DATA ALBUMS: An EVENT DRIVEN SEARCH, AGGREGATION and CURATION TOOL FOR EARTH SCIENCE
Rahul Ramachandran1, Ajinkya Kulkarni1, Manil Maskey1, Rohan Bakare1, Sabin Basyal1, Xiang Li2 and Shannon Flynn1
1NASA/MSFC, University of Alabama in Huntsville
2NASA/Goddard

ABSTRACT
Data albums are being created mostly by data producers and consumers, but not in contexts where they are used for accessing and generating new data. The objective of the project was to develop a tool for generating, storing, and retrieving data and information to support the research needs. The tool was designed to be used in an event-driven workflow, where researchers access data, information, and tools that are pertinent to their research needs. The tool is implemented as a web-based application, which allows for easy access to the data and information. The tool was developed using Python and Django framework. The tool was used in a case study to generate new data and information, and the results were presented in a seminar. The tool was also used to generate new data and information in a real-world scenario.

INFORMATION SEEKING MODELS

STANDARD MODEL
- Searching the abstract model
- Understanding the model
- Performing the search
- Retrieving the results

DYNAMIC MODEL (Batte, 1999)
- User's search process
- User's workflow
- User's needs

SENSE-MAKING
- Behavior generally applies to intelligence analyst and other professionals who require information searching and userchein (Batte, 1999)
- Framework for sense-making for intelligence analysis (Hedin and Card, 2001)

DATA SEARCH PROBLEMS

INFORMATION SEEKING PERSPECTIVE
- No search strategies are built on the standard model
- No notion of "discovery of search needs"

END USER'S PERSPECTIVE
- User's search strategies are built on the standard model
- No notion of "discovery of search needs"

ONTOMETRY-BASED RELEVANCY RANKING SERVICE
- Designed as a general service that can be customized for specific applications
- Uses an algorithm that combines several factors and generates a score to rank the results
- Relevant and non-relevant documents are evaluated by the model

DATA ALBUMS CONCEPT
- Aggregation results are presented with visual interactive elements to support researchers' search
- New data and information are generated by aggregating relevant data

ACKNOWLEDGEMENT
This work was conducted as part of the NASA OBERV Grant (P300151).