab Syntax and Schema requirements / Styling Guidelines**

**Introduction:**

This document outlines the styling guidelines, schema requirements and syntax involved in creating a lab file for the MSU Denver Alexa Virtual Lab Assistant. Note the following: the syntax must be followed **exactly** for the file to function correctly (see §2.0.0), there are required and optional aspects of the schema that will be underlined in the section on schemas (see §3.0.0), the styling guidelines are optional but strongly recommended to maintain consistency across all files and readability of the file for future maintainability (see §4.0.0).

**<§1.0.0> Creating A New File:**

Using any text editor or word processor create a new plain text file (file extension should be .txt). Ensure that the file extension is not .doc, .docx, .odt, or .rtf. The recommended editor is notepad (Windows) or TextEdit (Mac Os). You may also use MS Word or Google Docs and download/save the file. When you download/save the file, ensure that you download/save as a plain .txt file.

**<§2.0.0> Syntax:**

**<§2.1.0> Tags**:

Tags are a way for the V.L.A to understand what type of data you are providing it. This is important because different kinds of data needs to be processed and used accordingly.

The first thing to note about tags is that anything you write in the file, with the exception of comments (see §2.2.0), must be enclosed inside of a tag. Each tag is made of two parts, an opening tag and a closing tag. These two tags tell the computer where a certain piece of data begins and ends.

An opening tag is denoted by putting the tag name inside of a less-than and greater-than symbol. A closing tag is denoted exactly the same in addition to a forward slash in front of the tag name.

See example on next page.

Note that tags can not have any spaces, the opening and closing tag must have the same name, and capitalization does not affect the tag but can be used for styling (see Sec#).

Form: <tagName> </tagName>

Example use of Tags:

<materials>

250 mL beaker

wash bottle

distilled water

</materials>

**<§2.1.1> Types of Tags:**

Required Tags: Required tags must be present in a file for the V.L.A. to detect the file. For example, the V.L.A will not detect files missing a <title></title> tag.

Optional Tags: Optional tags are meant to enhance or add to the users experience. An Example of this type of tag is the <equation></equation> tag.

See schema section (Sec#) for more information on types of tags.

**<§2.1.2> Titles:**

Titles are not needed but used as a way to make the document more readable. You can apply a title to a tag by putting a colon after the tag name then write your title. Note that you can only put a title in the **opening** tag. Titles are ignored by the V.L.A. and can be multiple words.

Form: <tagName: title> </tagName>

Example Use of Title:

<materials: Lab One Materials>

250 mL beaker

wash bottle

distilled water

</materials>

**<§2.2.0> Comments:**

A comment is denoted by putting a pound symbol (#) before some text. When a # is placed on a line, all the text after the symbol will be ignored by the V.L.A. but for that line only Multi-line comments will need a pound symbol for each line of the comment. To see uses and purpose of comments (see 4.0.0).

**<§3.0.0> Schema:**

**<§3.1.0> Requirements:**