

**MetaDrop**

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**Version 1**

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# Project Overview

As a team we are going to build an online infrastructure for computational social scientists, social scientist, and citizens that will facilitate and centralize our understanding of online human interaction. We will create a database that will allow metadata specification to store, share, describe, and analyze data sets. This will help solve the problem of not being able to easily access the metadata, and now scientist and citizens can easily access it via the internet.

# Requirements Analysis

**Actors** (Created by: Teddy Ivanov, Reviewed by: Andrea McGovern):

Researcher/User:

- ☐ Computational Social Scientist
- ☐ Social Scientist
- ☐ Citizens

Admin:

- ☐ System Administrator

**Activities** (Created by: Andrea McGovern, Reviewed by: Olivia Apperson ):

- ☐ Logging in and out of the system
- ☐ Uploading metadata files to be stored in the database
- ☐ Ability to search and filter through libraries of files
- ☐ Ability to download files for use
- ☐ Be able to edit metadata files

**Use Cases** (Created by: Olivia Apperson, Reviewed by: Xinyi Li):

- ☐ A Computational Social Scientist, Social Scientist, and Citizens have the ability to...
  - ☐ Log in and out of the system
  - ☐ Upload a metadata file
  - ☐ Edit a metadata file
  - ☐ Delete a metadata file
  - ☐ Search through metadata files
  - ☐ Download a file

- ☐ A System Admin has the ability to...
  - ☐ Log in and out of the system
  - ☐ Delete uploaded files/edits
  - ☐ Search through files
  - ☐ Edit metadata files
  - ☐ Add users to the system

**User Requirements** (Created by: Soya Ouk, Reviewed by: Xinyi Li):

- ☐ Login credentials
- ☐ Correct permissions
- ☐ Correct file type
- ☐ Admin can upload files, edit files, delete files, browse for files, version control, and add new users to the system
- ☐ Regular users can upload files, edit files, delete files, and browse through the files

**System Requirements** (Created by: Olivia Apperson, Reviewed by: Teddy Ivanov):

- ☐ Database
  - ☐ Used to store information on metadata files and user's credentials.
- ☐ Webpage
  - ☐ User interface that visualizes the database of metadata and allow user to see what abilities they are performing.
- ☐ Internet Access
  - ☐ Access to the internet will allow the users to visit the webpage, also allow updates to the database.

☐ Computer

- ☐ Platform in which the webpage can be accessed. Also can be used to make changes to the database for admins.

**Functional Requirements** (Created by: Xinyi Li, Reviewed by: Soya Ouk):

- ☐ Be able to login and logout
- ☐ Be able to upload files
- ☐ Be able to search in a search bar
- ☐ The system needs a database
- ☐ Be able to edit files
- ☐ The system should not crash when a user tries to upload a file or edits a file
- ☐ If a file is not of the correct types, it should not be uploaded
- ☐ If a file is too large then it should not be uploaded
- ☐ If a user does not have the correct credentials or user roles then they should not be able to do those tasks
- ☐ Be able to remove files
- ☐ Be able to fix changes

**Non-Functional Requirements** (Created by: Teddy Ivanov, Reviewed by: Soya Ouk):

- ☐ This project is a semester project for the software engineering CS 4320 class, so it must be finished by the end of the semester
- ☐ The size of the database has to be large enough to hold JSON files (10 Gigabytes of files)
- ☐ Be able to handle uploading and downloading in real time
- ☐ Search bar uses keywords to search through the database

- ❑ Upload JSON files and script files
- ❑ This is a website where social scientists, students, and professors can easily view, upload, and edit metadata
- ❑ File extension checking to make sure it of the correct type (i.e. .JSON)
- ❑ Verify that the users have the correct user permissions (upload files, edit files)
- ❑ There are two different types of users (admin and regular user)
- ❑ Verify user credentials

## Class List

Classes: (Created by Xinyi Li, Reviewed by Teddy Ivanov)

- ❑ Researcher/User
  - ❑ attributes: name:String, password:String, isAdmin:Boolean,
  - ❑ methods: login(), logout(), uploadFile(), downloadFile(), deleteFile(), editFile()
- ❑ Admin
  - ❑ attributes: name: String, isAdmin:Boolean,
  - ❑ methods: addUser(), uploadFile(), login(), logout(), downloadFile(), deleteFile(), revertEdit(), editFile(), updateDatabase()
- ❑ MetaDataFile
  - ❑ attributes: title:String, author:String, date:DateTime
  - ❑ methods: display(), delete(), edit(), upload()

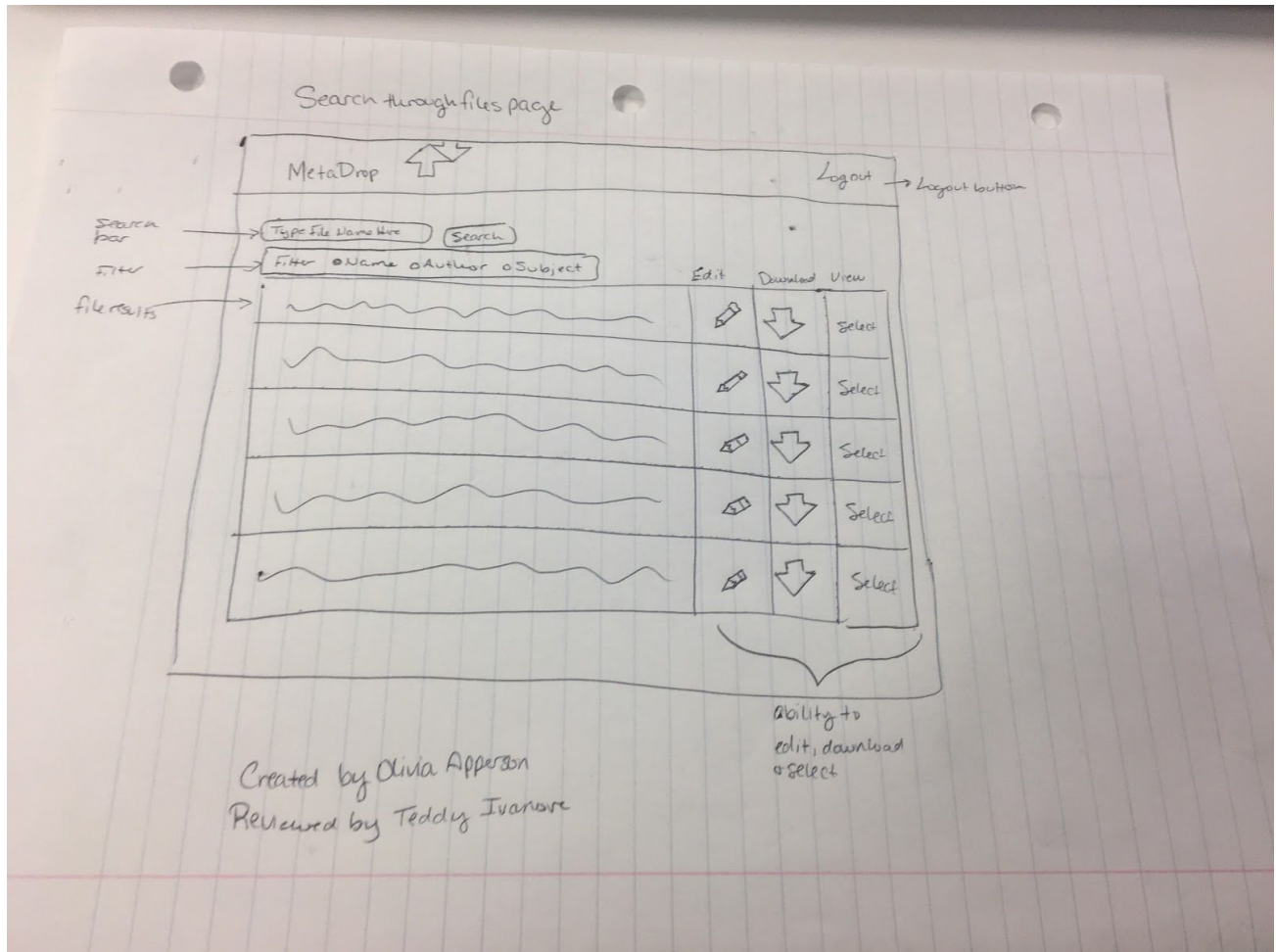
# Table List

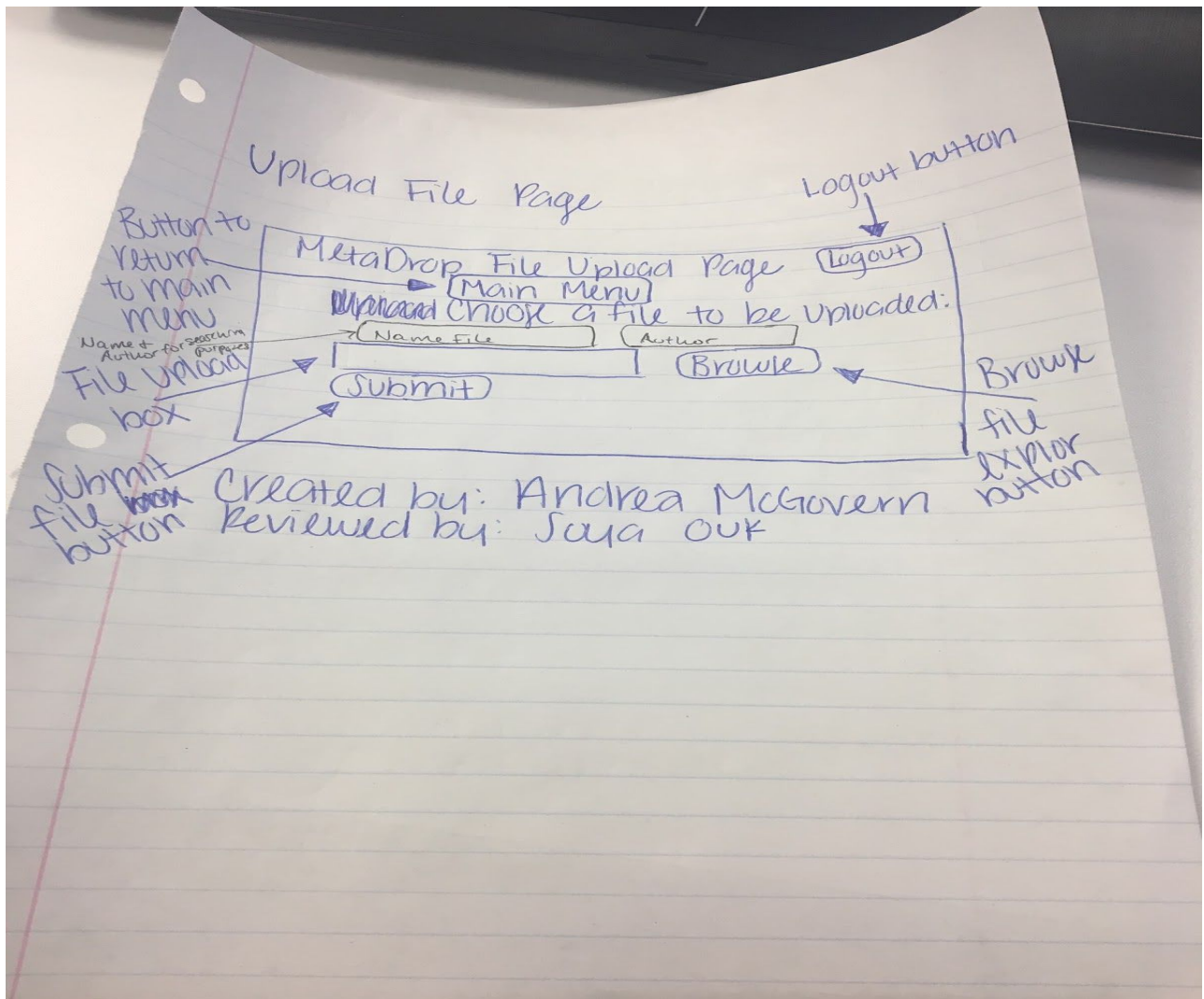
Created by: Olivia Apperson, Reviewed by: Soya Ouk

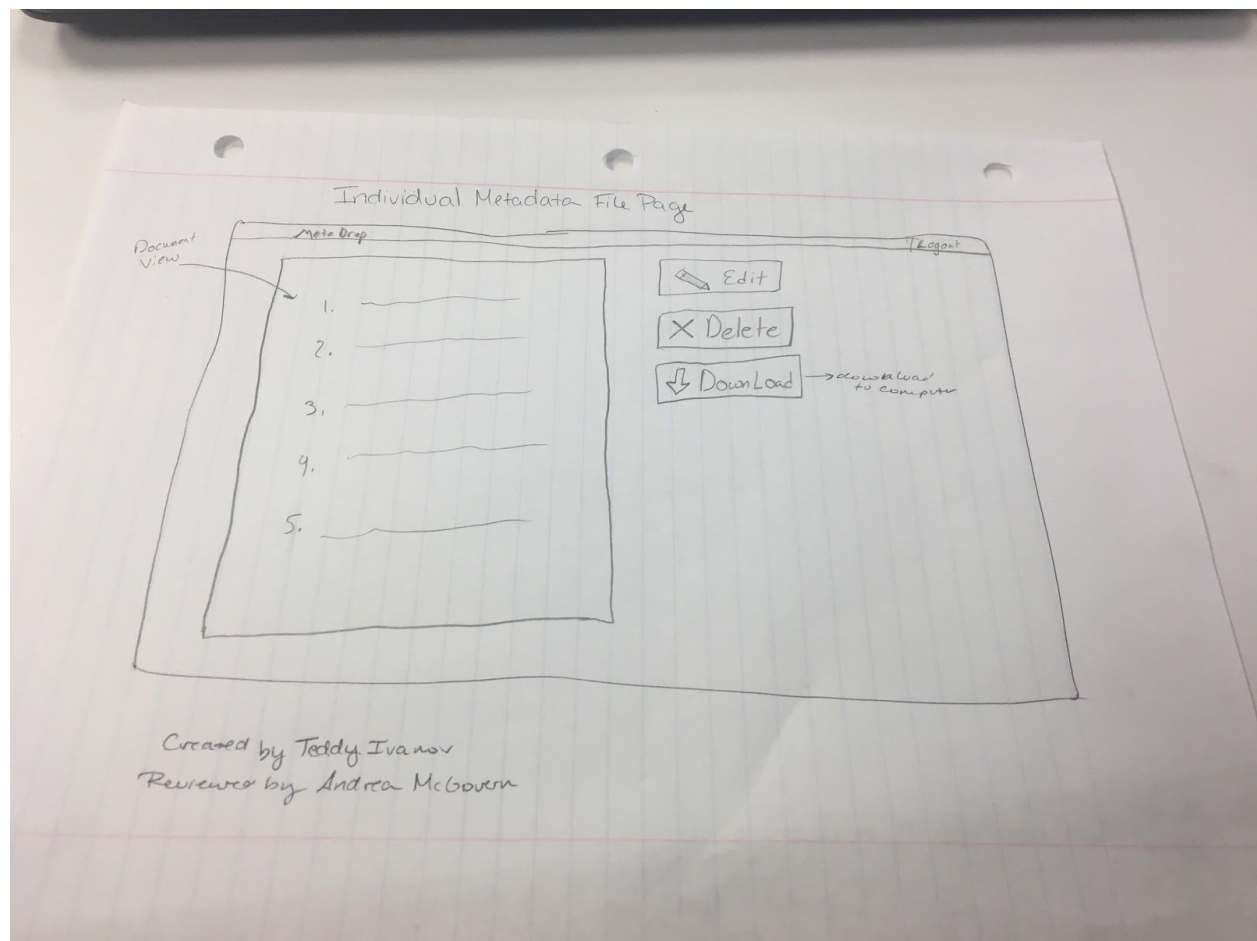
- ❑ Table for Files (type, data, name, author, etc.)
- ❑ Users (name, username, password, etc.)
- ❑ Relationship table between Files and Users

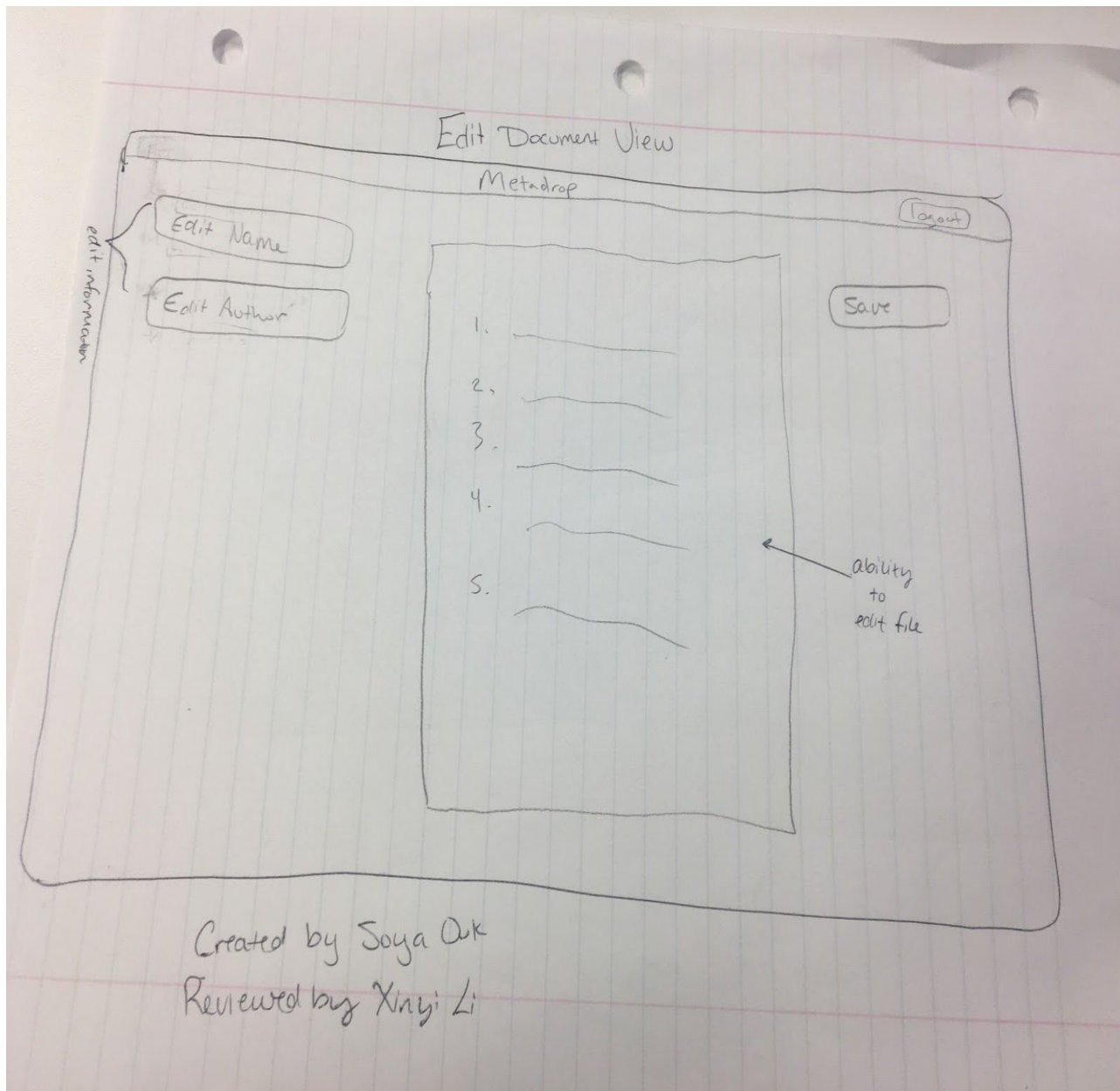


# Screen Designs









## Login Page

A hand-drawn diagram of a login page. It is enclosed in a rectangular border. At the top, it says "Meta Drop" followed by a double-headed arrow icon. Below this are three input fields: the first is labeled "Username" with a person icon, the second is labeled "Password" with a key icon, and the third is a button labeled "Login". An arrow points from the "Login" button to the text "logs user into system" outside the box.

Created by Xinyi Li  
Reviewed by Olivia Apperson

# Glossary

Created by: Soya Ouk, Reviewed by: Olivia Apperson

1. **User Requirements:** Facts and assumptions about the expected outcome of the software implementation; What the software will enable a user to do or not do
2. **System Requirements:** Pre-requisites that often define the operating environment
3. **Functional Requirements:** Details of services the software must provide
4. **Non-Functional Requirements:** Constraints on the functionalities of the software
5. **JSON:** A language easy to write and edit by humans and easy to read and parse by machines

# Change Log

Created by: Olivia Apperson, Reviewed by: Andrea McGovern

## Version 1

- Project Overview created
- Requirements Analysis created
- Class/Function List created
- Table List created
- Screen Designed Created
- Change Log Created
- Glossary Created