SOP Title: Example	**SOP Number:** 2014.1
Original Author/Title/Signature: Adam Tenderholt	**Origin Date:** 16-Sep-14
Management Approval/Title/Signature:	**Date:**
Quality Assurance/Signature:	**Effective Date:**

A. PURPOSE

The purposes of this test method are:

A.1. Introduce the Markdown syntax.

A.2. Demonstrate conversion to PDF.

A.3. Show how Github can be used to effectively collaborate.

B. BACKGROUND

Markdown formatting was created as a way to specify document structure using a simple syntax for document features. This is in contrast to mark-up formats such as HTML or LaTex which require a more extensive knowledge to format documents properly and are not as human readable.

C. SYNTAX

C.1. Sections

Section headers are created by either placing # characters on the same line or = characters under the heading:

```
SYNTAX
======
```

or

```
# SYNTAX
```

Subsections can be created using multiple # characters or - characters:

```
Sections
--------
```

or

```
## Sections
```

C.2. Lists

Another feature that is very useful are nested (enumerated) lists. For example:

C.1. Item 1

- C.1.1. subitem 1.1
- C.1.2. subitem 1.2

C.2. Item 2

- C.2.1. subitem 2.1

The above list was created with the following syntax. Note that the list is autonumbered based on section number, but this is *somewhat* configurable.

```
#.  Item 1
    #.  subitem 1.1
    #.  subitem 1.2
#.  Item 2
    #.  subitem 2.1
```

C.3. Highlighting

Items can be *italicized* or **bolded** using a very simple syntax:

```
*italicized*
**bolded**
```

D. CONVERSION

The open source program "pandoc" can convert from several text formatting styles, including Markdown and LaTeX, and output several other formats such as HTML, PDF, and DOCX.

It was most straight-forward to use pandoc to convert to PDF, which goes through a LaTeX intermediate file. *I did not explore any other formats, except briefly for DOCX which seemed harder to customize.*

Conversion from Markdown to PDF requires "pdflatex" to be properly installed. LaTeX to PDF has the advantage that customizing a template file is often all that is needed and can incorporate LaTeX math or other commands with little effort. For example:

$\int x^2 dx = \frac{1}{3}x^3 + C$

or

$$\int x^2 dx = \frac{1}{3}x^3 + C \tag{1}$$

E. GITHUB COLLABORATION

This next part is harder to show in a document, so a example Github repo has been created.