CS 4320: Final Project Requirements Analysis & Software Design

OCDX Engine

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Use Cases

- User can Browse by keyword for Manifest
- User can Contribute to Existing Dataset
- User can Download Info
- User can Generate or Upload Manifest
- User can Save
- User can Search on Manifest
- User can Upload Data Set

Functional Requirements

- **Database Backend**
  - The system will be able to perform efficient searches, using keywords.
  - The system should be able to upload and update manifests.
- **Business Logic**
  - Process search, upload, and update requests, both into and out of Database Layer
- **Front-End Framework**
  - Accept and serve search, upload, and update requests

Non-Functional Requirements

- **Space Requirements**
  - The system must have enough physical space to handle extremly large data-sets.
  - We may need to implement a distributed system using clusters for efficiency.
- **Reliability Requirements**
  - If the system crashes, the data and any manipulations/analytics must be preserved.
- **Privacy Requirements**
  - The data access must be limited to authorized users only.
  - The system must enable secure data transfer over the internet

User Requirements

- User will be able to upload Manifest.
- Manifest can be reviewed by others.
- User can edit or delete their Manifest.
- User can search for Manifest they wish to view or test.
- user will be able to include special comments or suggestions on manifest
- user should be able to notify the changes or suggestions that improves manifest to other users

System Requirements

- **Web Server**
  - Web Server must provide reliable service for the appropriate amount of traffic that will be sent and received from the system.
- **Database Backend**
  - Database must be able to convert data into easily storable format, and return in original format.
- **Storage Array**
  - System must create intermediate backups and update logging to revert to earlier states if needed

Software Design

Sketches

- User can Browse by keyword for Manifest
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Data

- **Members**

  - ID
  - name

- **OCDX_manifest**

  - author
  - date
  - size
  - category
  - version
  - modify_request

- **Users**

  - ID
  - name
  - email
  - phone

- **Login_attempts**

  - userID
  - date
  - attempts

Change Log

- Version 1.0: Pre-Implementation Design

Glossary