CS 4320 Final Project: Requirements Analysis & Software Design

OCDX Engine

Team 4 Members:

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- Bradley Rogers
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Requirements Analysis

User Descriptions

Rogers/Pudotha

- **Data Scientist**
  - Conducts sophisticated and systematic analyses of data
  - Extracts insights from large data sets

Use Cases

Skinner/Hofer

- 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

Hofer/Raza

- **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

Raza/Pudotha

- **Space Requirements**
  - The system must have enough physical space to handle extremely 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

Zhang/Rogers

- 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

Hofer/Rogers/Skinner

- **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**
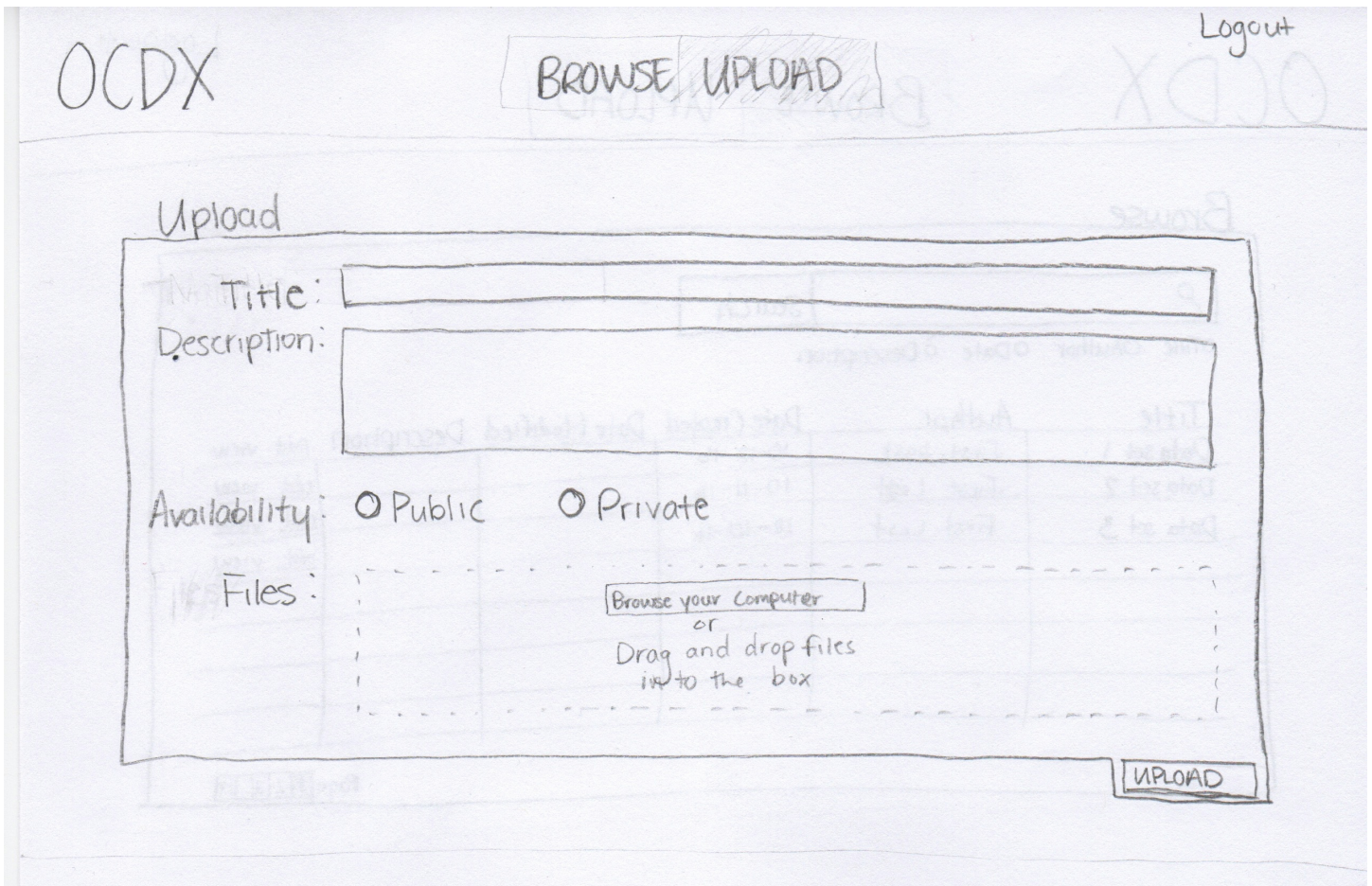 - System must create intermediate backups and update logging to

Software Design

Sketches

Skinner/Rogers

- User can Browse by keyword for Manifest
- User can Contribute to Existing Dataset
- User can Download Info
- User can Search on Manifest

OCDX

Logout

Dataset 1

Information:

Search this Manifest... | Search

DOWNLOAD | ADD+

Files:

Contributors

- User can Generate or Upload Manifest
- User can Save
- User can Upload Data Set

Data

Zhang/Hofer

- **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 *10-16-2016*