CS CAPSTONE REQUIREMENTS DOCUMENT

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COVERAGEJSON RESPONSE HANDLER FOR OPENDAP

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Abstract

This document provides the requirements needed to complete the CoverageJSON Reponse Handler for OPenDAP.

1 Introduction

1.1 Purpose

The purpose of this project is to further the usability of OPeNDAP by integrating it with CoverageJSON. This implementation will be helpful for all users of both OPeNDAP and CoverageJSON but will be particularly useful to the NASA JPL.

1.2 Scope

The result of this project will be a CoverageJSON response handler for OPeNDAP. This will allow for OPeNDAP to feed users data in the CoverageJSON data format, which will allow users to view their data as a coverage, rather than the scientific formats currently implemented in OPeNDAP.

1.3 Definitions

1) OPeNDAP - Open Source Project for a Network Data Access Protocol.
2) CoverageJSON - JSON data format for encoding coverage data.
3) JSON - JavaScript Object Notation.
4) NASA JPL - The National Aeronautics and Space Administration Jet Proplusion Laboratory

1.4 References

1) OPeNDAP Advanced Software for Remote Data Retrieval https://www.opendap.org/

2 Overall Description

2.1 Product Perspective

The CoverageJSON response handler will be incorporated into the larger OPeNDAP project. Therefore all calls will be similiar to those implemented in OPeNDAP. The current OPeNDAP Javascript call looks like this:

```
createDataRequestForm("url" : "http://test.com/data.gz", "containerID" : "requestform");
```

The CoverageJSON handler will be similar in execution to remain faithful to the requirements set by OPeNDAP.

2.2 Product Functionality

The CoverageJSON response handler will have the same functionality as the response handlers already implemented in OPeNDAP.

1) Data that is converted to CovJSON will contain the same information as the source, but in the CovJSON format.
2) Users will be able to get data via a GUI that is already implemented in OPeNDAP, however there will be a new option for CovJSON.
3) The handler will work and be implemented in OPeNDAP's Source Github.

2.3 User Characteristics

The expected user characteristics will be the same as the characteristic expected of an OPeNDAP user. These characteristics include:

1) Scientists looking to share data over the Internet.
2) Groups looking to provide compatible clients, servers and SDKs.
3) Users looking to conform the to NASA community standard.

2.4 Assumptions and Dependencies

1) There will be enough accurate documentation on OPeNDAP and its response handlers.
2) There will be a server environment capable enough to test on.
3) There will be feedback on the testing and documentation needed to have the response handler pulled into the OPeNDAP project.

3 REQUIREMENTS

The CoverageJSON response handler will need to fulfill the following requirements:

1) Handle and feed out data that is in the CoverageJSON format and a correct implementation of the starting data.
2) Able to be pulled into the OPeNDAP source project.
3) The handler will need to be able to be called in the same fashion the current OPeNDAP handlers are called, and act similarly.
4) The handler must be testable and meet the standards defined by the client.