**4. Specific Requirements**

The ultimate objective of our website is to provide an interface that efficiently combines a user's content from different media sites into one place.

**5.1. Functional requirements**

1. The system shall allow users to create accounts.

1.1. Accounts are required to subscribe to or create channels.

1.2. All accounts shall be protected by a password.

1.2.1. A user shall be able to change their account's password at any time.

1.2.2. A user shall use this password and a unique account name to log in.

**Name:** User\_Login

**Actors:** Initiated by User, carried out by System

**Entry Conditions:** User is logged out and within site

**Flow of Events:**

1. A User enters a User ID in the User ID textbox
2. User enters password in Password textbox
3. User clicks Login button
4. User Dashboard is displayed

**Exit Conditions:** The dashboard is displayed in the web browser

**Exceptions:**

1. The system cannot locate the user’s ID.
2. User's entered password and ID combination do not match

1.3. An account shall be capable of owning one or more content channels.

1.3.1. Each channel is created by the user that owns that channel.

1.4 An account shall be capable of subscribing to multiple channels

**Name:** Subscribe\_to\_Channel

**Actors:** Initiated by User, carried out by System

**Entry Conditions:** Logged-in user is on another user's channel page

**Flow of Events:**

1. User clicks "subscribe" button.
2. User's subscription is registered in database.

**Exit Conditions:** Newly subscribed channel content is displayed on user's dashboard.

**Exceptions:**

1. User is already subscribed.
2. User subscribes to incorrect channel.

1.4.1. A user shall be able to unsubscribe from subscriptions at any time.

2. A channel shall be a feed of user populated media content.

2.1. A channel page shall be automatically created for each channel.

2.1.2. Users shall create their own channels.

**Name:** Create\_Channel

**Actors:** Initiated by User, carried out by System

**Entry Conditions:** User is logged in, on Dashboard page, in Manage Channels tab

**Flow of Events:**

1. User clicks on ‘Add Channel’ in the menu
2. User enters channel information in form
3. User uploads picture to site
4. User clicks ‘Submit’
5. User is redirected to the Channel Home Page

**Exit Conditions:** The new Channel Home Page is displayed in the browser

**Exceptions:**

1. The channel form contains errors
2. The uploaded picture is too large
3. The uploaded picture is not a recognized format
4. The URL Extension is already in use

2.2. A user shall be able to add content by linking to the content's source

2.2.1. The system must be compatible with the client's requested sites and content.

2.2.1.1. Including but not limited to YouTube.

2.2.1.2. More media sites can be implemented when needed.

2.3. User content shall have tags indicating what subject matter the media is related to.

2.3.1. Tags shall be used in search functions and for recommendations.

.4 A channel shall be able to populate content itself.

2.4.1. Given an RSS feed link, MyNewMedia can retrieve media content by parsing the XML entries.

2.4.2. RSS feed code shall display as media content in the manner that was originally intended (videos display videos, music displays music playets, etc.)

3. A user's home page shall consist of the media content of subscribed channels.

3.1. All subscribed posts shall be listed vertically.

3.2. Media content from an external source shall have a link to the original source (such as YouTube).

3.3. Media content shall have some indication of the channel that owns it.

3.3.1. The channel's name and/or profile shall be displayed on the user's feed near the media content.

3.4. Media content shall be ordered showing the most recently uploaded content first, directing the user to what has most likely not been seen yet.

3.4.1. MyNewMedia shall log what the user has already seen and use that information to distinguish between new and old content to users.

4. The site shall be able to search for channels and media content.

**Name:** Search\_By\_Channel

**Actors:** Initiated by User, carried out by System

**Entry Conditions:** User is logged in.

**Flow of Events:**

1. A User clicks the Search text box
2. User enters in search criteria
3. User clicks "Search."
4. Channels matched by criteria are displayed on the page.

**Exit Conditions:** Channels the user has searched for are displayed.

**Exceptions:**

1. No results are found.
2. User enters no criteria before searching.

4.1. The basic search option shall be visible from each page.

4.2. The search function's criteria shall be able to consist of tags, user names, or channel names.

5. The site shall provide users with options to share their channels or media content.

5.1. HTML code to be posted on a user's side shall be generated for channels and media content.

6. The site shall be capable of recommending other channels to the user based on the user's preferred tags.

6.1. Preferred tags shall come from on the user's subscribed channels' tags.

6.2. Based on the most popular tags, MyNewMedia shall look for other channels that share the same tags and display those in the Recommendations section.

6.3. The Recommendations section shall not interfere with other site functionality and shall not create layout issues.

7. The site shall have an administrator interface.

7.1. The administrator shall have access to the database.

7.1.1. The administrator shall be able to delete or add accounts.

7.1.2. The administrator shall be allowed to add, edit, or delete tags.

7.1.3. The administrator shall be allowed to add, edit, or delete channels.

**5.2. Non-functional Requirements**

The website's functions shall be optimized for an audience ages 40 and up; many overwhelming functions in other forms of social media can be excluded for a simplified interface consisting of only what is required.

1. Creating an account will be simple.

1.1. Creating an account shall require minimal information.

1.2. Subscribing to a channel shall require one click.

1.3. Posting media content shall be concise.

1.3.1. Posting media content shall only require a URL link to the content's page.

2. Viewing media content shall be simple.

2.1. The center feed shall only consist of the user's desired media content, as opposed to combining recommendations and advertisements.

2.1.2. Should extra content be desired, it shall be placed above or to the sides of the center feed.

3. Information shall be secure.

3.1. The users shall have access to their own information.

3.1.1. Besides the initial user, only administrators shall have access to that user's information.

3.1.2. User information shall never be shared.

3.2. The site shall be coded in a manner that minds possible security breaches.

4. The site shall provide recommendations to the user

4.1 The site shall have the capability to analyze user behavior and create a list of recommendations to the user

4.1.1 Information gathered shall be the user’s subscription and the user’s watch history

4.1.2 The channels within user’s history and subscription list will be compared using an algorithm to other channels with the same tags that have high view or subscription counts and added to a list of recommendations to the user

4.2 The site shall have the capability to recommend a list of channels to a user based on the currently active channel

4.2.1 The channels within user’s history and subscription list will be compared using an algorithm to other channels with the same tags that have high view or subscription counts and added to a list of recommendations to the user

5. The project shall follow the minimal budget allotment indicated.

5.1. The team coding the websites will require no additional software finances. All software used shall either be free or in possession prior to the project.

5.1.1. The Django framework shall be used to create the database, as well as access the content from a coding level.

5.2. The final domain name shall require minimal funding to obtain.

6. The project shall require a database and a server.

6.1. The initial database shall be created using SQLite, and shall be implemented on a different system for the final project.

6.2. The data shall be accessed using Django and its built-in administrator interface.

6.3. The database shall be hosted on Amazon's web server.

7. The site shall be debugged extensively before deployment.

**5.3. Internal Data Requirements**

In summary, all tables much hold the data and relationships between users, channels, subscriptions, and statistics. Django automatically creates primary key IDs for each table; thus, all are identical in stature.

5.3.1. User

The user table holds data so that the user can log in.

|  |  |
| --- | --- |
| **Users Table** | |
| ID | Integer (PK) |
| Username | Char(30) |
| Password | Char(128) |

The Django framework automatically has an authorized user table, which is where an admin (superuser) property is set, and an id is also created whenever a new user is registered in the database.

5.3.2. User Profile

The table is a profile consisting of the user's personal information.

|  |  |
| --- | --- |
| **User Profile Table** | |
| ID | Integer (PK) |
| Owner\_id | Integer |
| Bio | Text |
| Location | Char(256) |
| Homepage | Char(200) |
| Birthday | Date |
| Occupation | Char(256) |
| Avatar | Char(100) |
| Page\_views | Integer |

The owner ID is linked to the ID of the User table. The bio, location, and occupation are custom text that the user enters. The homepage is a URL to the user's main site. The birthday is the user's date of birth. The avatar is linked to the user's uploaded image to represent himself/herself. The page views track how many times the profile has been viewed.

5.3.3. Channels

The channels table holds the data for each channel.

|  |  |
| --- | --- |
| **Channels Table** | |
| ID | Integer (PK) |
| Title | Char(256) |
| URL\_ext | Char(50) |
| Description | Text |
| Type\_id | Integer |
| Owner\_id | Integer |
| Language | Char(100) |
| Feed | Char(200) |
| Image | Char(100) |

The title, language, and description are custom text from the user. The URL extension (URL\_ext) is the ending of the user's URL for the channel page. The owner ID is automatically assigned as the user submits a channel creation form. The type ID is the channel type, selected from admin-defined categories. The Feed field is the link to an RSS feed used to populate the channel's content. The Image field is a .jpg image used to represent the channel.

5.3.4. Channel Type

The channel type table holds different categories a user can place channels in.

|  |  |
| --- | --- |
| **Channel Type Table** | |
| ID | Integer (PK) |
| Type | Char(256) |

The type is the name of the genre. The table is populated by the administrator(s).

5.3.5. Subscription

The subscription table is a relationship between a user and the user's subscribed channel.

|  |  |
| --- | --- |
| **Channel Type Table** | |
| ID | Integer (PK) |
| User\_id | Integer |
| Channel\_id | Integer |
| Unread | Integer |

The user and channel IDs are keys to their respective tables. This indicates the user in this record is subscribed to the channel in this record, and hasn't read the number of items in the "unread" field.

5.3.5. Tags

From an upper-level perspective, the tags must have a table filled with tag names and their corresponding IDs, as well as a table that associates those IDs to channels.

|  |  |
| --- | --- |
| **Tag Table** | |
| ID | Integer (PK) |
| Name | Char(100) |

The ID of the tag, and the displayed name of the tag.

|  |  |
| --- | --- |
| **TaggedItem Table** | |
| ID | Integer (PK) |
| Tagged\_ID | Integer |
| Object\_ID | Integer |

The ID is only a primary key. The Tagged\_ID is from the Tag table above, and the object\_ID is the object the tag is associated to. In some sense, the tags can be used for profiles or users, but MyNewMedia implements tags strictly to channels for simplicity.

5.3.6. Feed

The primary way of populating content is using a feed. Similar to tagging, this requires a feed table and a relationship to the feed from the channel.

|  |  |
| --- | --- |
| **FeedItem Table** | |
| ID | Integer (PK) |
| Title | Char(1000) |
| Channel\_id | Integer |
| Link | Char(200) |
| Itemcount | Integer |

The primary purpose is to have the link to the RSS feed.

|  |  |
| --- | --- |
| **FeedTracker Table** | |
| ID | Integer (PK) |
| Item\_id | Integer |
| User\_id | Integer |
| Channel\_id | Integer |

This table's purpose is to unite the FeedItem table with the other tables.