**Introduction**

The NCAR Research Data Archive (RDA) is an archive that specializes in atmospheric and climate datasets. In order for the RDA to uphold its mission statement (http://rda.ucar.edu/#!about), it is crucial for the RDA to collect, manage, and preserve datasets in the atmospheric, weather, climate, and related sciences, so that the datasets can be discovered, accessed, and used/reused by a broad scientific and educational community for the long term.

**Objectives**

The RDA Dataset Appraisal and Selection System is a web-based interface that allows online dataset information submission to the RDA. The current version of the system will enable the following functions:

- Allow the potential dataset depositors to submit dataset metadata information online, so the RDA team members can evaluate and determine if the datasets are appropriate to be archived in the RDA.
- Inform the potential dataset depositors of the terms and conditions under which the dataset will be evaluated, ingested, and managed.
- Provide a shared portal for the dataset depositors and the RDA team members to exchange discussions during both the dataset evaluation and ingest process as well as to collaborate during the ingest process.
- Facilitate and document questions and feedback between dataset providers and the dataset user community in order to build the basis for the dataset’s provenance.

**Method**

**Groundwork:** The requirements gathering and system analyses necessary prior to the start of the implementation were proposed and completed by the primary author as a course project for Instructor Kevin Trainor’s UIUC LIS 453LE: Systems Analysis and Management course (Fall 2014). The complete project report and the related poster can be viewed via the following links:

- Project Report: https://drive.google.com/file/d/0B-0foVY96qEl3y1tQ55ZT14EO/view?usp=sharing
- Poster: http://webdocs.lis.illinois.edu/crt/hou.pdf

**Implementation:** Building upon the RDA’s existing framework, the RDA Dataset Appraisal and Selection System is implemented mainly by using the combination of the following three techniques:

- HyperText Markup Language (HTML): To create the basis for the web forms and pages that will be presented to the potential dataset depositors.
- PHP: Hypertext Processor (PHP): To allow the information provided by the potential depositors to be processed or accessed from the appropriate database tables.
- myStructuredQueryLanguage (mySQL): To construct the required database tables and to enable storage of the corresponding information.

**Ongoing Goals**

- Evaluate and improve the usability of the system and document the evaluation and results.
- Ongoing analysis and improvement of the system.
- Implement next phase capabilities and features based on user feedback and usability test results.

**Future Work**

- Involve new users to provide feedback regarding the layout and functions of the initial version of the system.
- Conduct official usability tests and evaluations.
- Implement new phase capabilities and features based on user feedback and usability test results.

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