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)**:**

- ❏ The System Administrator, Computational Social Scientist, Social Scientist as well as the Citizens should have login credentials.

- ❏ The System Administrator and Researchers should each have their own correct permissions.

- ❏ The Researchers must submit the correct and compatible 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 for JSON files

- ❏ Be able to edit files in the browser

- ❏ 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 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 (less than one second to upload/download)

- ❏ Easy to use User Interface that works on Firefox and Chrome

- ❏ Upload JSON files and script files (only acceptable file types)

- ❏ File extension checking to make sure it of the correct type (i.e. .JSON)

- ❏ Correct username of at least 8 characters and password with at least 8 characters

- ❏ If a file is larger than 250MB, then it should not be uploaded

Class List

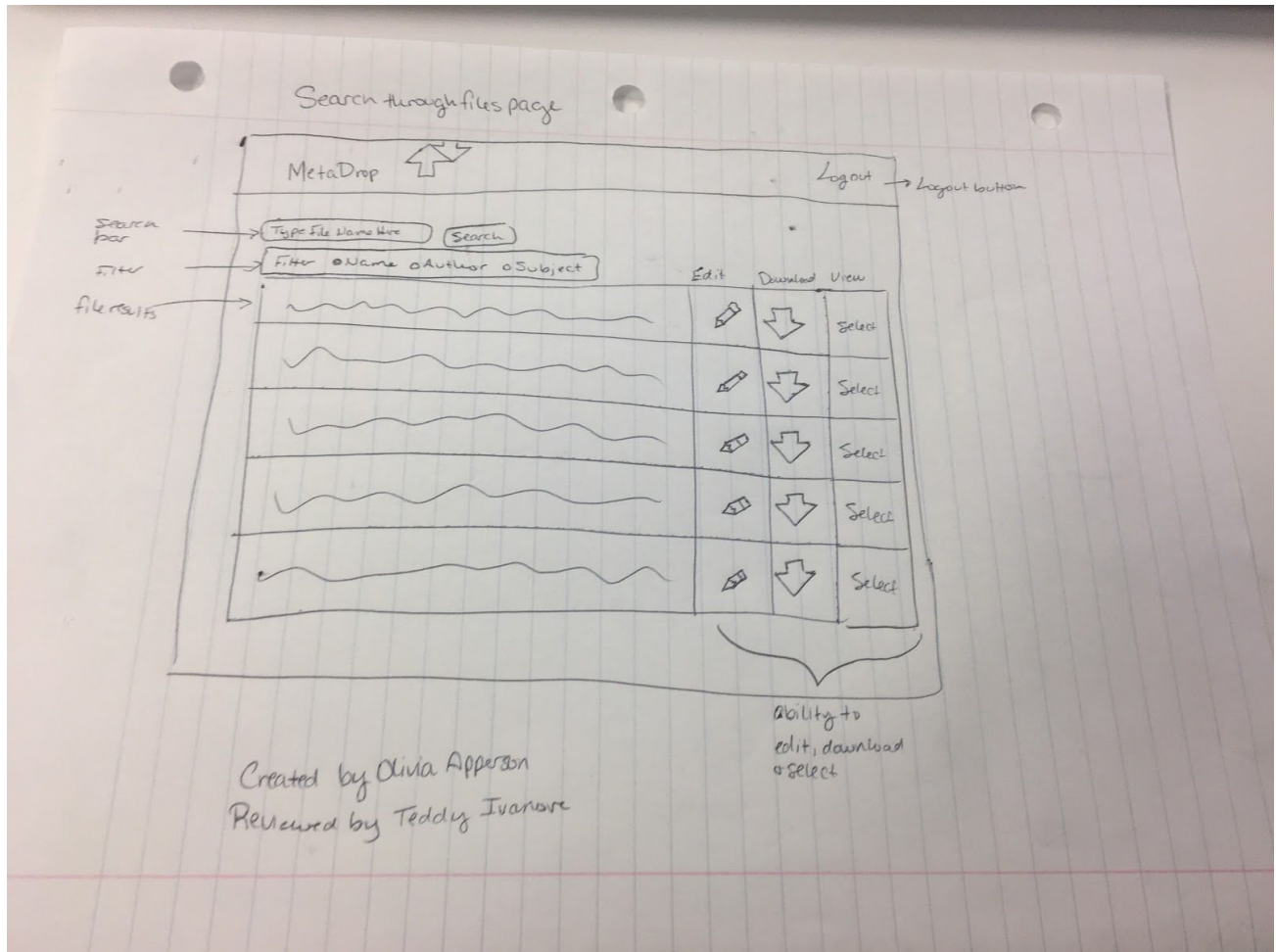Classes: (Created by Xinyi Li, Reviewed by Teddy Ivanov)

- ❏ 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
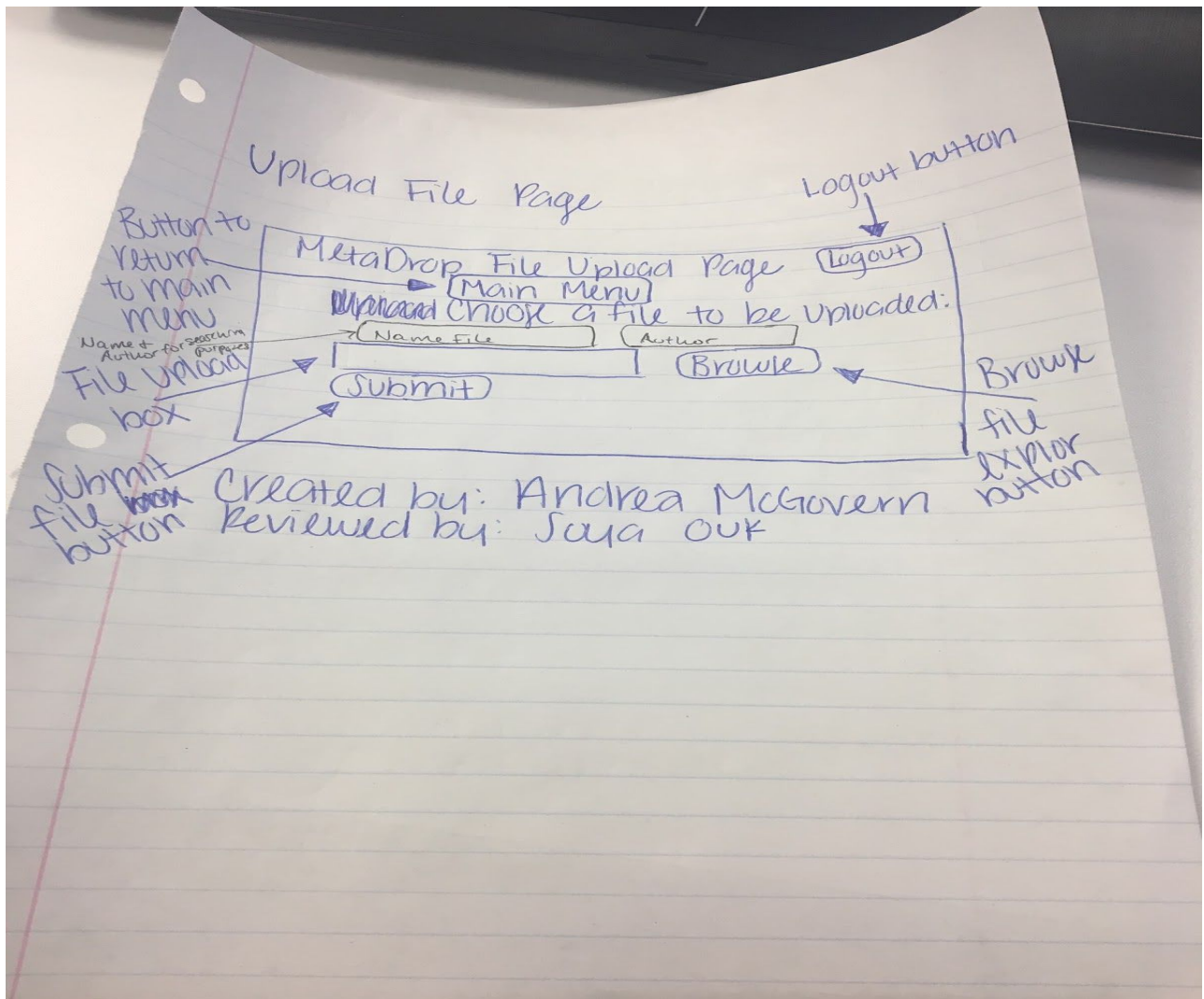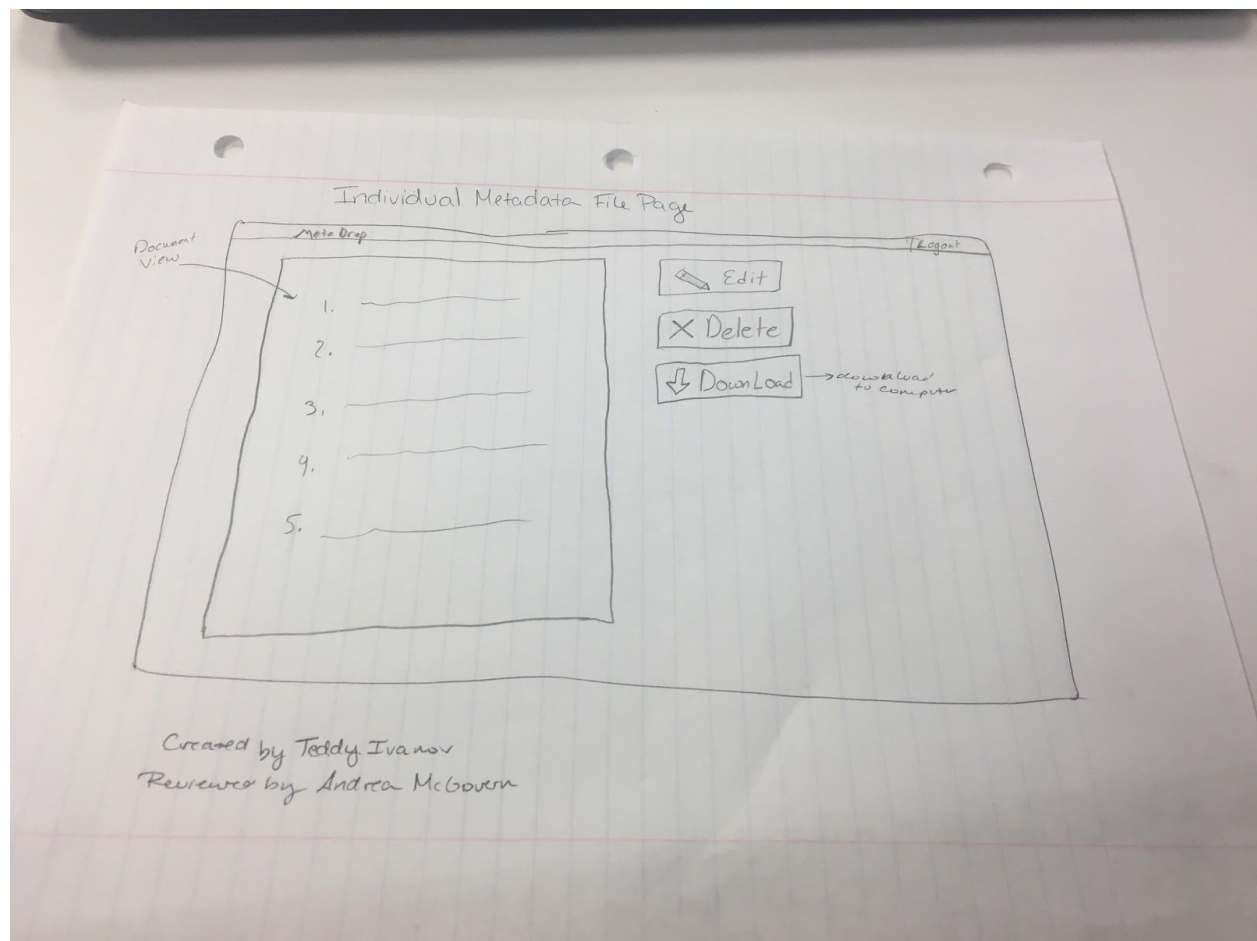 - ❏ methods: display(), delete(), edit(), upload()

Table List
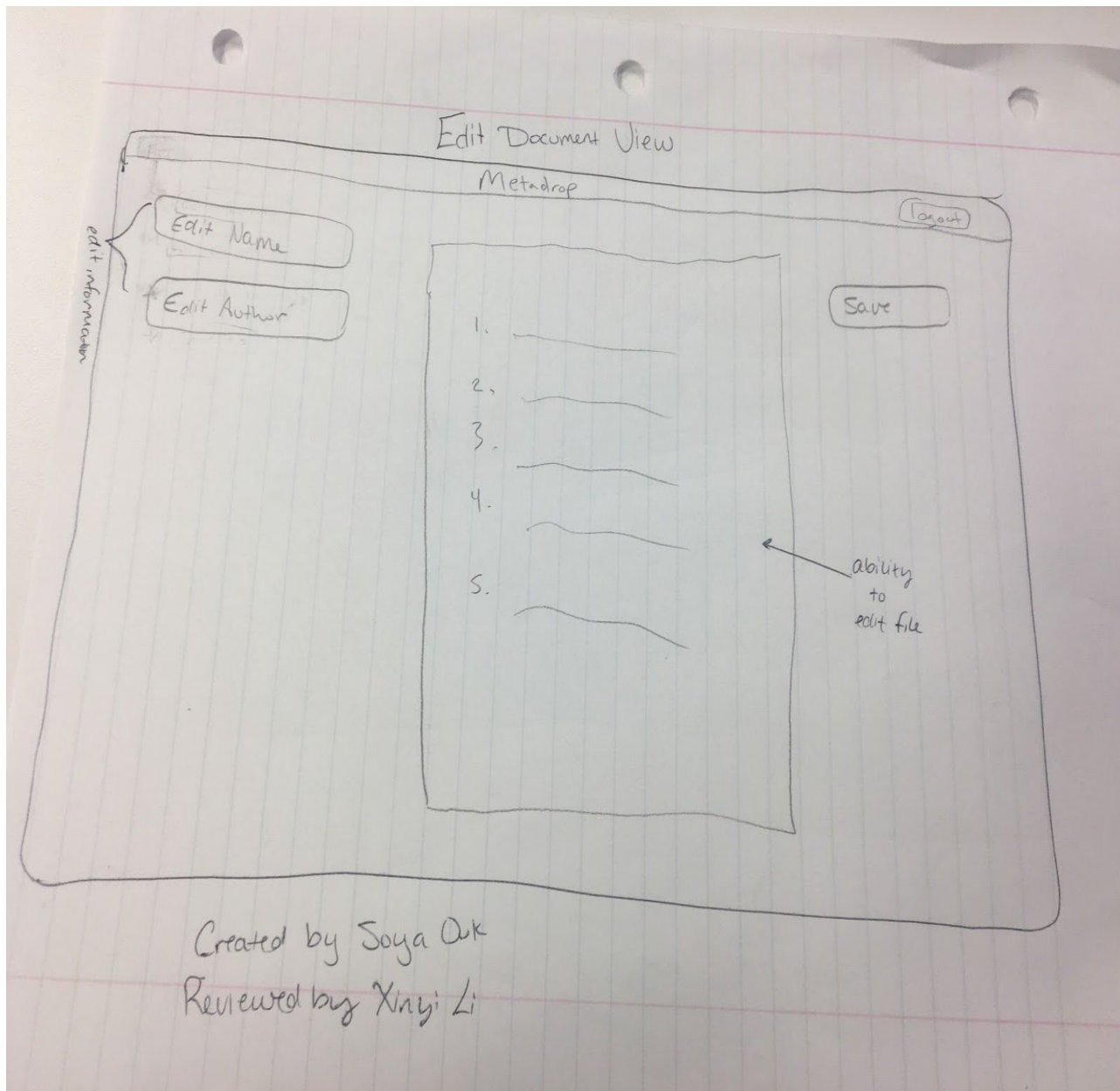
Created by: Olivia Apperson, Reviewed by: Soya Ouk

- ❏ Table for Files (type, data, name, author, etc.)

- ❏ Users (name, username, password, etc.)

- ❏ Relationship table between Files and Users

Screen Designs

Upload File Page

Logout button

Button to
return
to main
menu

Name + Author for search purposes

File upload
box

Submit
file
button

MetaDrop File Upload Page   Logout

Main Menu

Advanced Choose a file to be uploaded:

Name file   Author

Submit   Browse

Browse
file
explor
button

Created by: Andrea McGovern
Reviewed by: Saya Ouk

Individual Metadata File Page

Meta Drop

Document View

1. _____
2. _____
3. _____
4. _____
5. _____

✏ Edit

✕ Delete

⬇ DownLoad → download to computer

Logout

Created by Teddy Ivanov
Reviewed by Andrea McGovern

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Edit Document View

Metadrop

Logout

edit information

Edit Name

Edit Author

Save

1. _____
2. _____
3. _____
4. _____
5. _____

ability to edit file

Created by Soya Ouk
Reviewed by Xinyi Li

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Login Page

MetaDrop

[icon] Username

[icon] Password

Login ----→ Logs user into System

Created by Xinyi Li
Reviewed by Olivia Apperson

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Glossary

Created by: Soya Ouk, Reviewed by: Olivia Apperson

Computer Platform: A system that consists of a hardware device and an operating system that an application, program or process runs upon.

Computational social science: refers to the academic sub-disciplines concerned with computational approaches to the social sciences.

Functional Requirements: Details of services the software must provide.

JSON: A language easy to write and edit by humans and easy to read and parse by machines.

Metadata: a set of data that describes and gives information about other data.

Non-Functional Requirements: Constraints on the functionalities of the software.

OCDX: Open Community Data EXchange (OCDX), a metadata specification and robust infrastructure for long term sustainability.

OCDX Manifest: a bill of materials for datasets.

System Requirements: Pre-requisites that often define the operating environment.

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.

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

Version 2

- Glossary Updated

- NonFunctional Requirements Updated

- Functional Requirements Updated

- User Requirements Updated